

**BIOLOGICAL REPORT
FOR THE
DESERT GROVE PROJECT SITE**

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1.0 INTRODUCTION

The Desert Grove project site is located west of the Mojave River in the City of Victorville, San Bernardino County, California (Exhibit 1). The site is located approximately on the southwestern side of the intersection of Highway 395 and Highway 18 (Palmdale Road) (Exhibits 2 and 3). The corner of Fern Pine Street is located near the southwestern corner of the project site (Exhibits 2 and 3). Existing development is located adjacent the site at the northeastern corner and along the southern boundary. The site is within Section 21 SE of Township 5 North and Range 5 West of the Adelanto, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle.

A site assessment and biological surveys were conducted at the site at the request of Applied Planning, Inc. The surveys conducted in fall 2018 included all of the study area and consisted of;

- a general biological assessment,
- general plant and wildlife surveys,
- vegetation mapping,
- Joshua Tree mapping,
- habitat assessment for assessing potential for special status plant species¹,
- habitat assessment for assessing potential for special status wildlife species²,
and,
- wetland assessment.

Focused surveys for threatened, endangered and sensitive plant or wildlife species were not conducted as part of this assessment. However, focused surveys for special status plants, burrowing owl (*Athene cunicularia*), desert tortoise (*Gopherus agassizii*) and Mohave Ground Squirrel (*Xerospermophilus mohavensis*) will be conducted in spring 2019.

1.1 Site description

The entire Desert Grove project site consists of approximately 17 acres of disturbed undeveloped land, located at the edge of the built-up city limits. The project site has been significantly impacted due to years of disturbance, trash, off-road trails and footpaths. The site is flat with little topographical variation. Site topography varies from an elevation of approximately 3,139 feet above msl along the northeastern boundary to approximately 3,153 along the southwestern boundary of the site (Exhibit 3).

¹ Special status plant species = federal or state listed threatened or endangered species, or proposed endangered, threatened or candidate species, California Native Plant Society Species List (CNPS list 1-4), or otherwise sensitive species.

² Special status wildlife species = federal or state listed threatened or endangered species, or proposed endangered, threatened or candidate species, or otherwise sensitive species.

The site is in the western Mojave Desert, which has hot dry summers, mild winters, high winds and sparse winter rains. Annual precipitation for the region averages 5.6 inches, and average annual temperature ranges from 47^o to 76^o F. Rainfall during the 2017/2018 season was below normal throughout southern California (Appendix A).

1.2 Proposed project

The Desert Grove Retail Project proposes the development of approximately 98,768 square feet of commercial/retail uses configured as 10 pads, to be constructed in two Phases (Exhibit 4). The project includes all proposed facilities and all supporting improvements. Access to/from adjacent roads would be provided by four driveways.

Project landscape/hardscape would be required to conform to City requirements for commercial uses. Lighting, signs, parking and appropriate infrastructure/utilities are also included in the proposed project.

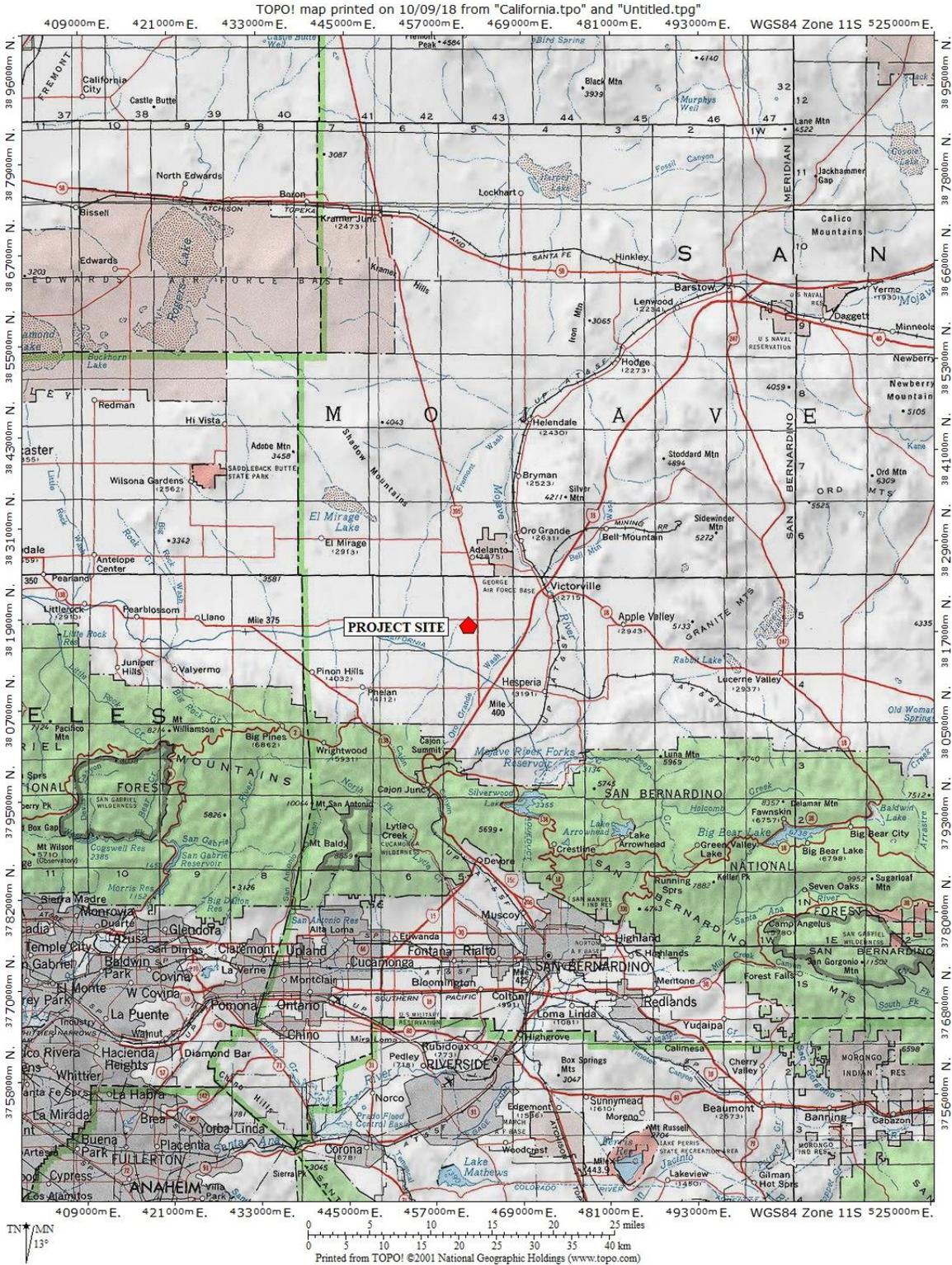


Exhibit 1: Location of the Desert Grove project site in San Bernardino County, southern California. Source: USGS Topographical quadrant: Adelanto.



