

**Appendix C**  
**Focused Biological Survey**  
**and Jurisdictional Delineation**

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# **FOCUSED BIOLOGICAL SURVEY AND JURISDICTIONAL DELINEATION**

## **FOR ASSESSOR PARCEL NUMBERS**

**043-602-116, 043-602-115, 043-602-114, 043-602-113, 043-603-230, 043-603-221,  
043-626-110, 043-626-114, 043-604-102, 043-604-103, 043-604-104, 043-604-116,  
043-608-101, 043-608-102, 043-608-104 AND 043-608-105**

## **TOWN OF APPLE VALLEY**

**USGS – FAIRVIEW VALLEY QUADRANGLE, 7.5-MINUTE SERIES  
TOWNSHIP 5 NORTH, RANGE 2 WEST, SECTIONS 3, 4, 5, 10, 11 & 14,  
SAN BERNARDINO COUNTY, CALIFORNIA**

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Date Report Submitted:      October 16, 2007  
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**I. CERTIFICATION**

CERTIFICATION: *"I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Fieldwork conducted for this assessment was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project."*



DATE: 01-12-09

SIGNED: \_\_\_\_\_  
Shay Lawrey

Fieldwork Performed By:

Daniel Smith  
Name

Fieldwork Performed By:

Michael Kegarice  
Name

Fieldwork Performed By:

Shay Lawrey  
Name

Fieldwork Performed By:

C.J. Fotheringham  
Name

## **II. EXECUTIVE SUMMARY**

Tom Dodson and Associates (TDA) was contracted by Strata Equity Group (Strata) to assess the biological resources and potential impacts to jurisdictional waters associated with the proposed Hacienda at Fairview Valley Specific Plan. The proposed project is generally located northeast of the Town of Apple Valley in Fairview Valley and is mapped on the USGS – Fairview Valley Quadrangle, California, 7.5 Minute Series topographic map, within Township 5 North, Range 2 West, Sections 3, 4, 5, 10, 11 and 14, San Bernardino County, California. Specifically, the project site is in a bajada nestled between Fairview Mountain, Sidewinder Mountain, and the Granite Mountains and can be found on the 2007 Thomas Guide page 4298, Section G2 (see Figures 1 through 3).

The project consists of two large parcels of land. For the purposes of this report the parcels will be referred to as Parcel 1 and Parcel 2. Parcel 1 is approximately 1,115 acres in size and Parcel 2 is approximately 440 acres in size.

The vegetation communities within the project area were identified based on species dominance and characterized as Holland's community types. The primary Holland community type is Mojave creosote bush scrub (see Site Photos). A small patch of wetland habitat also occurs within Parcel 1, near Quail Spring. The project area shows moderate levels of disturbance that are both historical and ongoing. There are historical structures and old trash dumps as well as offroad vehicle (ORV) use, feral dogs, and recent dumping.

A California Natural Diversity Database (CNDDDB) search for special status species occurrences was completed for the USGS – Fairview Valley Quadrangle, 7.5 Minute Series (topographic), as well as the surrounding quads: Turtle Valley, Stoddard Wells, West Ord Mountain, White Horse Mountain, Lucerne Valley, Fifteenmile Valley, Apple Valley South, and Apple Valley North. According to the CNDDDB, 23 sensitive species have been documented within these nine USGS Quadrangles (refer to Table 1). The species of special status identified to have a potential to occur within the vicinity of the project area include Shockley's rock cress, Cushenbury milk-vetch, alkali mariposa lily, Booth's evening-primrose, desert springparsley, Barstow woolly sunflower, Parish's phacelia, Parish's popcorn-flower, Parish's alkali grass, Latimer's woodland-gilia, Salt Spring checkerbloom, pallid San Diego pocket mouse, Townsend's big-eared bat, western mastiff bat, Mohave ground squirrel, desert tortoise, burrowing owl, prairie falcon, Bendire's thrasher, and Le Conte's thrasher.

A routine jurisdictional delineation (JD), general biological, and focused/protocol desert tortoise and burrowing owl surveys were conducted on Parcel 1 in the spring and summer of 2005. Approximately two years after the surveys on Parcel 1 were completed, Parcel 2 was added to the proposed Hacienda at Fairview Valley Specific Plan. In 2007, Parcel 2 was surveyed. The surveys of Parcel 2 included a JD, general biological survey, and focused/protocol surveys for desert tortoise and burrowing owl. As a general rule, the regulatory resource agencies consider focused/protocol biological survey results to be valid for one year. Because of this general rule, Parcel 1 was re-surveyed in 2007 for burrowing owl and desert tortoise since over a year had past since the last survey in 2005.

The burrowing owl is a state and federal Species of Special Concern. It is a ground dwelling owl heavily dependent upon the presence of mammal burrows, commonly ground squirrel. TDA

Biologists, Daniel Smith and Michael Kegarice conducted the focused burrowing owl surveys on Parcel 1 in 2005 and on Parcel 1 and Parcel 2 in 2007. Abandoned burrowing owl burrows were found scattered throughout Parcel 1 in 2005. In 2007, a high number of burrowing owls were detected on Parcel 1 in the early months of surveys. The owls moved from west to east across Parcel 1 in response to predation and disturbance by feral dogs. The numbers of owls found in Parcel 1 dropped throughout the summer. It is assumed that some owls migrated out of Parcel 1, offsite, and some may have succumbed to predation by dogs. All burrows were eventually excavated by dogs. Two abandoned burrowing owl burrows were found in Parcel 2. Feathers, castings and white wash were found at the entrances of these two unoccupied burrows. Based on the survey results, Parcel 1 and Parcel 2 are occupied by burrowing owl and any proposed impacts will require a permit from the California Department of Fish and Game (CDFG).

The project site is located within the range of the state and federally listed threatened desert tortoise, and patches of well suited desert tortoise habitat occur in Parcel 1 and Parcel 2. The desert tortoise is typically found in creosote bush scrub on level ground where the substrate is firm but not too rocky. The habitat on site is capable of supporting desert tortoise, but it is not designated as critical habitat for desert tortoise. TDA biologists Shay Lawrey, D. Smith and M. Kegarice surveyed Parcel 1 for desert tortoise in 2005 and 2007, and surveyed Parcel 2 for desert tortoise in 2007. These surveyors are qualified biologists that each have over a decade of desert tortoise survey experience. Following the established desert tortoise survey protocols, the surveyors did not detect any desert tortoise or their sign (i.e., burrows, scat, scutes or tracks). Although the site contains suitable habitat for desert tortoise, no desert tortoise were found and there are no current published data showing that desert tortoise occupy Parcel 1 or Parcel 2. Therefore, Parcel 1 and Parcel 2 are not considered to be occupied by desert tortoise at this time.

Mohave Ground Squirrel is endemic to 2 million hectares in the western Mojave Desert in California. It typically inhabits sandy soils of alkali sink and creosote bush scrub habitat. MGS are listed as threatened by CDFG due to habitat loss, fragmentation, and deterioration. According to the West Mojave Plan Environmental Impact Report/ Environmental Impact Statements, Map 3-15, and according to the Mohave Ground Squirrel (MGS) Partnership workshop, Parcel 1 and Parcel 2 are located outside and to the north, of the MGS range. Therefore, no protocol surveys were conducted and it is assumed that the site is not occupied by MGS.

During the general biological surveys, prairie falcon, golden eagle, loggerhead shrike and jack rabbit were observed. No other sensitive species were observed and no special status plant species were encountered by contract biologist C.J. Fotheringham during the springtime botanical surveys conducted on Parcel 1 in 2005 and 2007 or on Parcel 2 in 2007.

In 2005, TDA Biologist, S. Lawrey conducted a JD on Parcel 1. Ms. Lawrey identified a total of five desert dry washes on Parcel 1. The jurisdictional limits were staked in the field and then surveyed in and mapped by the engineers. Based on the data collected and surveyed in, a total of 4.59 acres of jurisdictional waters occur on Parcel 1. Becky Jones from the CDFG and Gerry Salas from the U.S. Army Corps of Engineers (Corps) met Ms. Lawrey in the field to verify the delineation. Both regulators concurred with Ms. Lawrey's findings. In 2007, after Parcel 2 was added to the proposed project, Ms. Lawrey conducted a JD on Parcel 2. Three desert dry washes containing 1.71 acres of jurisdictional waters, were identified on Parcel 2. Any proposed impacts to these jurisdictional waters will require permits from the CDFG, Regional Water Quality Control Board (RWQCB) and the Corps.

### **III. PROJECT AND PROPERTY DESCRIPTION**

The proposed project is generally located northwest of the Town of Apple Valley in Fairview Valley and is mapped on the USGS – Fairview Valley Quadrangle, California, 7.5 Minute Series topographic map, within Township 5 North, Range 2 West, Sections 3, 4, 5, 10, 11 and 14, San Bernardino County, California. Specifically, the project site is in a bajada nestled between Fairview Mountain, Sidewinder Mountain, and the Granite Mountains and can be found on the 2007 Thomas Guide page 4298, Section G2 (see Figures 1 through 3).

The project consists of two large parcels of land in close proximity of one another (Figure 1). Parcel 1 is approximately 1,115.4 acres in size and Parcel 2 is approximately 439.2 acres in size. The overall project consists of Assessor's Parcel Numbers 043-602-116, 043-602-115, 043-602-114, 043-602-113, 043-603-230, 043-603-221, 043-626-110, 043-626-114, 043-604-102, 043-604-103, 043-604-104, 043-604-116, 043-608-101, 043-608-102, 043-608-104 and 043-608-105. The proposed project is a mixed use community of residential, commercial and open space land uses which generally consists of using a variety of resources (i.e., labor, materials, necessary tools, equipment) to install and construct the community components (i.e., houses, roads, storm drain, utility services, sewage, etc.).

The topography within the study area ranges between 3,080 to 4,000 feet above mean sea level. With the exception of some isolated rocky outcrops and peripheral hills, topography is relatively flat with the overall slope at 9 percent or less. The local climatic conditions in the project area are characterized by hot summers, mild winters, infrequent rainfall, and dry humidity. The average annual temperature is 62°F, ranging between 9-112°F. The rainy season begins in November and continues through March, with the quantity and frequency of rain varying from year to year. The average annual rainfall is approximately 4.5 inches with a range of 1.1 to 11.2 inches.

The soils in the project area primarily consist of Cajon sand, Cajon-Wasco cool complex, and Helendale sand (Figures 4 and 5). The vegetation communities within the project area were identified based on species dominance and characterized as Holland's community types. The primary Holland community type is Mojave creosote bush scrub, dominated by creosote bush (*Larrea tridentata*) Joshua tree (*Yucca brevifolia*), burrobrush (*Hymenoclea salsola*), and California buckwheat (*Eriogonum fasciculatum*), which accounts for 99% of the vegetative cover on site. Interspersed within the Mojave creosote bush scrub are sparse habitat patches dominated by non-native species. A small patch of wetland habitat also occurs within Parcel 1, near Quail Spring. A total of 73 plant species were observed onsite, eight (11%) of which were non-native species. The project area shows moderate levels of disturbance that are both historical and ongoing. There are historical structures and old trash dumps as well as off-road-vehicle (ORV) use, feral dogs, and recent dumping. The land uses in the vicinity of project are rural residential. Utility infrastructure (electricity, water, sewer and natural gas) exists near the project.

#### **IV. FOCUSED STUDY / SPECIES OF CONCERN**

Background information was gathered prior to visiting this site in order to determine what species would be expected in this area. This background check included a search of the CNDDDB, and a review of previously conducted biological surveys. The CNDDDB search was completed for the USGS – Fairview Valley Quadrangle, 7.5 Minute Series (topographic), as well as the surrounding quads: Turtle Valley, Stoddard Wells, West Ord Mountain, White Horse Mountain, Lucerne Valley, Fifteenmile Valley, Apple Valley South, and Apple Valley North. According to the CNDDDB, 23 sensitive species have been documented within these nine USGS Quadrangles. Please refer to Table 1 for a complete list of the species occurrence potential on the property. The table includes the habitat requirements of each species and the potential of their occurrence on the site. The occurrence potential is based on site conditions and species range.

The eleven plant species identified to have a potential to occur within the vicinity of the project area include Shockley's rock cress, Cushenbury milkvetch, alkali mariposa lily, Booth's evening-primrose, desert springparsley, Barstow woolly sunflower, Parish's phacelia, Parish's popcorn-flower, Parish's alkali grass, Latimer's woodland-gilia, and Salt Spring checkerbloom. The nine species of special status animal species identified to have a potential to occur within the vicinity of the project area include pallid San Diego pocket mouse, Townsend's big-eared bat, western mastiff bat, Mohave ground squirrel, desert tortoise, burrowing owl, prairie falcon, Bendire's thrasher, and Le Conte's thrasher.

According to the West Mojave Plan Environmental Impact Report/Environmental Impact Statements, Map 3-15, and according to the MGS Partnership workshop, the subject property is located outside, to the north, of the MGS range. Therefore, no protocol surveys were conducted and it is assumed that the site is not occupied by this species.

The project site is located within the range of the desert tortoise, and patches of well suited desert tortoise habitat occur within Parcel 1 and Parcel 2 (Figures 6 and 7). Since Parcel 1 and Parcel 2 are considered suitable for desert tortoise, protocol surveys were conducted on both parcels.

The local vicinity is known to be occupied by burrowing owl and the site is considered suitable for this species. Therefore, focused burrowing owl surveys were conducted on both parcels.

## **V. SPECIAL STATUS SPECIES BACKGROUND INFORMATION**

According to the CNDDDB, 23 sensitive species have been documented within the USGS – Fairview Valley, Turtle Valley, Stoddard Wells, West Ord Mountain, White Horse Mountain, Lucerne Valley, Fifteenmile Valley, Apple Valley South, and Apple Valley North Quadrangles (refer to Table 1).

The eleven plant species identified to have a potential to occur within the vicinity of the project area include Shockley's rock cress (*Arabis shockleyi*), Cushenbury milk-vetch (*Astragalus albens*), alkali mariposa lily (*Calochortus striatus*), Booth's evening-primrose (*Camissonia boothii* ssp. *boothii*), desert springparsley (*Cymopterus deserticola*), Barstow woolly sunflower (*Eriophyllum mohavense*), Parish's phacelia (*Phacelia Parishii*), Parish's popcorn-flower (*Plagiobothrys Parishii*), Parish's alkali grass (*Puccinellia parishii*), Latimer's woodland-gilia (*Saltugilia latimeri*), Salt Spring checkerbloom (*Sidalcea neomexicana*).

The nine species of special status animal species identified to have a potential to occur within the vicinity of the project area include pallid San Diego pocket mouse (*Chaetodipus fallax pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), western mastiff bat (*Eumops perotis californicus*), Mohave ground squirrel (*Spermophilus mohavensis*), desert tortoise (*G. agassizii*), burrowing owl (*A. cunicularia*), prairie falcon (*Falco mexicanus*), Bendire's thrasher (*Toxostoma bendirei*), and Le Conte's thrasher (*Toxostoma lecontei*).

### **Botanical Species**

**Shockley's rock cress** (*A. shockleyi*) is an herbaceous perennial in the Brassicaceae plant family. It occurs in southeastern California, southern Nevada, and western Utah. It occurs in the 875-2205m elevational range in Pinyon and juniper woodland on ridges, rocky outcrops and openings on limestone or quartzite. *A. Shockleyi* does not have federal or state status but is ranked 2.2 by CNPS. As a list 2 species it meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and is eligible for state listing. As for all botanical species listed in this section, it is mandatory that sensitive species be fully considered during preparation of environmental documents relating to CEQA.

**Cushenbury milk-vetch** (*A. albens*) is an herbaceous perennial the Fabaceae plant family. It is a California endemic that occurs in the 1095-2000m range. *A. albens* a limestone endemic which occurs on sandy or stony flats, rocky hillsides, canyon, washes, or fans on granite or mixed granitic-calcareous debris associated with Joshua tree woodland, mojavean desert scrub or pinyon and juniper woodland. *A. albens* is federally listed as endangered, has no state listing and is ranked 1.B by CNPS. As 1.B species it meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing.

**Alkali mariposa lily** (*C. striatus*) is an herbaceous perennial in the Liliaceae plant family. It occurs in southern California and southern Nevada in the 90-1595m elevation range. It is associated with chaparral, chenopod scrub, mojavean desert scrub, alkaline meadows and ephemeral wash communities, but it is primarily an alkaline meadow species. *C. striatus* does not have federal or state status but is ranked 1.B2 by CNPS. As a list 1.B species it meet the definitions of Sec. 1901,

Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and is eligible for state listing.

**Booth's evening-primrose** (*C. boothii* ssp. *boothii*) is an annual species in the Onagraceae plant family that occurs throughout the western United States and into Mexico. In California it occurs 900-2400m elevation on sandy flats and steep, loose slopes associated with Joshua tree woodland or pinyon-juniper woodland. *C. boothii* ssp. *boothii* does not have federal or state status but is ranked 2.3 by CNPS. As a list 2 species it meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and is eligible for state listing.

**Desert springparsley** (*C. deserticola*) is an herbaceous perennial in the Apiaceae plant family. It is a western Mojave desert endemic occurring between 625-910m. elevation. It is associated with fine to coarse, loose, sandy soil of flats in old dune areas with well-drained sand in Joshua tree woodland and mojavean desert scrub. *C. deserticola* does not have federal or state status but is ranked 1.B2 by CNPS. As a list 1.B species it meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and is eligible for state listing.

**Barstow woolly sunflower** (*E. mohavense*) is an annual in the Asteraceae plant family. It is a central Mojave desert endemic occurring between 500-900m. elevation. It is associated with open, silty or sandy areas or margins of playas in desert chenopod scrub and mojavean desert scrub. *E. mohavense* does not have federal or state status but is ranked 1.B2 by CNPS. As a list 1.B species it meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and is eligible for state listing.

