VULCAN AREA Q

SAN BERNARDINO COUNTY, CALIFORNIA

Habitat and Jurisdictional Assessment

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June 2019
Updated May 2020

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The undersigned certify that the statements furnished in this report and exhibits present data and information required for this biological evaluation, and the facts, statements, and information presented is a complete and accurate account of the findings and conclusions to the best of our knowledge and beliefs.

Travis J. McGill
Director

Thomas J. McGill, Ph.D.
Managing Director

June 2019
Updated May 2020

Executive Summary

This report contains the findings of ELMT Consulting's (ELMT) Habitat and Jurisdictional Assessment for Vulcan Materials Company's Area Q Project (project) located in an unincorporated area of San Bernardino County, California. ELMT biologists Thomas J. McGill, Ph.D. and Travis J. McGill inventoried and evaluated the condition of the habitat within the project site on May 11 and June 1, 2017. A final site was conducted on February 26, 2018.

The project site consists of both developed and undeveloped land that has been subject to a variety of human-related disturbances from existing rural residential developments, weed abatement activities, and illegal trash dumping. These land uses have resulted in most of the project site being converted to a mosaic of non-native grasses and highly disturbed natural plant communities that have been cut off from the influences of the Cajon Wash by the railroad tracks that border the western boundary of the site. Several residential developments are primarily found on the western half of the project site. These developments consist of homes and storage yards.

Four (4) plant communities were observed within the boundaries of the project site during the habitat assessment: highly disturbed Riversidean alluvial fan sage scrub (RAFSS), buckwheat scrub, non-native grassland, and ornamental. In addition, the project site contains land cover types that would be classified as disturbed and developed. The isolated and senescing RAFSS habitats identified on the project site has either succeeded to upland chaparral habitat or are no longer functioning as viable RAFSS habitats with long-term conservation value. More specifically, the RAFSS plant community on-site been extensively disturbed by human activity for decades, and is fragmented by roads, trails, and development. The project site is bordered to the north by existing sand and gravel operations, to the south by residential developments and to the east by industrial developments. The project site is bordered by the raised Union Pacific Railroad tracks and man-made berm on its western boundary, which separates the project site's RAFSS habitats from less disturbed vegetation associated with the Cajon Wash. The RAFSS habitat within the proposed project footprint is not occupied by any listed or otherwise special-status plant or wildlife species, indicating minimal or no value as biological habitat. Therefore, the loss of the disturbed, fragmented, low-quality RAFSS on the project site is not considered a significant impact and would not require specific mitigation.

Twenty-one (21) special-status plant species have been recorded in the CNDDB and CNPS in the San Bernardino North and Devore USGS 7.5-minute quadrangle. Based on habitat requirements, availability and quality of habitats needed by each special-status plant species,

and habitat assessment results, it was determined that the project site has a moderate to high potential to provide suitable habitat for six (6) special-status plant species. Singlewhorl burrobrush (*Ambrosia monogyra*), Parry's spineflower (*Chorizanthe parryi var. parryi*), White-bracted spineflower (*Chorizanthe xanti var. leucotheca*), slender-horned spineflower (*Dodecahema leptoceras*), Santa Ana River woollystar (*Eriastrum densifolium ssp. sanctorum*), and Mesa horkelia (*Horkelia cuneata var. puberula*).

Thirty-one (31) special-status wildlife species have been recorded in the San Bernardino North and Devore USGS 7.5-minute quadrangle. San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), a California "Species of Special Concern," was the only special-status species observed on the project site.

Based on habitat requirements for specific special-status wildlife species and the availability and quality of habitats needed by each species, it was determined that the project site has a moderate potential to support burrowing owl (*Athene cunicularia*), San Bernardino kangaroo rat (*Dipodomys merriami parvus*; SBKR), California horned lark (*Eremophila alpestris actia*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Bell's sage sparrow (*Artemisiospiza belli belli*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), pallid San Diego pocket mouse (*Chaetodipus fallax pallidus*), coast horned lizard (*Phrynosoma blainvillii*); and a low potential to support orangethroat whiptail (*Aspidoscelis hyperythra*), San Diego desert woodrat (*Neotoma lepida intermedia*), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), and coastal California gnatcatcher (*Polioptila californica californica*). While suitable habitat may exist, extensive surveys were completed and none of these species were observed on the project site. All remaining special-status wildlife species are absent from the project site based on habitat surveys, habitat requirements, availability and quality of habitat needed by each species, and known distributions.

The project site is located within federally designated Critical Habitat for San Bernardino kangaroo rat (*Dipodomys merriami parvus*; SBKR). Since the project site is located within designated Critical Habitat and is adjacent to occupied habitat (although separated from the adjacent habitat associated with the Cajon Wash by an elevated railroad tracks), a SBKR presence/absence trapping study was conducted within suitable habitat on the project site. No SBKR were captured during the 2017 trapping studies.

No jurisdictional drainage and/or wetland features were observed within the project site during the field survey. It should be noted that a concrete-lined trapezoidal channel (Devils Creek

Diversion Channel) runs northeast to southwest along the southeastern boundary of the project site, outside the limits of disturbance. The concrete-lined channel receives water from Cable Creek and the Sweetwater Percolation Basins and is tributary to Cajon Wash. In addition, the Cajon Wash runs north to south west of the project site, west of the Union Pacific railroad, outside of the project footprint. Devils Creek Diversion Channel and Cajon Wash are located outside of the project footprint and no impacts will occur to these features from implementation of the proposed project.

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EXHIBITS

APPENDIX

LIST OF ACRONYMS

CDFW	California Department of Fish and Wildlife
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	United States Army Corps of Engineers
CWA	Clean Water Act
GIS	Geographic Information System
MBTA	Migratory Bird Treaty Act
NRCS	Natural Resources Conservation Service
RAFSS	Riversidean Alluvial Fan Sage Scrub
Regional Board	Regional Water Quality Control Board
SBKR	San Bernardino Kangaroo Rat
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

Section 1 Introduction

This report contains the findings of ELMT Consulting's (ELMT) Habitat and Jurisdictional Assessment for Vulcan Materials Company's Area Q Project (project) located in an unincorporated area of San Bernardino County, California. ELMT biologists Thomas J. McGill, Ph.D. and Travis J. McGill inventoried and evaluated the condition of the habitat within the project site on May 11 and June 1, 2017. A third field investigation was conducted on February 26, 2018.

The habitat assessment was conducted to characterize current site conditions and to assess the probability of occurrence of special-status[1] plant and wildlife species that could pose a constraint to project implementation. This report provides an in-depth assessment of the habitats, Riversidean Alluvial Fan Sage Scrub (RAFSS), found on the project site and their potential to support burrowing owl (*Athene cunicularia*), San Bernardino kangaroo rat (*Dipodomys merriami parvus*; SBKR), coastal California gnatcatcher (*Polioptila californica californica*), slender-horned spineflower (*Dodecahema leptoceras*), and Santa Ana River woolly star (*Eriastrum densifolium* ssp. *sanctorum*).

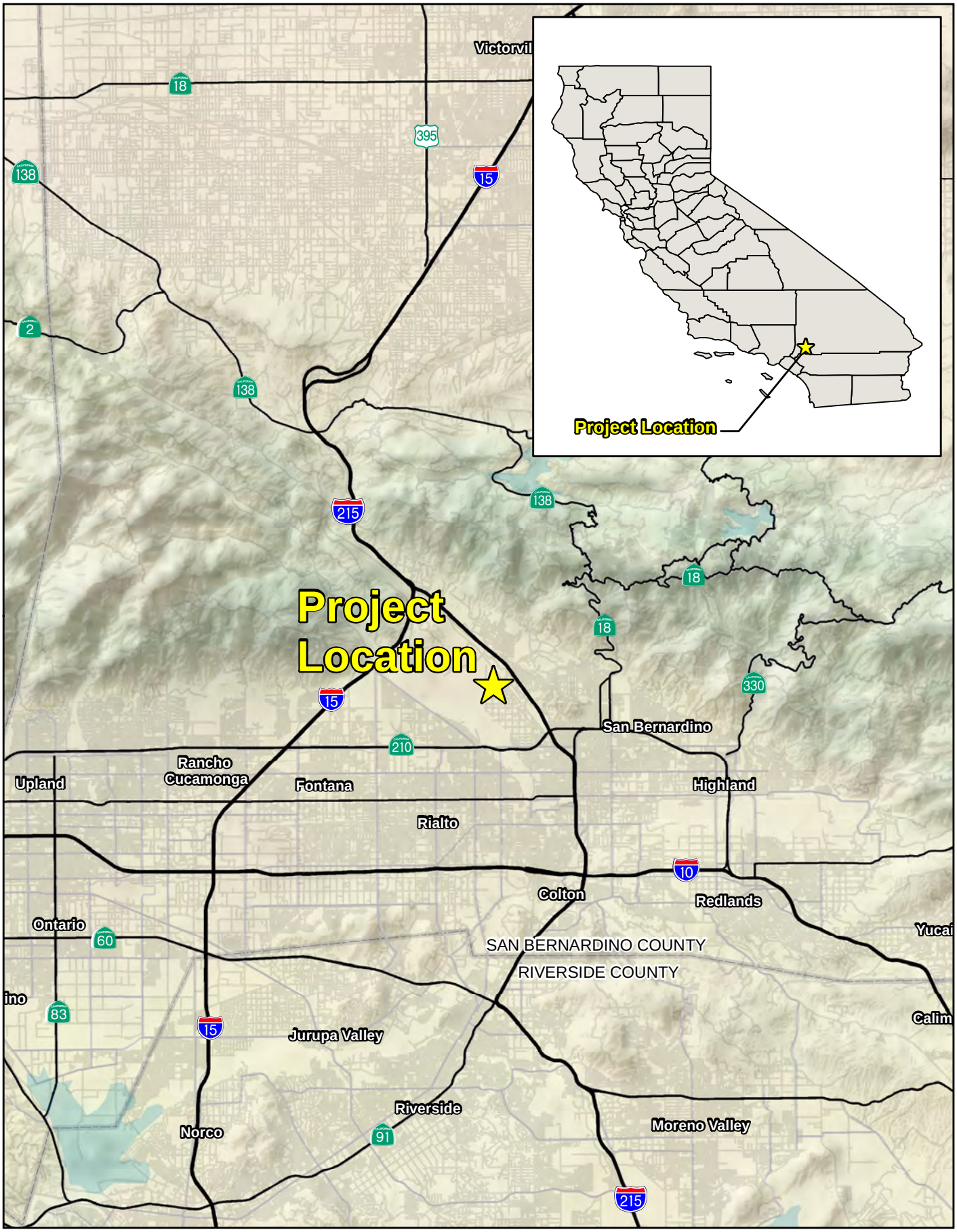
In addition to the habitat assessment, ELMT conducted a jurisdictional assessment in order to preliminarily identify jurisdictional features that have the potential to fall under the regulatory authority of the U.S. Army Corps of Engineers (Corps), the Regional Water Quality Control Board (Regional Board), and the California Department of Fish and Wildlife (CDFW) pursuant to Sections 401 and 404 of the Federal Clean Water Act (CWA), the California Porter-Cologne Water Quality Control Act, and Section 1600 *et seq.* of the California Fish and Game Code.

1.1 PROJECT LOCATION

The project site is generally north of State Route 210, east of Interstate 15, and west of Interstate 215 in an unincorporated area of San Bernardino County, California (refer to Exhibit 1, *Regional Vicinity*). The project site is depicted on the San Bernardino North quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series in an un-sectioned area of Township 1 north, Range 5 west (refer to Exhibit 2, *Site Vicinity*). Specifically, the project site is bordered by a concrete-lined trapezoidal flood control channel

[1] As used in this report, "special-status" refers to plant and wildlife species that are federally or State listed, proposed, or candidates; plant species that have been designated a California Native Plant Society (CNPS) Rare Plant Rank 1.B or 2; and wildlife species that are designated by the California Department of Fish and Wildlife (CDFW) as fully protected, species of special concern, or watch list species. Note that not all "special-status" species require protection or mitigation under the law.

on is southeastern boundary, the Union Pacific railroad tracks and berm on its western boundary, Area L, an active surface mining operation on its northern boundary, and Cajon Boulevard on its eastern boundary. The project site is separated from Cajon Wash and Lytle Creek by the Union Pacific railroad track and man-made berm and is located outside of the 100-year flood plain.