Exhibit 2: Location of the Desert Grove project site (in red). Source: Google Earth, Inc.



Exhibit 3: Location of the Desert Grove project site (in red). Source: Google Earth, Inc.

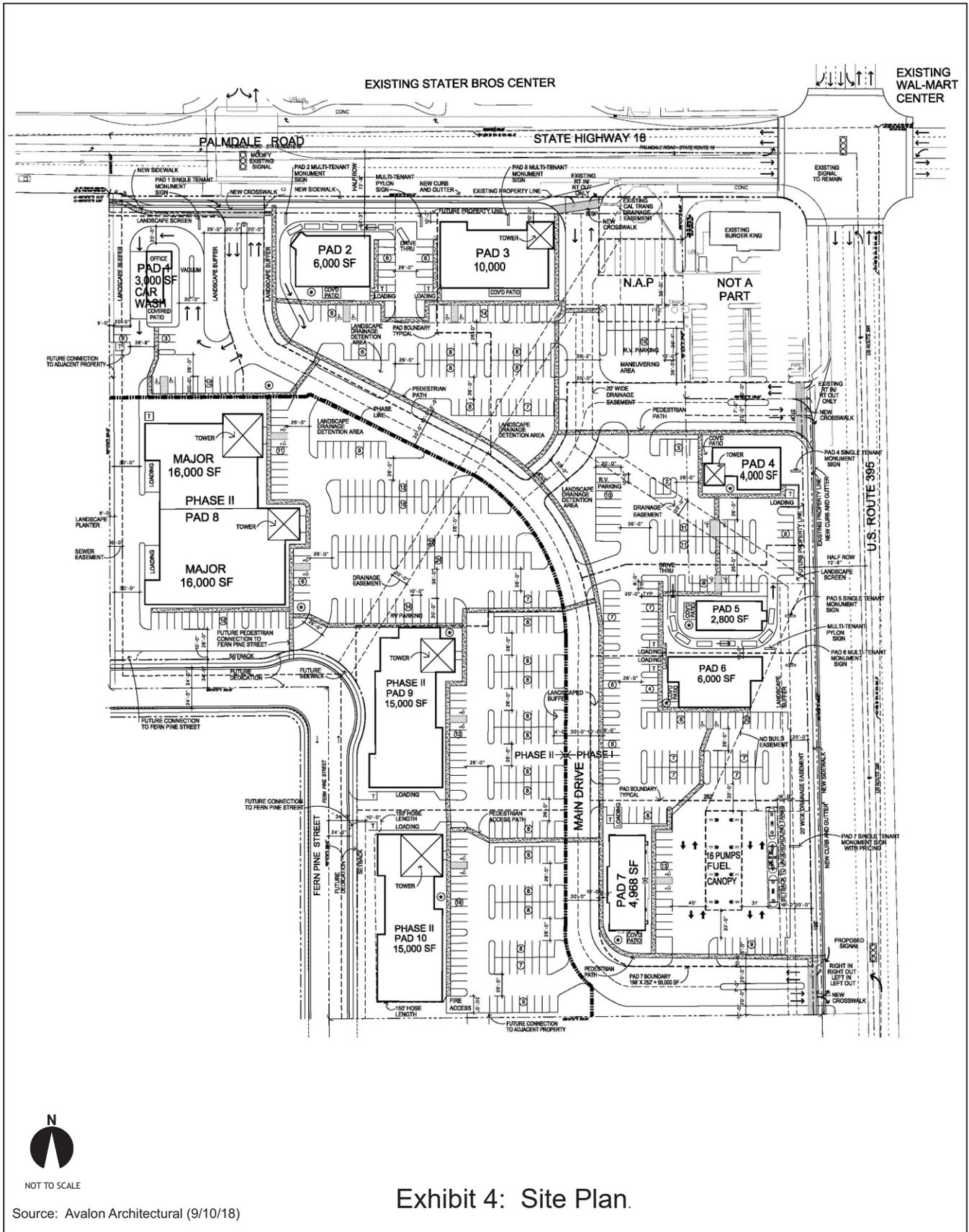


Exhibit 4: Site Plan.

Source: Avalon Architectural (9/10/18)

2.0 METHODS

2.1 Biological Resources Information sources

In addition to the site visit, field surveys, vegetation mapping, wildlife inventories, and habitat assessments information on the biological resources of the project site was obtained by reviewing existing available data. Databases such as the California Natural Diversity Database (CNDDDB 2018) and California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (Tibor 2001) were reviewed regarding the potential occurrence of any special status species or sensitive habitat within or in close proximity of the project site.

The resources used in this thorough archival review included the following;

- California Natural Diversity Data Base (CNDDDB) for the USGS 7.5' quadrangle which comprised the study area: Adelanto and neighboring quads for pertinent data,
- California Native Plant Society Inventory of rare and endangered vascular plants of California (Tibor 2001; CNPS On-line Inventory),
- Consortium of California Herbaria search for all collection records of CNPS List 1-4 taxa occurring within 30 km radius of the Project area,
- Reviewed CNPS list for San Bernardino County for all rare plant taxa occurring in desert habitats,
- Special Animals (including California Species of Special Concern), CDFW, Natural Heritage Division, August 2018,
- Special Vascular Plants, Bryophytes, and Lichens List, CDFW, Natural Heritage Division, August 2018,
- State and Federally Listed Endangered, Threatened and Rare Plants of California, CDFW, Natural Heritage Division, August 2018,
- State and Federally Listed Endangered and Threatened Animals of California, CDFW, Natural Heritage Division, August 2018,
- Review of previous biological assessment reports and species lists for the region and neighboring areas,
- Published literature (Sibley 2000, Small 1994, Moyle *et al.* 1995, Jennings and Hayes 1994, Stebbins 1985, Webster *et al.* 1980, Burt and Grossenheider 1976).