**Parish's phacelia** (*P. Parishii*) is an annual in the Hydrophyllaceae plant family. It occurs in San Bernardino county, California, southern Nevada, and western Arizona at elevations of 535-1200m. It is associated alkaline flats and slopes, clay soils and playas in Mojavean desert scrub. *P. parishii* does not have federal or state status but is ranked 1.B2 by CNPS. As a list 1.B species it meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and is eligible for state listing.

**Parish's popcorn-flower** (*P. Parishii*) is an annual in the Hydrophyllaceae (formerly Boraginaceae) plant family. It is a Mojave desert endemic that occurs at 750-1400m elevation. It is associated with alkaline soils and mesic sites in Great basin scrub and Joshua tree woodlands. *P. parishii* does not have federal or state status but is ranked 1.B1 by CNPS. As a list 1.B species it meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and is eligible for state listing.

**Parish's alkali grass** (*P. parishii*) is an annual species in the Poaceae plant family. It occurs in California, Arizona and New Mexico at 695-1000m elevations within desert meadows and seeps. *P. parishii* is associated with alkali springs and seeps in Joshua tree woodland. *P. parishii* does not have federal or state status but is ranked 1.B1 by CNPS. As a list 1.B species it meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067

(California Endangered Species Act) of the California Department of Fish and Game Code, and is eligible for state listing.

**Latimer's woodland-gilia** (*S. latimeri*) is an annual in the Polemoniaceae plant family. It occurs only in California at the elevation 400-1900m. It is associated with sandy or rocky substrates in chaparral and mojavean desert scrub. *S. latimeri* does not have federal or state status but is ranked 1.B2 by CNPS. As a list 1.B species it meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and is eligible for state listing. The genus *Saltugilia* was recently segregated from the genus *Gilia* and *S. latimeri* was even more recently isolated from *S. australis*. The site was within the elevational range described for the species. The key characteristic separating out the genus *Saltugilia* is a glabrous corolla with yellow spots in the tube while distinguishing characteristic that distinguishes *S. latimeri* from *S. australis* is a higher density of glands on the calyx as well as persistent pink or lavender in the corolla color.

**Salt Spring checkerbloom** (*S. neomexicana*) is an herbaceous perennial in the Malvaceae plant family that occurs throughout western North America at 0-1500m elevation. It is associated with alkali playas and brackish marshes in chaparral, coastal scrub, lower montane coniferous forest and mojavean desert scrub. *S. neomexicana* does not have federal or state status but is ranked 2.2 by CNPS. As a list 2 species it meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and is eligible for state listing.

### **Faunal Species**

**Desert tortoise** (*G. agassizii*) is listed under both state and federal law as a threatened species. Throughout its range it is threatened by habitat loss, domestic grazing, predation, collections, and increased mortality rates (Feldmeth et al. 1990). Critical habitat for the desert tortoise was designated on February 8, 1994 (FR 59 5820 5866). The project site is not located within designated critical habitat. The desert tortoise is typically found in creosote bush scrub. They are most often found on level ground where the substrate is firm but not too rocky. Tortoise burrows are typically found at the base of shrubs, in the sides of washes and in hillsides. Recent activity at tortoise burrows may be indicated by footprints, fresh dirt on the apron of the burrow, fresh scat, crushed vegetation or recently exposed roots in the burrow wall. Tortoise scat is very distinctive and may remain on the desert floor for many years. General estimates of the age of tortoise scat can be made based upon sun bleaching and moisture levels. Home ranges for desert tortoise vary, depending upon the size and sex of a tortoise as well as the availability of food and shelter. According to the CDFG, information on the western Mojave population of desert tortoise, home range typically varies from 5 to 38 acres. Neonatal tortoises can travel up to 3-5 km after hatching (Becky Jones, CDFG personal communications). Because a single tortoise may have many burrows distributed throughout its home range, it is not possible to predict exact numbers of individuals on a site based upon burrow numbers.

In 1992 the U.S. Bureau of Land Management issued the California Statewide Desert Tortoise Management Policy which included categorizing habitat into three levels of classification. The management goal for Category I areas is to maintain stable, viable populations and to increase the population where possible. The management goal for Category II areas is to maintain stable, viable

populations. The management goal for Category III areas is to limit population declines to the extent feasible. The entire project occurs in desert tortoise habitat designated as Class II.

**Burrowing owl** (*A. cunicularia*) is a state and federal Species of Special Concern. This owl is a mottled brownish and sand colored, dove sized raptor, with large yellow eyes, a rounded head lacking ear tufts, white eyebrows, and long legs compared to other owl species. It is a ground dwelling owl typically found in arid prairies, fields, and open areas where vegetation is sparse and low to the ground. The burrowing owl is heavily dependent upon the presence of mammal burrows, commonly ground squirrel, in its habitat to provide shelter from predators, inclement weather, and to provide a nesting place (Coulombe 1971). They are also known to make use of human-created structures such as cement culverts and pipes for burrows.

Burrowing owls spend a great deal of time standing on dirt mounds at the entrance to a burrow, or perched on a fence post or other low to the ground perch from which they hunt for prey. Burrowing owls frequently hunt by hovering in place above the ground and dropping on their prey from above. Burrowing owls feed primarily on insects, such as grasshoppers, June beetles and moths, but will also take small rodents, birds and reptiles. They are active during the day and night, but are considered a crepuscular owl; generally observed in the early morning hours or at twilight. The breeding season for the burrowing owl is February 1 through August 31. Up to 11, but typically 7 to 9 eggs are laid in a burrow, abandoned pipe, or other subterranean hollow where incubation is complete in 28-30 days. Young burrowing owls fledge in 44 days. The burrowing owl is considered a migratory species in portions of its range, which includes western North America from Canada to Mexico, and east to Texas and Louisiana. Burrowing owl populations in California are considered to be sedentary or locally migratory.

Throughout its range it is vulnerable to habitat loss, predation, vehicular collisions, destruction of burrow sites and poisoning of ground squirrels (Grinnell and Miller 1944, Zarn 1974, Remsen 1978). Burrowing owls have disappeared from significant portions of their range in the last 15 years and overall nearly 60% of the breeding groups of owls known to have existed in California during the 1980s had disappeared by the early 1990s (Burrowing Owl Consortium 1993). The burrowing owl is not listed under the state or federal Endangered Species Act, but is considered both a federal and state "Species of Special Concern." The burrowing owl is a migratory bird protected by the international treaty under the Migratory Bird Treaty Act of 1918 and by State law under the California Fish and Game Code (CDFG Code #3513 & #3503.5).

**Prairie Falcon** (*F. mexicanus*) is a medium to large bird with wingspans approaching 3.5 feet (106.7 cm). The female tends to be considerably larger than the male, in some cases a full one-third bigger. Adult prairie falcons are a pale brown to sandy brown across the top of their wings and back. The head is streaked with light areas around the face. A faint dark mustache appears on either side of the bill. Underneath the birds are creamy white with brown spotting or streaking on the breast and belly. Falcons all have slender bodies, long tails and characteristic long, pointed wings. Prairie falcons can be abundant when suitable habitats for nesting and foraging are present. They do migrate in the spring and fall, but some birds may reside in the area the entire year. Prairie falcons prefer rough broken terrain, which is where they establish nesting territories. Nesting occurs in mid-April through July. Their nests are often found in rock crevices and sometimes in vacated stick nests left by other birds.

The prairie falcon is a locally common bird. These falcons prey chiefly on small birds and mammals, and on a variety of reptiles and insects. Prairie falcons hunt using low, rapid, searching flight, usually capturing prey on or near the ground. The prairie falcon, as do other species of falcons, swoops down upon its prey from behind. A similar species, the peregrine falcon, has been clocked at speeds of over 90 mph in their descents upon prey. Prairie falcons nest primarily on cliff ledges, but may also nest on low ridges. All birds of prey are protected by law. It is illegal to harm them or to disturb their nests. It is also against the law to have in your possession any artifacts from birds of prey, such as feathers, talons or preserved specimens. Injured hawks and owls should be reported to the Department of Game, Fish and Game or the U.S. Fish and Wildlife Service. Officials will arrange for birds that can be saved to be cared for at rehabilitation centers

**Mohave ground squirrel** (*S. mohavensis*) (MGS) is endemic to 2 million hectares in the western Mojave Desert. It typically inhabits sandy soils of alkali sink and creosote bush scrub habitat. MGS are listed as threatened by CDFG due to habitat loss, fragmentation, and deterioration (Brooks and Matchett 2002). CDFG does not designate critical habitat.

MGS measure about 9 inches from nose to tip of tail, forage on leaves and seeds, and aestivate/hibernate for long periods of the year. Aestivation (reduction of body temperature, heart rate, and metabolism) begins usually in the early summer when vegetation begins to dry up. MGS reanimate after winter rains have produced new vegetative growth, generally in February. Males may travel up to a mile per day in search of mates after they have emerged from aestivation in the spring. Litters of 6-9 young are born by the end of March; young are weaned by early May and disperse within a few weeks. Young often establish home ranges adjacent to the maternal home range; however some young will disperse up to 4 miles. When winter rains fail, MGS do not reproduce and can enter dormancy as early as April. As a result, MGS numbers decline after a low rainfall year, and two successive years of drought can lead to the extinction of local populations. Young can recolonize suitable habitat rapidly after good reproductive seasons (Leitner 1999).

In the Coso Grazing Enclosure Monitoring Study (CEGMS, Leitner and Leitner 1998) several individuals survived until 5 years of age, the maximum lifespan recorded for this species. In general, the majority of juveniles do not survive to reach one year of age. Evidence from radiotelemetry and weight gain patterns suggest that juvenile survivorship is low because of predation and the frequent failure of juveniles to accumulate sufficient fat reserves for their first season of dormancy. However, once individual ground squirrels successfully reach yearling status and become established in a home range, survivorship tends to be high. (CEGMS, p.28)

Plants documented as forage for MGS include: fiddleneck (*Amsinckia tessellata*), wolfberry (*Lycium andersonii*), Joshua tree (*Yucca brevifolia*), winterfat (*Krascheninnikovia* (formerly *Eurotia*) *lanata*), spiny hopsage (*Grayia spinosa*), allscale (*Atriplex canescens* and *A. polycarpa*), desert holly (*Hymene lytaya*), coreopsis (*Coreopsis* sp.), Russian thistle (*Salsola tragus*), and the seeds of Joshua tree (*Y. brevifolia*). It is suspected that MGS forage on the plant species with the highest water content available at the time.

**Pallid San Diego pocket mouse** (*Chaetodipus fallax pallidus*) (formerly known as northwestern San Diego pocket mouse) is considered a moderately sized pocket mouse, ranging in length from 170 to 200 mm and weighing from 17 to 22 grams. There is very little difference in size between males and females. Both are colored a dark brown on top and white underneath, with spines that are black on the rump and white on the hips. The tail length is shorter than the body by about

20 mm, it has a darkly colored dorsal crest and is and light below. This appearance is very similar to *Chaetodipus californicus* that also occupy the same general habitat except that *C. fallax* has shorter ears, usually shorter than 9 mm. San Diego pocket mice are homeothermic endotherms with hypsodont and lophodont teeth. The northwestern San Diego pocket mouse inhabits coastal sage scrub, sage scrub/grassland ecotones, and chaparral communities. It inhabits open, sandy areas of both the Upper and Lower Sonoran life-zones of southwestern California and northern Baja California. The San Diego pocket mouse generally exhibits a strong microhabitat affinity for moderately gravelly and rocky substrates (Bleich 1973; Price and Waser 1984), and to a lesser extent, shrubby areas (MWD and RCHCA 1995). In western Riverside County, the San Diego pocket mouse also commonly is found in disturbed grassland and open sage scrub vegetation with sandy-loam to loam soils.

Like other desert-adapted heteromyid rodents, the San Diego pocket mouse primarily is a granivore (seed eater). Arid grassland and desert environments support a surprising diversity of coexisting rodent granivores. The diversity and number of coexisting species vary depending on local conditions and the requirements of the constituent species. Pocket mice and other heteromyid rodents dig burrows, which moves the soils and provides habitat and refugia for other species, including other rodents, reptiles, amphibians, birds and invertebrates. The San Diego pocket mouse appears to be sensitive to habitat fragmentation and degradation. Bolger et al. (1997) studied rodent diversity and abundance in isolated habitat fragments of varying size and age in San Diego County. The San Diego pocket mouse tended to occur in habitat patches with 90-100 percent shrub cover, with only two of eight occupied patches having shrub cover of 50 percent and 75 percent. This species is still relatively common in sage scrub, chaparral, and grassland habitats.

**Western mastiff bat** (*E. perotis californicus*) is the biggest North American bat, with a body length of 5.5 to 7.5" and a wingspan of over 22". Fur is dark brown, kind of thin, hairs white at base. Has huge ears, joined at base and extending out over forehead like a bonnet. They occur in two populations. One population is from the southwestern United States to central Mexico and the second is located in the central and northern portions of South America (Harvey and other 1999). Western mastiff bat is found in desert scrub, chaparral, mixed conifer forest, giant sequoia forests, and montane meadows (Philpott 1997). In the southwestern United States, day roosts are generally found in areas with rugged, rocky canyons and cliffs (Best and others 1996). Crevices in granitic rocks and consolidated sandstone are a common roosting substrate (Best and others 1996). These bats will also roost in building crevices—as nearly as many day roosts are known in buildings as in natural crevices (Barbour and Davis 1969). Western mastiff bats are insectivorous and feed primarily on moths (Philpott 1997). They forage in broad open areas including dry desert washes, floodplains, chaparral, oak woodland, open ponderosa pine forest, grassland, montane meadows, and agricultural areas.

**Townsend's big-eared bat** (*C. townsendii*) sports prominent ears that look almost like wings. Townsend's big-eared bat largely preys on moths over open pasture and forest canopy. For females, foraging increases during pregnancy and lactation, from one or two foraging bouts per night to three, and the distance traveled also increases, from 1.0 km to more than 4.0 km per night. Females form maternity groups in the spring, in caves and shelters, where they give birth to a single pup. In addition to winter hibernation, these bats also experience daily periods of torpor during cooler weather, a sleeplike state of reduced motor and metabolic activity. Townsend's big-eared bat occurs in the western United States, northward to British Columbia, as far east as the Rocky

Mountain States from Idaho to Texas, including Kansas and Oklahoma, and there are also populations in Arkansas, Missouri, Kentucky, Virginia, and West Virginia.

Townsend's big-eared bats are found throughout western North America, from British Columbia south to Oaxaca, Mexico, with two endangered subspecies in isolated areas in the Ozark and Central Appalachian regions of the United States. Their most typical habitat is arid western desert scrub and pine forest regions. These agile fliers venture out to forage only after dark, using their keen echolocation to hunt moths and other insects. In the spring and summer, females form maternity colonies in mines, caves, or buildings, while males roost individually. In winter, these bats hibernate in caves and abandoned mines. They are extremely sensitive to disturbance at their roosting sites and have suffered severe population declines throughout much of the United States.

**Bendire's thrasher** (*T. bendirei*) is 23-28 cm (9 to 11 inches) in length, with a long tail and a short bill. It is colored grayish-brown on its upperparts and has paler underparts with faint dark streaks. The eyes are bright yellow, and the tips of the tail are tipped with white. Because of its similar coloration to the Curve-billed Thrasher, the two birds are very easy to mistake for one another. The Bendire's thrasher's shorter beak is a distinguishing feature when comparing mature birds, but it is still easy to misidentify an adult Bendire's thrasher as a young Curve-billed Thrasher as its beak has not grown to its mature length. The Bendire's thrasher lives in the brush-filled deserts and valleys and drylands of the south-western United States, mainly along the southern border that Arizona and New Mexico shares with Mexico (the Madrean sky islands, mountain range sky islands of the northern Mexican range: Sierra Madre Occidental).

The Bendire's thrasher constructs a cup-shaped nest from twigs, lining the interior with grass stems and rootlets. It is usually placed in a cactus or an otherwise thorny desert shrub or tree. The female lays three or four eggs, which are pale green to blue in color, and speckled with brown and purple. Bendire's thrasher, like the majority of thrashers, feed on small ground-dwelling insects.

**Le Conte's thrasher** (*T. lecontei*) is a permanent resident of the deserts of the southwestern U.S. and northwestern Mexico. An uncommon and hard-to-find bird, it characteristically exists only in low densities; in good habitat for the bird there may be only 10 adults per square kilometer. Its typical habitat is sparsely vegetated desert flats, dunes, or gently rolling topography with a high proportion of species of saltbush or shadscale and cholla cactus. Most of the shrubs are below 2.5 m in height. A requirement is that there be accumulated leaf litter under plants since the bird feeds almost entirely on arthropods taking shelter in this litter during the day. It also consumes plant seeds and opportunistically takes small snakes, lizards, and bird's eggs. All its basic water requirements are met through its diet, as it lives in an environment where surface water is only rarely available.

As a nest site, it prefers cholla cactus or thick, dense and thorny desert shrubs in deep shade from overhanging branches. Though the extent of its known range has not changed since the late 19<sup>th</sup> Century, much of its U.S. habitat within that range has been lost to development, resulting in great reductions locally in its numbers. One threat is degradation and destruction of habitat by ATV use; ATVs crush vegetation and destroy underlying litter and soil surface, making the area unsuitable for the thrasher.

## **VI. REGULATORY FRAMEWORK AND REQUIREMENTS**

### **Federal Endangered Species Act**

Special status species are native species that have been afforded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to the continued existence and existing knowledge of population levels. The U.S. Fish and Wildlife Service (USFWS) administers the federal Endangered Species Act (ESA) of 1973. The ESA provides a legal mechanism for listing species as either threatened or endangered, and a process of protection for those species listed. Section 9 of the ESA prohibits "take" of threatened or endangered species. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. "Take" can include adverse modification of habitats used by a threatened or endangered species during any portion of its life history. Under the regulations of the ESA, the USFWS may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act. Take authorization can be obtained under Section 7 or Section 10 of the Act.