VULCAN AREA Q
HABITAT AND JURISDICTIONAL ASSESSMENT

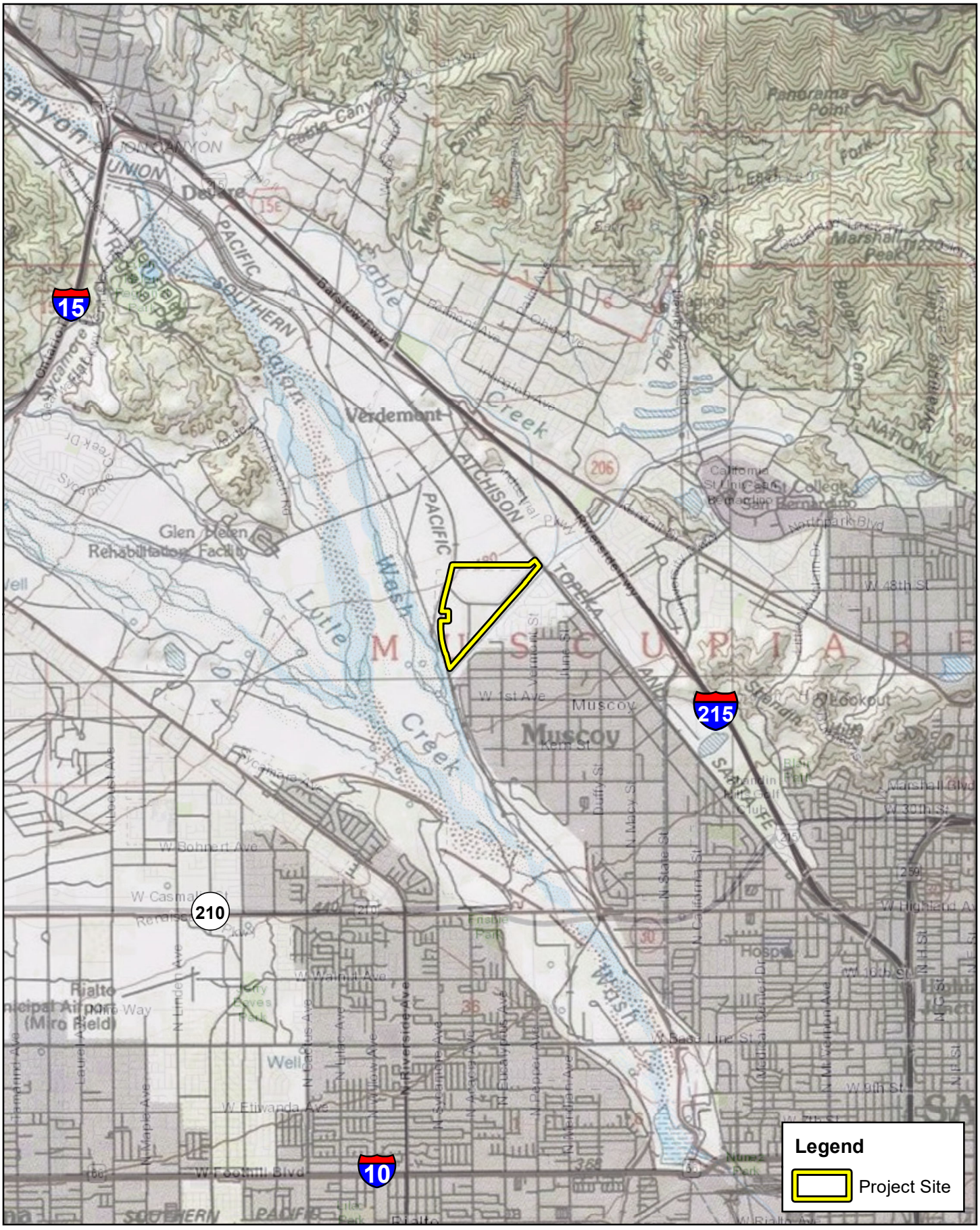
Regional Vicinity

ELMT CONSULTING

0 2.5 5 Miles

Source: ESRI Relief Map, National Highway Planning Network

Exhibit 1



VULCAN AREA Q
HABITAT AND JURISDICTIONAL ASSESSMENT

Site Vicinity

ELMT CONSULTING

0 0.5 1 2 Miles

Source: USA Topographic Map, San Bernardino County

Exhibit 2

VULCAN AREA Q
HABITAT AND JURISDICTIONAL ASSESSMENT

Project Site

ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, San Bernardino County

Exhibit 3

Section 2 Methodology

ELMT conducted a thorough literature review and records search to determine which special-status plant and wildlife species have the potential to occur on or within the general vicinity of the project site. In addition, a general habitat assessment and field investigation was conducted in order to document existing conditions onsite to help determine the potential for special-status plant and wildlife species to occur and to document potential jurisdictional features that occur on and adjacent to the project site.

2.1 LITERATURE REVIEW

Prior to conducting the field survey, a literature review and records search was conducted for special-status biological resources potentially occurring on or within the vicinity of the project site. Previously recorded occurrences of special-status plant and wildlife species and their proximity to the project site were determined through a query of the California Department of Fish and Wildlife (CDFW) CNDDB Rarefind 5, the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California, Calflora Database, compendia of special-status species published by CDFW, and the United States Fish and Wildlife Service (USFWS) species listings.

All available reports, survey results, and literature detailing the biological resources previously observed on or within the vicinity of the project site were reviewed to understand existing site conditions and note the extent of any disturbances that have occurred on the project site that would otherwise limit the distribution of special-status biological resources. Standard field guides and texts were reviewed for specific habitat requirements of special-status and non-special-status biological resources, as well as the following resources:

- Google Earth Pro historic aerial imagery (1995 – 2018);
- San Bernardino County General Plan (URS 2007);
- United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey;
- USFWS Critical Habitat designations for Threatened and Endangered Species;
- USFWS Endangered Species Profile and/or Primary Constituent Elements for SBKR, coastal California gnatcatcher, slender-horned spineflower, and Santa Ana River woolly star; and
- *Claremonters v. City of Claremont*, 2005 Cal. App. Unpub. LEXIS 9074

The literature review provided a baseline from which to inventory the biological resources potentially occurring within the project site. Additional recorded occurrences of those species found on or near the project site were derived from database queries. The CNDDB database was used, in conjunction with ArcGIS software, to locate the occurrence records and determine the distance from the project site.

2.2 HABITAT ASSESSMENT AND FIELD INVESTIGATION

ELMT biologists Thomas J. McGill, Ph.D. and Travis J. McGill inventoried and evaluated the condition of the habitat within the project site on May 11 and June 1, 2017. A third site visit was conducted on February 26, 2018. Plant communities identified on aerial photographs during the literature review were verified by walking meandering transects through the plant communities and along boundaries between plant communities. Aerial photography was reviewed prior to the site investigation to locate potential natural wildlife corridors and linkages that may support the movement of wildlife through the area. These areas identified on aerial photography were then walked during the field investigation.

Special attention was paid to any special-status habitats and/or undeveloped, natural areas, which have a higher potential to support special-status plant and wildlife species. Areas providing suitable habitat for burrowing owl were closely surveyed for signs of presence during the habitat assessment. Methods to detect the presence of burrowing owl included direct observation, aural detection, and signs of presence including pellets, white wash, feathers, or prey remains.

All plant and wildlife species observed, as well as dominant plant species within each plant community, were recorded. Plant species observed during the field survey were identified by visual characteristics and morphology in the field. Unusual and less familiar plant species were photographed during the survey and identified in the laboratory using taxonomical guides. Wildlife detections were made through observation of scat, trails, tracks, burrows, nests, and/or visual and aural observation. In addition, site characteristics such as soil condition, topography, hydrology, anthropogenic disturbances, indicator species, condition of on-site plant communities, and presence of potential jurisdictional drainage and/or wetland features were noted.

2.3 SOIL SERIES ASSESSMENT

On-site and adjoining soils were researched prior to the field visit using the USDA NRCS Soil Survey for San Bernardino County, California. In addition, a review of the local geological

conditions and historical aerial photographs was conducted to assess the ecological changes the project site has undergone.

2.4 PLANT COMMUNITIES

Plant communities were mapped using 7.5-minute USGS topographic base maps and aerial photography. The plant communities were classified in accordance with Sawyer, Keeler-Wolf and Evens (2009), CDFW (2010), and Holland (1986), delineated on an aerial photograph, and then digitized into GIS Arcview. The Arcview application was used to compute the area of each plant community in acres.

2.5 PLANTS

Common plant species observed during the field survey were identified by visual characteristics and morphology in the field, and recorded in a field notebook. Unusual and less familiar plants were photographed in the field and identified in the laboratory using taxonomic guides. Taxonomic nomenclature used in this study follows the 2012 Jepson Manual (Baldwin et al. 2012). In this report, scientific names are provided immediately following common names of plant species (first reference only).

2.6 WILDLIFE

Wildlife species detected during field surveys by sight, calls, tracks, scat, or other sign were recorded during surveys in a field notebook. Field guides were used to assist with identification of species during surveys included The Sibley Field Guide to the Birds of Western North America (Sibley 2003) for birds, A Field Guide to Western Reptiles and Amphibians (Stebbins 2003) for herpetofauna, and A Field Guide to Mammals of North America (Reid 2006) for mammals. Although common names of wildlife species are fairly well standardized, scientific names are provided immediately following common names in this report (first reference only).

2.7 JURISDICTIONAL AREAS

Aerial photography was reviewed prior to conducting the habitat assessment. The aerials were used to locate potential natural drainage features, ponded areas, or water bodies that may fall under the jurisdiction of the Corps, Regional Board, or CDFW for inspection during the field investigation. In general, surface drainage features indicated as blue-line streams on USGS maps that are observed or expected to exhibit evidence of flow are subject to state and federal regulatory authorities.

Section 3 Existing Conditions

3.1 LOCAL CLIMATE

San Bernardino County is characterized by cool winter temperatures and warm summer temperatures, with its rainfall occurring almost entirely in the winter. Relative to other areas in Southern California, winters are colder with chilly to cold morning temperatures common. Climatological data obtained for the nearby City of San Bernardino indicates the annual precipitation averages 16.43 inches per year (Intellicast 2016). Almost all of the precipitation occurs in the months between November and March, with hardly any occurring between the months of April and October. The wettest month is February, with a monthly average total precipitation of 3.70 inches. The record maximum and minimum temperatures for the City of San Bernardino are 117 and 17 degrees Fahrenheit respectively with July and August being on average the hottest months and December being on average the coldest. Temperatures during the Site visit were in the mid-80s (degrees Fahrenheit).

3.2 TOPOGRAPHY AND SOILS

On-site surface elevation ranges from approximately 1,495 to 1,580 feet above mean sea level and generally slopes from north to south. The project site is relatively flat with no areas of significant topographic relief. Based on the USDA NRCS Web Soil Survey, the project site is underlain by the following soil units (refer to Exhibit 4, *Soils*).

- **Soboba gravelly loamy sand, 0 to 9 percent slopes (SoC):** The Soboba gravelly loamy sand (0 to 9 percent slopes) consists of excessively drained soils formed from alluvium derived from granite sources. It is found on alluvial fans. Elevations are recorded at 25 to 3,700 feet above mean sea level (msl).

- **Tujunga gravelly loamy sand, 0 to 9 percent slopes (TvC):** The Tujunga gravelly loamy sand (0 to 9 percent slopes) consists of somewhat excessively drained soils formed from alluvium derived from granite sources. It is found on alluvial fans. Elevations are recorded at 10 to 1,500 feet above msl.

- **Psamments, Fluvents and Frequently flooded soils (Ps):** Psamments form on terraces or outwash plans and contain well sorted, freely draining soils that contain sand, fine sand, loamy sand or coarse sand in subsoils between 10 and 40 inches in depth. Fluvents are formed by recent water-deposited sediments in floodplains, fans and stream or river deltas and consist of layers of various soil textures. These soils consist of somewhat excessively drained soils formed in sandy alluvium.

ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, Soil Survey Geographic Database, San Bernardino County

VULCAN AREA Q
HABITAT AND JURISDICTIONAL ASSESSMENT

Soils

Exhibit 4

3.3 SURROUNDING LAND USES

The project site is located in an area that surrounded by rural development characterized as scattered homes throughout undeveloped areas (refer to Exhibit 3). The area southeast of the project site supports residential developments, while the area east of the project site consists of industrial buildings, and the area north of the project site supports active sand and gravel mining operations. However, the western boundary of the project site abuts the Union Pacific railroad tracks which is located east of the confluence of Lytle Creek and Cajon Wash. The project site has been completely cut off from the fluvial flow patterns and scouring regimes of Cajon Wash and Lytle Creek since the installation of the railroad track and man-made berm in 1966.

Section 4 Discussion

4.1 SITE CONDITIONS

The project site consists of both developed and undeveloped land that has been subject to a variety of direct and indirect human-related disturbances from existing rural residential developments, weed abatement activities, and illegal trash dumping. These land uses have resulted in the majority of the project site being converted to a mosaic of non-native grasses and highly disturbed natural plant communities that have been cut off from the influences of the Cajon Wash by the railroad tracks that border the western boundary of the site. Several residential developments are primarily found on the western half of the project site. These developments consist of homes and storage yards.

4.2 VEGETATION

Four (4) plant communities were observed within the boundaries of the project site during the habitat assessment: highly disturbed Riversidean alluvial fan sage scrub (RAFSS), buckwheat scrub, non-native grassland, and ornamental (Exhibit 5, *Vegetation*). In addition, the project site contains a land cover type that would be classified as disturbed and developed. These plant communities and land cover type are described in further detail below.

4.2.1 RIVERSIDEAN ALLUVIAL FAN SAGE SCRUB

Riversidean alluvial fan sage scrub (RAFSS) is considered a sensitive plant community, and is listed by CDFW as rare. RAFSS is a vegetation type in which scale broom (*Lepidospartum squamatum*) is dominant, co-dominant, or conspicuous in the shrub canopy. Scale broom, a member of the aster family, is a long-lived, deep-rooted shrub found in riverine or alluvial soils, often in dry washes.

RAFSS is a community restricted to intermittently or rarely-flooded, low-gradient alluvial deposits along streams, washes, and fans within large canyons on the coastal slopes of the San Gabriel Mountains and San Bernardino Mountains in San Bernardino County. This community is composed of a variety of drought-deciduous subshrubs and large evergreen woody shrubs. In addition to scale broom, woody shrubs such as chamise (*Adenostoma fasciculatum*), California buckwheat (*Eriogonum fasciculatum*), white sage (*Salvia apiana*), and yerba santa (*Eriodictyon trichocalyx*) are present in RAFSS. Common subshrubs include deerweed (*Acmispon glaber*), matchweed (*Gutierrezia californica*), and Douglas' nightshade (*Solanum douglasii*). Native species found within the herbaceous understory include fiddleneck

ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, San Bernardino County

VULCAN AREA Q
HABITAT AND JURISDICTIONAL ASSESSMENT

Vegetation

Exhibit 5

(*Amsinckia menziesii*), croton (*Croton californicus*), and cryptantha (*Cryptantha* spp.). Due to intense, periodic flooding and erosion within the alluvial plain, a series of step-like terraces are created above wash channels, each exhibiting a different successional phase. These phases are related to the amount of time elapsed since the most recent flood and occur as a sequential gradation of terrace types with increasing distance from the active channel.