2.2 Vegetation mapping, habitat assessment for special status plant species and general botanical surveys

Vegetation mapping, habitat assessments and general botanical surveys were conducted on 4 and 24 October 2018 by Paul Galvin. Vegetation mapping was conducted by walking throughout the study area. Vegetation types within the project site were mapped according the state-wide A Manual of California Vegetation, Second Edition (Sawyer *et al.* 2009). This is the mapping system recognized and recommend by regulatory

agencies. Vegetation was mapped to the association level by hand on an aerial photographic base map conducted while walking throughout the study area. A general plant species list was compiled concurrently with the vegetation mapping surveys (Appendix B). Scientific and common nomenclature in Hickman (1993) was used as the taxonomic resource. The equivalent vegetation community under the old Holland classification system (Holland 1986) was also noted.

The habitat assessment for special status plant species was conducted concurrently with the vegetation mapping, and concentrated on habitats with the highest potential for yielding special status species, although all areas of the project site were checked. Each habitat within the study area was traversed on foot, examining the areas for particular features such as seeps, unique geologic types, exposures, etc., that would indicate the presence of a preferred habitat for special status plant species.

2.3 Joshua tree surveys

Survey and mapping of Joshua tree (*Yucca brevifolia*) were conducted on 4 October 2018 by Paul Galvin. All Joshua trees onsite were mapped and assessed. The assessment included a measurement of tree height, tree diameter at breast height (dbh), health status of each tree and any additional ecological notes.

2.4 Wildlife surveys and habitat assessment for special status wildlife

Field surveys for wildlife and habitat assessment for special status wildlife species were conducted on 4 and 24 October 2018 by Paul Galvin. All portions of the site were traversed on foot to survey each vegetation community, look for evidence of wildlife presence and conduct an assessment of potential habitat for special status species. Wildlife species were detected during the field surveys by sight, vocalizations, burrows, tracks, scat, scrapings and other sign. No specialized techniques, such as trapping, mist nets or taped calls, were used during the surveys.

Latin and common names of wildlife referred to in this report follow Powell and Hogue (1979), Hogue 1993 and NatureServe (<http://www.natureserve.org/explorer/>) for invertebrates; NatureServe for fish; North American Herpetology (<http://www.naherpetology.org/nameslist>) for amphibians and reptiles; American Ornithologists' Union Checklist of North American Birds - 7th Edition (2005) for birds; Baker et al. 2003 for mammals; and Grenfell et al. 2003, California Department of Fish and Game & California Interagency Wildlife Task Group (http://www.dfg.ca.gov/whdab/pdfs/species_list.pdf) and Perrins et al. 1983 for common names.

2.5 Wetland Delineation

Although a formal wetland delineation was not conducted, the project area was checked in the field for the presence of vernal pools, streambeds, definable channels, wetland and riparian vegetation and hydric soils. All areas of topographic relief suspected of representing historic or current drainage patterns were inspected on-foot.

Field visits were conducted on 4 and 24 October 2018 by Paul Galvin.

3.0 RESULTS

3.1 Soils

The soils on the study area are sands from the Cajon series (NRCS Soil Survey 2018, Tugel and Woodruff 1978). The Cajon series consist of well drained soils that formed in alluvium from pre-dominantly granitic sources (Exhibit 4).

The following soil type covers the entire Desert Grove site;

Cajon sand, 0 to 2 percent slopes (112)

These soils consist of very deep, somewhat excessively drained soils formed on alluvial fans and river terraces, derived from pre-dominantly granitic sources. They occur on river terraces and alluvial fans and have slopes of 0 to 15 percent. Surface soils are sand, light brownish gray, light gray to very pale brown (10YR 7/2 and 10YR 7/3) when dry, brown or pale brown (10YR 5/3 and 10YR 6/3) when moist. Vegetation is mostly creosote bush, bursage, Mormon-tea, Joshua tree, and annual forbs and grasses. Soils may be used for irrigated crops and grazing.

3.2 Vegetation communities

The entire Desert Grove project site consists of approximately 17 acres of undeveloped land, located at the edge of the built-up city limits. The project site has been significantly impacted due to years of disturbance, trash, off-road trails and footpaths (Photographs 1 through 6). The study area contains two vegetation communities; *Larrea tridentata* Shrubland Alliance and *Ericameria nauseosa* Shrubland Alliance (Exhibit 5).

It is likely that the entire project area was *Larrea tridentata* Shrubland Alliance in the past but disking has resulted in removal of the creosote bushes and other changes in vegetation composition over portions of the site. Where open sandy channels were present they were not mapped separately but included as part of the surrounding vegetation community. The distribution of vegetation communities is shown in Exhibit 5, and detailed below (Table 1).

***Larrea tridentata* Shrubland Alliance (Creosote bush scrub)**

Larrea tridentata Shrubland Alliance (Creosote bush scrub) is an open shrubby community dominated by creosote bush (*Larrea tridentata*), with a variety of other shrubs sometimes present. Joshua tree (*Yucca brevifolia*) may be present in small quantities. Numerous ephemeral herbs occur after spring rains. This alliance occurs on well-drained soils on alluvial fans, bajadas, upland slopes, and intermittent washes. It can be found throughout the Mojave Desert in California, between 75m and 1,000m elevation.

At the Desert Grove project site *Larrea tridentata* Shrubland Alliance occupied the entire site except the northern boundary adjacent Palmdale Road and along the western boundary; and both these areas were likely occupied by *Larrea tridentata* Shrubland Alliance in the past, prior to disturbance. Throughout this alliance creosote bush was the sole dominant. Other shrubs present included rubber rabbitbrush (*Ericameria nauseosa*), silver cholla (*Cylindropuntia echinocarpa*) and two Joshua trees. Weedy non-native species such as Russian thistle (*Salsola tragus*), summer mustard (*Hirshfield incana*) and brome grasses (*Bromus* spp.) were present. Species diversity was low.

Approximately 13.7 acres of *Larrea tridentata* Shrubland Alliance occurred at the project site.

***Ericameria nauseosa* Shrubland Alliance (Rubber Rabbitbrush Scrub)**

Ericameria nauseosa Shrubland Alliance (Rubber Rabbitbrush Scrub) occurs in a variety of settings throughout arid parts of California. Rubber rabbitbrush (*Ericameria nauseosa*) is dominant or co-dominant with big sagebrush (*Artemisa tridentata*), green rabbitbrush (*Chrysothamnus viscidiflorus*), *Ephedra* spp., flat-top buckwheat (*Eriogonum fasciculatum*), California juniper (*Juniperus californica*), or antelope bush (*Purshia tridentata*). *Ericameria nauseosa* Shrubland Alliance is a fast-growing pioneer of disturbed sites. Sites may have been disturbed due to repeated flooding, overgrazing, or mechanical disturbance. In parts of the Mojave Desert, stands occupy fallow agricultural fields and areas with old mine tailings.