9(a) of the Act, which prohibits the Take of listed species. Take is defined in the Act in Section 3(18) as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect. Additionally, the Act requires Federal agencies to insure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species, or destroy or adversely modify its critical habitat, if any is designated. Finally, activities requiring Federal involvement (such as a Section 404 permit under the Clean Water Act) that may affect an endangered species on federal or private land must be reviewed by the USFWS who will determine whether or not the continued existence of the listed species is jeopardized.

### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act protects all native breeding birds, whether or not they are considered sensitive by resource agencies.

### **California Endangered Species Act**

The California Department of Fish and Game (CDFG) administers the California Endangered Species Act (CESA). The State of California considers an endangered species one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management; and a rare species is one present in such small numbers throughout its range that it may become endangered if its present environment worsens. Rare species applies only to California native plants. Further, all raptors and their nests are protected under '3503.5 of the California Fish and Game Code. Species that are California fully protected include those protected by special legislation for various reasons, such as the California condor.

Species of Special Concern is an informal designation used by CDFG for some declining wildlife species that are not proposed for listing as threatened or endangered, such as the burrowing owl. This designation does not provide legal protection, but signifies that these species are recognized as sensitive by CDFG.

### **Government and or Local Codes or Ordinances**

Other applicable regulations include, the County of San Bernardino native plant protection ordinance. The protected native plant species (e.g., Joshua trees) are identified in Section 89.0420 of the San Bernardino County Government Code. If the project proposes to remove any of these native plant species, the project proponent shall comply with Section 89.0420 of the San Bernardino County Code regarding the harvesting of desert native plants.

### **U.S. Army Corps of Engineers**

The U.S. Army Corps of Engineers (Corps or ACOE) regulates discharges of dredged or fill material into *waters of the United States*. These *waters* include *wetlands* and non-wetland bodies of water that meet specific criteria. The ACOEs' regulatory jurisdiction pursuant to Section 404 of the Federal CWA is founded on a connection, or *nexus*, between the water body in question and interstate commerce. This connection may be direct, through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce, or may be indirect, through a nexus identified in the ACOE regulations.

The ACOE reissued all existing nationwide permits (NWP), general conditions, and definitions, with some modifications. The Corps also issued six new NWPs, two new general conditions, and 13 new definitions. The effective date for the new and reissued NWPs was March 19, 2007. These NWPs will expire on March 18, 2012. The NWPs will protect the aquatic environment and the public interest while effectively authorizing activities that have minimal individual and cumulative adverse effects on the aquatic environment.

The 2007 Supreme Court's decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States*<sup>1</sup> (herein referred to simply as "Rapanos") addressed the jurisdiction over waters of the United States under the Clean Water Act. Congress enacted the Clean Water Act ("CWA" or "the Act") "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." One of the mechanisms adopted by Congress to achieve that purpose is a prohibition on the discharge of any pollutants, including dredged or fill material, into "navigable waters" except in compliance with other specified sections of the Act.<sup>4</sup> In most cases, this means compliance with a permit issued pursuant to CWA §402 or §404. The Act defines the term "discharge of a pollutant" as "any addition of any pollutant to navigable waters from any point source[.]"<sup>5</sup> and provides that "[t]he term 'navigable waters' means the waters of the United States, including the territorial seas."

In *Rapanos*, the Supreme Court addressed where the Federal government can apply the Clean Water Act, specifically by determining whether a wetland or tributary is a "water of the United States." The justices issued five separate opinions in *Rapanos* (one plurality opinion, two concurring opinions, and two dissenting opinions), with no single opinion commanding a majority of the Court. The *Rapanos* Decision Four justices, in a plurality opinion authored by Justice Scalia, rejected the argument that the term "waters of the United States" is limited to only those waters that are navigable in the traditional sense and their abutting wetlands. However, the plurality concluded that the agencies' regulatory authority should extend only to "relatively permanent, standing or continuously flowing bodies of water" connected to traditional navigable waters, and to "wetlands with a continuous surface connection to" such relatively permanent waters.

The agencies will assert jurisdiction over the following waters:

- Traditional navigable waters
- Wetlands adjacent to traditional navigable waters
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months)
- Wetlands that directly abut such tributaries

The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary

The agencies generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow)
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water

The agencies will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters
- Significant nexus includes consideration of hydrologic and ecologic factors

The ACOE typically regulates as *waters of the United States* any body of water displaying an *ordinary high water mark* (OHWM).

### **Regional Water Quality Control Board**

The RWQCB's regulatory jurisdiction is pursuant to Section 401 of the Federal CWA. The RWQCB typically regulates discharges of dredged or fill material into *waters of the United States*, however they also have regulatory authority over waste discharges into Waters of the State, which may be isolated, under the Porter-Cologne Water Quality Control Act issued by the State Water Resources Board. In the absence of a nexus with the ACOE, the Regional Board requires the submittal of a WDR application, which must include a copy of the project Stormwater Pollution Prevention Plan (SWPPP) and a copy of the project Water Quality Management Plan (WQMP), otherwise called a Standard Urban Stormwater Management Plan (SUSMP). The Regional Board's role is to ensure that disturbances in the stream channel do not cause water quality degradation. As in the case with the CDFG, the Regional Board will not begin processing the WDR application until after the EIR is certified.

### **California Department of Fish and Game**

Unlike the ACOE, CDFG regulates not only the discharge of dredged or fill material, but all activities that alter streams and lakes and their associated habitat. The CDFG, through provisions of the California Fish and Game Code (Sections 1601-1603), is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks, and at least an intermittent flow of water. The CDFG typically extends the limits of their jurisdiction laterally beyond the channel banks for streams that support riparian vegetation. In these situations the outer edge of the riparian vegetation is generally used as the lateral extent of the stream and CDFG jurisdiction. CDFG regulates wetland areas only to the extent that those wetlands are a part of a river, stream, or lake as defined by CDFG. While seasonal ponds are within the CDFG definition of wetlands, they are not part of a river, stream, or lake, and may, or may not, be subject to the jurisdiction of CDFG under Sections 1601-1603 of the Fish and Game Code.

The California Department of Fish and Game (CDFG) administers the state Endangered Species Act. The State of California considers an endangered species one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management and a rare species is one present in such small numbers throughout its range that it may become endangered if its present environment worsens. Rare species applies to California native plants. Further, all raptors and their nests are protected under '3503.5 of the California Fish and Game Code. Species that are California fully protected include those protected by special legislation for various reasons, such as the California condor. Species of Special Concern is an informal designation used by CDFG for some declining wildlife species that are not proposed for listing as threatened or endangered, such as the burrowing owl. This designation does not provide legal protection, but signifies that these species are recognized as sensitive by CDFG.

## **VII. METHODOLOGY**

### **Background Information**

Background information was gathered prior to visiting this site in order to determine what species would be expected in this area. This background check included a search of the CDFG's CNDDDB and a review of previously conducted biological surveys on nearby parcels. A CNDDDB search for special status species occurrences was completed for the USGS – Fairview Valley Quadrangle, 7.5 Minute Series (topographic), as well as the surrounding quads: Turtle Valley, Stoddard Wells, West Ord Mountain, White Horse Mountain, Lucerne Valley, Fifteenmile Valley, Apple Valley South, and Apple Valley North.

### **General Biological Surveys**

TDA biologist, Shay Lawrey, conducted general biological pedestrian surveys on Parcel 1 between February 1 and March 17, 2005 and on Parcel 2 between June 15 and August 31, 2007 (see Table 2 for a detailed list of survey dates and weather conditions).

### **Botanical Surveys**

The CNDDDB results did not indicate the known presence of plant species of concern within the Fairview Quadrangle as well as the surrounding Turtle Valley, Stoddard Wells, West Ord Mountain, White Horse Mountain, Lucerne Valley, Fifteenmile Valley, Apple Valley South, and Apple Valley North Quadrangles. This search produced eleven special status plant species, primarily found in saline sink habitats.

Contract Botanist, C.J. Fotheringham conducted botanical surveys on March 7, 2005 (Parcel 1 and Quail Spring) and September 4, 2007 (Parcel 2). Pedestrian surveys were conducted with the intentional bias of observing all habitat and identifying all plant species. Species not identifiable in the field were identified later using collected specimens, photographs, with a Leica 7x-35x dissecting microscope in consultation with the Jepson manual of the California Flora, Calflora.org as well as other local and regional floras, as necessary.

Conditions during the survey of Parcel 1 and Quail Spring were ideal with abundant rain the previous year. The survey of Parcel 2 was conducted late in the season in 2007 but was unlikely to have had better conditions earlier in the year due to the extreme drought the previous winter.

### **Desert Tortoise Surveys**

TDA biologists, Shay Lawrey, Daniel Smith, Michael Kegarice, and Louis LaPierre conducted the protocol desert tortoise surveys on Parcel 1 between May 12 and September 8, 2005 and between April 13 and May 9, 2007 and on Parcel 2 between May 10 and September 11, 2007 (see Table 2 for a detailed list of survey dates and weather conditions). The surveyors conducted the surveys in accordance with the desert tortoise survey protocols as outlined in the January 1992 "Field survey protocol for any federal action that may occur within the range of the desert tortoise." These protocols require 100% coverage surveys with transects spaced at no more than 30-foot intervals so that 15-foot areas on either side of each transect are observed. Tortoise protocol requires zone of influence transects be conducted wherever possible at 100, 200, 400, 800, 1,200 and 2,400-foot

intervals. Based on the habitat conditions onsite, in the surrounding vicinity, zone of influence surveys were performed. The purpose of zone of influence transects is to determine if there is potential for tortoise immigration onto the site. The bases of perennial shrubs were checked for burrows and signs. Natural and non natural substrates were examined for potential burrow sites. All burrows encountered were examined for shape, scat, pellets and tracks. Disturbance characteristics and all other animal sign encountered on the site and in the zone of influence are recorded in the results section.

### **Burrowing Owl Surveys**

TDA biologists, D. Smith and M. Kegarice conducted the focused burrowing owl surveys on Parcel 1 between May 12 and September 8, 2005 and between April 13 and May 9, 2007 and on Parcel 2 between May 10 and September 11, 2007 (see Table 2 for a detailed list of survey dates and weather conditions). They conducted the focused burrowing owl surveys in accordance with the "Burrowing Owl Survey Protocol and Mitigation Guidelines" prepared by the California Burrowing Owl Consortium on April 1993 and the October 17, 1995 California Department of Fish and Game staff report on Burrowing Owl Mitigation. The protocol requires surveying the site at no more than 30 meter (~100 foot) intervals. The bases of perennial shrubs were checked for burrows and signs. Natural and non-natural substrates were examined for potential burrow sites. All burrows encountered were examined for shape, scat, pellets, and tracks. Disturbance characteristics and all other animal sign encountered on the site are recorded in the results section. Burrowing owl burrow locations were marked using a handheld Magellan Explorist 600 GPS unit. Habitat characteristics were photo documented and all species encountered were recorded. Date time and weather conditions were also logged.

### **Jurisdictional Delineation**

In 2005, TDA biologist, S. Lawrey conducted a routine JD on Parcel 1 between March 4 and March 17 and between June 24 and August 2, 2005. In 2007, Ms. Lawrey conducted a routine JD on Parcel 2 between June 12 and August 31, 2007. The primary focus of these field investigations was to determine the presence of jurisdictional waters and to calculate their extent. Measurements of potential jurisdictional areas were measured on an aerial photo provided by the client and in the field. The 2005 and 2007 JDs were conducted according to the Corps 1987 Manual (i.e., Environmental Laboratory, 1987) and CDFG guidelines (A Field Guide To Lake And Streambed Alteration Agreements Sections 1600–1607 California Fish And Game Code, Environmental Services Division, 1994). The study area for the jurisdictional delineation was defined as those areas bound by the cut channel banks. All areas identified as supporting non-wetland jurisdictional waters were measured to the nearest foot. General site characteristics and a biological inventory were also noted. The extent of jurisdictional waters calculated by multiplying the drainage width by the length and then converting to acres. The washes were evaluated based on the Corps definition for ephemeral, intermittent, and perennial streams. Parameters noted were amount and type of vegetation (hydrophytic versus upland) present within the drainage, soil moisture, and the presence of running or standing water. There were no problems encountered or limitations that may influence results of the field surveys.

In 2005 the jurisdictional limits were marked with lath and then surveyed in by the engineers. Once the data was surveyed in, the engineers mapped the jurisdictional limits onto the project site topographical map. Staff members from the CDFG and Corps met with S. Lawrey in the field to

verify the jurisdictional limits that had been mapped. The Corps stated that they would be taking jurisdiction over the areas that looked to be traveled road because there was evidence of flow and the conditions fit the connectivity and nexus rule. The Corps did not consider these areas to be erosional features or ditches. The Corps considered locations where the channels clearly ended in sheet flow to be non-jurisdictional. The CDFG considered all areas showing evidence of bed bank and channel to be jurisdictional.

## **VIII. SURVEY RESULTS**

According to the CNDDDB, 23 sensitive species have been documented within the USGS – Fairview Valley, Turtle Valley, Stoddard Wells, West Ord Mountain, White Horse Mountain, Lucerne Valley, Fifteenmile Valley, Apple Valley South, and Apple Valley North Quadrangles (refer to Table 1).

The eleven plant species identified to have a potential to occur within the vicinity of the project area include Shockley's rock cress (*Arabis shockleyi*), Cushenbury milk-vetch (*Astragalus albens*), alkali mariposa lily (*Calochortus striatus*), Booth's evening-primrose (*Camissonia boothii* ssp. *boothii*), desert springparsley (*Cymopterus deserticola*), Barstow woolly sunflower (*Eriophyllum mohavense*), Parish's phacelia (*Phacelia Parishii*), Parish's popcorn-flower (*Plagiobothrys Parishii*), Parish's alkali grass (*Puccinellia parishii*), Latimer's woodland-gilia (*Saltugilia latimeri*), Salt Spring checkerbloom (*Sidalcea neomexicana*).

The nine species of special status animal species identified to have a potential to occur within the vicinity of the project area include pallid San Diego pocket mouse (*Chaetodipus fallax apollidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), western mastiff bat (*Eumops perotis californicus*), Mohave ground squirrel (*Spermophilus mohavensis*), desert tortoise (*G. agassizii*), burrowing owl (*A. cunicularia*), prairie falcon (*Falco mexicanus*), Bendire's thrasher (*Toxostoma bendirei*), and Le Conte's thrasher (*Toxostoma lecontei*).

The project area is primarily bajadas with some rugged foothills on the peripheries. Greater than 99% of the study site is comprised of Mojave creosote bush scrub habitat, primarily consisting of creosote bush, rabbit brush, burrobrush, and a variety of cactus species. Other habitat features on site include a natural spring, rock outcrops, desert dry washes and dirt roads. The habitat quality within the survey area ranges from near, pristine to moderately disturbed. Primary disturbances within the study area include illegal dumping, dirt roads and canine activity.

Due to the duration of the surveys, the weather conditions varied but were primarily clear and dry and provided excellent visibility. However, a few days of survey were under thunderstorm conditions. Temperatures ranged between 67° and 115°F. This temperature range provides suitable conditions wildlife activity. Indicators for wildlife observations included scat, tracks, burrows, nest, calls, and individual animals. Common wildlife observed during the survey include coyote (*Canis latrans*), California jack-rabbit (*Lepus californicus*), antelope ground squirrel (*Ammospermophilus leucurus*), horned lark (*Eremophila alpestris*), raven (*Corvus corax*), mourning dove (*Zenaida macroura*), and side-blotched lizard (*Uta stansburiana*). A complete list of species observed within the study area is included in Table D.

### **Botanical Survey**

The survey areas of Parcel 1 and Parcel 2 range between 3,080 to 4,000 feet above mean sea level. The Holland's community characteristics, based on species dominance, were used to characterize the vegetation communities within the project area. The Primary Holland community type noted in both parcels was Mojave creosote bush scrub (34100). This community accounted for >99% of the vegetative cover. There were also small patches (<0.1 acre) dominated by non-native species and also with a small patch of wetland around Quail Spring on the southern portion of Parcel 1. No saline sink or alkali flat habitats were found on the property.

The project area shows a long history of disturbance (historical structures and old trash dumps) as well as ongoing disturbance (ORV use, feral dogs, recent dumping). The site was dominated by native shrubs, primarily creosote bush (*Larrea tridentata*) but also Joshua tree (*Yucca brevifolia*), burrobrush (*Hymenoclea salsola*), California buckwheat (*Eriogonum fasciculatum*), etc. In the 2005 survey there was also significant cover and number of both native and alien annual species (Table D). In all, a total of 73 species were observed on the site, eight (11%) of which were non-native species. Seven species were only found within the vicinity of Quail Spring. Species identified on Parcel 2 in 2007 were primarily a subset of species identified on Parcel 1 in 2005, specifically the perennial species. Undoubtedly annual species recorded on Parcel 1 in a high rainfall year also occur under similar conditions on Parcel 2 but were not recorded in this survey due to drought the previous year and the late season of the survey. No special status plant species were found onsite and are discussed in detail below.

While the site was marginally within elevational range of Shockley's rock cress (*A. Shockleyi*), it was more arid than is typical for this species and there was no pinyon-juniper woodland on the site. The nearest recorded collection of this species is 12 miles to the southeast at 1250m elevation.

While the site was marginally within elevational range of Cushenbury milk-vetch (*A. albens*), it was more arid than is typical for this species. In addition, there was no calcareous (e.g. limestone) derived soils on or adjacent to the site. The nearest recorded collection of this species is roughly 18.5 miles to the SE at ~1500m elevation.

Alkali mariposa lily (*C. striatus*) is a primarily an alkaline meadow species, a habitat that did not occur on the site. It could be argued that there was some potential habitat at Quail Spring but the springs were well drained and did not accumulate on site and no meadow or alkaline marsh formed. No *Calochortus* species were found during the survey. The nearest known occurrence for this species is 8.2 miles to the SE.