These three phases, as well as two associated terrace levels of RAFSS plant communities have been described by Sharon Lockhart for the areas within and adjacent to what is now known as the Cajon Creek Conservation Bank and for additional properties owned by Vulcan in the vicinity of the Conservation Bank (Lockhart and Chambers 1995). The descriptions and the locations of the phases and terrace levels found within the project area and surrounding vicinity are provided below:

Terrace 1 Young or Pioneer Phase:

Sparsely vegetated with low species diversity and it is typically located within active stream channels or recently scoured streambeds. This terrace requires approximately 3 to 6 years to become established after a flood disturbance. Vegetation that fits this phase or terrace designation is present at the southwestern end of the project area along the active stream channel of Cajon Creek. The storm drain will discharge into Terrace 1 vegetation in Cajon Creek.

Terrace 2 Intermediate Phase:

Consists of relatively dense vegetation dominated by scale broom and California buckwheat, as well as grasses and other herbaceous species. This terrace requires approximately 5 to 14 years to become established after a flood disturbance.

Terrace 3 Old or Mature Phase:

Denser that Terrace 2, but includes yerba santa, cacti (*Opuntia* spp.), and chaparral yucca (*Hesperoyucca whipplei*). Very few annual species are present. This terrace requires approximately 6 to 18 years to become established after a flood disturbance.

Terrace 4 Isolated Phase:

Consists of other fully developed shrubs such as chamise, yerba santa, white sage, black sage (*Salvia mellifera*), and chaparral yucca. Emergent trees

including mountain mahogany (*Cercocarpus betuloides*) and blue elderberry (*Sambucus nigra ssp. caerulea*) are also present at low cover. This terrace requires up to 15 years to become established after a flood disturbance.

Terrace 5 Isolated Phase:

Terrace 5 is another designation that was given to terraces located outside of the floodplain that are cut off from the active stream channel. Terrace type 5 vegetation occurs outside the floodplain in the portion of the project area located east of the Union Pacific railroad track embankment. This terrace has been cut off from the active stream channel by the Southern Pacific railroad embankment. Terrace 5 vegetation is succeeding to upland chaparral. Additional species present in this terrace include bigpod ceanothus (*Ceanothus megacarpus*), laurel sumac (*Malosma laurina*), holly-leaved cherry (*Prunus ilicifolia*), and California sycamore (*Platanus racemosa*).

The isolated and senescing RAFSS habitat that occurs on the project site is classified as Terrace 5. The habitats have either succeeded to upland chaparral habitat or are no longer functioning as viable RAFSS habitat with long-term conservation value for the following reasons.

First, the project site's RAFSS habitat has been extensively disturbed by human activity for decades, and is heavily fragmented by roads, trails, and other human development. A dirt road runs through the center of the property from Historic Route 66/Cajon Boulevard, connecting scattered single-family residences. These residences include large outdoor storage yards, which are both fenced and unfenced. Due to many years of illegal trespass and dumping numerous trash and debris piles of varying size were observed. For example, boats, appliances, mattresses, electronics, tires, furniture, and clothing were observed during site visits.

Second, the RAFSS habitat is isolated from the historic fluvial flow patterns and scouring regimes due to residential and industrial development. The project site is bordered on the north by Area L, Vulcan's existing surface mining operation. The project site is bordered on the east by Cajon Boulevard and industrial development. The project site is bordered on the south by the Devil Creek Diversion Channel and the residential community of Muscoy. Union Pacific Railroad's tracks and man-made berm border the west side of the project site. This development has isolated and separated the project site's RAFSS habitat from less disturbed RAFSS vegetation off-site, especially in Cajon Wash.

Third, the elimination of fluvial processes from the project area has removed the physical and biotic attributes needed to support viable RAFSS habitat and special-status plant and wildlife species. Flooding events vital to maintaining this plant community have not occurred in the general vicinity for over 50 years.

Fourth, the RAFSS habitat is not occupied by any listed or otherwise special-status plant or wildlife species, indicating minimal or no value as biological habitat.

Accordingly, the loss of the disturbed, fragmented, low-quality RAFSS on the project site is not considered a significant impact and requires no mitigation.

4.2.2 BUCKWHEAT SCRUB

The buckwheat scrub plant community is located on the northeast corner of the project site. This portion of the project site historically supported a RAFSS plant community, however, construction of the Union Pacific railroad track and berm that prevent flooding events, weed abatement, and disking activities have thinned this plant community resulting in an open monoculture of California buckwheat, with non-native grasses intermixed.

4.2.3 NON-NATIVE GRASSLAND

Non-native grassland is located throughout the project site, generally filling in otherwise-open spaces between RAFSS vegetation. In some areas, particularly in the northeastern and in the middle of the southern half of the project site, the non-native grassland is the only plant community present and contains very few shrubs. This plant community has been subject to routine weed abatement and disking activities which has removed the native plant communities that once occurred on these portions of the site. This community is dominated primarily by red brome, Mediterranean grass, ripgut brome, cheat grass, and shortpodded mustard.

4.2.4 ORNAMENTAL

Ornamental vegetation is found in the middle of the southern half of the project site in association with residential developments. These ornamental vegetation stands consist of various pine trees (*Pinus* sp.), china berry (*Melia azedarach*), Peruvian pepper (*Schinus molle*), Brazilian pepper (*Schinus terebinthifolius*), and jacaranda (*Jacaranda mimosifolia*).

4.2.5 DISTURBED

Disturbed areas refer to unpaved or dirt areas that are routinely exposed to anthropogenic disturbances and typically do not support native vegetation or comprise a plant community.

Surface soils within these areas are generally devoid of vegetation and have been heavily disturbed/compacted from residential land uses. Within the project site, disturbed areas generally encompass the main dirt roads that traverse the project site and areas that have been subject to illegal dumping.

4.2.6 DEVELOPED

The developed areas within the project site are areas that support rural residential developments and the immediately surrounding areas that are subject to daily residential land uses.

4.3 WILDLIFE

Plant communities provide foraging habitat, nesting/denning sites, and shelter from adverse weather or predation. This section provides a discussion of those wildlife species that were observed or are expected to occur within the project site. The discussion is to be used a general reference and is limited by the season, time of day, and weather conditions in which the field survey was conducted. Wildlife detections were based on calls, songs, scat, tracks, burrows, and direct observation.

4.3.1 FISH

No fish or hydrogeomorphic features (e.g., creeks, ponds, lakes, reservoirs) with frequent sources of water that would support populations of fish were observed on the project site. Therefore, no fish are expected to occur and are presumed absent from the project site.

4.3.2 AMPHIBIANS

No amphibians or hydrogeomorphic features (e.g., creeks, ponds, lakes, reservoirs) with frequent sources of water that would support populations of amphibians were observed on the project. Therefore, no amphibians are expected to occur and are presumed absent from the project site.

4.3.3 REPTILES

The project site and surrounding habitat has the potential to support a variety of reptilian species adapted to a high level of human disturbances. Western side-blotched lizard (*Uta stansburiana elegans*) and coastal whiptail (*Aspidoscelis tigris stejnegeri*) were the only reptilian species observed during the field survey. Other reptilian species that are expected to occur on-site include western fence lizard (*Sceloporus occidentalis*), San Diego alligator lizard (*Elgaria multicarinata webbii*), red racer (*Coluber flagellum piceus*), Great Basin gopher snake

(*Pituophis catenifer deserticola*), and southern Pacific rattlesnake (*Crotalus oreganus helleri*). These reptilian species are not special-status species and no mitigation is required.

4.3.4 BIRDS

The project site provides suitable foraging, nesting, and cover habitat for a variety of resident and migrant bird species. A total of fifteen (15) bird species were observed on the project site during the field survey. Bird species seen during the field survey included cactus wren, Anna's hummingbird (*Calypte anna*), rock pigeon (*Columba livia*), American crow (*Corvus brachyrhynchos*), house finch (*Haemorhous mexicanus*), barn swallow (*Hirundo rustica*), California towhee (*Melozone crissalis*), northern mockingbird (*Mimus polyglottos*), house sparrow (*Passer domesticus*), Say's phoebe (*Sayornis saya*), lesser goldfinch (*Spinus psaltria*), Eurasian collared-dove (*Streptopelia decaocto*), western meadowlark (*Sturnella neglecta*), Cassin's kingbird (*Tyrannus vociferans*), and mourning dove (*Zenaida macroura*). These resident and migrant bird species are not special-status species and no mitigation is required.

4.3.5 MAMMALS

The project site and surrounding habitat has the potential to support a variety of mammalian species adapted to a high level of human disturbances. California ground squirrel (*Otospermophilus beecheyi*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), and Audubon's cottontail (*Sylvilagus audubonii*) were the only mammalian species observed/detected during the field survey. Other common mammalian species that are expected to occur on-site include coyote (*Canis latrans*), raccoon (*Procyon lotor*), Botta's pocket gopher (*Thomomys bottae*), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), and small mammal species such as deer mouse (*Peromyscus* sp.). These mammalian species are not special-status species and no mitigation is required.

4.4 NESTING BIRDS

No active nests or birds displaying nesting behavior were observed on-site during the field survey. The non-native grassland and highly disturbed RAFSS plant communities within the project site provide suitable foraging and nesting habitat for a variety of year-round and seasonal avian residents, as well as migrating songbirds that could occur in the area. The project site also has the potential to support birds that nest on the open ground and in the non-native grasslands, such as killdeer (*Charadrius vociferus*) and western meadowlarks (*Sturnella neglecta*). Additional nesting habitat is present within the ornamental vegetation located throughout the project site, as well as in trees surrounding the site to the north. It should be noted that several occupied cactus wren (*Campylorhynchus brunneicapillus*) nests were

observed in the mature RAFSS plant community on the northwestern corner of the project site. These nests were not active at the time of the site visit. These nesting bird species are not special-status species and no mitigation is required.

4.5 MIGRATORY CORRIDORS AND LINKAGES

Habitat linkages provide links between larger habitat areas that are separated by development. Wildlife corridors are similar to linkages, but provide specific opportunities for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species yet, inadequate for others. Wildlife corridors are significant features for dispersal, seasonal migration, breeding, and foraging. Additionally, open space can provide a buffer against both human disturbance and natural fluctuations in resources.

The San Bernardino County Land Use Plan Open Space Element depicts wildlife corridors within the Valley and Mountain Areas, one of which, the Cajon Wash Corridor, is located immediately adjacent to the project site and is separated from the project site by the edge of the 100-year floodplain and the Union Pacific railroad, and a bluff area with an elevation of as much as 20 feet. The project site has the potential to provide limited upland movement opportunities from the Cajon Wash/Lytle Creek across the project site. However, the residential development to the south, the active mining operations to the north, and high levels of human disturbances on the project site restrict wildlife movement opportunities. Project implementation is not expected to have a significant impact to wildlife movement.

4.6 JURISDICTIONAL AREAS

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates discharge of dredge or fill materials into "waters of the United States" pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the Regional Board regulates discharges to surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act and the CDFW regulates alterations to streambed and associated plant communities under Fish and Wildlife Code Sections 1600 *et seq*.

No jurisdictional drainage and/or wetland features were observed within the project site during the field survey. It should be noted that a concrete-lined trapezoidal channel (Devils Creek

Diversion Channel) runs northeast to southwest along the southeastern boundary of the project site, outside the limits of disturbance (Exhibit 6, *Jurisdictional Areas*). The concrete-lined channel receives water from Cable Creek and the Sweetwater Percolation Basins and is tributary to Cajon Wash. In addition, the Cajon Wash runs north to south west of the project site, west of the Union Pacific railroad, outside of the project footprint. Cajon Wash is tributary to the Santa Ana River (Relatively Permanent Water) and is ultimately tributary to the Pacific Ocean (Traditional Navigable Water). Therefore, Devils Creek Diversion Channel and Cajon Wash qualify as waters of the United States and fall under the regulatory authority of the Corps, Regional Board, and CDFW. Any impacts to Devils Creek Diversion Channel or Cajon Wash (e.g., storm drain tie-in, etc.) that may occur as a result of the proposed project will require the following regulatory approvals: Corps CWA Section 404 Permit, Regional Board CWA Section 401 Water Quality Certification, and CDFW Section 1602 Streambed Alteration Agreement.

Devils Creek Diversion Channel and Cajon Wash are located outside of the project footprint and not impacts will occur to these features from implementation of the proposed project.

4.7 SPECIAL-STATUS BIOLOGICAL RESOURCES

The CNDDB Rarefind 5 and the CNPS Electronic Inventory of Rare and Endangered Vascular Plants of California were queried for reported locations of special-status plant and wildlife species as well as special-status natural plant communities in the San Bernardino North and Devore USGS 7.5-minute quadrangles. The habitat assessment evaluated the conditions of the habitat(s) within the boundaries of the project site to determine if the existing plant communities, at the time of the survey, have the potential to provide suitable habitat(s) for special-status plant and wildlife species.

The literature search identified twenty-one (21) special-status plant species, thirty-one (31) special-status wildlife species, and three (3) special-status plant communities as having the potential to occur within the San Bernardino North and Devore quadrangles. Special-status plant and wildlife species were evaluated for their potential to occur within the project site based on habitat requirements, availability and quality of suitable habitat, and known distributions. Species determined to have the potential to occur within the general vicinity of the project site are presented in Appendix B, *Potentially Occurring Special-Status Biological Resources*. Refer to Appendix B for a detailed analysis regarding the potential occurrence of special-status plant and wildlife species within the project site.

ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, San Bernardino County

VULCAN AREA Q
HABITAT AND JURISDICTIONAL ASSESSMENT

Jurisdictional Areas

Exhibit 6

4.7.1 SPECIAL-STATUS PLANTS

Twenty-one (21) special-status plant species have been recorded in the CNDDB and CNPS in the San Bernardino North and Devore USGS 7.5-minute quadrangles (refer to Appendix B). Based on habitat requirements, availability and quality of habitats needed by each special-status plant species, and habitat assessment results, it was determined that the project site has a moderate to high potential to provide suitable habitat for six (6) special-status plant species. Singlewhorl burrobrush (*Ambrosia monogyra*), Parry's spineflower (*Chorizanthe parryi var. parryi*), White-bracted spineflower (*Chorizanthe xanti var. leucotheca*), slender-horned spineflower (*Dodecahema leptoceras*), Santa Ana River woollystar (*Eriastrum densifolium ssp. sanctorum*), and Mesa horkelia (*Horkelia cuneata var. puberula*). The results of the special-status focused plant survey are provided in Section 4.9.1 of this report.