At the Desert Grove project site *Ericameria nauseosa* Shrubland Alliance occupied the western boundary of the site and this area was likely occupied by *Larrea tridentata* Shrubland Alliance in the past, prior to disturbance. Throughout this alliance rubber rabbitbrush was the sole dominant. A few creosote bushes and weedy non-native species such as summer mustard and brome grasses were present but otherwise this area was sparsely vegetated.

Approximately 2.7 acres of *Ericameria nauseosa* Shrubland Alliance occurred at the off-site improvement area.

Disturbed

At the Desert Grove project site a recently disturbed area occurred along the northern boundary adjacent Palmdale Road. This area was devoid of vegetation due to disturbance (likely disking) except for a few sparse non-native weeds.

Approximately 0.6 acres of disturbed occurred at the project site.

Table 1: Vegetation communities at the Desert Grove project site.

Vegetation communities/Land Cover Type	PROJECT SITE
<i>Larrea tridentata</i> Shrubland Alliance (Creosote bush scrub)	13.7
<i>Ericameria nauseosa</i> Shrubland Alliance (Rubber Rabbitbrush Scrub)	2.7
Disturbed	0.6
Site total	17.0

3.3 Plant Inventory

Plant species at the Desert Grove project site consisted of species associated with open, shrubby and disturbed desert habitats. A total of 8 vascular plant species, representing 7 families were detected at the project site during the current surveys (Appendix B).



Exhibit 5: Vegetation map of Desert Grove site (in red). Source: Google Earth, Inc.

3.4 Special Status Plant Species

No special-status plants were observed on the Desert Grove Project site during the October 2018 site surveys, and there are no historic site records for any special status plant species onsite (CNDDDB 2018).

Based on a review of CNDDDB, the CNPS Inventory of Rare and Endangered Vascular Plants of California (Tibor 2001, CNPS 2018), and field surveys, a number of special status species were identified as having potential to occur onsite (Table 2).

Due to the disturbed nature of the site, the absence of any current or historic site records, special-status plant species have a low potential to occur onsite. However, survey will be conducted in 2019 during the spring blooming period to determine if any special-status plant surveys are present at the Desert Grove project site.

3.5 Joshua trees

A total of two Joshua trees were documented onsite in October 2018 (Table 2; Figure 6). Both trees were in good condition, below 20 feet in height and supported just a few branches. A few dead and decaying trees were also present onsite.

Table 2: Collected data on Joshua trees, October 2018.

Name	Altitude	DBH (inches)	Height (feet)	Health
Jt1	3,152 ft	15	20	very good
Jt2	3,151 ft	12	14	very good



Exhibit 6: Location of Joshua trees at the Desert Grove project site (in red). Source: Google Earth, Inc.

3.6 Wildlife overview

Wildlife at the study area consisted of common species and species associated with open, disturbed desert habitats. The most abundant species detected during the site visit were side blotted lizard (*Uta stansburiana*), common raven (*Corvus corax*) and desert cottontail (*Sylvilagus audubonii*). A total of 15 wildlife species were detected during the site visits, including one reptile, 10 bird and four mammalian species (Appendix D).

3.7 Special status wildlife species

Based on a review of CNDDDB, published literature and field surveys and assessments, a number of special status wildlife species were identified as potentially occurring onsite (Table 4). These are species which typically occur in native desert habitats that historically occurred in the project vicinity. However, due to the disturbance at the Desert Grove project site and the surrounding development, most of these species are unlikely to occur onsite.

All special status wildlife species with some potential to occur onsite are addressed in Table 4, the species for which focused surveys will be conducted and those special status wildlife species that occur onsite and are also discussed below.

One special status wildlife species was detected during the current surveys, loggerhead shrike (*Lanius ludovicianus*). A loggerhead shrike was observed foraging onsite during the 24 October 2018 survey (Exhibit 7). Loggerhead shrikes like dense brush, including shrubs and trees for nesting. Onsite habitat provides limited suitable nesting habitat, consequently only foraging birds are likely to occur onsite.

The desert tortoise (*Gopherus agassizii*) primarily occurs within Joshua tree woodland, creosote bush scrub, and saltbush scrub habitats below 4,000 feet. They require friable soils so that burrows can be dug; however, the soils must be firm enough that the soils do not easily collapse. The project site contains generally suitable habitat for desert tortoise. No desert tortoises or their sign (burrows, scat, shell fragments, tracks) were located onsite during the surveys and there are no past site records for this species. Desert tortoise is unlikely to occur onsite due to the site disturbance and because the site is generally surrounded by development. The project site is outside the critical habitat for the desert tortoise (USFWS 1994). Focused surveys for desert tortoise will be conducted in spring 2019.

Burrowing owls (*Athene cunicularia*) occur in shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial, open areas as a yearlong resident. They require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. As a critical habitat feature, they require the use of rodent or other burrows for roosting and nesting cover. They can also use pipes, culverts, and nest boxes (USFWS 2003, Haug *et al.* 1993, Zeiner *et al.* 1990).

Burrowing owl has the potential to occur onsite however, no burrowing owls or their sign (suitable burrows, pellets, scat, feathers etc.) were detected during the surveys and there was no evidence that any burrowing owls occur onsite. Focused surveys for burrowing owl will be conducted in spring 2019.

Mojave ground squirrel (*Spermophilus mohavensis*) generally occurs on flat areas with sandy soils but also can occur in gravelly areas. They occur in Mojave Creosote Bush Scrub, Mojave Mixed Woody Scrub, and Desert Saltbush in the western Mojave Desert. The Desert Grove project site is located at the southeastern edge of the species historic distribution but is outside the BLM's the Mojave ground squirrel conservation area (Leitner 2008). No Mojave ground squirrel or their sign were detected during the current or past surveys, however the site has never been tapped for ground squirrel. Mojave ground squirrel is unlikely to occur onsite due to the site disturbance and because the site is generally surrounded by development. Focused trapping surveys for Mojave ground squirrel will be conducted in spring 2019.



Exhibit 7: Location of special status wildlife at the Desert Grove project site (in red). Source: Google Earth, Inc.

Table 3: Special status plant species that occurred or have the potential to occur in the Desert Grove project site: Definitions - status: Fed = federal, FE = federal endangered, FT = federal threatened, FPE = federally proposed for listing as endangered, FPT = federally proposed for listing as threatened, FC = federal candidate species, FSC = federal special concern species, state = state of California, SE = state endangered, ST = state threatened, SCE = state candidate for listing as endangered, SCT = state candidate for listing as threatened, SC = state species of concern, FP = fully protected species, none = no federal or state listing, see Appendix C for CNPS Status. Occurrence onsite: Occurs = known to occur onsite, potential = could occur due to presence of suitable habitat onsite but not detected during current survey, unlikely = probably does not occur due to limited suitable habitat onsite and not detected.