The site was within the elevational range of Booth's evening-primrose (*C. boothii* ssp. *boothii*) and there was apparent habitat but species was not found. The species (*C. boothii* and all subspecies) is distinctive in form with fruiting skeletons recognizable for a year or more past senescence. No evidence of *C. boothii* (live plants or skeletons) were found on the site. The nearest recorded occurrence for this species is 10.5 mi to WSW.

Most occurrences of desert springparsley (*Cymopterus deserticola*) are located near or in Edwards Airforce Base but there are historical occurrence of the species are recorded in the general Apple Valley area. However, there are none recorded east of the 15 freeway since 1920. The site is above the reported elevational range for the species although soil types are appropriate. *C. deserticola*, nor any species in the Apiaceae, were found during surveys.

Barstow woolly sunflower (*E. mohavense*) is very similar to the congeneric *E. pringlei* which has been collected in the area. However, *E. pringlei* was also not found to occur on the site. The site is slightly above known elevational range with marginal habitat and the species was not found. There are historical collections from general area, 15.5 miles to the NNE near Stoddard wells.

The site was within the elevational range of Parish's phacelia (*P. Parishii*) but there were no developed alkali flats or clay areas. Two congeneric species occurred on the site, *P. campanularia* and *P. distans*. Of these two, *P. campanularia* is most similar to *P. Parishii*. However,

*P. campanularia* is much taller and generally larger with flowers 5-6x the size of *P. Parishii*. The nearest collection of *P. Parishii* was 8.2 miles to the SE.

The site was within the elevational range of Parish's popcorn-flower (*P. Parishii*) and there was potential habitat at Quail Spring. However, as noted above, there were no developed alkali flats and no hydrophyllaveae were found in the mesic habitat of Quail Spring. The nearest collection of this species was 8.2 miles to the SE.

The site was above the elevational range for Parish's alkali grass (*P. parishii*) and there was potential habitat around Quail Spring, however the species was not found. There were six species of grass found to occur on the site, including three annual species, but none occurred in the appropriate habitat at Quail Spring and the annual species were widespread non-native species. The nearest collection of *P. parishii* is 8.2 miles to the SE.

The genus *Saltugilia* was recently segregated from the genus *Gilia* and Latimer's woodland-gilia (*S. latimeri*) was even more recently isolated from *S. australis*. Both parcels are within the elevational range described for Latimer's woodland-gilia (*S. latimeri*). The key characteristic separating out the genus *Saltugilia* is a glabrous corolla with yellow spots in the tube while distinguishing characteristic that distinguishes *S. latimeri* from *S. australis* is a higher density of glands on the calyx as well as persistent pink or lavender in the corolla color. There is marginally appropriate habitat in both parcels. A *Gilia sp* was found on the site but was not identifiable to species. This was found on the lower bajada area of Parcel 1 rather in the more mesic rocky outcrops and upper drainage where *Saltugilia* species would be expected. A number of *Gilia* have been collected in the area and it was likely one of these species (e.g. *G. cana*, *G. sinuata*) that are common in the area. The nearest collection of *S. latimeri* is 12.3 miles to the SSE at 1460-1646m elevation.

There was potential habitat at Quail Spring for Salt Spring checkerbloom (*S. neomexicana*) but as discussed above the spring does not form an alkali playa or marsh. The species was not found and no similar species were found at in this area. The nearest collection of this species is 8.2 miles to the SE.

Joshua trees and other cactus species occur within the study area. The County of San Bernardino has a native plant protection ordinance that identifies Joshua trees and other cactus species as sensitive species in Section 89.0420 of the San Bernardino County Government Code. The project proponent should make an effort to avoid or minimize the projects effect on sensitive plant species. If the project proposes to remove any of native plant species listed as sensitive in Section 89.0420 of the San Bernardino County Code, the project proponent shall comply with the regulations set forth in the Code regarding the harvesting of desert native plants.

### **Desert Tortoise Surveys**

The purpose of the protocol survey was to determine the presence or absence of desert tortoise within or adjacent to Parcels 1 and 2. The project site is not located within designated critical habitat for the desert tortoise. Although, suitable habitat occurs on both parcels and desert tortoise are known to occur in the near vicinity of Parcel 1 and Parcel 2, the result of the survey was that no desert tortoise or their sign (i.e, burrows, scat, scutes, or tracks) were detected.

### **Burrowing Owl Surveys**

A high number of burrowing owl were detected in the early months of survey. Keeping count of individuals without marking was not possible so the burrowing owls were considered a colony. Well over 45 individuals were seen in one survey. They were clustered in Parcel 1 along the southwest corner. During subsequent surveys it was noted that the original colony had moved east in response to predation/and disturbance from a pack of feral dogs. All of the previously occupied burrows had been excavated. When the owls were located their numbers had dropped. They migrated east sometime in May and they settled into the mid section of Parcel 1. By July they had been forced to move again in response to the dogs. They migrated southeast and settled in the corner of Parcel 1 (Figure 8). It is assumed that some of the owls left the site completely and that some may have succumbed to the dogs. Their numbers dropped to about 15 individuals. In August no owls were detected on Parcel 1. Two small clusters of burrows were located in the south of Parcel 2 (Figure 9). There was white wash and feathers near the burrows but all of the burrows had been dug out recently by dogs. No burrowing owl individuals were found on Parcel 2, but there was evidence that they had been there previously. Aside from burrowing owl, no other sensitive species were observed.

### **Jurisdictional Delineation**

A total of four desert dry washes (A, B, C, and D) were identified on Parcel 1 and three (A, B and C) were identified on Parcel 2. A total of 4.59 acres of jurisdictional waters occur on Parcel 1 and 1.71 acres occur on Parcel 2 (Table 3). Any proposed impacts to these jurisdictional waters will require permits from the CDFG, RWQCB and the Corps. The following are the potentially required permits: Corps 404 permit; RWQCB 401 Certification, CDFG Streambed Alteration Agreement under Section 1603 of the California Fish and Game Code.

## **IX. IMPACTS AND RECOMMENDATIONS**

1. There are possible impacts to sensitive species or unique species either listed or proposed by a Federal or State agency. Habitat that supports a variety of cactus species and jurisdictional waters may be impacted. There is a potential for the loss of sensitive species habitats and foraging grounds. This project may disrupt the integrity or continuity of an important habitat or habitat/wildlife corridor relative to burrowing owl and other avian species.
2. All impacts to plants (including Joshua tree and cactus) protected or regulated by the State Desert Native Plants Act (i.e., Food and Agricultural Code 80001 et seq.) and/or by Section 89.0420 of the San Bernardino County Government Code must be addressed prior to the issuance of any development permit or land use application approval. The project proponent will have to follow the guidelines of the cities or County should removal of Joshua trees and other cacti be necessary.

Joshua trees and other cactus species occur within the study area. The County of San Bernardino has a native plant protection ordinance that identifies Joshua trees and other cactus species as sensitive species in Section 89.0420 of the San Bernardino County Government Code. The project proponent should make an effort to avoid or minimize the projects effect on sensitive plant species. If the project proposes to remove any of native plant species listed as sensitive in Section 89.0420 of the San Bernardino County Code, the project proponent shall comply with the regulations set forth in the Code regarding the harvesting of desert native plants

3. Following project approval, but prior to construction, Parcel 1 and Parcel 2 should be surveyed to ensure that burrowing owls have not established nesting territories within the project construction action and staging areas.
4. Following project approval, but prior to construction, Parcel 1 and Parcel 2 should be surveyed to ensure that a desert tortoise has not wandered into the area slated for construction.
5. This site will not be modified prior to project approval and the information regarding biological resources currently onsite, should be considered sufficient.
6. Based on the data collected and analyzed, it was determined that project may result in the discharge of fill material into waters that technically meet the parameters for non-wetland waters of the United States. A total of four desert dry washes (A, B, C, and D) were identified on Parcel 1 and three (A, B, and C) were identified on Parcel 2. A total of 4.59 acres of jurisdictional waters occur on Parcel 1 and 1.71 acres occur on Parcel 2 (Table B). Of these 6.30 acres of streambed, CDFG holds jurisdiction over 6.30 acres and the Corps and RWQCB hold jurisdiction over 5.69 acres. The Corps and RWQCB do not hold jurisdiction over waters that terminate into sheet flow across the site. This is why the acreage for Corps and RWQCB jurisdiction is slightly less than CDFG's jurisdiction.

Any proposed impacts to these jurisdictional waters will require permits from the CDFG, RWQCB and the Corps. The following are the potentially required permits: Corps 404 permit; RWQCB 401 Certification, CDFG Streambed Alteration Agreement under Section 1603 of the

California Fish and Game Code. Please note that State agencies, such as the RWQCB and CDFG will not issue a permit until after the CEQA document has been certified and adopted.

Activities that usually require the above stated permits include (but are not limited to) grading, placing of riprap for erosion control, pouring concrete, laying sod, preparing soil for planting (e.g., turning soil over, adding soil amendments), stockpiling excavated material, mechanized removal of vegetation, and driving of piles for certain types of structures. Activities that usually require said permits (if performed in a manner to avoid discharges) include clearing of vegetation using hand held equipment and working above the ground surface, pumping water, and walking or driving vehicles.

Project impacts to these waters cannot be calculated without a site plan. Avoidance will be the method of choice in the design of the subsequent tentative tract map(s).

## **X. PROPOSED MITIGATION MEASURES**

### **Botanical Resources**

Aside from various cactus species, no sensitive plant species were found in Parcel 1 or Parcel 2 during the botanical surveys conducted by contract botanist C.J. Fotheringham in 2005 or 2007. However, in the event that one of the sensitive plant species identified in the CNDDDB is positively identified on site, during construction, the plant will be flagged and avoided until the CDFG is notified and takes their opportunity to salvage the plant.

As required by the San Bernardino County plant protection Ordinance and the CDFG, the project proponents should develop a cactus relocation plan to offset impacts to Joshua trees and other cactus species that may need to be removed as part of this project. This plan will identify the number and species of cactus to be protected in place or removed and relocated.

### **Desert Tortoise**

The desert tortoise (*G. agassizii*) occurs in several desert plant communities, including creosote scrub, saltbush scrub and Joshua tree woodland. This species is known to construct burrows with firm soil, usually (but not always) at the base of scrubs (e.g. creosote bush) or in the banks of washes. Although no desert tortoise were detected during survey, portions of Parcel 1 and Parcel 2 are suitable for this species.

Within 30 days of the start of any land disturbance activities, a qualified and authorized biologist should survey the site to determine if desert tortoise are present. If a desert tortoise or sign of desert tortoise is encountered then project proponent will contact the USFWS and CDFG to obtain the required take authorization for the project. In this scenario, it is likely that protocol surveys would need to be redone to identify any additional tortoise activity on site.

Following the pre-construction survey, a qualified biologist will make a determination: (1) if a biological monitor should be present at the site during all land disturbance activities; (2) if desert tortoise fencing needs to be installed around the perimeter of the construction work zone; or (3) if no further action is required.

If a desert tortoise is encountered during construction, no person including the biologist will touch the animal. Instead, the biologist will observe the area to see if the desert tortoise has an established burrow or if it is just wandering through the site. If it is clearly just moving through the site, all construction activity near the tortoise will cease until it is safely out of the area. The biologist will contact the USFWS and CDFG to coordinate with them for further instruction. At that time it may be appropriate to erect exclusionary fencing to prevent the re-entry of the desert tortoise back into the site. If the biologist finds that the desert tortoise is residing in a burrow on site, then all construction must cease until the USFWS and CDFG have issued take authority to relocate the tortoise out of the area. In this case, land disturbance activities shall not commence until the biologist has implemented the required measures according to the CDFG and USFWS to clear the site for construction.

The biologist/monitor should remain on-call during construction activities. If a desert tortoise is encountered during construction following the initial phases of ground disturbance, construction

activities shall be halted in the vicinity of the find and the biologist/monitor called to the site. The contractor shall implement the recommendations of the biologist/monitor.

### **Burrowing Owl**

The burrowing owl (*A. cunicularia*) is a state and federal Species of Special Concern. The burrowing owl is typically found in grassland, scrubland and desert habitats with numerous small mammal burrows (Coulombe 1971). Burrowing owls nest and roost in modified, expanded burrows originally created by fossorial animals including ground squirrels, desert tortoise, and badgers. They are also known to make use of human-created structures such as cement culverts and pipes for burrows. A modest number of burrowing owl were encountered on site during the surveys.

Within 30 days of the start of any land disturbance activities, a qualified biologist should survey the site to determine if burrowing owls are present and nesting in the construction area. If burrowing owl are encountered and determined to be nesting, land disturbance activities shall not commence until the biologist has implemented the required measures according to the CDFG to clear the site for construction. One such measure may be to passively relocate the owls once the young have fledged the nest. This type of relocation requires the construction of artificial burrows in the near vicinity and collapsing of the old burrows once the owls have clearly flushed out of the site.

If burrowing owls are encountered during construction, construction activities shall be halted in the vicinity of the find and the biologist/monitor called to the site. The contractor shall implement the recommendations of the biologist/monitor.

### **Nesting Birds**

The State of California prohibits the take of active bird nests. To avoid an illegal take of active bird nests, any grubbing, brushing or tree removal will be conducted outside of the State identified nesting season (nesting season is February 15 through September 1). Alternatively, the site will be evaluated by a qualified biologist prior to initiation of ground disturbance to determine the presence or absence of nesting birds. If an active nest is located in the project construction area it will be flagged and a 300 foot buffer placed around it. No activity will occur within the 300 foot buffer until the young have fledged the nest.

### **Habitat**

All personnel associated with the construction on the site shall attend a worker education class. This class should include general information regarding all sensitive species and their habitat known to occur in the near vicinity of the project. Particular attention should be made to the various cactus species, habitat types on site, mohave ground squirrel, desert tortoise, and burrowing owl. The class should provide relevant information regarding the Federal and State laws and worker responsibilities when working in mohave desert habitat.

All project activities will be limited to a well-defined area. Prior to grading and construction activities the limits of disturbance will be clearly marked with flagging, stakes, or fencing. Impacts to any jurisdictional waters, will require permits from the regulatory agencies. For permanent impacts to jurisdictional waters the project proponent may purchase in lieu fee credits in a 1:1 ratio from a bank approved by the Corps, CDFG and RWQCB. Temporary impacts to jurisdictional waters will be

mitigated in a 1:1 ratio through on site habitat restoration. The exact details of this restoration will be outlined in the Habitat Mitigation and Monitoring Program document as required by the Corps, RWQCB and CDFG and will be negotiated at the time of permitting.

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California Fish and Game Code 3503 and 3503.5 state:

**3503:** *It is unlawful to take, possess or needlessly destroy the nest or eggs of any bird except as otherwise provided by this code or any regulation made pursuant thereto.*

**3503.5:** *It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.*

**TABLES**

Table 1: CNDDDB SEARCH

SCIENTIFIC NAME	COMMON NAME	STATUS Fed/State	CDFG STATUS	GENERAL HABITAT	MICROHABITAT
<i>Arabis shockleyi</i>	Shockley's rock cress	NONE/NONE		PINYON AND JUNIPER WOODLAND.	ON RIDGES, ROCKY OUTCROPS AND OPENINGS ON LIMESTONE OR QUARTZITE; USUALLY IN PINYON OR P-J SERIES. 875-2205M.
<i>Astragalus albens</i>	Cushenbury milk-vetch	ENDANGERED / NONE		JOSHUA TREE WOODLAND, MOJAVEAN DESERT SCRUB, PINYON AND JUNIPER WOODLAND.	SANDY OR STONY FLATS, ROCKY HILLSIDES, CYN WASHES, & FANS, ON GRANITE OR MIXED GRANITIC-CALCAREOUS DEBRIS. 1095-2000M.
<i>Athene cunicularia</i>	burrowing owl	NONE/NONE	SC	OPEN, DRY ANNUAL OR PERENIAL GRASSLANDS, DESERTS & SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.	SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.
<i>Calochortus striatus</i>	alkali mariposa-lily	NONE/NONE		CHAPARRAL, CHENOPOD SCRUB, MOJAVEAN DESERT SCRUB, MEADOWS.	ALKALINE MEADOWS AND EPHEMERAL WASHES. 90-1595M.
<i>Camissonia boothii</i> ssp. <i>boothii</i>	Booth's evening-primrose	NONE/NONE		JOSHUA TREE WOODLAND, PINYON-JUNIPER WOODLAND.	900-2400M.
<i>Canbya candida</i>	white pygmy-poppo	NONE/NONE		JOSHUA TREE WOODLAND, MOJAVEAN DESERT SCRUB.	SANDY PLACES. 725-1250M.
<i>Chaetodipus fallax pallidus</i>	pallid San Diego pocket mouse	NONE/NONE	SC	DESERT BORDER AREAS IN EASTERN SAN DIEGO CO. IN DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, PINYON-JUNIPER, ETC.	SANDY HERBACEOUS AREAS, USUALLY IN ASSOCIATION WITH ROCKS OR COARSE GRAVEL.
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	NONE/NONE	SC	THROUGHOUT CALIFORNIA IN A WIDE VARIETY OF HABITATS. MOST COMMON IN MESIC SITES.	ROOSTS IN THE OPEN, HANGING FROM WALLS & CEILINGS. ROOSTING SITES LIMITING. EXTREMELY SENSITIVE TO HUMAN DISTURBANCE.
<i>Cymopterus deserticola</i>	desert cymopterus	NONE/NONE		JOSHUA TREE WOODLAND, MOJAVEAN DESERT SCRUB. MOST OCCURRENCES LOCATED NEAR OR IN EDWARDS AFB.	ON FINE TO COARSE, LOOSE, SANDY SOIL OF FLATS IN OLD DUNE AREAS WITH WELL-DRAINED SAND. 625-910M.
<i>Eriophyllum mohavense</i>	Barstow woolly sunflower	NONE/NONE		DESERT CHENOPOD SCRUB, MOJAVEAN DESERT SCRUB, DESERT PLAYAS.	MOSTLY IN OPEN, SILTY OR SANDY AREAS W/SALTBUSH SCRUB, OR CREO. BUSH SCRUB. BARREN RIDGES OR MARGINS OF PLAYAS. 500-900M
<i>Eumops perotis californicus</i>	western mastiff bat	NONE/NONE	SC	MANY OPEN, SEMI-ARID TO ARID HABITATS, INCLUDING CONIFER & DECIDUOUS WOODLANDS, COASTAL SCRUB, GRASSLANDS, CHAPARRAL ETC	ROOSTS IN CREVICES IN CLIFF FACES, HIGH BUILDINGS, TREES & TUNNELS.
<i>Falco mexicanus</i>	prairie falcon	NONE/NONE	SC	INHABITS DRY, OPEN TERRAIN, EITHER LEVEL OR HILLY.	BREEDING SITES LOCATED ON CLIFFS. FORAGES FAR AFIELD, EVEN TO MARSHLANDS AND OCEAN SHORES.