4.7.2 SPECIAL-STATUS WILDLIFE

Thirty-one (31) special-status wildlife species have been reported in the San Bernardino North and Devore USGS 7.5-minute quadrangles (refer to Appendix B). San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), a California "Species of Special Concern," was the only special-status species observed on the project site. A "Species of Special Concern" is an administrative designation and carries no formal legal status.

Due to existing anthropogenic disturbances on-site, the observation of the San Diego black-tailed jackrabbit is assumed to be a fleeting occurrence and no mitigation is proposed. Additionally, the area west of the project site, associated with the Cajon Wash, provides high quality habitat for San Diego black-tailed jackrabbit where the animal is expected to occur, and has ample area to disperse into the Cajon Wash from the project site.

4.7.3 SPECIAL-STATUS PLANT COMMUNITIES

According to the CNDDB, three (3) special-status plant communities have been reported in the San Bernardino North and Devore USGS 7.5-minute quadrangles: highly degraded and disturbed RAFSS, southern riparian forest, and southern sycamore alder riparian woodland (refer to Appendix B). RAFSS habitat was the only sensitive habitat observed on the project site during the habitat assessment. However, as noted above in Section 4.2.1, the isolated and senescing RAFSS habitats identified on the project site has either succeeded to upland chaparral habitat or is no longer functioning as viable RAFSS habitat with long-term conservation value. More specifically, the RAFSS has been extensively disturbed by human activity for decades, and is fragmented by roads, trails, and development. The project site is surrounded to the north, south, and east sides by residential and industrial development. Union

Pacific Railroad tracks and a man-made berm to the west of the project site separate the project site's RAFSS habitats from less disturbed vegetation in the Cajon Wash. The RAFSS habitat within the proposed project footprint is not occupied by any listed or otherwise special-status plant or wildlife species, indicating minimal or no value as biological habitat. Therefore, the loss of the disturbed, fragmented, low-quality RAFSS on the project site is not considered a significant impact and would not require specific mitigation.

4.8 CRITICAL HABITAT

Under the federal Endangered Species Act, "Critical Habitat" is designated at the time of listing of a species or within one year of listing. Critical Habitat refers to specific areas within the geographical range of a species at the time it is listed that include the physical or biological features that are essential to the survival and eventual recovery of that species. Maintenance of these physical and biological features requires special management considerations or protection, regardless of whether individuals or the species are present or not. All federal agencies are required to consult with the USFWS regarding activities they authorize, fund, or permit which may affect a federally listed species or its designated Critical Habitat. The purpose of the consultation is to ensure that projects will not jeopardize the continued existence of the listed species or adversely modify or destroy its designated Critical Habitat. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing is on federal lands, uses federal funds, or requires federal authorization or permits (e.g., funding from the Federal Highways Administration or a CWA Permit from the Corps). If a there is a federal nexus, then the federal agency that is responsible for providing the funding or permit would consult with the USFWS.

In 2002 the USFWS designated Critical Habitat for SBKR, and the project site was included within the designated area (67 Federal Register [FR] 19812-19845). Subsequently, in 2008 the USFWS reduced the boundaries of their previously designated Critical Habitat and the project site was removed from the designated area (73 FR 61936-62002). Given the site's isolation and the permanent removal of the fluvial scouring needed to maintain viable RAFSS habitat, as well as the advanced state of senescence of the existing plant community, the removal of the site from Critical Habitat designation was warranted. However, in 2011 a federal district court, in response to a legal challenge to the 2008 Critical Habitat re-designation, vacated the 2008 designation and reinstated the original (2002) Critical Habitat designation. Currently the entire project site is located within designated Critical Habitat Unit 2, Lytle Creek/Cajon Wash (Exhibit 7, *Critical Habitat*) for SBKR. It is important to note, however, that no SBKR were observed or trapped during extensive trapping surveys, discussed in detail in Appendix C.

VULCAN AREA Q
HABITAT AND JURISDICTIONAL ASSESSMENT

Critical Habitat

ELMT CONSULTING

0 0.5 1 2 Miles

Source: ESRI Aerial Imagery, USFWS Critical Habitat, San Bernardino County

Exhibit 7

Since there is no federal nexus, and no SBKR were captured on the project site, the applicant will not be required to initiate a Section 7 Consultation for the loss of Critical Habitat.

4.9 FOCUSED SURVEY RESULTS

4.9.1 SPECIAL-STATUS PLANT SURVEY

Surveys were conducted at the time of year when species are both evident and identifiable. Site visits were spaced throughout the growing season to accurately determine what plant species exist on-site. Multiple surveys were conducted to capture the floristic diversity at a level necessary to determine if special status plants are present. The timing and number of surveys was determined based on geographic location, the natural communities present, and the weather patterns of the region.

Suitable habitat occurring on the project site was surveyed by foot. Linear transects were walked throughout the suitable habitat and spaced to ensure maximum visual coverage. A handheld geographic positioning systems (GPS) device and field data sheets were used to record all populations of special-status plants and their characteristics, if found during the surveys.

Target Plant Species

Based on the plant species known to occur within the general vicinity and the suitability of the on-site plant communities to support those plant species, two site visits were conducted, on May 11 and June 1, 2017. A final site visit was conducted on February 26, 2018. These visits were spaced throughout the growing season to capture the appropriate phenotypic stage for proper identification of all special-status plant species determined to have a moderate to high potential to occur on the project site. Based on habitat requirements, availability and quality of habitats needed by each special-status plant species, and habitat assessment results, it was determined that the project site has a moderate to high potential to provide suitable habitat for six (6) special-status plant species. Please refer to Table 1 and the following subsections for additional information on the special-status plant species identified as having a moderate to high potential to occur on the project site.

Singlewhorl Burrobrush

Singlewhorl burrobrush is a species of flowering plant in the sunflower family (Asteraceae). The species is native to the southwestern United States where it grows in deserts and adjacent to mountains and dry valleys. Singlewhorl burrobrush is a thickly branching shrub and can reach heights up to four meters. Stems are thing and covered in narrow, hairy leaves and flower

in large inflorescences. The staminate flowers have translucent white corollas and the fruit is dry with a single whorl of several papery wings. Singlewhorl burrobrush was not observed on-site.

Table 1: Special-Status Plant Species

Scientific Name Common Name	**Status**	**Blooming Period**	**Preferred Habitat**
Ambrosia monogyra Singlewhorl burrobrush	Fed: None CA: None CNPS: 2B.2	Aug – Nov	Found in sandy soils within chaparral and Sonoran Desert scrub habitat. Found at elevations ranging from 33 to 1,640 feet.
Chorizanthe parryi var. parryi Parry's spineflower	Fed: None CA: None CNPS: 1B.1	Apr – Jun	Found in sandy or gravelly soils within coastal scrub (alluvial fans), Mojavean desert scrub, pinyon and juniper woodland habitats. Found at elevations ranging from 984 to 3,937 feet.
Chorizanthe xanti var. leucotheca White-bracted spineflower	Fed: None CA: None CNPS: 1B.2	Apr – Jun	Chaparral, coastal scrub (alluvial fan sage scrub). Flood deposited terraces and washes. Found at elevations ranging from 1,181 to 2,690 feet.
Dodecahema leptoceras Slender-horned spineflower	Fed: END CA: END CNPS: 1B.1	Apr – Jun	Found in sandy soil in association with mature alluvial scrub. Ideal habitat appears to be a terrace or bench that receives overbank deposits every 50 to 100 years. Cryptogamic crusts are frequently present in occupied areas.
Eriastrum densifolium ssp. sanctorum Santa Ana River woollystar	Fed: END CA: END CNPS: 1B.1	May – Sep	Found only within open washes and early successional alluvial fan scrub on open slopes above main watercourses on fluvial deposits where flooding and scouring occur at a frequency that allows the persistence of open shrublands.
Horkelia cuneata var. puberula Mesa horkelia	Fed: None CA: None CNPS: 1B.1	Sept - May	Occurs on sandy or gravelly soils in chaparral, woodlands, and coastal scrub plant communities. Found at elevations ranging from 230 to 2,657 feet.

U.S. Fish and Wildlife Service – Federal (Fed)
FE- Endangered
FT- Threatened

California Department of Fish and Game – State (CA)
SE- Endangered
ST- Threatened

California Native Plant Society – (CNPS) *California Rare Plant Rank*
1B Plants Rare, Threatened, or Endangered in California and Elsewhere
2B Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere

Threat Ranks
0.1- Seriously threatened in California
0.2- Moderately threatened in California

Parry's Spineflower

Parry's spineflower is a species of flowering plant in the buckwheat family (Polygonaceae) found in sandy soil on flats and foothills in mixed grassland and chaparral plant communities. Parry's spineflower is known today only from scattered populations in the foothills of the San Gabriel, San Bernardino, and San Jacinto mountains of Los Angeles, San Bernardino, and Riverside counties, California. Much of the native habitat of Parry's spineflower was

destroyed by development in the twentieth century. No Parry's spineflower was observed on-site.

White-bracted Spineflower

White-bracted spineflower is a species of flowering plant in the buckwheat family (Polygonaceae). It is endemic to southern California, where it is only known to occur on the eastern slopes of the San Jacinto Mountains in Riverside County and in the eastern San Bernardino Mountains in sandy to gravelly places in saltbush, pinyon-juniper, and pine-oak woodland plant communities. White-bracted spineflower is generally erect in form, reaching up to 30 centimeters in height, and reddish in color and coated in thin to dense hairs. The inflorescence is thick and woolly, with each flower surrounded by six reddish, curly-haired bracts tipped with hooked awns. The flower is up to 6 millimeters wide and pink to red in color. No white-bracted spineflower was observed on-site.

Slender-horned Spineflower

Slender-horned spineflower is a small annual plant in the buckwheat family (Polygonaceae) and has been federally and State listed as endangered since the 1980s. The species is usually found in drought prone alluvial benches subject to only rare flood events. Slender-horned spineflower is typically associated with cryptogamic crust or microhabitats that contain soil, bacteria, algae, lichens, and mosses. These crusts act as a living mulch in that they retain soil moisture and discourage the growth of annuals and weeds, as well as resist disturbances of wind and water erosion. No slender-horned spineflower were observed on-site.

Santa Ana River Woollystar

The Santa Ana River woollystar is a short-lived, perennial subshrub of the phlox family (Polemoniaceae). The entire plant is covered with woolly pubescence, giving it a silvery-white appearance. The flower is a blue to violet-blue inflorescence. Santa Ana River woollystar is a pioneer species that colonizes washed sand deposits created by sporadic stream flow action. Between major flood events, these deposits typically exist as terraces above the high-water mark of the river and associated braided streams. Santa Ana River woollystar grows primarily in Riversidean alluvial fan sage scrub habitat in sandy soils from 1,240 to 1,900 feet above mean sea level. The Santa Ana River woollystar is both a federally and State listed endangered plant species. No Santa Ana River woollystar were observed on-site.

Mesa Horkelia

Mesa horkelia is a perennial herb in the rose family (Rosaceae). At its most distinctive, mesa horkelia is represented by historic collections from the hills and plains of Los Angeles, western

Riverside, extreme southwestern San Bernardino, and northwestern San Diego counties; these populations have now largely been destroyed by urbanization. Scattered populations still exist within this core area. Occurs on sandy or gravelly soils in chaparral, woodlands, and coastal scrub plant communities at elevations ranging from 230 to 2,657 feet. No mesa horkelia was observed on-site.

Results

Despite extensive systematic surveys of suitable habitat within the project site, none of the other target special-status plant species were observed within the proposed project footprint.

4.9.2 SBKR PRESENCE/ABSENCE TRAPPING STUDY

SJM Biological Consultants conducted both a SBKR suitability assessment as well as a SBKR presence/absence trapping study. The suitability assessment was conducted to determine which portions of the project site provide suitable habitat for SBKR based on the presence of suitable habitat conditions (sandy soils, open RAFSS habitat, exposure or proximity to a hydrologic source). Habitat conditions were verified by walking transects throughout the habitats within the project site as well as documenting the presence of kangaroo rat sign (i.e., burrows, scat, tail drags, dusting baths) and site characteristics such as (a) the depth, distribution, and composition of soils, (b) topography, (c) hydrologic patterns, and (d) evidence of anthropogenic disturbances in order to identify locations where presence/absence trapping should occur.

Based on the amount of suitable habitat identified during the habitat suitability assessment, three SBKR trapping studies were needed to adequately cover areas of suitable habitat and determine the presence/absence of SBKR. In accordance with USFWS survey protocol, each trapping survey was conducted by a permitted SBKR biologist for five consecutive evenings. Traps were checked twice per night, once at 12:00 midnight and again at dawn, to reduce impacts to any species captured. No SBKR were captured during these 2017 trapping studies.

Section 5 Conclusion and Recommendations

The project site consists of both developed (rural residential housing) and undeveloped land that has been subject to a variety of human-related disturbances from existing rural residential developments, weed abatement activities, and illegal trash dumping. These land uses have resulted in the habitats within the project site being converted to RAFSS habitats to a mosaic of non-native grasses, buckwheat scrub, upland chaparral and highly disturbed intermediate RAFSS that, due to the isolation of the site and the removal of all hydrologic influences of the Cajon Wash, no longer is viable RAFSS habitat with long-term conservation value. Several residential developments are primarily found on the western half of the project site. These developments consist of homes and storage yards.