Taxon	Status	Flowering period	Habitat Associations/Life Form	Status Onsite or Potential to Occur
<i>Allium atrorubens</i> var. <i>atorrubens</i> Great Basin onion	Fed: None State: None CNPS 2B.3	May-Jun	Great Basin scrub and pinyon and juniper woodland on rocky or sandy substrates, from 3,935-7,595 ft. Perennial herb/bulb.	Unlikely. Suitable high elevation habitat is not present in the Project area.
<i>Androstephium breviflorum</i> Small-flowered androstephium	Fed: None State: None CNPS 2B.2	Mar-Apr	Desert dunes and bajadas in Mojavean desert scrub, from 720-2,625 ft. Perennial herb/bulb.	Potential.
<i>Arctomecon merriamii</i> White bear poppy	Fed: None State: None CNPS 2B.2	(Mar), Apr-May	Chenopod scrub, and Mojavean desert scrub on rocky substrates, from 1,610-5,905 ft. Perennial herb.	Potential.
<i>Astragalus lentiginosus</i> var. <i>borreganus</i> Borrego milk-vetch	Fed: None State: None CNPS 4.3	Feb-May	Mojavean desert scrub and Sonoran desert scrub on sandy substrates, from 100-2,935 ft. Annual herb.	Potential.
<i>Astragalus nutans</i> Providence Mountains milk-vetch	Fed: None State: None CNPS 4.3	Mar-Jun, (Oct)	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland, and Sonoran desert scrub on sandy or gravelly substrates, from 1,475-6,400 ft. Annual herb.	Potential.
<i>Astragalus tidestromii</i> Tidestrom's milk-vetch	Fed: None State: None CNPS 2B.2	(Jan), Apr-Jul	Mojavean desert scrub on sandy or gravelly carbonate substrates, from 1,970-5,855 ft. Perennial herb.	Potential.
<i>Boechnera dispar</i> Pinyon rockcress	Fed: None State: None CNPS 2B.3	Mar-June	Creosote bush scrub, Joshua tree woodland and Pinyon-Juniper woodland on granitic, gravelly substrates, from 3,000-7,500 ft. Perennial herb.	Potential.
<i>Boechnera lincolnensis</i> Lincoln rockcress	Fed: None State: None CNPS 2B.3	Mar-May	Chenopod scrub and Mojavean desert scrub on carbonate substrates, from 3,610-8,875 ft. Perennial herb.	Unlikely. Suitable carbonate substrates are not present in the Project area.
<i>Canbya candida</i>	Fed: None	March-June	Joshua tree woodland, Mojavean desert	Potential.

Pygmy poppy	State: None CNPS: 4.2		scrub, pinyon and juniper woodland on gravelly, sandy, granitic soil from 2,000-4,000ft. Annual herb.	
<i>Castela emoryi</i> Emory's crucifixion-thorn	Fed: None State: None CNPS 2B.2	(Apr), Jun-Jul, (Sep-Oct)	Mojavean desert scrub, playas, and Sonoran desert scrub on gravelly substrates, from 295-2,380 ft. Shrub.	Not Observed. This large and conspicuous shrub is not present in the Project area
<i>Castilleja plagiotoma</i> Mojave Indian paintbrush	Fed: None State: None CNPS: 4.3	Apr-June	Great Basin scrub (alluvial), Joshua tree woodland, lower montane coniferous forest, pinyon and juniper woodland, from 2,500-7,500 ft. Perennial herb (hemiparasitic).	Potential.
<i>Chorizanthe spinosa</i> Mojave spineflower	Fed: None State: None CNPS: 4.2	March-July	Chenopod scrub, Joshua tree woodland, Mojavean desert scrub, on dry sandy or gravel from 2,500-3,500 ft. Annual herb.	Potential.
<i>Coryphantha chlorantha</i> Desert pincushion	Fed: None State: None CNPS 2B.1	Apr-Sep	Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland on gravelly or rocky carbonate substrates, from 150-5,595 ft. Perennial herb.	Unlikely. Suitable carbonate substrates are not present in the Project area.
<i>Cryptantha costata</i> Ribbed cryptantha	Fed: None State: None CNPS 4.3	Feb-May	Desert dunes, sandy areas in Mojavean and Sonoran desert scrub, from -200-1,650 ft. Annual herb.	Potential.
<i>Cryptantha tumulosa</i> New York Mountains cryptantha	Fed: None State: None CNPS 4.3	Apr-Jun	Mojavean desert scrub, and pinyon and juniper woodland on gravelly or clay soils derived from granitic or carbonate parent material, from 3,000-6,990 ft. Perennial herb.	Potential.
<i>Cymopterus deserticola</i> Desert cymopterus	Fed: None State: None CNPS: 1B.2	March-July	Joshua tree woodland, Mojavean desert scrub. Sandy, gravelly soil from 2,500-3,100 ft. Perennial herb.	Potential.
<i>Deinandra mohavensis</i> Mojave tarplant	Fed: None State: SE CNPS 1B.3	June-Oct	Joshua tree woodland and chaparral in riparian areas on medium or coarse substrates from 2,300-4,150ft. Annual herb.	Potential.
<i>Diplacus mohavensis</i> Mojave monkey flower	Fed: None State: None CNPS 1B.2	Apr-Jun	Mojavean desert scrub and Joshua tree woodland on gravelly or sandy substrates, often in washes from 1,800-3,000ft. Annual herb.	Potential.
<i>Eremothera boothii</i> subsp. <i>boothii</i> Booth's evening-primrose	Fed: None State: None CNPS 2B.3	Apr-Sep	Joshua tree woodland, and pinyon and juniper woodland, from 2,675-7,875 ft. Annual herb.	Potential.
<i>Eremothera boothii</i> subsp. <i>intermedia</i> Booth's hairy evening-primrose	Fed: None State: None	(May), Jun	Great Basin scrub and pinyon and juniper woodland on sandy soils, from 4,920-7,055	Potential.