Table 1: CNDDDB SEARCH

SCIENTIFIC NAME	COMMON NAME	STATUS Fed/State	CDFG STATUS	GENERAL HABITAT	MICROHABITAT
<i>Gopherus agassizii</i>	desert tortoise	THREATENED/ THREATENED		MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.	REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LG ANNUAL WILDFLOWER BLOOMS PREFERRED.
<i>Lasionycteris noctivagans</i>	silver-haired bat	NONE/NONE	SC	PRIMARILY A COASTAL & MONTANE FOREST DWELLER FEEDING OVER STREAMS, PONDS & OPEN BRUSHY AREAS.	ROOSTS IN HOLLOW TREES, BENEATH EXFOLIATING BARK, ABANDONED WOODPECKER HOLES & RARELY UNDER ROCKS. NEEDS DRINKING WATER.
<i>Phacelia parishii</i>	Parish's phacelia	NONE/NONE		MOJAVEAN DESERT SCRUB, PLAYAS.	ALKALINE FLATS AND SLOPES OR ON CLAY SOILS. 535-1200M.
<i>Phrynosoma coronatum</i> ( <i>blainvillii</i> population)	coast (San Diego) horned lizard	NONE/NONE	SC	INHABITS COASTAL SAGE SCRUB AND CHAPARRAL IN ARID AND SEMI-ARID CLIMATE CONDIT	PREFERS FRIABLE, ROCKY, OR SHALLOW SANDY SOILS.
<i>Plagiobothrys parishii</i>	Parish's popcorn-flower	NONE/NONE		GREAT BASIN SCRUB, JOSHUA TREE WOODLAND.	ALKALINE SOILS; MESIC SITES. 750-1400M.
<i>Puccinellia parishii</i>	Parish's alkali grass	NONE/NONE		MEADOWS AND SEEPS.	ALKALI SPRINGS AND SEEPS IN DESERTS. 695-1000M.
<i>Saltugilia latimeri</i>	Latimer's woodland-gilia	NONE/NONE		CHAPARRAL, MOJAVEAN DESERT SCRUB.	ROCKY OR SANDY SUBSTRATE. 400-1900M.
<i>Sidalcea neomexicana</i>	Salt Spring checkerbloom	NONE/NONE		ALKALI PLAYAS, BRACKISH MARSHES, CHAPARRAL, COASTAL SCRUB, LOWER MONTANE CONIFEROUS FOREST, MOJAVEAN DESERT SCRUB.	ALKALI SPRINGS AND MARSHES. 0-1500M.
<i>Spermophilus mohavensis</i>	Mohave ground squirrel	NONE/THREATENED		OPEN DESERT SCRUB, ALKALI SCRUB & JOSHUA TREE WOODLAND. ALSO FEEDS IN ANNUAL GRASSLANDS. RESTRICTED TO MOJAVE DESERT.	PREFERS SANDY TO GRAVELLY SOILS, AVOIDS ROCKY AREAS. USES BURROWS AT BASE OF SHRUBS FOR COVER. NESTS ARE IN BURROWS.
<i>Toxostoma bendirei</i>	Bendire's thrasher	NONE/NONE	SC	MIGRATORY; LOCAL SPRING/SUMMER RESIDENT IN FLAT AREAS OF DESERT SUCCULENT SHRUB/JOSHUA TREE HABITATS IN MOJAVE DESERT.	NESTS IN CHOLLA, YUCCA, PALOVERDE, THORNY SHRUB, OR SMALL TREE, USUALLY 0.5 TO 20 FEET ABOVE GROUND.
<i>Toxostoma lecontei</i>	Le Conte's thrasher	NONE/NONE	SC	DESERT RESIDENT; PRIMARILY OF OPEN DESERT WASH, DESERT SCRUB, ALKALI DESERT SCRUB, AND DESERT SUCCULENT SCRUB HABITATS.	COMMONLY NESTS IN A DENSE, SPINY SHRUB OR DENSELY BRANCHED CACTUS IN DESERT WASH HABITAT, USUALLY 2-8 FEET ABOVE GROUND.

SC = Species of Concern

**Table 2: SURVEY DATES**

Survey Date	Parcel	Surveyor	What was surveyed for	Temp. (OF)	Wind (MPH)	Skies
2/1/2005	P1	S. Lawrey	Gen Bio	51	4	Partly Cloudy
2/2/2005	P1	S. Lawrey	Gen Bio	54	6	Partly Cloudy
2/5/2005	P1	S. Lawrey	Gen Bio	49	9	Clear
2/16/2005	P1	S. Lawrey	Gen Bio	42	0	Clear
2/17/2005	P1	S. Lawrey	Gen Bio	39	0	Clear
3/4/2005	P1	S. Lawrey	JD/gen bio	52	5	Clear
3/7/2005	P1	S. Lawrey	JD/gen bio	63	10	Clear
3/7/2005	P1	C.J. Fotheringham	Botanical	51	9	Clear
3/9/2005	P1	S. Lawrey	JD/gen bio	69	8	Clear
3/10/2005	P1	S. Lawrey	JD/gen bio	63	12	Clear
3/11/2005	P1	S. Lawrey	JD/gen bio	64	7	Clear
3/17/2005	P1	S. Lawrey	JD/gen bio	59	15	Partly Cloudy
5/12/2005	P1	S. Lawrey	DT/BUOW	72	12	Clear
5/14/2005	P1	S. Lawrey	DT/BUOW	74	8	Clear
5/17/2005	P1	S. Lawrey	DT/BUOW	68	20	High Clouds
5/24/2005	P1	S. Lawrey	DT/BUOW	81	18	cloudy
6/14/2005	P1	S. Lawrey	DT/BUOW	91	5	cloudy
6/16/2005	P1	D. Smith	DT/BUOW	86	10	Partly Cloudy
6/16/2005	P1	S. Lawrey	DT/BUOW	86	10	Partly Cloudy
6/17/2005	P1	D. Smith	DT/BUOW	84	22	High Clouds
6/18/2005	P1	D. Smith	DT/BUOW	81	20	High Clouds
6/21/2005	P1	Kegarice & Smith	DT/BUOW	90	25	Partly Cloudy
6/22/2005	P1	Kegarice & Smith	DT/BUOW	92	18	Partly Cloudy
6/23/2005	P1	Kegarice & Smith	DT/BUOW	91	20	High Clouds
6/24/2005	P1	Kegarice & Smith	DT/BUOW	89	25	Clear
6/24/2005	P1	S. Lawrey	JD	89	25	Clear
6/25/2005	P1	Kegarice & Smith	DT/BUOW	87	20	Clear
6/28/2005	P1	Kegarice & Smith	DT/BUOW	92	15	Clear
6/29/2005	P1	S. Lawrey	JD	86	10	High Clouds
7/1/2005	P1	M. Kegarice	DT/BUOW	101	8	Clear
7/2/2005	P1	M. Kegarice	DT/BUOW	97	10	Clear
7/5/2005	P1	S. Lawrey	JD	89	5	Clear
7/6/2005	P1	D. Smith	DT/BUOW	91	5	Clear
7/6/2005	P1	S. Lawrey	JD	91	5	Clear
7/7/2005	P1	D. Smith	DT/BUOW	93	7	Clear
7/7/2005	P1	S. Lawrey	JD	93	7	Clear
7/8/2005	P1	D. Smith	DT/BUOW	90	gusty	Clear
7/8/2005	P1	S. Lawrey	JD	90	gusty	Clear
7/9/2005	P1	D. Smith	DT/BUOW	94	20	Clear
7/12/2005	P1	Kegarice & Smith	DT/BUOW	95	15	High Clouds

Survey Date	Parcel	Surveyor	What was surveyed for	Temp. (OF)	Wind (MPH)	Skies
7/13/2005	P1	Kegarice & Smith	DT/BUOW	95	10	High Clouds
7/14/2005	P1	Kegarice & Smith	DT/BUOW	100	5	Partly Cloudy
7/15/2005	P1	Kegarice & Smith	DT/BUOW	98	15	cloudy
7/16/2005	P1	Kegarice & Smith	DT/BUOW	97	10	Overcast
7/19/2005	P1	M. Kegarice	DT/BUOW	101	0	High Clouds
7/20/2005	P1	M. Kegarice	DT/BUOW	93	0	High Clouds
7/21/2005	P1	M. Kegarice	DT/BUOW	95	5	High Clouds
7/26/2005	P1	S. Lawrey	JD	96	5	Clear
7/27/2005	P1	D. Smith	DT/BUOW	96	12	Clear
7/28/2005	P1	D. Smith	DT/BUOW	95	5	Clear
7/29/2005	P1	D. Smith	DT/BUOW	94	10	Clear
7/30/2005	P1	D. Smith	DT/BUOW	95	15	Clear
8/2/2005	P1	D. Smith	DT/BUOW	93	5	Clear
8/2/2005	P1	S. Lawrey	JD	93	5	Clear
8/3/2005	P1	M. Kegarice	DT/BUOW	91	5	Clear
8/4/2005	P1	M. Kegarice	DT/BUOW	90	5	Clear
8/5/2005	P1	M. Kegarice	DT/BUOW	89	10	High Clouds
8/6/2005	P1	M. Kegarice	DT/BUOW	87	10	High Clouds
8/9/2005	P1	D. Smith	DT/BUOW	93	5	Clear
8/10/2005	P1	D. Smith	DT/BUOW	92	5	Clear
8/11/2005	P1	D. Smith	DT/BUOW	93	15	Clear
8/12/2005	P1	D. Smith	DT/BUOW	94	10	Clear
8/13/2005	P1	D. Smith	DT/BUOW	91	20	High Clouds
9/7/2005	P1	L. LaPierre	DT/BUOW	90	18	Partly Cloudy
9/8/2005	P1	L. LaPierre	DT/BUOW	89	25	Overcast
4/13/2007	P1	Kegarice & Smith	DT/BUOW	55	5	High Clouds
4/14/2007	P1	Kegarice & Smith	DT/BUOW	58	5	Partly Cloudy
4/15/2007	P1	M. Kegarice	DT/BUOW	48	10	Overcast
4/16/2007	P1	M. Kegarice	DT/BUOW	62	10	Overcast
4/17/2007	P1	M. Kegarice	DT/BUOW	69	5	High Clouds
4/18/2007	P1	D. Smith	DT/BUOW	50	20	Clear
4/19/2007	P1	D. Smith	DT/BUOW	53	20	Clear
4/20/2007	P1	D. Smith	DT/BUOW	49	15	Clear
4/21/2007	P1	Kegarice & Smith	DT/BUOW	53	10	Clear
4/23/2007	P1	D. Smith	DT/BUOW	65	10	Clear
4/24/2007	P1	D. Smith	DT/BUOW	69	5	Clear
4/25/2007	P1	D. Smith	DT/BUOW	74	10	High Clouds
4/26/2007	P1	S. Lawrey	DT/BUOW	80	5	High Clouds
4/27/2007	P1	S. Lawrey	DT/BUOW	85	5	High Clouds
4/28/2007	P1	S. Lawrey	DT/BUOW	90	8	High Clouds
4/29/2007	P1	S. Lawrey	DT/BUOW	90	8	High Clouds
5/1/2007	P1	Kegarice & Smith	DT/BUOW	71	15	Clear

Survey Date	Parcel	Surveyor	What was surveyed for	Temp. (OF)	Wind (MPH)	Skies
5/2/2007	P1	Kegarice & Smith	DT/BUOW	74	10	Clear
5/3/2007	P1	Kegarice & Smith	DT/BUOW	65	15	Clear
5/4/2007	P1	Kegarice & Smith	DT/BUOW	55	15	Clear
5/5/2007	P1	Kegarice & Smith	DT/BUOW	66	5	Clear
5/6/2007	P1	Kegarice & Smith	DT/BUOW	70	5	Clear
5/8/2007	P1	D. Smith	DT/BUOW	81	5	Clear
5/9/2007	P1	D. Smith	DT/BUOW	84	10	Clear
5/10/2007	P2	M. Kegarice	DT/BUOW	81	10	Clear
5/11/2007	P2	M. Kegarice	DT/BUOW	78	20	Clear
5/12/2007	P2	M. Kegarice	DT/BUOW	79	15	Clear
5/13/2007	P2	Kegarice & Smith	DT/BUOW	79	10	Clear
5/16/2007	P2	Kegarice & Smith	DT/BUOW	85	5	Clear
6/15/2007	P2	S. Lawrey	Gen Bio/ JD	84	25	Clear
6/16/2007	P2	S. Lawrey	Gen Bio/ JD	86	20	Clear
6/17/2007	P2	S. Lawrey	Gen Bio/ JD	83	10	High Clouds
6/28/2007	P2	S. Lawrey	Gen Bio/ JD	91	5	Clear
7/8/2007	P2	D. Smith	DT/BUOW	84	5	Clear
7/9/2007	P2	D. Smith	DT/BUOW	92	5	Clear
8/2/2007	P2	S. Lawrey	DT	94	5	Clear
8/3/2007	P2	S. Lawrey	DT	98	10	Clear
8/4/2007	P2	C.J. Fotheringham	botanical	97	10	Clear
8/4/2007	P2	S. Lawrey	DT	97	10	Clear
8/22/2007	P2	S. Lawrey	Gen Bio/ JD	94	15	Clear
8/24/2007	P2	S. Lawrey	Gen Bio/ JD	96	10	Clear
8/27/2007	P2	S. Lawrey	Gen Bio/ JD	81	5	Overcast
8/28/2007	P2	S. Lawrey	Gen Bio/ JD	87	5	High Clouds
8/29/2007	P2	S. Lawrey	Gen Bio/ JD	101	0	High Clouds
8/30/2007	P2	S. Lawrey	Gen Bio/ JD	91	0	High Clouds
8/31/2007	P2	S. Lawrey	Gen Bio/ JD	86	0	Overcast
9/1/2007	P2	Kegarice & Smith	DT/BUOW	98	5	Overcast
9/2/2007	P2	Kegarice & Smith	DT/BUOW	93	5	High Clouds
9/3/2007	P2	D. Smith	DT/BUOW	88	5	High Clouds
9/3/2007	P2	S. Lawrey	DT/JD	88	5	High Clouds
9/4/2007	P2	D. Smith	DT/BUOW	93	10	Partly Cloudy
9/4/2007	P2	S. Lawrey	DT/JD	93	10	Partly Cloudy
9/5/2007	P2	S. Lawrey	DT/JD	75	15	Overcast
9/6/2007	P2	M. Kegarice	DT/BUOW	77	20	Partly Cloudy
9/8/2007	P2	M. Kegarice	DT/BUOW	78	15	High Clouds
9/9/2007	P2	Kegarice & Smith	DT/BUOW	81	15	High Clouds
9/11/2007	P2	Kegarice & Smith	DT/BUOW	87	10	High Clouds

**Table 3: SUMMARY OF JURISDICTIONAL AREAS**

<b>Location</b>	<b>CDFG Jurisdiction (acre)</b>	<b>Potential ACOE Jurisdiction (acre)</b>
Parcel 1A	1.31	1
Parcel 1B	0.89	0.89
Parcel 1C	2.07	1.89
Parcel 1D	0.32	0.2
<b>Total Phase 1</b>	<b>4.59</b>	<b>3.98</b>
Parcel 2 A	0.25	0.25
Parcel 2 B	1.34	1.34
Parcel 2 C	0.21	0.21
<b>Total Phase 2</b>	<b>1.71</b>	<b>1.71</b>
<b>Total Project Area</b>	<b>6.3</b>	<b>5.69</b>

**Table 4: OBSERVED FAUNA**

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**Birds**

<u>Scientific Name</u>	<u>Common Name</u>
Accipitridae <i>Buteo jamaicensis</i>	Hawks, Old World Vultures and Harriers red-tailed hawk
Columbidae <i>Zenaida macroura</i>	Pigeons and Doves mourning dove
Trochilidae <i>Calypte anna</i>	Hummingbirds Anna's hummingbird
Tyrannidae <i>Sayornis saya</i>	Tyrant Flycatchers Say's phoebe
Laniidae <i>Lanius ludovicianus</i>	Shrikes loggerhead shrike
Corvidae <i>Corvus corax</i>	Jays, Magpies and Crows common raven
Alaudidae <i>Eremophila alpestris</i>	Larks horned lark
Remizidae <i>Auriparus flaviceps</i>	Verdin verdin
Mimidae <i>Mimus polyglottos</i>	Mockingbirds and Thrashers northern mockingbird
Emberizidae <i>Amphispiza belli</i>	Emberizines sage sparrow

**Reptiles**

<u>Scientific Name</u>	<u>Common Name</u>
Phrynosomatidae <i>Uta stansburiana</i>	side-blotched lizard
Teiidae <i>Aspidoscelis</i> [ <i>Cnemidophorus</i> ] <i>tigris tigris</i>	Whiptails and Relatives Great Basin whiptail