Four (4) plant communities were observed within the boundaries of the project site during the habitat assessment: highly disturbed Riversidean alluvial fan sage scrub (RAFSS), buckwheat scrub, non-native grassland, and ornamental. However, as noted above in Section 4, the isolated and senescing RAFSS habitats identified on the project site has either succeeded to upland chaparral habitat or is no longer functioning as viable RAFSS habitat with long-term conservation value. More specifically, the RAFFS has been extensively disturbed by human activity for decades, and is fragmented by roads, trails, and development. The project site is surrounded to the north, south, and east sides by residential and industrial development. Union Pacific Railroad tracks and a man-made berm to the west of the project site separate the project site's RAFSS habitats from less disturbed vegetation in the Cajon Wash. The RAFSS habitat within the proposed project footprint is not occupied by any listed or otherwise special-status plant or wildlife species, indicating minimal or no value as biological habitat. Therefore, the loss of the disturbed, fragmented, low-quality RAFSS on the project site is not considered a significant impact and would not require specific mitigation.

Based on the results of the habitat assessment, the following issues need to be considered prior to ground disturbing activities:

Migratory Bird Treaty Act

Pursuant to the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code, removal of any trees, shrubs, or any other potential nesting habitat should be conducted outside the avian nesting season. The nesting season generally extends from early February through August, but can vary slightly from year to year based upon seasonal weather conditions. If ground disturbance and vegetation removal cannot occur outside of the nesting season, a pre-construction clearance survey for nesting birds should be conducted within thirty (30) days of

the start of any vegetation removal or ground disturbing activities to ensure that no nesting birds will be disturbed during construction. The biologist conducting the clearance survey should document a negative survey with a brief letter report indicating that no impacts to active avian nests will occur. If an active avian nest is discovered during the pre-construction clearance survey, construction activities should stay outside of a 300-foot buffer around the active nest. For raptor species, this buffer is expanded to 500 feet. It is recommended that a biological monitor be present to delineate the boundaries of the buffer area and to monitor the active nest to ensure that nesting behavior is not adversely affected by the construction activity. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, normal construction activities can occur.

Pursuant to California Fish and Game Code Section 3503, it is unlawful to destroy any bird's nest or any bird's eggs that are protected under the MBTA. Further, any birds in the orders Falconiformes or Strigiformes (Birds of Prey, such as hawks and owls) are protected under California Fish and Game Code Section 3503.5 which makes it unlawful to take, possess, or destroy their nest or eggs. Consultation with CDFW might be required prior to the removal of any raptor nest on the project site, if found.

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Appendix A Site Photographs

Photograph 1: From the eastern half of the project site looking north at the non-native grassland. A row of trees that borders the northern boundary can be observed in the background.

Photograph 2: Looking southwest from the middle of the southern portion of the project site at the non-native grassland.

Photograph 3: Looking north at the intergrade between the non-native grassland and the intermediate RAFSS plant community in the middle of the northern portion of the project site.

Photograph 4: Looking south at the intermediate RAFSS plant community in the middle of the western boundary of the project site.

Photograph 5: Looking at the intermediate RAFSS plant community in the middle of the northern portion of the project site.

Photograph 6: Looking at the buckwheat scrub plant community on the southeastern portion of the project site.

Photograph 7: View of the disturbed dirt access road and weed abatement activities on the eastern portion of the project site.

Photograph 8: Rural residential development on the project site.

Photograph 9: Looking northeast at the mature RAFSS plant community on the northwestern portion of the project site.

Photograph 10: Looking southeast at the mature RAFSS plant community on the northwestern portion of the project site.

Photograph 11: Looking northeast (upstream) at the concrete lined v-ditch that borders the southern boundary of the project site.

Appendix B Potentially Occurring Special-Status Biological Resources

Table B-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**
Special-Status Wildlife Species			
Aimophila ruficeps canescens southern California rufous-crowned sparrow	Fed: None CA: WL	Typically found between 3,000 and 6,000 feet in elevation. Breed in sparsely vegetated shrublands on hillsides and canyons. Prefers coastal sage scrub dominated by California sagebrush (*Artemisia californica*), but can also be found breeding in coastal bluff scrub, low-growing serpentine chaparral, and along the edges of tall chaparral habitats.	No
Anniella stebbinsi southern California legless lizard	Fed: None CA: SSC	Occurs primarily in areas with sandy or loose loamy soils under sparse vegetation of beaches, chaparral, or pine-oak woodland; or near sycamores, oaks, or cottonwoods that grow on stream terraces. Often found under or in the close vicinity of logs, rocks, old boards, and the compacted debris of woodrat nests.	No
Arizona elegans occidentalis California glossy snake	Fed: None CA: SSC	Occurs in a wide variety of habitat types including open desert, grasslands, shrublands, chaparral, and woodlands. Prefers areas where the soil is loose and sandy which allows for burrowing.	No
Artemisiospiza belli belli Bell's sage sparrow	Fed: None CA: WL	Occurs in chaparral dominated by fairly dense stands of chamise. Also found in coastal sage scrub in south of range.	No
Aspidoscelis hyperythra orangethroat whiptail	Fed: None CA: SSC	Inhabits low-elevations coastal scrub, chamise-redshank chaparral, mixed chaparral, and valley-foothill hardwood habitats. Semi-arid brushy areas typically with loose soil and rocks, including washes, streamsides, rocky hillsides, and coastal chaparral.	No
Aspidoscelis tigris stejnegeri coastal whiptail	Fed: None CA: SSC	Found in a variety of ecosystems, primarily hot and dry open areas with sparse foliage such as chaparral, woodland, and riparian areas.	No
Athene cunicularia burrowing owl	Fed: None CA: SSC	Primarily a grassland species, but it persists and even thrives in some landscapes highly altered by human activity. Occurs in open, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. The overriding characteristics of suitable habitat appear to be burrows for roosting and nesting and relatively short vegetation with only sparse shrubs and taller vegetation.	No
Baeolophus inornatus oak titmouse	Fed: None CA: None	Lives mostly in warm, open, dry oak or oak-pine woodlands. Restricted to southwest Oregon to northwest Baja California with another population in the Cape District of south Baja California.	No
Batrachoseps gabrieli San Gabriel slender salamander	Fed: None CA: None	Known from select localities in the San Gabriel Mountains and the Mt. Baldy area of Los Angeles County and the western end of the San Bernardino Mountains in San Bernardino Co., with an elevation range of 1,200- 5,085 feet. Occurs on talus slopes surrounded by a variety of conifer and montane hardwood species, including bigcone spruce, pine, white fir, incense cedar, canyon live oak, black oak, and California laurel.	No
Bombus crotchii Crotch bumble bee	Fed: None CA: None	Exclusive to coastal California east towards the Sierra-Cascade Crest; less common in western Nevada.	No

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**
Chaetodipus fallax fallax northwestern San Diego pocket mouse	Fed: None CA: SSC	Occurs in desert and coastal habitats in southern California, Mexico, and northern Baja California, from sea level to at least 1,400 meters above msl. Found in a variety of temperate habitats ranging from chaparral and grasslands to scrub forests and deserts. Requires low growing vegetation or rocky outcroppings, as well as sandy soils for burrowing.	No
Chaetodipus fallax pallidus pallid San Diego pocket mouse	Fed: None CA: SSC	Occurs in sandy herbaceous areas, usually in association with rocks or coarse gravel in desert wash, desert scrub, desert succulent scrub, and pinyon-juniper communities.	No
Charina umbratica southern rubber boa	Fed: None CA: **THR**	Found in a variety of montane forest habitats, particularly in the vicinity of streams or wet meadows. Requires loose, moist soil for burrowing and seeks cover in rotting logs. Restricted to the San Bernardino and San Jacinto Mountains.	No
Diadophis punctatus modestus San Bernardino ringneck snake	Fed: None CA: None	Common in open, relatively rocky areas within valley-foothill, mixed chaparral, and annual grass habitats.	No
Dipodomys merriami parvus San Bernardino kangaroo rat	Fed: **END** CA: SSC	Primarily found in Riversidian alluvial fan sage scrub and sandy loam soils, alluvial fans and flood plains, and along washes with nearby sage scrub. May occur at lower densities in Riversidian upland sage scrub, chaparral and grassland in uplands and tributaries in proximity to Riversidian alluvial fan sage scrub habitats. Tend to avoid rocky substrates and prefer sandy loam substrates for digging of shallow burrows.	No
Eremophila alpestris actia California horned lark	Fed: None CA: WL	Generally found in shortgrass prairies, grasslands, disturbed fields, or similar habitat types. Flocks in groups.	No
Euchloe hyantis andrewsi Andrew's marble butterfly	Fed: None CA: None	Inhabits yellow pine forests near Lake Arrowhead and Big Bear Lake at elevations between 5,000 and 6,000 feet. Uses Laguna Mountains jewelflower (*Streptanthus bernardinus*) and pine rockcress (*Arabis holboelli var. pinetorum*) as host plants; larvae feed on mountain tansy mustard (*Descurainia incana*).	No
Glaucomys sabrinus californicus San Bernardino flying squirrel	Fed: None CA: SSC	Occurs in white fir (*Abies concolor*) and Jeffrey pine (*Pinus jeffreyi*) mixed conifer forests with black oak (*Quercus kelloggii*) components at higher elevations. Use cavities in large trees, snags, and logs for cover. Habitats are typically mature, dense conifer forest in close proximity to riparian areas.	No
Lasiurus xanthinus western yellow bat	Fed: CA: None SSC	Roosts in palm trees in foothill riparian, desert wash, and palm oasis habitats with access to water for foraging.	No
Lepus californicus bennettii San Diego black-tailed jackrabbit	Fed: None CA: SSC	Occurs in diverse habitats, but primarily is found in arid regions supporting shortgrass habitats. Openness of open scrub habitat is preferred over dense chaparral.	Yes
Neotoma lepida intermedia San Diego desert woodrat	Fed: None CA: SSC	Occurs in coastal scrub communities between San Luis Obispo and San Diego Counties. Prefers moderate to dense canopies, and especially rocky outcrops.	No
Nyctinomops femorosaccus pocketed free-tailed bat	Fed: None CA: SSC	Often found in pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oasis.	No

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**
Perognathus longimembris brevinasus Los Angeles pocket mouse	Fed: None CA: SSC	Occurs in lower elevation grasslands and coastal sage scrub communities in and around the Los Angeles Basin. Prefers open ground with fine sandy soils. May not dig extensive burrows, but instead will seek refuge under weeds and dead leaves instead.	No
Phrynosoma blainvillii coast horned lizard	Fed: None CA: SSC	Occurs in a wide variety of vegetation types including coastal sage scrub, annual grassland, chaparral, oak woodland, riparian woodland and coniferous forest. In inland areas, this species is restricted to areas with pockets of open microhabitat, created by disturbance (i.e. fire, floods, roads, grazing, fire breaks). The key elements of such habitats are loose, fine soils with a high sand fraction; an abundance of native ants or other insects; and open areas with limited overstory for basking and low, but relatively dense shrubs for refuge.	No
Polioptila californica californica coastal California gnatcatcher	Fed: **THR** CA: SSC	Obligate resident of sage scrub habitats that are dominated by California sagebrush (*Artemisia californica*). This species generally occurs below 750 feet elevation in coastal regions and below 1,500 feet inland. Ranges from the Ventura County, south to San Diego County and northern Baja California and it is less common in sage scrub with a high percentage of tall shrubs. Prefers habitat with more low-growing vegetation.	No
Rana muscosa southern mountain yellow-legged frog	Fed: **END** CA: **END**; SSC	Occurs in lower elevation habitats characterized by rocky streambeds and wet meadows, while higher elevation habitats include lakes, ponds, and streams. Occupy streams in narrow, rock-walled canyons. Often found along rock walls or vegetated banks and always within a few feet of the water.	No
Rhinichthys osculus* ssp. *3 Santa Ana speckled dace	Fed: None CA: SSC	Requires permanent flowing streams within summer water temperatures of 17 – 20 degrees Celsius. Inhabits shallow cobble and gravel riffles and small streams that flow through steep, rocky canyons with chaparral covered walls.	No
Setophaga petechial yellow warbler	Fed: None CA: SSC	Nests over all of California except the Central Valley, the Mojave Desert region, and high altitudes and the eastern side of the Sierra Nevada. Winters along the Colorado River and in parts of Imperial and Riverside Counties. Nests in riparian areas dominated by willows, cottonwoods, sycamores, or alders or in mature chaparral. May also use oaks, conifers, and urban areas near stream courses.	No
Spea hammondii western spadefoot	Fed: None CA: SSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washed, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rainpools which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	No
Thamnophis hammondii two-striped garter snake	Fed: None CA: CSC	Occurs in or near permanent fresh water, often along streams with rocky beds and riparian growth up to 7,000 feet in elevation.	No