	CNPS 2B.3		ft. Annual herb.	
<i>Eriastrum harwoodii</i> Harwood's eriastrum	Fed: None State: None CNPS 1B.2	Mar-Jun	Desert dunes, from 410-3,000 ft. Annual herb.	Unlikely. Suitable dune habit is not present in the Project area.
<i>Eriogonum contiguum</i> Reveal's buckwheat	Fed: None State: None CNPS 2B.3	(Feb), Mar-May, (Jun)	Mojavean desert scrub on sandy soils, from 100-4,330 ft. Annual herb.	Potential.
<i>Eriogonum heermannii</i> var. <i>floccosum</i> Clark Mountain buckwheat	Fed: None State: None CNPS 4.3	Aug-Oct	Pinyon and juniper woodland on carbonate substrates, from 2,955-7,875 ft. Shrub.	Not Observed. This shrub is not present in the Project area.
<i>Eriophyllum mohavense</i> Barstow woolly sunflower	Fed: None State: None CNPS: 1B.2	March-July	Mojavean desert scrub, Chenopod scrub and Playas on sandy or rocky substrates, from 1,600-3,150ft. Annual herb.	Potential.
<i>Euphorbia revoluta</i> Revolute spurge	Fed: None State: None CNPS 4.3	Aug-Sep	Mojavean desert scrub on rocky substrates, from 3,595-10,170 ft. Annual herb.	Potential.
<i>Funastrum utahense</i> Utah vine milkweed	Fed: None State: None CNPS 4.2	(Mar), Apr-Jun, (Sep-Oct)	Mojavean desert scrub, Sonoran desert scrub on sandy or gravelly substrates, from 330-4,710 ft. Perennial herb.	Potential.
<i>Jaffueliobryum wrightii</i> Wright's jaffueliobryum moss	Fed: None State: None CNPS 2B.3	N/A	Alpine dwarf scrub, Mojavean desert scrub, and pinyon and juniper woodland, in dry openings and rock crevices on carbonate substrates, from 525-8,200 ft. Moss.	Unlikely. Suitable carbonate substrates are not present in the Project area.
<i>Juncus cooperi</i> Cooper's rush	Fed: None State: None CNPS 4.3	Apr-May, (Aug)	Mesic alkaline or saline meadows and seeps, from -260-5,805 ft. Perennial herb.	Unlikely. Suitable mesic habitat for this taxon is not present in the Project area.
<i>Linum puberulum</i> Plains flax	Fed: None State: None CNPS 2B.3	May-Jul, (Oct)	Great Basin scrub, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland, from 3,280-8,200 ft. Annual herb.	Potential.
<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i> Sagebrush loeflingia	Fed: None State: None CNPS 2B.2	Apr-May	Creosote bush scrub and sagebrush scrub, in dunes, sandy places, from 0-2,000 ft. Annual herb.	Unlikely. Suitable dune habitat for this taxon is not present in the Project area.
<i>Menodora scabra</i> var. <i>scabra</i> Rough menodora	Fed: None State: None CNPS 2B.3	May-Jun	Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland, from 3,935-5,905 ft. Shrub.	Not Observed. This shrub is not present in the Project area.
<i>Mentzelia puberula</i> Darlington's blazing star	Fed: None State: None CNPS 2B.2	Mar-May	Mojavean desert scrub and Sonoran desert scrub on sandy or rocky substrates, from 295-4,200 ft. Perennial herb.	Potential.
<i>Mentzelia tridentata</i>	Fed: None	March-May	Mojavean desert scrub on rocky, gravelly or	Potential.

Creamy blazing star	State: None CNPS: 1B.3		sandy substrates, from 2,100-3,000ft. Annual herb.	
<i>Muilla coronata</i> Crowned muilla	Fed: None State: None CNPS 4.2	Mar-Apr, (May)	Chenopod scrub, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland, from 300-6,430 ft. Perennial herb/bulb.	Potential.
<i>Nemacaulis denudata</i> var. <i>gracilis</i> Slender cottonheads	Fed: None State: None CNPS 2B.2	(Mar), Apr-May	Coastal dunes, desert dunes and Sonoran desert scrub, from 0-1,310 ft. Annual herb.	Unlikely. Suitable dune habitat is not present in the Project area.
<i>Opuntia basilaris</i> var. <i>brachyclada</i> Short-joint beavertail	Fed: None State: None CNPS: 1B.2	April-June	Chaparral, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland, in sandy, gravelly soils from 4,000-7,500 ft. Perennial stem succulent.	Not Observed. This cactus is not present in the Project area.
<i>Pediomelum castoreum</i> Beraver indian bedroot	Fed: None State: None CNPS 1B.2	Apr-May	Creosote bush scrub and Joshua tree woodland, in sandy flats or washes, from 1,500-3,000 ft. Perennial herb.	Potential.
<i>Penstemon pseudospectabilis</i> ssp. <i>pseudospectabilis</i> Desert beardtongue	Fed: None State: None CNPS 2B.2	Jan-May	Mojavean desert scrub and Sonoran desert scrub, often in sandy or sometimes rocky washes, from 260-6,350 ft. Perennial herb.	Potential.
<i>Plagiobothrys parishii</i> Parish's popcorn-flower	Fed: None State: None CNPS: 1B.1	March-Nov	Great Basin scrub, Joshua tree woodland, in alkaline, mesic soils from 2,500-4,500 ft. Annual herb.	Unlikely. Suitable soils are not present in the Project area.
<i>Sibara deserti</i> Desert winged-rockcress	Fed: None State: None CNPS 4.3	Mar-Apr	Mojavean desert scrub, from 1,130-4,265 ft. Annual herb.	Potential.
<i>Stipa arida</i> Mormon needle grass	Fed: None State: None CNPS 2B.3	May-Jul	Joshua tree woodland and pinyon and juniper woodland on carbonate substrates, from 1,640-8,430 ft. Perennial grass.	Unlikely. Suitable carbonate substrates are not present in the Project area.
<i>Syntrichopappus lemmonii</i> Lemmon's syntrichopappus	Fed: None State: None CNPS: 4.3	March-May	Chaparral, Joshua tree woodland, pinyon and juniper woodland on sandy or gravelly soil from 3,000-4,500 ft.. Annual herb.	Potential.
<i>Wislizenia refracta</i> ssp. <i>refracta</i> Jackass-clover	Fed: None State: None CNPS 2B.2	Apr-Nov	Desert dunes, Mojavean desert scrub, playas, and Sonoran desert scrub, from 1,970-2,625 ft. Annual herb.	Potential.

Table 4: Special status wildlife species that occurred or have the potential to occur in the Desert Grove project site: Definitions - status: Fed = federal, FE = federal endangered, FT = federal threatened, FPE = federally proposed for listing as endangered, FPT = federally proposed for listing as threatened, FC = federal candidate species, FSC = federal special concern species, state = state of California, SE = state endangered, ST = state threatened, SCE = state candidate for listing as endangered, SCT = state candidate for listing as threatened, CSC = California species of special concern, FP = fully protected species, CNDDDB = species listed under the states CNDDDB program, none = no federal or state listing. Occurrence onsite: Occurs = known to occur onsite, potential = could occur due to presence of suitable habitat onsite but not detected during current survey, unlikely = probably does not occur due to limited suitable habitat onsite and not detected.