**Mammals**

Scientific Name

Common Name

Leporidae

*Lepus californicus*

Rabbits and Hares

black-tailed (hare) jackrabbit

Sciuridae

*Ammospermophilus leucurus*

*Spermophilus beecheyi*

Squirrels

white-tailed antelope ground squirrel

California ground squirrel

Heteromyidae

*Dipodomys merriami*

Kangaroo rats

Merriam's kangaroo rat

Canidae

*Canis latrans*

*Canis lupus familiaris*

Foxes, Wolves and Relatives

coyote

dog

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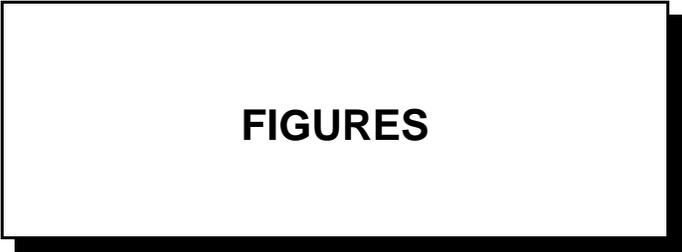
**Table 5: OBSERVED FLORA**

Family	Species	Parcel 1	Parcel 2	Quail Spring
Agavaceae	<i>Yucca brevifolia</i>	X	X	X
Agavaceae	<i>Yucca schidigera</i>	X	X	X
Agavaceae	<i>Yucca whipplei</i>	X	X	X
Lilaceae	<i>Dichelostemma capitatum</i>	X		
Asteraceae	<i>Ambrosia dumosa</i>	X	X	
Asteraceae	<i>Artemisia californica</i>		X	X
Asteraceae	<i>Chaenactis fremontii</i>	X		
Asteraceae	<i>Coreopsis californica</i>	X		
Asteraceae	<i>Ericameria cuneata</i>	X	X	
Asteraceae	<i>Ericameria laricifolia</i>	X	X	
Asteraceae	<i>Gutierrezia microcephala</i>	X	X	
Asteraceae	<i>Hymenoclea salsola</i>	X	X	
Asteraceae	<i>Malacothrix glabrata</i>	X		
Asteraceae	<i>Rafinesquia neomexicana</i>	X		
Asteraceae	<i>Tetradymia spinosa</i>	X	X	
Boraginaceae	<i>Amsinckia tessellata</i>	X		
Boraginaceae	<i>Cryptantha angustifolia</i>	X		
Boraginaceae	<i>Cryptantha barbiger</i>	X		
Boraginaceae	<i>Pectocarya heterocarpa</i>	X		
Boraginaceae	<i>Plagiobothrys arizonicus</i>	X		
Brassicaceae	* <i>Brassica tournefortii</i>	X		
Brassicaceae	* <i>Capsella bursa-pastoris</i>			X
Brassicaceae	<i>Caulanthus cooperi</i>	X		
Brassicaceae	<i>Descurainia pinnata</i>	X		
Brassicaceae	* <i>Sisymbrium altissimum</i>			X
Brassicaceae	* <i>Sisymbrium irio</i>			X
Brassicaceae	<i>Thysanocarpus curvipes</i>	X		
Cactaceae	<i>Echinocactus polycephalus</i>	X	X	

Family	Species	Parcel 1	Parcel 2	Quail Spring
Cactaceae	<i>Echinocereus</i> sp.	X	X	
Cactaceae	<i>Opuntia acanthocarpa</i>	X	X	
Cactaceae	<i>Opuntia basilaris</i> var. <i>basilaris</i>	X	X	
Cactaceae	<i>Opuntia echinocarpa</i>	X		
Cactaceae	<i>Opuntia ramosissima</i>	X	X	
Chenopodiaceae	<i>Atriplex canescens</i>	X	X	
Ephedraceae	<i>Ephedra</i> sp.	X	X	
Fabaceae	<i>Lotus strigosus</i>	X		
Fabaceae	<i>Lupinus arizonicus</i>	X		
Fabaceae	<i>Lupinus concinnus</i>	X		
Fabaceae	<i>Lupinus sparsiflorus</i>	X		
Geraniaceae	* <i>Erodium cicutarium</i>	X		X
Hydrophyllaceae	<i>Emmenanthe penduliflora</i>	X		
Hydrophyllaceae	<i>Eucrypta chrysanthemifolia</i>	X		
Hydrophyllaceae	<i>Phacelia campanularia</i>	X		
Hydrophyllaceae	<i>Phacelia distans</i>	X		
Lamiaceae	<i>Salazaria mexicana</i>	X	X	
Lamiaceae	<i>Salvia columbariae</i>	X		
Loasaceae	<i>Mentzelia affinis</i>	X		
Malvaceae	<i>Sphaeralcea ambigua</i>		X	
Nyctaginaceae	<i>Mirabilis bigelovii</i>	X		
Nyctaginaceae	<i>Mirabilis californica</i>	X	X	
Onagraceae	<i>Camissonia pallida</i>	X		
Onagraceae	<i>Camissonia californica</i>	X		
Poaceae	* <i>Bromus madritensis</i>	X		
Poaceae	* <i>Bromus tectorum</i>	X		
Poaceae	<i>Achnatherum speciosum</i>		X	
Poaceae	<i>Aristida</i> sp.		X	
Poaceae	<i>Melica</i> sp.		X	
Poaceae	* <i>Schismus barbatus</i>	X		

<b>Family</b>	<b>Species</b>	<b>Parcel 1</b>	<b>Parcel 2</b>	<b>Quail Spring</b>
Polemoniaceae	<i>Gilia</i> sp	X		
Polygonaceae	<i>Centrostegia thurberi</i>	X		
Polygonaceae	<i>Eriogonum fasciculatum</i>	X	X	
Polygonaceae	<i>Eriogonum inflatum</i>	X		
Portulacaceae	<i>Calyptridium monandrum</i>			X
Rosaceae	<i>Coleogyne ramosissima</i>	X	X	
Rosaceae	<i>Prunus fasciculata</i>	X		
Rutaceae	<i>Thamnosma montana</i>	X	X	
Salicaceae	<i>Populus fremontii</i> ssp. <i>fremontii</i>			X
Scrophulariaceae	<i>Castilleja angustifolia</i>	X		
Scrophulariaceae	<i>Mimulus cardinalis</i>			X
Typhaceae	<i>Typha domingensis</i>			X
Zygophyllaceae	<i>Larrea tridentata</i>	X		
Zygophyllaceae	<i>Larrea tridentata</i>		X	

\* denotes non-native



**FIGURES**

FIGURE 1. Regional Location

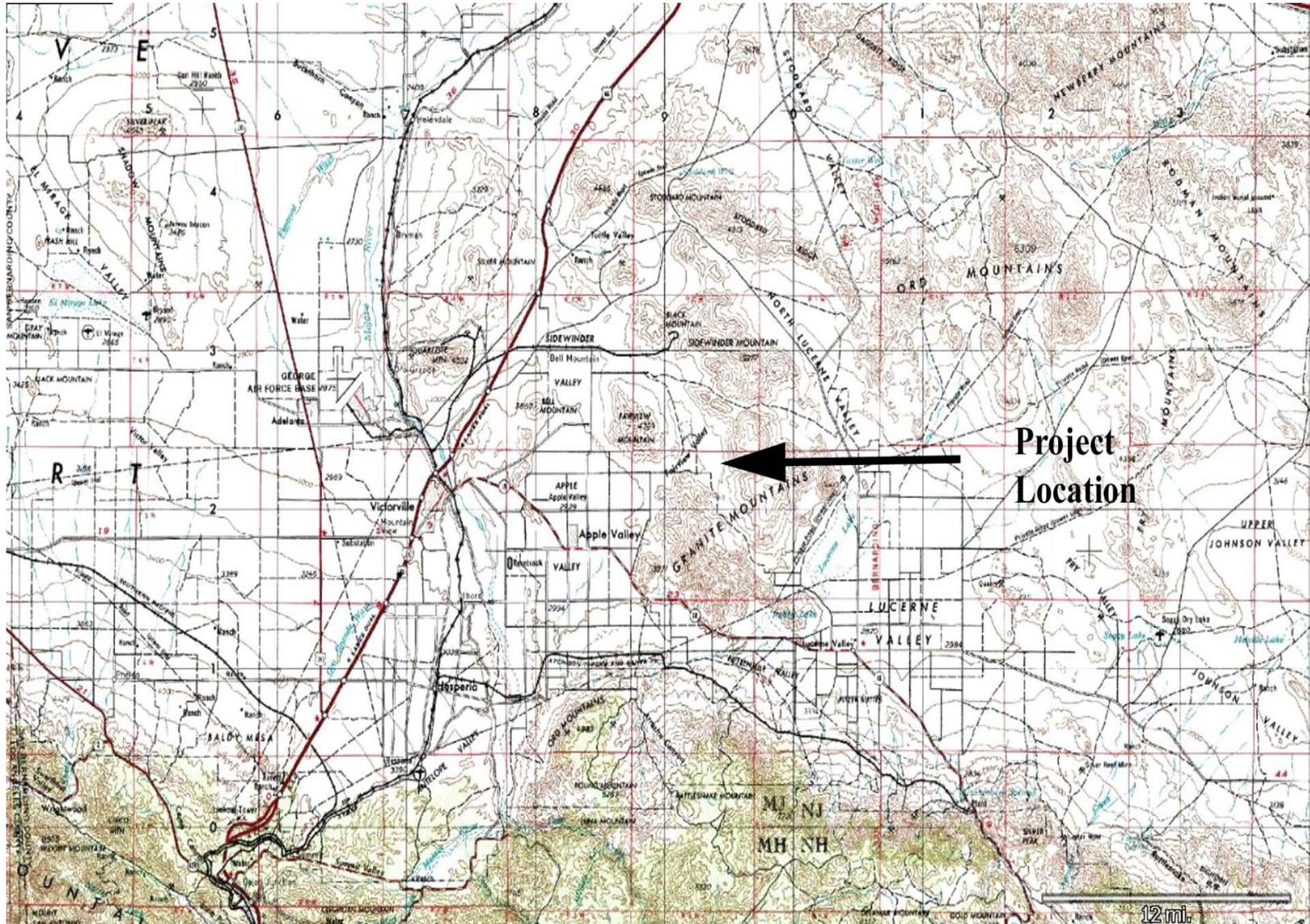
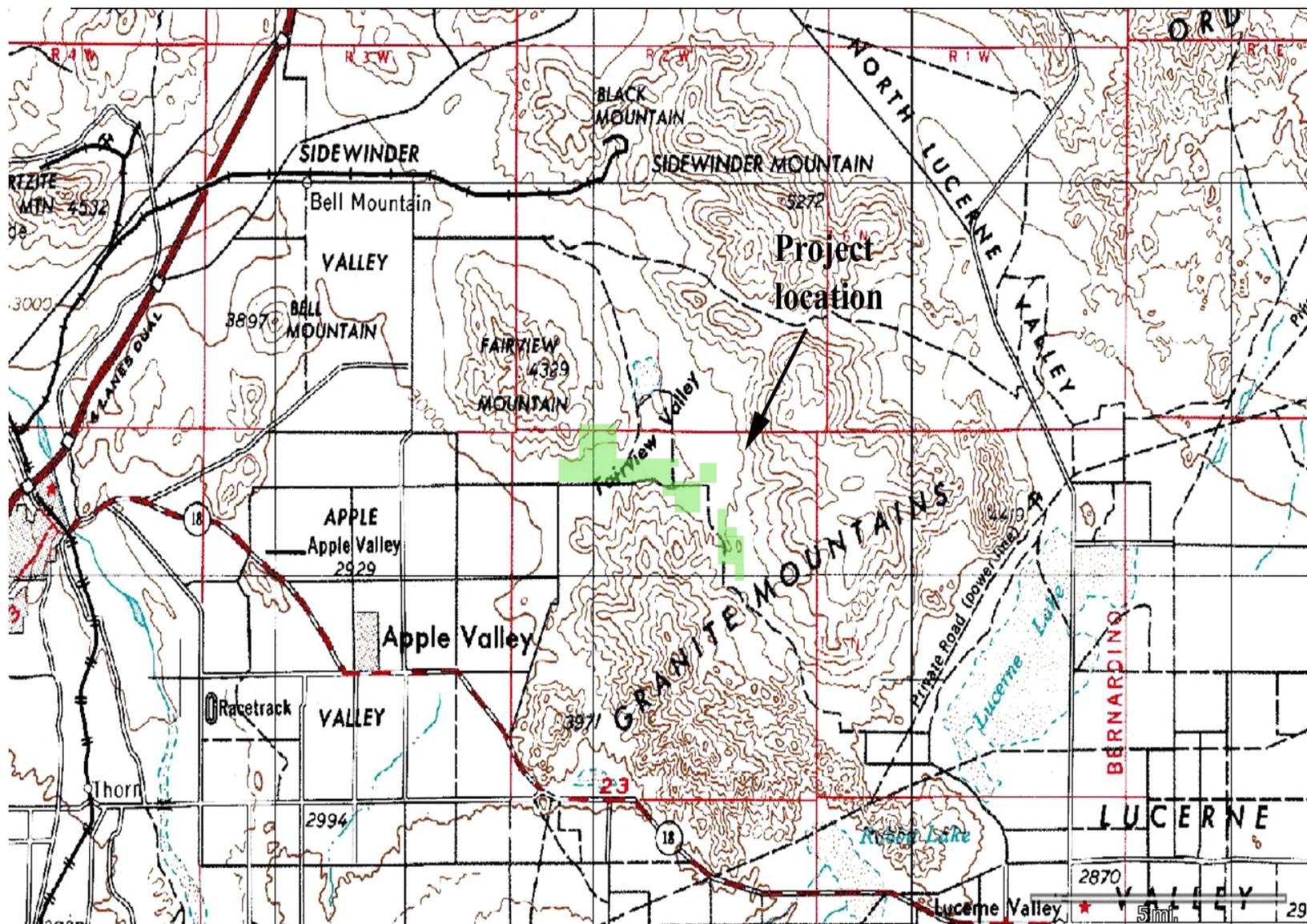
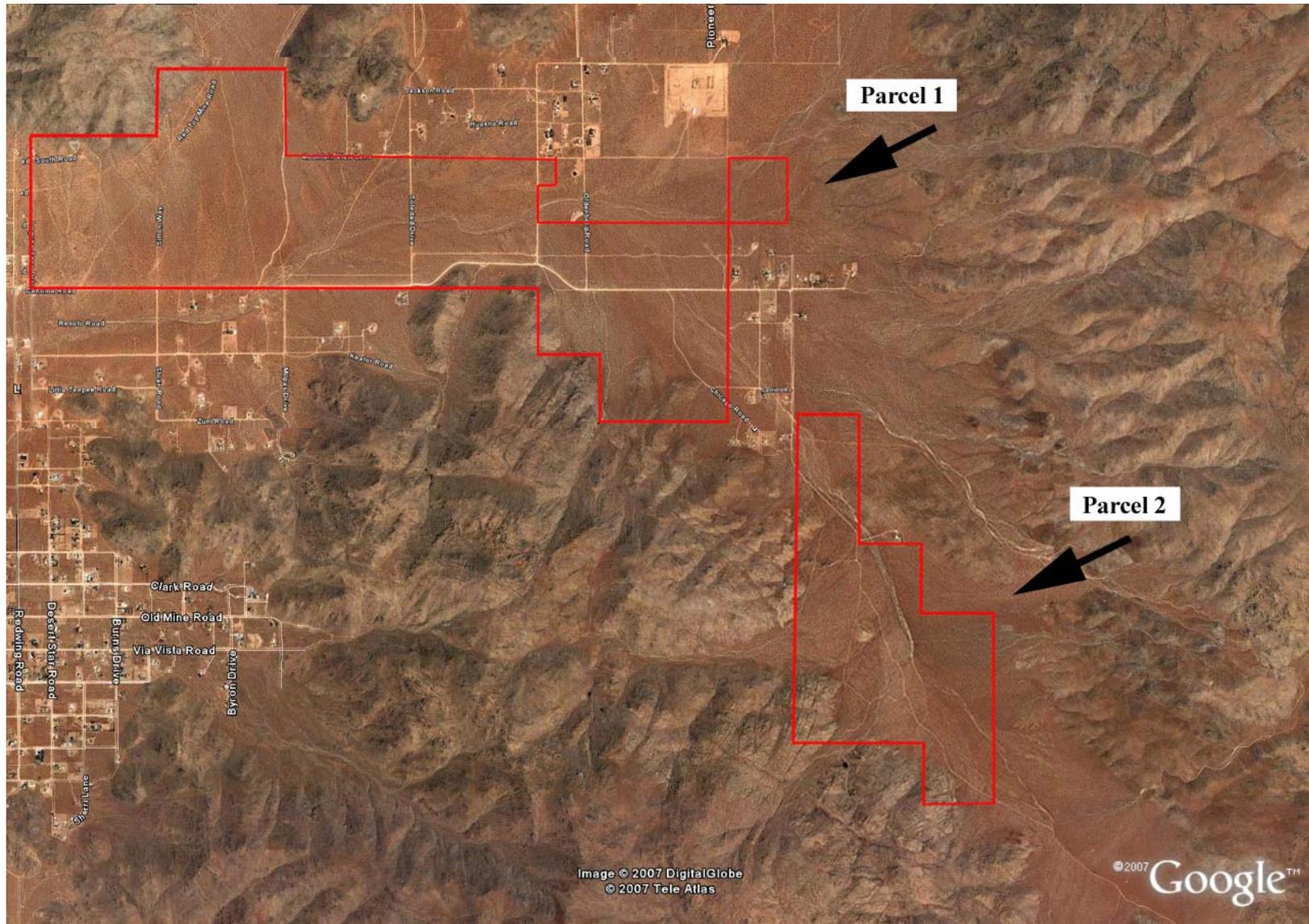