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**
Vireo bellii pusillus least Bell's vireo	Fed: **END** CA: **END**	Primarily occupy Riverine riparian habitat that typically feature dense cover within 1-2 meters of the ground and a dense, stratified canopy. Typically it is associated with southern willow scrub, cottonwood-willow forest, mule fat scrub, sycamore alluvial woodlands, coast live oak riparian forest, arroyo willow riparian forest, or mesquite in desert localities. It uses habitat which is limited to the immediate vicinity of water courses, 2,000 feet elevation in the interior.	No
Special-Status Plant Species			
Ambrosia monogyra singlewhorl burrobush	Fed: None CA: None CNPS: 2B.2	Found in sandy soils within chaparral and Sonoran desert scrub habitat. Found at elevations ranging from 33 to 1,640 feet. Blooming period is from August to November.	No
Arenaria paludicola marsh sandwort	Fed: **END** CA: **END** CNPS: 1B.1	Grows mainly in wetlands and freshwater marshes in arid climates. The plant can grow in saturated acidic bog soils and soils that are sandy with a high organic content. Found at elevations ranging from 33 to 558 feet. Blooming period is from May to August.	No
Berberis nevinii Nevin's barberry	Fed: **END** CA: **END** CNPS: 1B.1	Grows in chaparral, cismontane woodland, coastal scrub, and riparian scrub. Usually found on steep, north facing slopes or in low grade sandy washes. Found at elevations ranging from 197 to 3,904 feet. Blooming period ranges from March to June.	No
Brodiaea filifolia thread-leaved brodiaea	Fed: **THR** CA: **END** CNPS: 1B.1	Often found in clay soils within openings of chaparral, cismontane woodland, coastal scrub, playas, vernal pools, valley and foothill grassland habitats. Found at elevations ranging from 82 to 3,675 feet. Blooming period ranges from March to June.	No
Calochortus catalinae Catalina mariposa-lily	Fed: None CA: None CNPS: 4.2	Grows in chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Found at elevations ranging from 49 to 2,297 feet. Blooming period is from February to June.	No
Calochortus plummerae Plummer's mariposa-lily	Fed: None CA: None CNPS: 4.2	Prefers openings in chaparral, foothill woodland, coastal sage scrub, valley foothill grasslands, cismontane woodland, lower montane coniferous forest and yellow pine forest. Often found on dry, rocky slopes and soils and brushy areas. Can be very common after a fire. Found at elevations ranging from 459 to 6,299 feet. Blooming period is from May to July.	No
Castilleja lasiorhyncha San Bernardino Mountains owl's-clover	Fed: None CA: None CNPS: 1B.2	Found in chaparral, riparian woodland, pebble (pavement) plain, upper montane coniferous forest, meadows and seeps habitats. Found at elevations ranging from 4,265 to 7,841 feet. Blooming period is from May to August.	No
Centromadia pungens* ssp. *laevis smooth tarplant	Fed: None CA: None CNPS: 1B.1	Occurs in alkaline soils within chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland habitats. Grows in elevation from 0 to 2,100 feet. Blooming period ranges from April to September.	No
Chloropyron maritimum* ssp. *maritimum salt marsh bird's-beak	Fed: **END** CA: **END** CNPS: 1B.2	Upper terraces and higher edges of coastal salt marshes where tidal inundation is periodic. Found at elevations ranging from 0 to 98 feet. Blooming period is from May to October.	No

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**
Chorizanthe parryi* var. *parryi Parry's spineflower	Fed: None CA: None CNPS: 1B.1	Occurs on sandy and/or rocky soils in chaparral, coastal sage scrub, and sandy openings within alluvial washes and margins. Found at elevations ranging from 951 to 3,773 feet. Blooming period is from April to June.	No
Chorizanthe xanti var. leucotheca white-bracted spineflower	Fed: None CA: None CNPS: 1B.2	Found in sandy or gravelly soils within coastal scrub (alluvial fans), Mojavean desert scrub, pinyon and juniper woodland habitats. Found at elevations ranging from 984 to 3,937 feet. Blooming period is from April to June.	No
Dodecahema leptoceras slender-horned spineflower	Fed: **END** CA: **END** CNPS: 1B.1	Chaparral, coastal scrub (alluvial fan sage scrub). Flood deposited terraces and washes. Found at elevations ranging from 1,181 to 2,690 feet. Blooming period is from April to June.	No
Eriastrum densifolium* ssp. *sanctorum Santa Ana River woollystar	Fed: **END** CA: **END** CNPS: 1B.1	Found in sandy soil in association with mature alluvial scrub. Ideal habitat appears to be a terrace or bench that receives overbank deposits every 50 to 100 years. Cryptogamic crusts are frequently present in occupied areas. Found at elevations ranging from 299 to 2,001 feet. Blooming period is from April to September.	No
Fimbristylis thermalis hot springs fimbristylis	Fed: None CA: None CNPS: 2B.2	Habitat includes meadows and seeps (alkaline, near hot springs). Found at elevations ranging from 361 to 4,396 feet. Blooming period is from July to September.	No
Frasera neglecta pine green-gentian	Fed: None CA: None CNPS: 4.3	Found in lower montane coniferous forest, upper montane coniferous forest, pinyon and juniper woodland habitats. Found at elevations ranging from 4,593 to 8,202 feet. Blooming period is from May to July.	No
Galium johnstonii Johnston's bedstraw	Fed: None CA: None CNPS: 4.3	Found in granitic, rocky or gravelly soils within lower montane coniferous forest and upper montane coniferous forest habitats. Found at elevations ranging from 5,052 to 8,202 feet. Blooming period is from July to August.	No
Horkelia cuneata var. puberula Mesa horkelia	Fed: None CA: None CNPS: 1B.1	Occurs on sandy or gravelly soils in chaparral, woodlands, and coastal scrub plant communities. Found at elevations ranging from 230 to 2,657 feet. Blooming period is from February to September.	No
Imperata brevifolia California satintail	Fed: None CA: None CNPS: 2B.1	Grows in chaparral, coastal scrub, mojavean desert scrub, riparian scrub, and meadows and seeps. Found at elevations ranging from 0 to 3,986 feet. Blooming period is from September to May.	No
Juglans californica southern California black walnut	Fed: None CA: None CNPS: 4.2	Found in chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats. Found at elevations ranging from 164 to 2,953 feet. Blooming period is from March to August.	Yes
Juncus duranii Duran's rush	Fed: None CA: None CNPS: 4.3	Habitats include lower and upper montane coniferous forests, meadows and seeps. Found at elevations ranging from 5,801 to 9,199 feet. Blooming period is from July to August.	No
Lilium humboldtii* ssp. *ocellatum ocellated humboldt lily	Fed: None CA: None CNPS: 4.2	Found in openings within chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland habitats. Found at elevations ranging from 98 to 5,906 feet in elevation. Blooming period is from March to August.	No

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**
Lilium parryi lemon lily	Fed: None CA: None CNPS: 1B.2	Prefers lower montane coniferous forest, riparian forests, upper montane coniferous forests, meadows and seeps. Found at elevations ranging from 4,003 to 9,006 feet. Blooming period is from July to August.	No
Lycium parishii Parish's desert-thorn	Fed: None CA: None CNPS: 2B.3	Habitats include coastal scrub and Sonoran desert scrub. Found at elevations ranging from 443 to 3,281 feet. Blooming period is from March to April.	No
Malacothamnus parishii Parish's bush-mallow	Fed: None CA: None CNPS: 1A	Species is presumed extinct. Habitats include coastal scrub and chaparral. Found at elevations ranging from 1,000 to 1,495 feet. Blooming period is from June to July.	No
Monardella saxicola rock monardella	Fed: None CA: None CNPS: 4.2	Found in rocky, usually serpentinite, soils within closed-cone coniferous forest, chaparral, and lower montane coniferous forest habitats. Found at elevations ranging from 1,640 to 5,906 feet. Blooming period is from June to September.	No
Muhlenbergia californica California muhly	Fed: None CA: None CNPS: 4.3	Found in chaparral, coastal scrub, lower montane coniferous forest, meadows and seeps. Only known to occur in the San Bernardino Mountains. Found at elevations ranging from 328 to 6,562 feet. Blooming period is from June to September.	No
Opuntia basilaris var. brachyclada short-joint beavertial	Fed: None CA: None CNPS: 1B.1	Habitats include chaparral, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodlands. Found at elevations ranging from 1,394 to 5,906 feet. Blooming period is from April to August.	No
Pickeringia montana var. tomentosa woolly chaparral pea	Fed: None CA: None CNPS: 4.3	Found in gabbroic, granitic, clay soils in chaparral habitats. Found at elevations ranging from 0 to 5,557 feet. Blooming period is from May to August.	No
Schoenus nigricans black bog-rush	Fed: None CA: None CNPS: 2B.2	Grows within marches and swamps (often alkaline). Found at elevations ranging from 492 to 6,562 feet. Blooming period is from August to September.	No
Senecio astephanus San Gabriel ragwort	Fed: None CA: None CNPS: 4.3	Grows in chaparral, cismontane woodland, and coastal scrub habitat. Found at elevations ranging from 49 to 2,625 feet. Blooming period is from January to April.	No
Streptanthus bernardinus Laguna Mountains jewelflower	Fed: None CA: None CNPS: 4.3	Grows in chaparral and lower montane coniferous forest on clay or decomposed granite soils. It is sometimes found in disturbed areas such as streamsides or roadcuts. From 4,724 to 8,202 feet in elevation. Blooming period is from May to August.	No
Streptanthus campestris southern jewelflower	Fed: None CA: None CNPS: 1B.3	Found in rocky habitats within chaparral, lower montane coniferous forest, pinyon and juniper woodland. Found at elevations ranging from 2,953 to 7,546 feet. Blooming period is from April to July.	No
Symphyotrichum defoliatum San Bernardino aster	Fed: None CA: None CNPS: 1B.2	Grows in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic). Can be found growing near ditches, streams, and springs within these habitats. Found at elevations ranging from 7 to 6,693 feet. Blooming period is from July to November.	No

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**
Special-Status Plant Communities			
Riversidean Alluvial Fan Sage Scrub	CDFW Sensitive Habitat	Occur within broad washes of sandy alluvial drainages that carry rainfall runoff sporadically in winter and spring, but remain relatively dry through the remainder of the year. Is restricted to drainages and floodplains with very sandy substrates that have a dearth of decomposed plant material. These areas do not develop into riparian woodland or scrub due to the limited water resources and scouring by occasional floods.	Yes
Southern Riparian Forest	CDFW Sensitive Habitat	Dense riparian forests found along streams and rivers. Characteristic plant species include western sycamore, cottonwood, and many other wetland plants.	No
Southern Sycamore Alder Riparian Woodland	CDFW Sensitive Habitat	Occurs below 2,000 meters in elevation, sycamore and alder often occur along seasonally-flooded banks; cottonwoods and willows are also often present. Poison oak, mugwort, elderberry and wild raspberry may be present in understory.	No

U.S. Fish and Wildlife Service (USFWS) - Federal
END- Federal Endangered
THR- Federal Threatened

California Department of Fish and Wildlife (CDFW) - California
END- California Endangered
THR- California Threatened
FP- California Fully Protected
SSC- California Species of Concern
WL- Watch List

California Native Plant Society (CNPS)
California Rare Plant Rank
1A Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B Plants Rare, Threatened, or Endangered in California and Elsewhere
2B Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere
4 Plants of Limited Distribution – A Watch List

Threat Ranks
0.1- Seriously threatened in California
0.2- Moderately threatened in California
0.3- Not very threatened in California

Appendix C 2017 SBKR Trapping Study

SJM BIOLOGICAL CONSULTANTS

23 February 2018 SJMBC.980

Ms. Stacey Love
Recovery Permit Coordinator
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: Results of trapping surveys for the federally endangered San Bernardino kangaroo rat (*Dipodomys merriami parvus* [SBKR]) at the Vulcan Area Q Property in unincorporated lands in San Bernardino County, California (Exhibits 1 and 2).

Dear Ms. Love:

This report presents the results of a habitat assessment and follow-up trapping survey for the federally endangered San Bernardino kangaroo rat (*Dipodomys merriami parvus* [SBKR]) at the Vulcan Area Q Property, located in unincorporated San Bernardino County. The purpose of the habitat assessment and trapping surveys was to determine the presence/absence of SBKR within the Vulcan Property. Exhibit 1 shows the Vulcan Property on the San Bernardino North 7.5" quadrangle USGS Quadrangle Map (Township 1N, Range 5W, Unsectioned lands) (Exhibit 1). The coordinates of the approximate center of the survey area are 11S 466692 E/3781088 N (UTM, NAD 83). On-site surface elevation ranges from approximately 1,495 to 1,580 feet above mean sea level and generally slopes from north to south.

INTRODUCTION

Project Description

Vulcan Materials Company currently owns the property and is conducting due diligence biological studies in anticipation of expanding surface mining operations within the vicinity of Cajon Creek Wash.

SBKR Background

SBKR was emergency listed (USFWS 1998a) and then confirmed as "endangered" in 1998 by the U.S. Fish and Wildlife Service (USFWS 1998b). The Final Critical Habitat designation for this species (USFWS 2008) includes portions of Cajon Wash and Lytle Creek alluvial systems, a major part of the eastern portion of Santa Ana River, and eastern sections of the San Jacinto River up to the area around Hemet.

SBKR occur mainly in Riversidean alluvial fan sage scrub habitat (RAFSS), which is a plant community with coastal sage scrub and chaparral elements on alluvial terraces and braided river channels in southern California (McKernan 1997). SBKR can also occur in abandoned agricultural fields and orchards, but usually only when such habitats are in proximity to suitable natural habitats. SBKR abundance is greatest where there is sandy substrate with low-to- moderate perennial vegetative cover (less than 30 to 50 percent), and without a dense cover of non-native annual plants (McKernan 1997, MEC 2000). Root's (2008a,b) analysis of SBKR occurrence in the Wooly Star Preserve Area found that SBKR occupancy is negatively

correlated with a dense cover of non-native grasses and areas where boulders and rocks dominate the surface. SBKR occurrence was positively correlated with sandy sparse ground cover and the perennial bush scalebroom (*Lepidospartum squamatum*). SBKR generally occur in habitats associated with active stream channels.

Property in Relation to SBKR Historical Range and Critical Habitat

The Vulcan Property is within designated critical habitat for SBKR based on information provided in the FWS online critical habitat mapper (http://criticalhabitat.fws.gov/crithab/) (Refer to Exhibit 3). The Vulcan Property occurs immediately east of the open alluvial habitat of Lytle/Cajon Creek, where SBKR are known to be common. The recent trapping surveys conducted for the Cajon Creek Conservation Area found SBKR in 26 of 28 locations trapped, one of which was approximately 150 meters directly west of the Vulcan Property. It is also presumed that other habitat sites in closer proximity to the Vulcan Property are currently occupied by SBKR, particularly near the confluence of the adjacent concrete flood control channel and the Cajon Creek Wash at the extreme southern corner of the Vulcan Property (S. Montgomery, 2017 pers. observ.). It is a possibility that this location would be a "connecting" point for SBKR between the Vulcan Property and the main wash system. However, the flood control channel along the southern boundary of the Vulcan Property is lined with concrete and heavily disturbed immediately west of the confluence thus decreasing it suitability and limiting its ability to provide a movement corridor for SBKR to colonize the Vulcan Property.