Scientific Name	Common Name	ESA/CESA Status	Other Status	Occurrence onsite	Habitat/comments
Reptiles					
<i>Gopherus agassizii</i>	desert tortoise	Fed: FT State: ST	CNDDDB Ranked	Potential	Occupy a variety of habitats and vegetation types within the Mojave Desert typically below 1,100 meters (3,900 feet) provided there is an ample supply of herbs and grasses as forage and soils are suitable for digging.
<i>Phrynosoma blainvillei</i>	coast horned lizard	ESA: None CESA: None	DFG: CSC CNDDDB Ranked	Potential	sandy washes and open sandy areas within coastal sage scrub, grassland, chaparral, oak and riparian woodland
<i>Uma scoparia</i>	Mojave fringe-toed lizard	ESA: None CESA: None	CDFW: SSC CNDDDB Ranked	Unlikely	Sparsely-vegetated arid areas with fine wind-blown sand, including dunes, flats with sandy hummocks formed around the bases of vegetation, washes, and the banks of rivers. Needs fine, loose sand for burrowing, suitable habitat absent.
Birds					
<i>Accipiter cooperii</i>	Cooper’s hawk	ESA: None CESA: None	CDFW: WL CNDDDB Ranked	Potential, foraging only	Mostly oak and riparian woodland but can occur more widely in migration and winter.
<i>Accipiter striatus</i>	sharp-shinned hawk	ESA: None CESA: None	CDFW: WL CNDDDB Ranked	Potential, foraging only	Wide variety of habitats used by wintering and migrating birds, but mostly associated with woodland and scrubland; breeds in mountains, does not breed in southern California
<i>Aquila chrysaetos</i>	golden eagle	ESA: None CESA: None	CDFW: WL, FP FW: BCC CNDDDB Ranked	Potential, foraging only	Open mountains, foothills, plains, open country

<i>Buteo regalis</i>	ferruginous hawk	ESA: None CESA: None	CDFW: WL FW: BCC CNDDDB Ranked	Potential, foraging only	Plains, prairies, grasslands, does not breed in southern California
<i>Buteo swainsoni</i>	Swainson’s hawk	ESA: None CESA: ST	FW: BCC CNDDDB Ranked	Potential, foraging only	Prairies, grasslands, more widespread in migration
<i>Circus cyaneus</i>	northern harrier	ESA: None CESA: None	CDFW: SSC CNDDDB Ranked	Potential, foraging only	Grassland, marshes, agricultural land, open areas in scrub and chaparral; ground or shrub nesting
<i>Elanus leucurus</i>	white-tailed kite	ESA: None CESA: None	CDFW: FP CNDDDB Ranked	Potential, foraging only	Forages in grasslands; nests and roosts in oak and riparian woodland
<i>Falco columbarius</i>	merlin	ESA: None CESA: None	CDFW: WL CNDDDB Ranked	Potential, foraging only	Nests in open woodlands, savanna, does not breed in southern California, woodlands, open areas in winter, migration
<i>Falco peregrinus anatum</i>	American peregrine falcon	ESA: none CESA: None	CDFW: FP FW: BCC CNDDDB Ranked	Potential, foraging only	Nest on cliffs or rock outcroppings, usually near water; forages over open country (grassland, scrub, marshes)
<i>Falco mexicanus</i>	prairie falcon	ESA: None CESA: None	CDFW: WL FW: BCC CNDDDB Ranked	Potential, foraging only	Open arid country, grasslands, more widespread in winter
<i>Charadrius montanus</i>	mountain plover	ESA: FPT CESA: None	CDFW: SSC CNDDDB Ranked	Potential, foraging only	Breed in dry, open, shortgrass prairies or grasslands and winter in shortgrass plains, plowed fields, open sagebrush areas, and sandy deserts
<i>Asio flammeus</i>	short-eared owl	ESA: None CESA: None	CDFW: SSC CNDDDB Ranked	Potential, foraging only	Grasslands, open habitats
<i>Athene cucularia</i>	burrowing owl	ESA: None CESA: None	CDFW: SSC FW: BCC CNDDDB Ranked	Potential	Grasslands, farmland and other open habitats
<i>Charadrius montanus</i>	mountain plover	ESA: FPT CESA: None	DFG: CSC CNDDDB Ranked	Potential, foraging only	breed in dry, open, shortgrass prairies or grasslands and winter in shortgrass plains, plowed fields, open sagebrush areas, and sandy deserts
<i>Chaetura vauxi</i>	Vaux’s swift	ESA: None CESA: None	CDFW: SSC CNDDDB Ranked	Potential, foraging only	Nests in coniferous or mixed forest. Forages in forest openings, especially above streams. Widespread in migration.
<i>Calypte costae</i>	Costa’s hummingbird	ESA: None CESA: None	FW: BCC CNDDDB Ranked	Potential	Desert and semi-desert, arid brushy foothills and chaparral, in migration and winter also in adjacent mountains and in open meadows and gardens.
<i>Selasphorus rufus</i>	Rufous hummingbird	ESA: None CESA: None	FW: BCC CNDDDB Ranked	Potential, foraging only	Breed in open areas, yards, parks, and forests up to treeline. Don’t typically nest in California. Widespread in migration.
<i>Colaptes chrysoides</i>	Gilded flicker	ESA: None CESA: SE	FW: BCC CNDDDB Ranked	Potential, foraging only	Strongly associated with, but not completely restricted to, giant cactus forests of southwestern