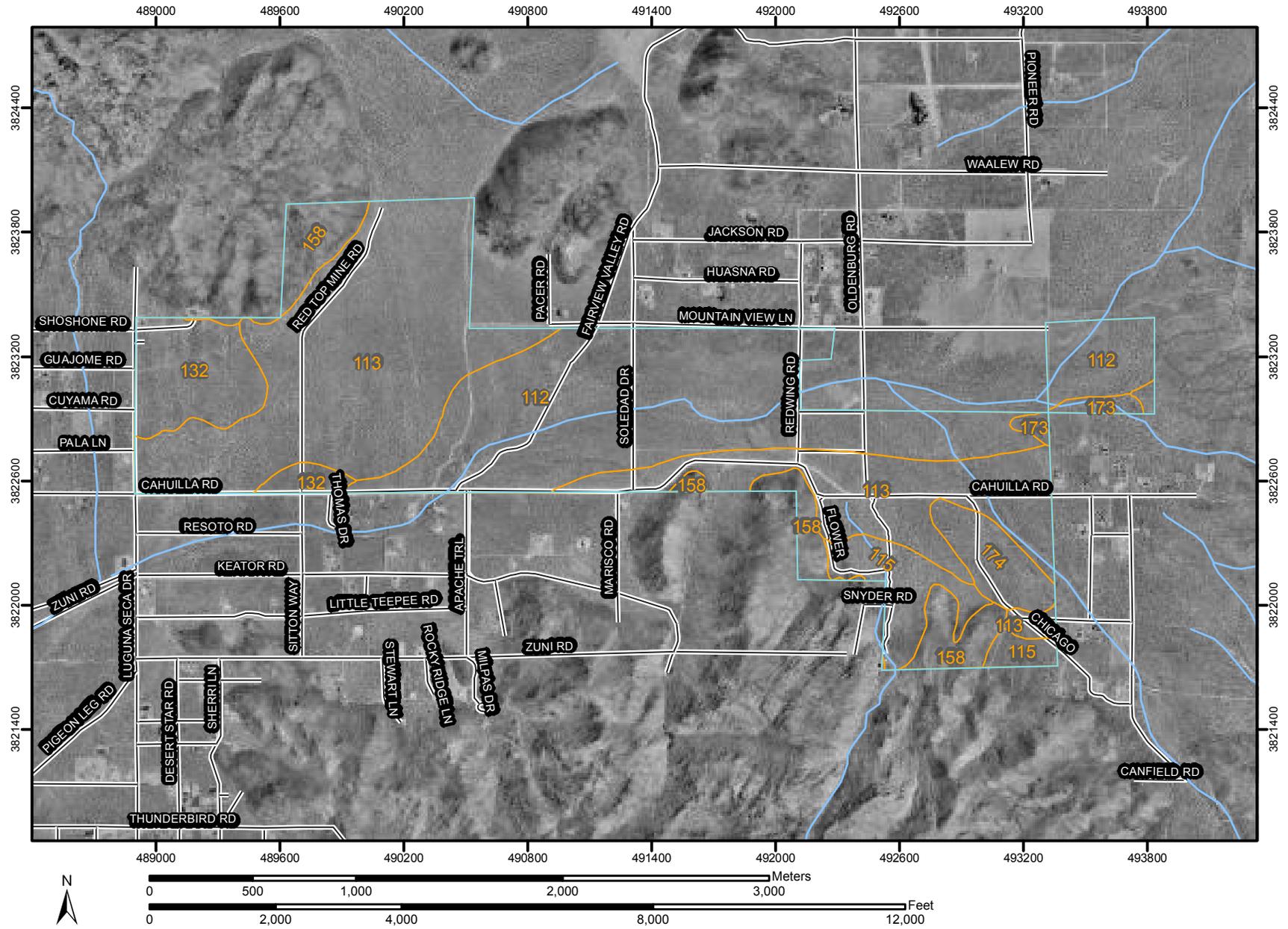
FIGURE 2. Project Vicinity



**FIGURE 3. Site Location**



**FIGURE 4. Soil Parcel 1**



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Units

### Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot
-  Spoil Area
-  Stony Spot

 Very Stony Spot

 Wet Spot

 Other

### Special Line Features

-  Gully
-  Short Steep Slope
-  Other

### Political Features

#### Municipalities

-  Cities
-  Urban Areas

### Water Features

-  Oceans
-  Streams and Canals

### Transportation

 Rails

### Roads

-  Interstate Highways
-  US Routes
-  State Highways
-  Local Roads
-  Other Roads

## MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
 Coordinate System: UTM Zone 11N

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

Soil Survey Area: San Bernardino County, California, Mojave River Area  
 Survey Area Data: Version 3, Jan 5, 2007

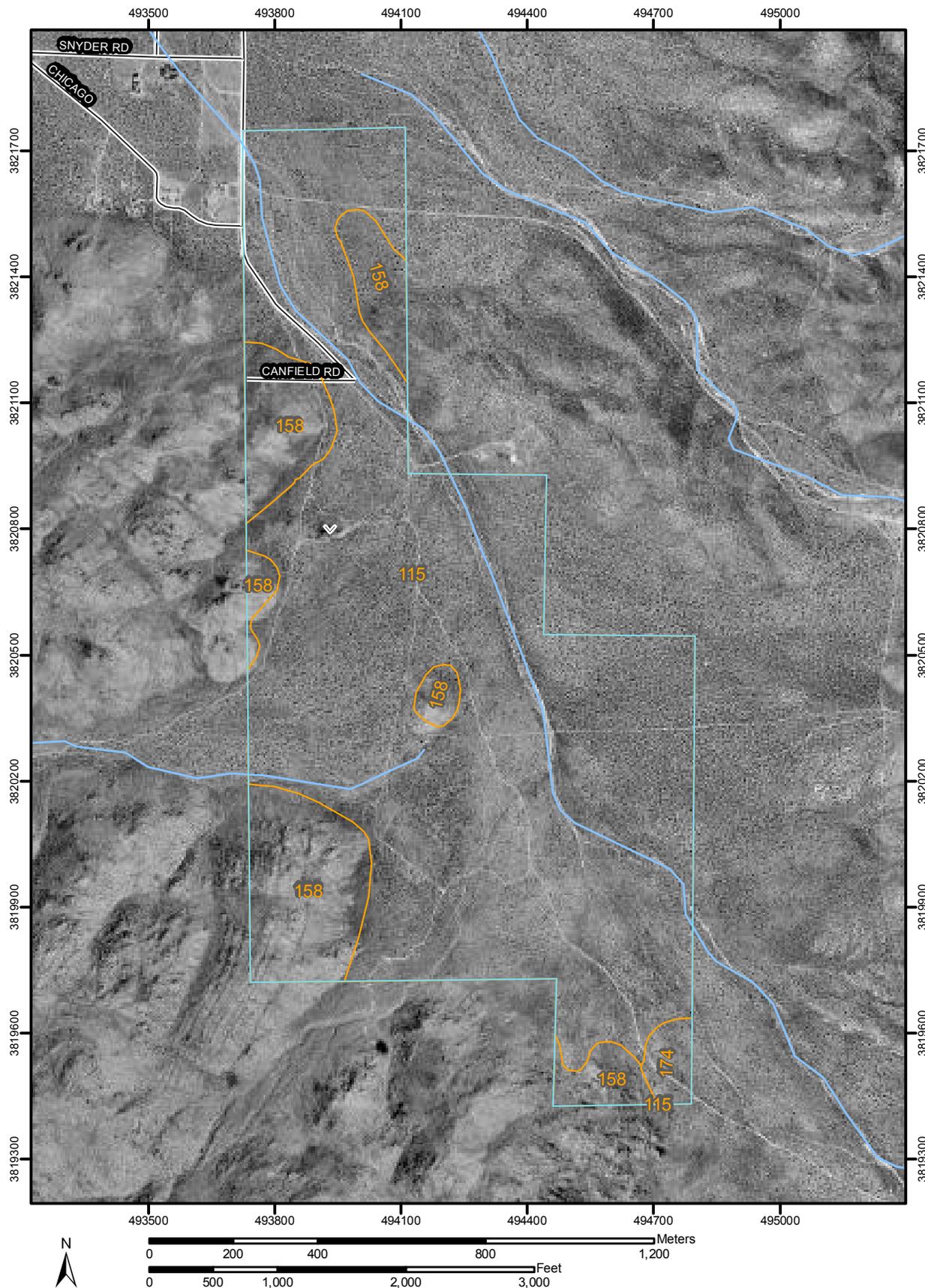
Date(s) aerial images were photographed: 5/29/1994; 5/31/1994; 10/7/1995

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

San Bernardino County, California, Mojave River Area (CA671)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
112	CAJON SAND, 0 TO 2 PERCENT SLOPES	399.8	34.0%
113	CAJON SAND, 2 TO 9 PERCENT SLOPES	492.9	41.9%
115	CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES	62.5	5.3%
132	HELENDALE LOAMY SAND, 2 TO 5 PERCENT SLOPES	86.2	7.3%
158	ROCK OUTCROP-LITHIC TORRIORTHENTS COMPLEX, 15 TO 50 PERCENT SLOPES*	83.2	7.1%
173	WASCO SANDY LOAM, COOL, 0 TO 2 PERCENT SLOPES	12.5	1.1%
174	WASCO SANDY LOAM, COOL, 2 TO 5 PERCENT SLOPES	40.6	3.4%
Totals for Area of Interest (AOI)		1,177.6	100.0%

**FIGURE 5. Soil Parcel 2**



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Units

### Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot
-  Spoil Area
-  Stony Spot

 Very Stony Spot

 Wet Spot

 Other

### Special Line Features

-  Gully
-  Short Steep Slope
-  Other

### Political Features

#### Municipalities

-  Cities
-  Urban Areas

### Water Features

-  Oceans
-  Streams and Canals

### Transportation

 Rails

#### Roads

-  Interstate Highways
-  US Routes
-  State Highways
-  Local Roads
-  Other Roads

## MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
 Coordinate System: UTM Zone 11N

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

Soil Survey Area: San Bernardino County, California, Mojave River Area  
 Survey Area Data: Version 3, Jan 5, 2007

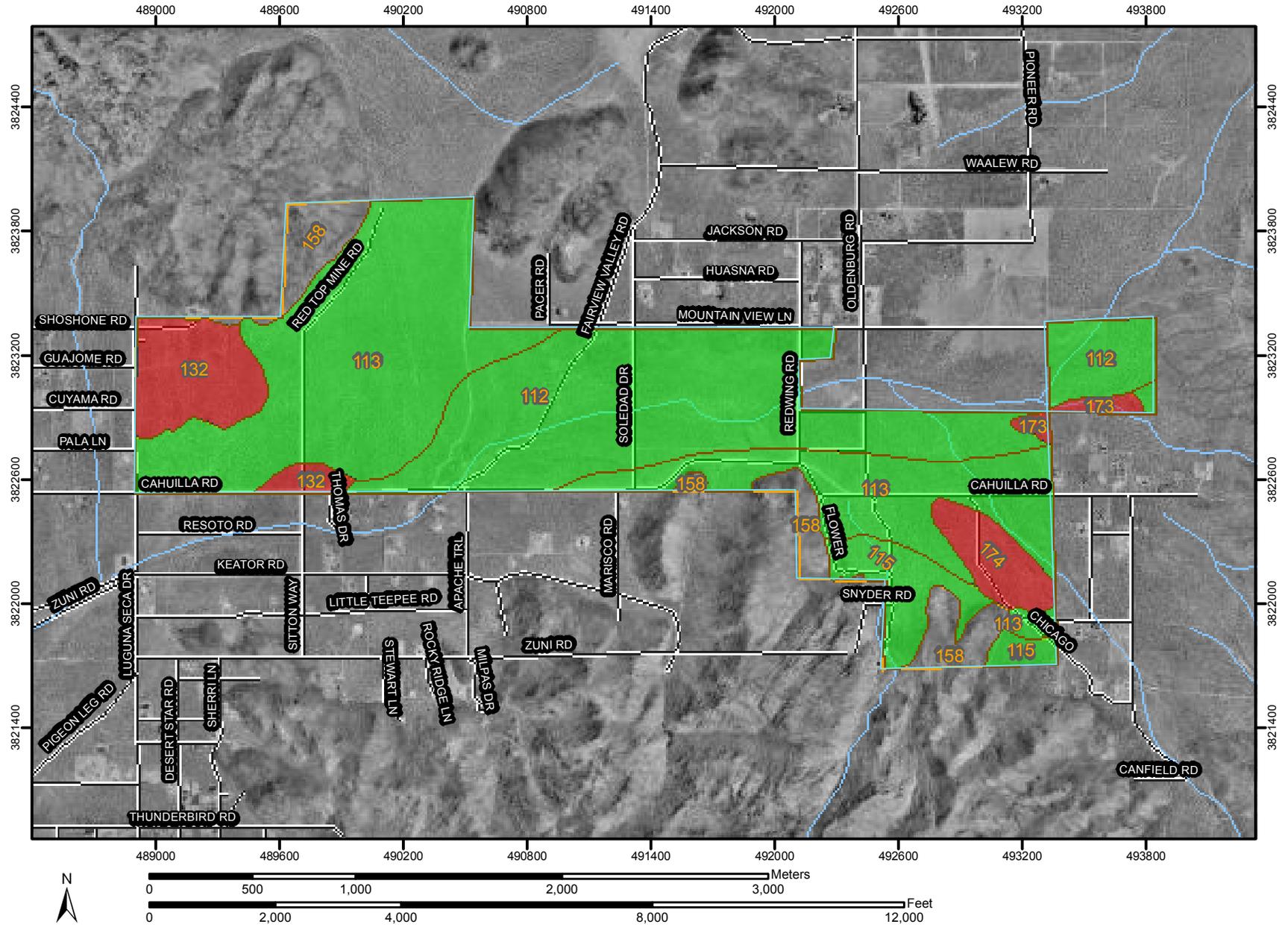
Date(s) aerial images were photographed: 5/29/1994; 5/31/1994

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

San Bernardino County, California, Mojave River Area (CA671)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
115	CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES	313.7	81.5%
158	ROCK OUTCROP-LITHIC TORRIORTHENTS COMPLEX, 15 TO 50 PERCENT SLOPES*	66.3	17.2%
174	WASCO SANDY LOAM, COOL, 2 TO 5 PERCENT SLOPES	5.1	1.3%
Totals for Area of Interest (AOI)		385.0	100.0%

**FIGURE 6. Desert Tortoise Habitat Suitability Map Parcel 1**



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Units

### Soil Ratings

 Well suited

 Suited

 Poorly suited

 not rated or not available

### Political Features

#### Municipalities

 Cities

 Urban Areas

### Water Features

 Oceans

 Streams and Canals

### Transportation

 Rails

### Roads

 Interstate Highways

 US Routes

 State Highways

 Local Roads

 Other Roads

## MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
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This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County, California, Mojave River Area  
Survey Area Data: Version 3, Jan 5, 2007

Date(s) aerial images were photographed: 5/29/1994; 5/31/1994; 10/7/1995

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Desert Tortoise (CA)

Desert Tortoise (CA)— Summary by Map Unit — San Bernardino County, California, Mojave River Area						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (rating values)	Acres in AOI	Percent of AOI
112	CAJON SAND, 0 TO 2 PERCENT SLOPES	Poorly suited	Cajon (85%)	Bulk density > 1.8g/cc >20" depth (0.00)	399.8	34.0%
				Not ponded (0.00)		
				Not too clayey in 0-30" depth (0.00)		
				Gypsum below 20" (0.00)		
				Flooding = none (0.00)		
113	CAJON SAND, 2 TO 9 PERCENT SLOPES	Poorly suited	Cajon (85%)	Bulk density > 1.8g/cc >20" depth (0.00)	492.9	41.9%
				Not ponded (0.00)		
				Not too clayey in 0-30" depth (0.00)		
				Gypsum below 20" (0.00)		
				Flooding = none (0.00)		
115	CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES	Poorly suited	Cajon, GRAVELLY SURFACE (85%)	Bulk density > 1.8g/cc >20" depth (0.00)	62.5	5.3%
				Not ponded (0.00)		
				Not too clayey in 0-30" depth (0.00)		
				Gypsum below 20" (0.00)		
				Depth to bedrock >20" (0.00)		

Desert Tortoise (CA)— Summary by Map Unit — San Bernardino County, California, Mojave River Area						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (rating values)	Acres in AOI	Percent of AOI
132	HELENDALE LOAMY SAND, 2 TO 5 PERCENT SLOPES	Well suited	Helendale (85%)	Bulk density > 1.8g/cc >20" depth (0.00)	86.2	7.3%
				Not ponded (0.00)		
				Not too sandy in 0-30" depth or textures not populated (0.00)		
				Not too clayey in 0-30" depth (0.00)		
				Gypsum below 20" (0.00)		
158	ROCK OUTCROP-LITHIC TORRIORTHE NTS COMPLEX, 15 TO 50 PERCENT SLOPES*	Not rated	Rock outcrop (60%)		83.2	7.1%
			Lithic Torriorthents (30%)			
			Sparkhule (4%)			
			Trigger (3%)			
			Rock outcrop (3%)			
173	WASCO SANDY LOAM, COOL, 0 TO 2 PERCENT SLOPES	Well suited	Wasco (85%)	Bulk density > 1.8g/cc >20" depth (0.00)	12.5	1.1%
				Not ponded (0.00)		
				Not too sandy in 0-30" depth or textures not populated (0.00)		
				Not too clayey in 0-30" depth (0.00)		
				Gypsum below 20" (0.00)		

Desert Tortoise (CA)— Summary by Map Unit — San Bernardino County, California, Mojave River Area						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (rating values)	Acres in AOI	Percent of AOI
174	WASCO SANDY LOAM, COOL, 2 TO 5 PERCENT SLOPES	Well suited	Wasco (85%)	Bulk density > 1.8g/cc >20" depth (0.00)	40.6	3.4%
				Not ponded (0.00)		
				Not too sandy in 0-30" depth or textures not populated (0.00)		
				Not too clayey in 0-30" depth (0.00)		
				Gypsum below 20" (0.00)		
Totals for Area of Interest (AOI)					1,177.6	100.0%

Desert Tortoise (CA)— Summary by Rating Value		
Rating	Acres in AOI	Percent of AOI
Poorly suited	955.3	81.1%
Well suited	139.2	11.8%
Null or Not Rated	83.2	7.1%

## Description

This interpretation gives information about the soils as potential habitat for the desert tortoise. It is intended to be used only in those soil survey areas that have the potential for desert tortoise habitat. The soils are rated according to their suitability for burrowing by desert tortoises. Burrows are considered a necessary part of the habitat.