SBKR are known to occur widely in the Cajon Creek alluvial system located in the area west of the property beyond the railroad tracks. A recent trapping survey at numerous locations in the Cajon Creek wash confirmed SBKR presence at 93% of the trapped locations (Montgomery 2018).

METHODS

Prior to conducting trapping surveys, a preliminary field habitat assessment was conducted on 7 July 2017 by Stephen J. Montgomery (USFWS Permit TE745541-11, CDFW Memorandum of Understanding). During the site visit, all accessible portions of the Vulcan Property were checked by vehicle and on foot to assess habitat quality and potential for SBKR to occur, as well as search for kangaroo rat sign. The Vulcan Property was divided into eight (8) habitat areas during the preliminary habitat assessment, exclusive of the various developed and heavily disturbed properties within the overall Vulcan Property. Habitat conditions in these eight areas were then described separately (Table 1). Due to the presence of numerous private properties in the overall project area, several smaller parcels were not accessible and therefore were not covered by the field surveys. Following the preliminary field habitat assessment, a live-trapping program was carried out by Stephen J Montgomery during three 5-night sessions between 25 July and 20 September 2017.

Areas trapped during the live-trapping program exhibited habitat conditions most closely resembling those preferred by SBKR, which included the following: areas with sandy soils, stands of alluvial fan sage scrub (scalebroom scrub vegetation), open areas in the chamise chaparral in the northwest corner of the site, and disturbed sparse stands of annual grassland typically integrated with stands of scrub/chaparral. Heavily disked fields and locations immediately adjacent to residential homes/developed sites were not trapped during the live-trapping program.

Three trapping sessions were conducted to adequately cover all areas of the Vulcan Property with the highest quality suitable habitat and/or kangaroo rat sign. Although certain stands of generally suitable habitat were not included in the trapping survey, those that were trapped exhibited the highest potential for harboring SBKR. Some un-trapped habitat areas invariably occurred adjacent to trapped habitat areas; thus, any SBKR that were present in these un-trapped areas would also would have been present in the adjacent

trapped areas. The live-trapping effort used large (3 x 3.75 x 12") Sherman live-traps with doors shortened to avoid tail damage. A total of 330 large Sherman live traps were used nightly between 25 and 29 July 2017 and 183 traps were used between 16 and 20 September 2017. Trap spacing was generally 10 meters, but closer spacing occurred on numerous occasions in locations where clear sign of kangaroo rats was observed, and where it was considered important to set multiple traps in closer proximity to maximize the likelihood of capturing the resident kangaroo rat, since captures of non-kangaroo rat species can prevent kangaroo rats from entering such occupied traps. Traps were opened and baited with bird seed within one hour of sunset and checked twice each day near midnight and in the morning. In accordance with USFWS protocol, trapping occurred on consecutive nights except when low air temperatures (<50°F) prevented trap setting. Captured animals were identified and then released immediately at the point of capture. A total of 2,565 trap-nights was accrued during the entire live-trapping program. Exhibit 5 shows the Vulcan Property and locations of the Trap Areas A thru E.

RESULTS

Site Description

The overall Vulcan Property has long been heavily disturbed by human activities, including: disking in some areas, numerous dirt roads, fire (assumed to be human generated), residential lot and home development, extensive trash dumping, off-road vehicle activity, wandering domestic pets (primarily dogs), regular passage of freight trains, and occasional horse traffic. According to the U.S. Department of Agriculture's Natural Resources Conservation Services Web Soil Survey, soils within the Vulcan Property consist of Psamments, Fluvents and Frequently flooded soils (Ps), Soboba gravelly loamy sand (0 to 9% slopes [SoC]), and Tujunga gravelly loamy sand (0 to 9% slopes [TvC]). Soils within the Vulcan Property are generally sandy in all areas, which is the primary substrate preferred by SBKR.

A variety of habitat conditions were confirmed across the property during the habitat assessment. Several of the eight habitat areas exhibited conditions generally suitable for SBKR, with the most suitable habitat occurring just east of the railroad tracks, and along and near the northern boundary in the north-central portion of the Vulcan Property (Exhibit 4, Table 1, Site Photographs). Scattered small locations along the southerly concrete flood control channel also exhibited generally suitable habitat conditions for SBKR. Kangaroo rat sign was common in most areas of the Vulcan Property that were not too heavily disturbed, including many areas amidst dumped trash. Refer to Table 1 below and Exhibit 4 for a description of habitat areas within the Vulcan Property. The Site Photographs at the end of this document illustrate the types of habitat that exist on the property.

Table 1 – General Habitat Area Descriptions (See Exhibit 5)

Habitat Area	Description
1	Dense chamise chaparral (*Adenostoma fasciculatum*) and alluvial fan sage scrub dominated by California buckwheat (*Eriogonum fasciculatum*), yerba santa (*Eriodictyon trichocalyx*), holly leaf cherry (*Prunus ilicifolia*), redberry buckthorn (*Rhamnus crocea*), skunkbush (*Rhus aromatica*), stillingia (Stillingia sp.), and California cholla (*Cylindropuntia californica*).* Disturbances include illegal trash dumping, dirt roads, off-road vehicle use, and encroachment from adjacent rural residential property. Kangaroo rat sign was consistent throughout in scrub habitats but mostly along dirt roads in chamise.
2	Open weedy, non-native grassland with few to no shrubs. Disturbances include disking, roadway, and recent fire. *Some evidence of kangaroo rat activity was detected.
3	Open alluvial fan sage scrub dominated by yerba santa and scalebroom (*Lepidospartum squamatum*), with scattered mountain mahogany (*Cercocarpus betuloides*), holly leaf cherry, and redberry buckthorn. * Disturbances include illegal trash dumping, dirt roads, off-road vehicle use,

	and encroachment from adjacent rural residential property. Kangaroo rat sign was consistent throughout.
4	Open alluvial fan sage scrub dominated by yerba santa. * Disturbances include illegal trash dumping, dirt roads, off-road vehicle use, and encroachment from rural residential property. Kangaroo rat sign was consistent throughout.
5	Open weedy, non-native grassland with little to no shrub cover. * Disturbances include illegal trash dumping, routine disking, dirt roads, and off-road vehicle use. No kangaroo rat sign was detected.
6	Open alluvial fan sage scrub dominated by California buckwheat. * Disturbances include encroachment from adjacent rural residential property. Kangaroo rat sign was detected.
7	Open weedy, non-native grassland with patches of scrub including skunkbush and California buckwheat. * Disturbances include routine disking, dirt roads, off-road vehicle use, and encroachment from adjacent rural residential property. Some evidence of kangaroo rat activity was detected in association with patches of scrub vegetation.
8	Open alluvial fan sage scrub dominated by yerba santa. * Disturbances include dirt roads and encroachment from adjacent rural residential property. Kangaroo rat sign was consistent throughout.

* All areas exhibited a variety of herbaceous species, including (and depending on the specific location) such common plants as: *Acmispon glaber, Eremocarpus (Croton) setigerus, Amsinckia sp., Lessingia glandulifera, L. filaginifolia, Croton californica, Bromus madritensis rubens, B. diandrus, Vulpia myuros, Schismus barbatus, Eriogonum gracile, Eriastrum sapphirinum, Centaurea melitensis, Heterotheca sessiliflora, and H. grandiflorum. Other shrub species found at scattered locations included: Salvia apiana, Salvia mellifera, Artemisia californica, Senecio flaccidus, Gutierrezia sp., Yucca sp., and Opuntia parryi.*

Small Mammal Survey Results

Weather conditions during the trapping effort included clear to overcast skies, moderate air temperatures and low winds. Air temperatures ranged from 60 to 85 °F with low winds. Cloud cover ranged from 0 to 100%, without precipitation. Table 2 summarizes representative weather conditions during the surveys.

Table 2 – Representative Weather Conditions

Date	Temperature (°F)	Cloud Cover (%)	Wind (mph)
7/24/2017	85	90	2 to 5
7/25/2017	72	90	0 to 2
7/26/2017	68	0	0 to 1
7/27/2017	70	5	1 to 2
7/28/2017	69	0	0 to 1
7/29/2017	66	0	0 to 1
9/16/2017	63	100	2 to 3
9/17/2017	63	100	1 to 2
9/18/2017	63	100	0 to 1
9/19/2017	60	100	0 to 1
9/20/2017	61	100	2 to 3

The trapping surveys included a total of 2,565 trap-nights distributed across 10 nights, yielding 904 captures belonging to six species, the most common being the Dulzura kangaroo rat (*Dipodomys simulans* [DKR]) (87%). Captured individuals were not individually marked; therefore, the number of captures do not necessarily represent the number of individuals of any trapped species. No SBKR were captured during the

live-trapping program. Table 3 summarizes the captures for all species. Exhibit 5 shows the Vulcan Property and locations of Trap Areas A thru E. Figure 6 shows the locations of DKR captures at all trapped areas.

Table 3 – Summary of Small Mammal Captures

Capture Location (Trap Line)	Number of Traps Set	Date Traps Checked	Species*	Number of captures
B + D	170	7/25/2017	DISI	30
B + D			PEMA	7
A	160		DISI	42
A			PEMA	2
A			NEBR	1
A			CHFA	1
C			DISI	5
C			PEMA	3
B + D	170	7/26/2017	DISI	34
B + D			PEMA	9
B + D			NEBR	2
A	160		DISI	44
A			PEMA	2
A			CHFA	1
A			OTBE	2
A			PEFR	1
C			DISI	4
C			PEMA	1
B + D	170	7/27/2017	DISI	47
B + D			PEMA	15
B + D			CHFA	2
A	160		DISI	33
A			PEMA	2
A			NEBR	1
A			CHFA	3
A			OTBE	3
C			DISI	4
C			PEMA	2
B + D	170	7/28/2017	DISI	44
B + D			PEMA	14

Capture Location (Trap Line)	Number of Traps Set	Date Traps Checked	Species*	Number of captures
B + D			NEBR	2
A	160		DISI	43
A			PEMA	2
A			CHFA	2
C			DISI	4
C			PEMA	1
B + D	170	7/29/2017	DISI	55
B + D			PEMA	13
B + D			CHFA	1
B + D			NEBR	2
A	160		DISI	38
A			PEMA	4
A			CHFA	1
A			PEFR	1
C			DISI	5
E - 6 Lines	183	9/16/2017	DISI	54
E - 6 Lines	183	9/17/2017	DISI	59
			PEMA	1
E - 6 Lines	183	9/18/2017	DISI	79
			PEMA	2
			NEBR	1
E - 6 Lines	183	9/19/2017	DISI	86
			NEBR	1
			PEMA	2
E - 6 Lines	183	9/20/2017	DISI	79
			NEBR	2
			PEMA	3
TOTAL TRAP-NIGHTS, ALL AREAS	**2,565**			

*Species
DISI = *Dipodomys simulans* (Dulzura kangaroo rat)
CHFA = *Chaetodipus fallax fallax* (Northwestern San Diego pocket mouse)
PEMA = *Peromyscus maniculatus* (deer mouse)
PEFR = *Peromyscus fraterculus* (Baja mouse)
NEBR = *Neotoma bryanti* (Bryant's desert woodrat)

Capture Location (Trap Line)	Number of Traps Set	Date Traps Checked	Species*	Number of captures
OTBE = *Otospermophilus beecheyi* (California ground squirrel)				

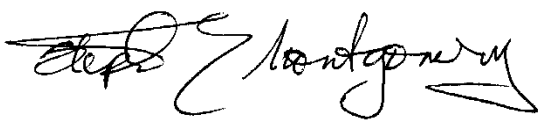
Discussion and Conclusions

The habitat assessment identified all parts of the property with habitat conditions potentially suitable for SBKR. Several areas exhibited what appeared to be high-quality habitat for the species, with soft sandy soils, and open scrub habitats with many of the plant species typically associated with occupied SBKR habitats. The follow-up trapping survey then sampled all habitats exhibiting the highest potential for SBKR presence. The absence of SBKR in all trapped habitat areas confirms that this species is absent on this site. Although the property occurs within SBKR Critical Habitat, it appears as though the species has been extirpated from the site over time or never occurred there. The long-term presence of the railroad track and associated berm may be responsible for the absence of SBKR on the property, with the property presently being essentially isolated (i.e. cut off) from the occupied habitats of the Cajon Wash alluvial system. The only point on the property that is not blocked from Cajon Wash by the railroad berm/tracks occurs at a narrow bridge overcrossing (over the exit point for the large southerly steep-sloping cement drainage structure), at its extreme southwestern corner. This overcrossing is subjected to extensive and constant disturbance from off-road vehicle (quad, motorcycle) and horse traffic, as well as frequent daily human traffic, which have eliminated all vegetation cover. These conditions are highly unsuitable for use by SBKR, and would likely prevent or nearly prevent all access to the property by any SBKR happening to occur near this overcrossing.

In summary, although several areas of the property exhibited habitat conditions that appeared suitable for SBKR, this species was not captured during the live-trapping program. The absence of SBKR in this protocol survey indicates that this species does not currently occur on the Vulcan Property; thus, no impacts to SBKR would occur during development/disturbance to this site under current conditions. Although there is some very low potential for the species to access the property at its southwestern corner overcrossing, the constant extreme disturbance that occurs at and adjacent to this location in the Cajon Wash, as well as the steep cement wall of the drainage structure, would essentially prevent any occurrence of SBKR on the property in the future.

Please contact me if you have any questions regarding this report or the associated field effort.