This interpretation is intended to provide guidelines in the identification and selection of sites that have the best potential for preserving, maintaining, or increasing local populations of the desert tortoise. It is of a general nature. It is designed to be used in the planning process to identify areas of concern prior to the application of conservation practices. Based upon the wildlife objectives, these areas can be avoided or practices can be adjusted to minimize damage to the burrow habitat. The guide does not take into account climate or soil temperature, which may influence the presence or distribution patterns of a wildlife species. The presence or absence of a species is determined at the local level.

The interpretation provides suitability ratings and identifies the dominant soil characteristics that influence the suitability of a site for burrowing by desert tortoises. This information allows the user to plan and develop alternatives in site selection by identifying the site that best meets the wildlife habitat requirements.

Soils that are rated "well suited" have no restrictions and are favorable for burrowing by desert tortoises. Colonization and population densities may be above average if other habitat factors are not limiting. A rating of "suited" indicates that the soil is suitable for burrowing by desert tortoises and that some restrictive features may limit the use of the habitat. Colonization and population densities may be average if the other habitat requirements are met. A rating of "poorly suited" indicates that the soil characteristics may limit establishment, maintenance, or use of the soil by burrowing species. Colonization and population densities may be restricted by the limiting factors even though all the other species habitat requirements are met.

The final identification and selection of a site for burrowing by desert tortoises are determined by the limitations of the soils that influence excavation, maintenance, and preservation of the burrows. This interpretation identifies the soil-related restricting features that have the most significant effects on the habitat.

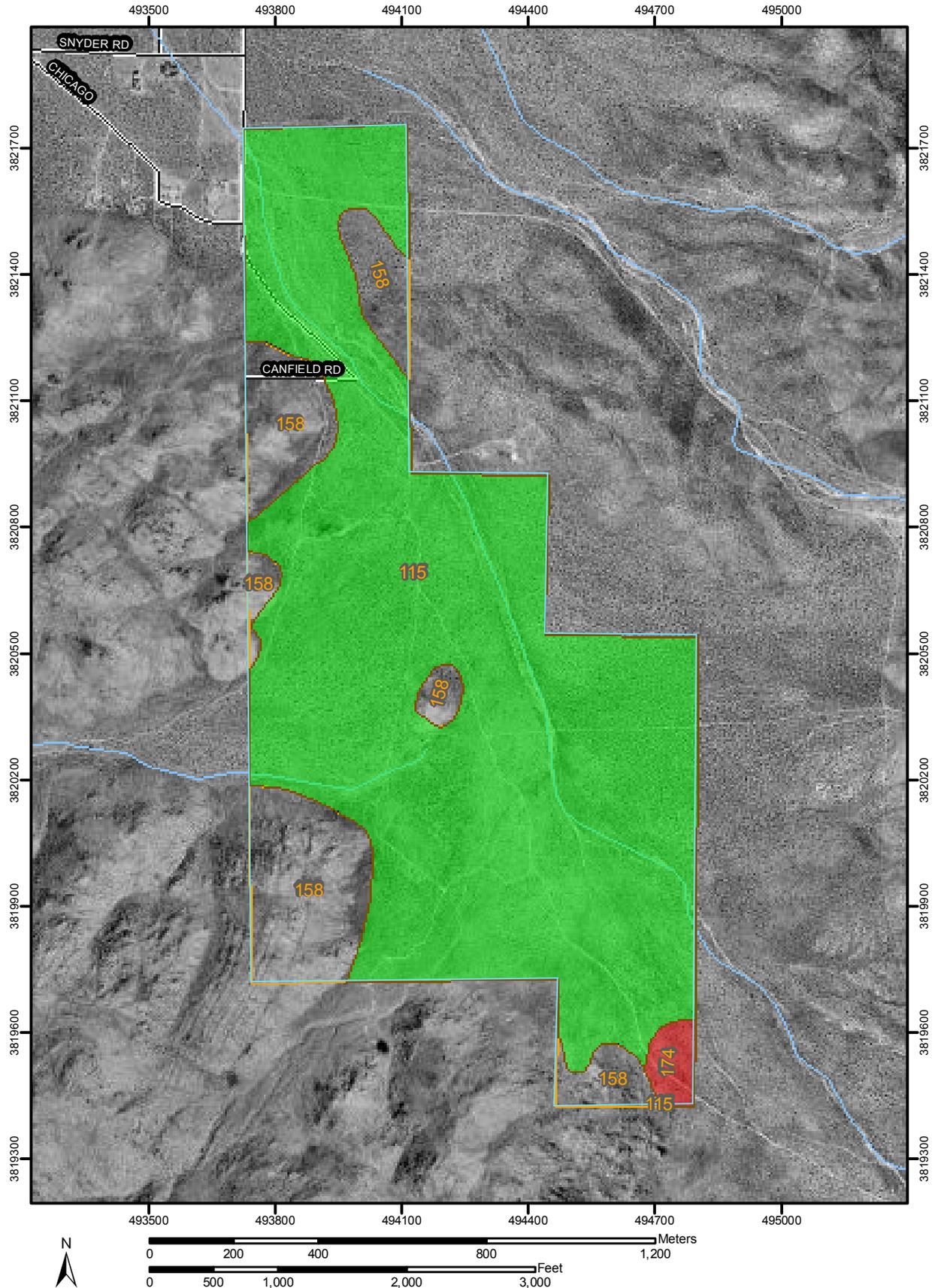
## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Lower

**FIGURE 7. Desert Tortoise Habitat Suitability Map Parcel 2**



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Units

### Soil Ratings

 Well suited

 Suited

 Poorly suited

 not rated or not available

### Political Features

#### Municipalities

 Cities

 Urban Areas

### Water Features

 Oceans

 Streams and Canals

### Transportation

 Rails

### Roads

 Interstate Highways

 US Routes

 State Highways

 Local Roads

 Other Roads

## MAP INFORMATION

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Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
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This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

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Survey Area Data: Version 3, Jan 5, 2007

Date(s) aerial images were photographed: 5/29/1994; 5/31/1994

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## Desert Tortoise (CA)

Desert Tortoise (CA)— Summary by Map Unit — San Bernardino County, California, Mojave River Area						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (rating values)	Acres in AOI	Percent of AOI
115	CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES	Poorly suited	Cajon, GRAVELLY SURFACE (85%)	Bulk density > 1.8g/cc >20" depth (0.00)	313.7	81.5%
				Not ponded (0.00)		
				Not too clayey in 0-30" depth (0.00)		
				Gypsum below 20" (0.00)		
158	ROCK OUTCROP-LITHIC TORRIORTHE NTS COMPLEX, 15 TO 50 PERCENT SLOPES*	Not rated	Rock outcrop (60%)		66.3	17.2%
			Lithic Torriorthents (30%)			
			Sparkhule (4%)			
			Trigger (3%)			
			Rock outcrop (3%)			
174	WASCO SANDY LOAM, COOL, 2 TO 5 PERCENT SLOPES	Well suited	Wasco (85%)	Bulk density > 1.8g/cc >20" depth (0.00)	5.1	1.3%
				Not ponded (0.00)		
				Not too sandy in 0-30" depth or textures not populated (0.00)		
				Not too clayey in 0-30" depth (0.00)		
				Gypsum below 20" (0.00)		

Totals for Area of Interest (AOI)	385.0	100.0%
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Desert Tortoise (CA)— Summary by Rating Value		
Rating	Acres in AOI	Percent of AOI
Poorly suited	313.7	81.5%
Well suited	5.1	1.3%

Desert Tortoise (CA)— Summary by Rating Value		
Rating	Acres in AOI	Percent of AOI
Null or Not Rated	66.3	17.2%

## Description

This interpretation gives information about the soils as potential habitat for the desert tortoise. It is intended to be used only in those soil survey areas that have the potential for desert tortoise habitat. The soils are rated according to their suitability for burrowing by desert tortoises. Burrows are considered a necessary part of the habitat.

This interpretation is intended to provide guidelines in the identification and selection of sites that have the best potential for preserving, maintaining, or increasing local populations of the desert tortoise. It is of a general nature. It is designed to be used in the planning process to identify areas of concern prior to the application of conservation practices. Based upon the wildlife objectives, these areas can be avoided or practices can be adjusted to minimize damage to the burrow habitat. The guide does not take into account climate or soil temperature, which may influence the presence or distribution patterns of a wildlife species. The presence or absence of a species is determined at the local level.

The interpretation provides suitability ratings and identifies the dominant soil characteristics that influence the suitability of a site for burrowing by desert tortoises. This information allows the user to plan and develop alternatives in site selection by identifying the site that best meets the wildlife habitat requirements.

Soils that are rated "well suited" have no restrictions and are favorable for burrowing by desert tortoises. Colonization and population densities may be above average if other habitat factors are not limiting. A rating of "suited" indicates that the soil is suitable for burrowing by desert tortoises and that some restrictive features may limit the use of the habitat. Colonization and population densities may be average if the other habitat requirements are met. A rating of "poorly suited" indicates that the soil characteristics may limit establishment, maintenance, or use of the soil by burrowing species. Colonization and population densities may be restricted by the limiting factors even though all the other species habitat requirements are met.

The final identification and selection of a site for burrowing by desert tortoises are determined by the limitations of the soils that influence excavation, maintenance, and preservation of the burrows. This interpretation identifies the soil-related restricting features that have the most significant effects on the habitat.

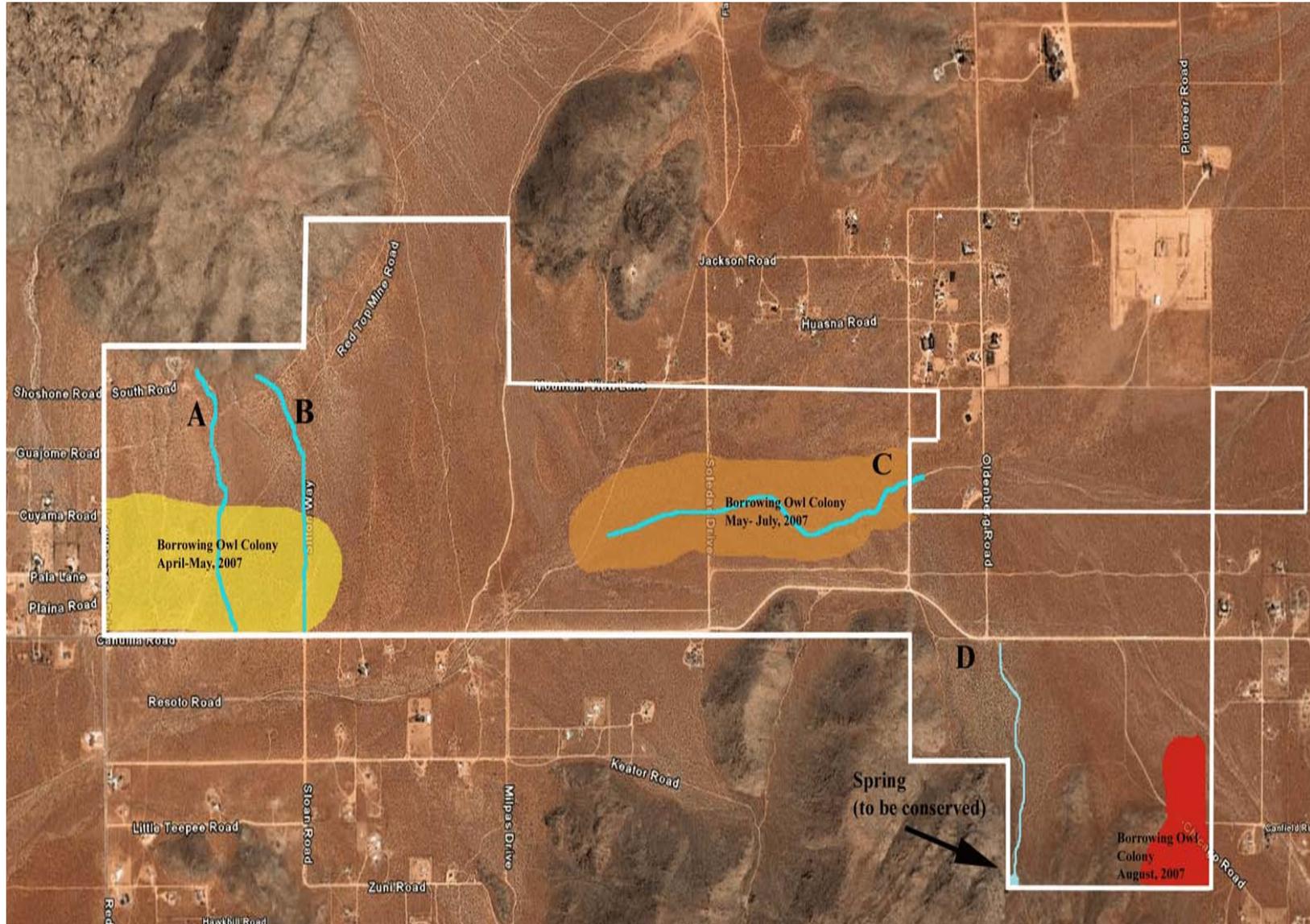
## Rating Options

*Aggregation Method:* Dominant Condition

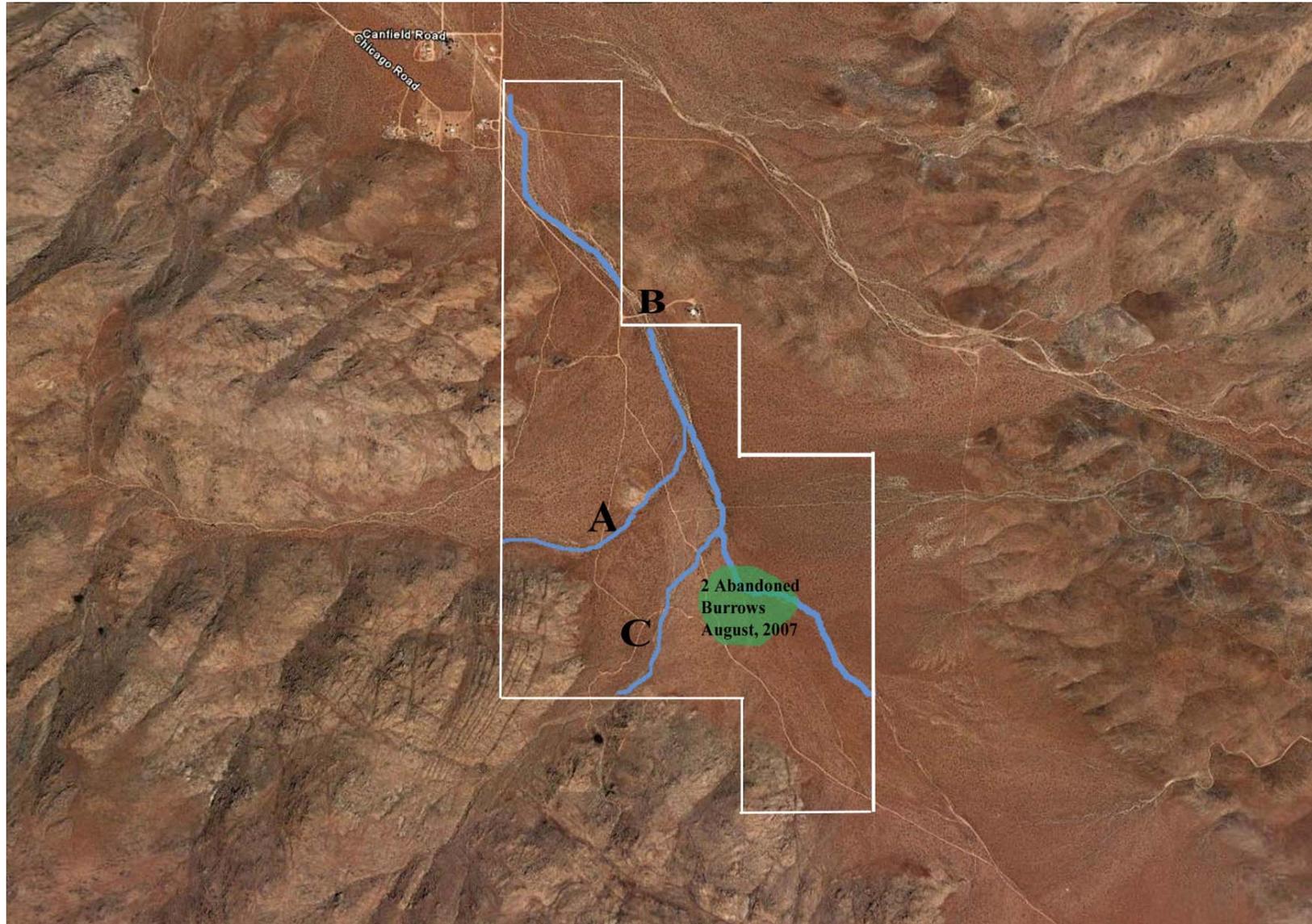
*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Lower

**FIGURE 8. Burrowing Owl Locations and Jurisdictional Delineation Map Parcel 1**



**FIGURE 9. Burrowing Owl Locations and Jurisdictional Delineation Map Parcel 2**





**SITE PHOTOS**



Photo 1. Parcel 1 mid-section looking south.



Photo 2. Natural spring on Parcel 1 southeast quarter.



Photo 3. Habitat representation of both parcels. Note: Joshua tree and creosote habitat.



Photo 4. Representative dry desert wash habitat.



Photo 5. Offsite spring adjacent to Parcel 2 at the southwest boundary.



Photo 6. Representative habitat Parcel 2 looking north.