Sincerely,



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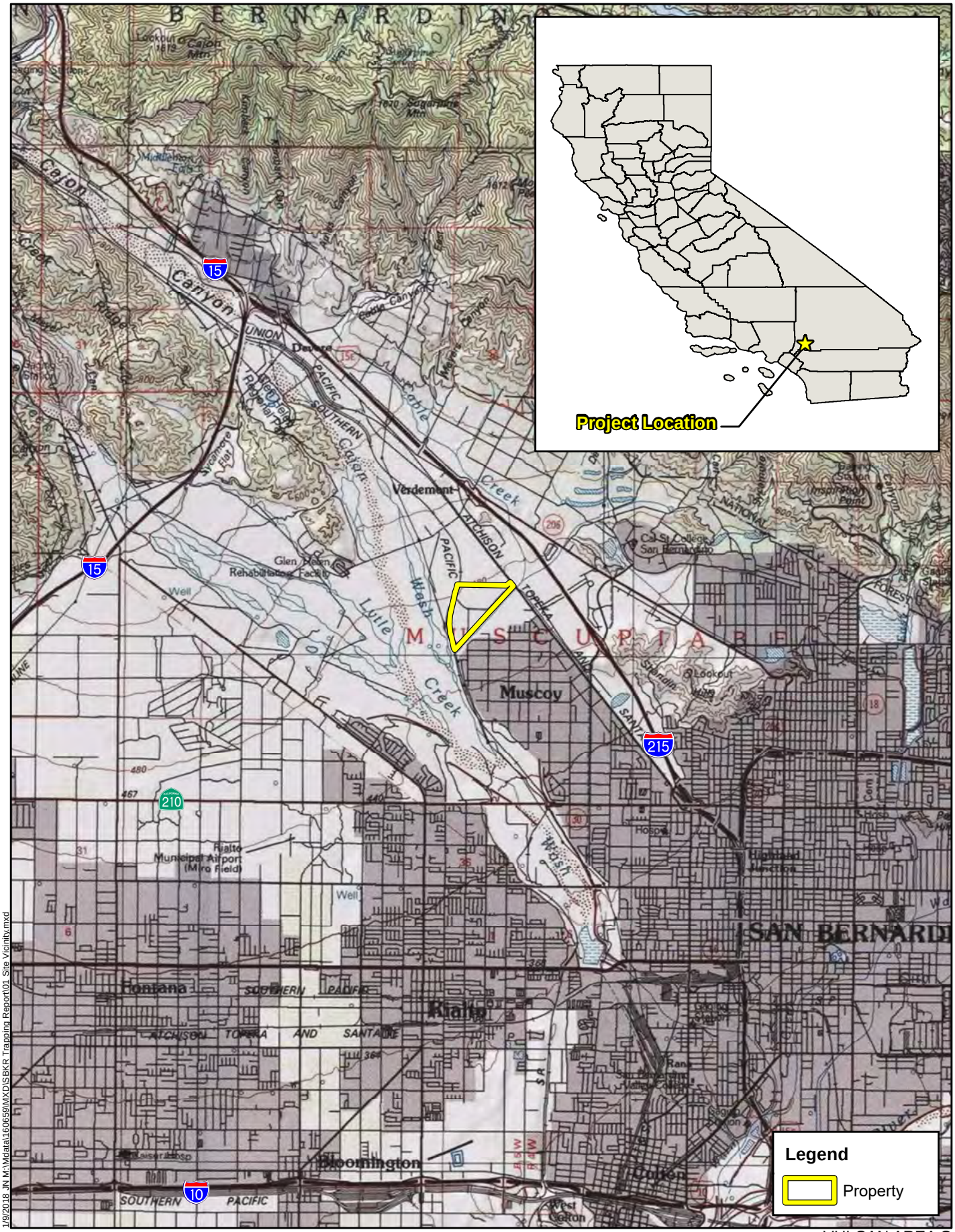
Attachment A

Project Exhibits



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Michael Baker INTERNATIONAL

0 1 2 Miles

Source: San Bernardino County, ESRI USA Topographic Basemap, USGS

VULCAN AREA Q
SBKR TRAPPING SURVEY REPORT

Site Vicinity

Exhibit 1

1/9/2018 JN M:\Mdata\160659\MXD\SBKR Trapping Report\02 Project Site.mxd

Michael Baker INTERNATIONAL

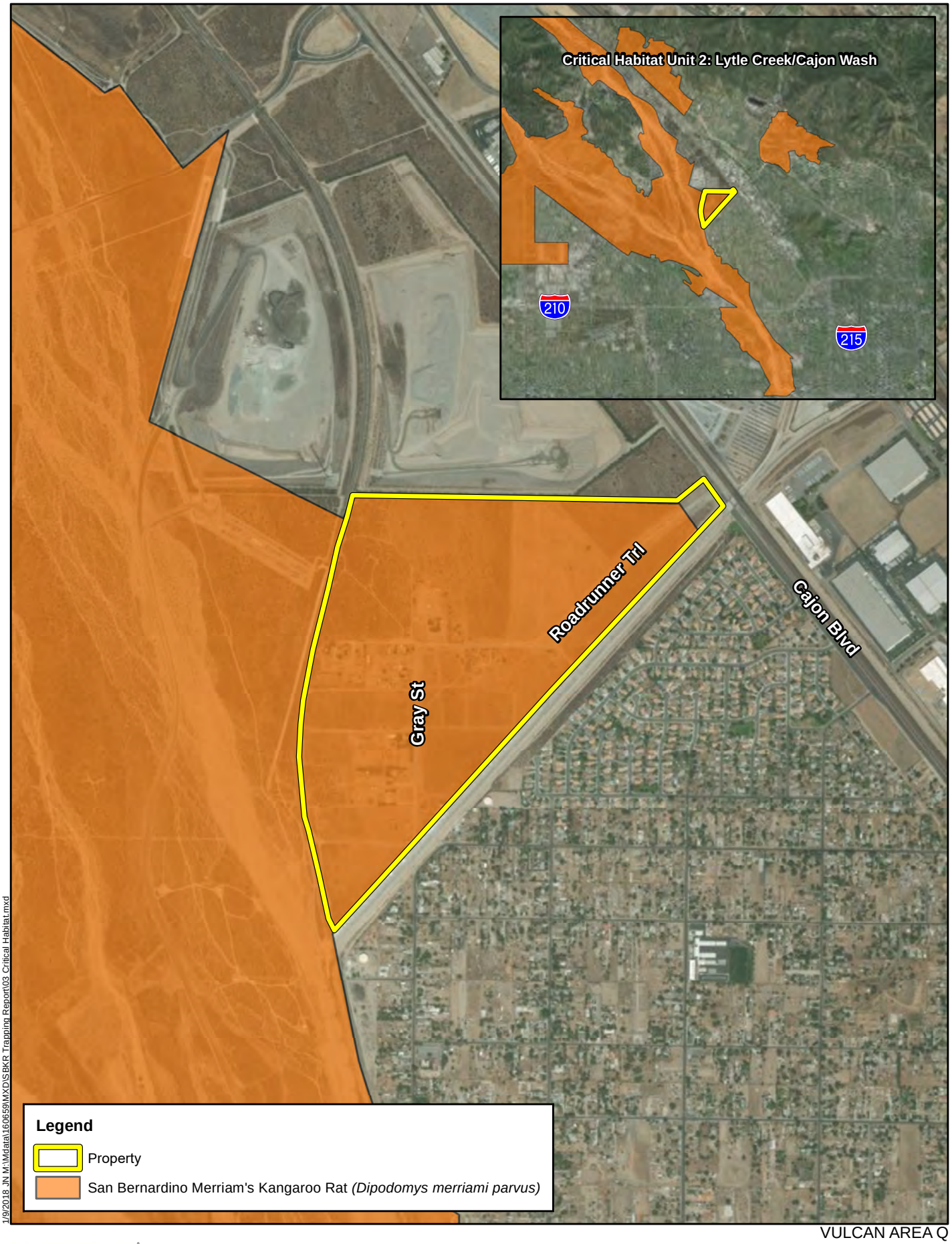
0 500 1,000 Feet

Source: San Bernardino County, Google Imagery 2016

VULCAN AREA Q
SBKR TRAPPING SURVEY REPORT

Project Site

Exhibit 2



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Michael Baker INTERNATIONAL

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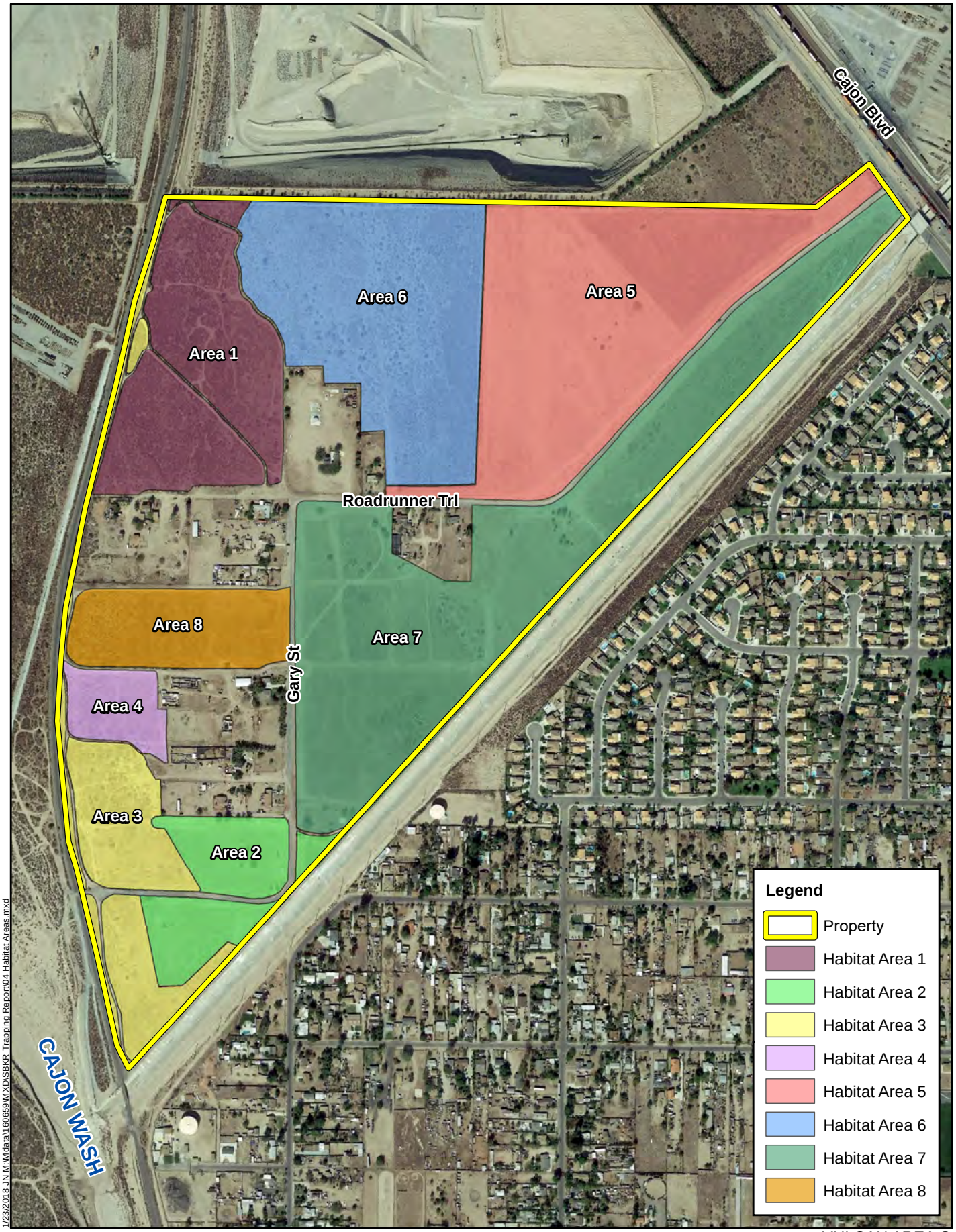
Source: San Bernardino County, ESRI Imagery, US Fish and Wildlife

VULCAN AREA Q
SBKR TRAPPING SURVEY REPORT

Critical Habitat

Exhibit 3



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Michael Baker INTERNATIONAL

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Source: San Bernardino County, Google Imagery 2016

VULCAN AREA Q
SBKR TRAPPING SURVEY REPORT

Habitat Areas

Exhibit 4

2/8/2018 JN M:\Mdata\160659\MXD\SBKR Trapping Report\05 Trap Areas.mxd

Michael Baker INTERNATIONAL

0 500 1,000 Feet

Source: San Bernardino County, Google Imagery 2016

VULCAN AREA Q
SBKR TRAPPING SURVEY REPORT

Trap Areas

Exhibit 5

2/8/2018 JN M:\Mdata\160659\MXD\SBKR Trapping Report\06 DKR Captures.mxd

Michael Baker INTERNATIONAL

0 500 1,000 Feet

Source: San Bernardino County, Google Imagery 2016

VULCAN AREA Q
SBKR TRAPPING SURVEY REPORT

DKR Captures

Exhibit 6

Attachment B

Site Photographs

Photograph 1: Habitat Area 2 burned area looking northeast.

Photograph 2: Habitat Area 3 looking northeast.

Photograph 3: Habitat Area 3 looking southeast.

Photograph 4: Habitat Area 3 looking southwest.

Photograph 5: Habitat Area 3 south burned end looking southwest.

Photograph 6: Habitat Area 5 looking southeast from east edge of Area 6.

Photograph 7: Habitat Area 7 looking east along the main access road.

Photograph 8: Habitat Area 7 looking northeast along main access road.

Photograph 9: Trap Area B looking eastward from railroad tracks.

Photograph 10: Trap Area B looking north along railroad tracks.

Photograph 11: Trap Area B looking north.

Photograph 12: Trap Area B looking south along railroad tracks.

Photograph 13: Trap Area E looking northwest.

Photograph 14: Trap Area E looking southward.

Photograph 15: Trap Area E looking westward.

Photograph 16: Eastern portion of Trap Area B looking southeast.

Photograph 17: Looking west from far east end of Habitat Area 5.

Photograph 18: Western portion of Habitat Area 5 looking northwest from main access road.

Photograph 19: Western portion of Habitat Area 5.