					deserts, also other large desert shrubs.
<i>Contopus cooperi</i>	Olive-sided flycatcher	ESA: None CESA: None	CDFW: SSC FW: BCC CNDDDB Ranked	Potential, foraging only	Breeds in montane and northern coniferous forests, at forest edges and openings, such as meadows and ponds. Winters at forest edges and clearings where tall trees or snags are present. More widespread in migration.
<i>Lanius ludovicianus</i>	loggerhead shrike	ESA: None CESA: None	CDFW: SSC FW: BCC CNDDDB Ranked	Potential	Grassland, scrub and other open habitats with perching structures; nests in trees and shrubs
<i>Eremophila alpestris actia</i>	California horned lark	ESA: None CESA: None	CDFW: WL CNDDDB Ranked	Potential	Open areas with little or no ground cover, such as grassland or ruderal vegetation
<i>Polioptila melanura</i>	Black-tailed gnatcatcher	ESA: None CESA: None	CDFW: WL CNDDDB Ranked	Potential	Occurs in desert scrub, including washes densely lined with creosote and salt bush as well as areas studded with ocotillo, prickly pear, cholla, and mesquite.
<i>Toxostoma lecontei</i>	Le Conte’s thrasher	ESA: None CESA: None	CDFW: SSC CNDDDB Ranked	Potential	Occurs in barren desert areas with scattered vegetation
Mammals					
<i>Macrotus californicus</i>	California leaf-nosed bat	ESA: None CESA: None	CDFW: SSC WBWG: H	Potential	Roosts in caves or old mines, forages along desert washes and other desert habitats in southwest.
<i>Antrozous pallidus</i>	Pallid bat	ESA: None CESA: None	CDFW: SSC WBWG: H	Potential	Inhabits low elevation rocky arid deserts and canyonlands, shrub-steppe grasslands, karst formations, and higher elevation coniferous forests. It is most abundant in xeric ecosystems, including the Great Basin, Mojave, and Sonoran Deserts. Roosts include crevices in rocky outcrops and cliffs, caves, mines, trees and various human structures.
<i>Corynorhinus townsendii</i>	Townsend’s big-eared bat	ESA: None CESA: None	CDFW: SSC WBWG: High priority	Potential	Occurs throughout southern California in a wide variety of habitat types including coniferous forests, mixed meso-phytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types. Roosts in caves, old mines or buildings.
<i>Myotis volans</i>	long-legged myotis	ESA: None CESA: None	CDFW: SSC WBWG: H	Potential	Buildings, pockets and crevices in rocks. Primarily in forests but also uses desert habitats.
<i>Myotis yumanensis</i>	Yuma myotis	ESA: None CESA: None	CDFW: SSC WBWG: LM	Potential	Caves, tunnels and buildings. Occurs in a variety of habitats in arid areas, including riparian, scrublands, deserts and forests.
<i>Eumops perotis</i>	western mastiff bat	None	CDFW: SSC WBWG: High	Potential	Widespread forager, over open areas, meadows, reservoirs, oak savanna, alpine meadows and deserts;

			priority CNDDDB Ranked		roosts in cliffs and buildings.
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	ESA: None CESA: None	DFG: CSC CNDDDB Ranked	Unlikely	cactus patches and rock outcroppings in coastal sage scrub
<i>Spermophilus mohavensis</i>	Mojave ground squirrel	ESA: None CESA: ST	DFG: CSC CNDDDB Ranked	Potential	generally on flat areas with sandy soils in Mojave Creosote Bush Scrub, Mojave Mixed Woody Scrub, and Desert Saltbush. Found in western Mojave Desert, the Mojave River marks the southeastern extent of range.
<i>Taxidea taxus</i>	American badger	ESA: None CESA: None	CDFW: SSC CNDDDB Ranked	Potential	Widespread in natural habitats

3.8 Wildlife movement corridors and linkages

The terms “wildlife corridors” and “linkages” are based upon fundamental ecological concepts, but can be easily misinterpreted because: 1) universally accepted definitions of these terms have not been established; 2) each term can be interpreted using different time scales (i.e. daily, seasonal, annual and evolutionary) and spatial scales (i.e. microclimate, local, community, and landscape) which changes their meaning; 3) the areas and values change from species to species; and, 4) the understanding of how these processes work is on-going and conclusions are subject to revision. The following definitions are intended to provide a working understanding of corridors and linkages and are summarized from several sources (SCWP 2003, USCA9D 1990, Barrett and Livermore 1983, Beier 1993).

Wildlife corridor - Wildlife corridors are areas which animals can use to move from one patch of suitable habitat to another. These areas would be expected to have the least habitat fragmentation relative to surroundings areas. A wildlife corridor establishes connectivity for animals to move, live, reproduce and respond to functional ecological processes during the course of a year to several years. The quality and functionality of a particular wildlife corridor varies from species to species.

Wildlife crossings are generally small, narrow wildlife corridors that allow wildlife to pass through an obstacle or barrier such as a roadway to reach another patch of habitat. Wildlife crossings are manmade and include culverts, drainage pipes, underpasses, tunnels, and, more recently, crossings created specifically for wildlife movement over or under highways.

Both wildlife crossings and wildlife corridors function to prevent habitat fragmentation that would result in the loss of species that require large contiguous expanses of unbroken habitat and/or that occur in low densities.

Linkages – Linkages are areas that provide for long term movement or interaction of wildlife to maintain natural evolutionary and ecological patterns. Linkages are fundamental for gene flow and large scale ecological processes. These areas are usually defined by the zones of “least resistance” for the genes of a given species to move or “flow” between core reserve populations.

No wildlife corridors or linkages are known at the Desert Grove project site. Wildlife could potentially use the onsite washes and other habitats for movement; however much of the site is surrounded by existing roads and development which would impede any wildlife movement. It is unlikely that the site is of any significance to wildlife movement.

3.9 Wetlands and streambeds

Historically, prior to development in the area, there were no drainages, streambed or wetlands on the property. This can be confirmed by review of historical aerial photographs and USGS topographic maps. With development in the project vicinity, contours were changed and additional water added via irrigation for landscaping etc.

Currently, several ephemeral drainages cross the site in a south to north direction (Exhibit 8). The water source for all onsite drainages is a culvert at Far Hills Lane, a detention basin at the corner of Hwy 395 and Dos Palmas Road and run-off from Hwy 395. All drainages eventually make their way north and into the culvert under Palmdale Road (except Drainage A which dissipates into the ground).

All drainages are typical desert washes, only conveying water during and immediately following large storm events. Water only stays in the system for short periods after large storm events and does not occur at all in smaller storms. The rest of the time these drainages are completely dry. No wetlands or vernal pools occurred onsite.

The substrate was sandy or gravelly and was dry at the time of the site survey. In general the channels were devoid of vegetation and any vegetation that was present consisted of upland shrubs or herbs.

In some cases the drainages exhibited a clear bed and bank and definable ordinary high water mark (OHWM) but in some cases there was no clear bed and bank and often just surface flows.

Also there is no clear connectivity with downstream navigable waters. Without hydrological connectivity with any downstream navigable waters, and since the drainages were artificially created in an upland they are likely not subject to the Corps 404 program and possibly not to the California Regional Water Quality Control Boards 401 program. However, California Department of Fish and Wildlife typically do take jurisdiction over these types of drainages.

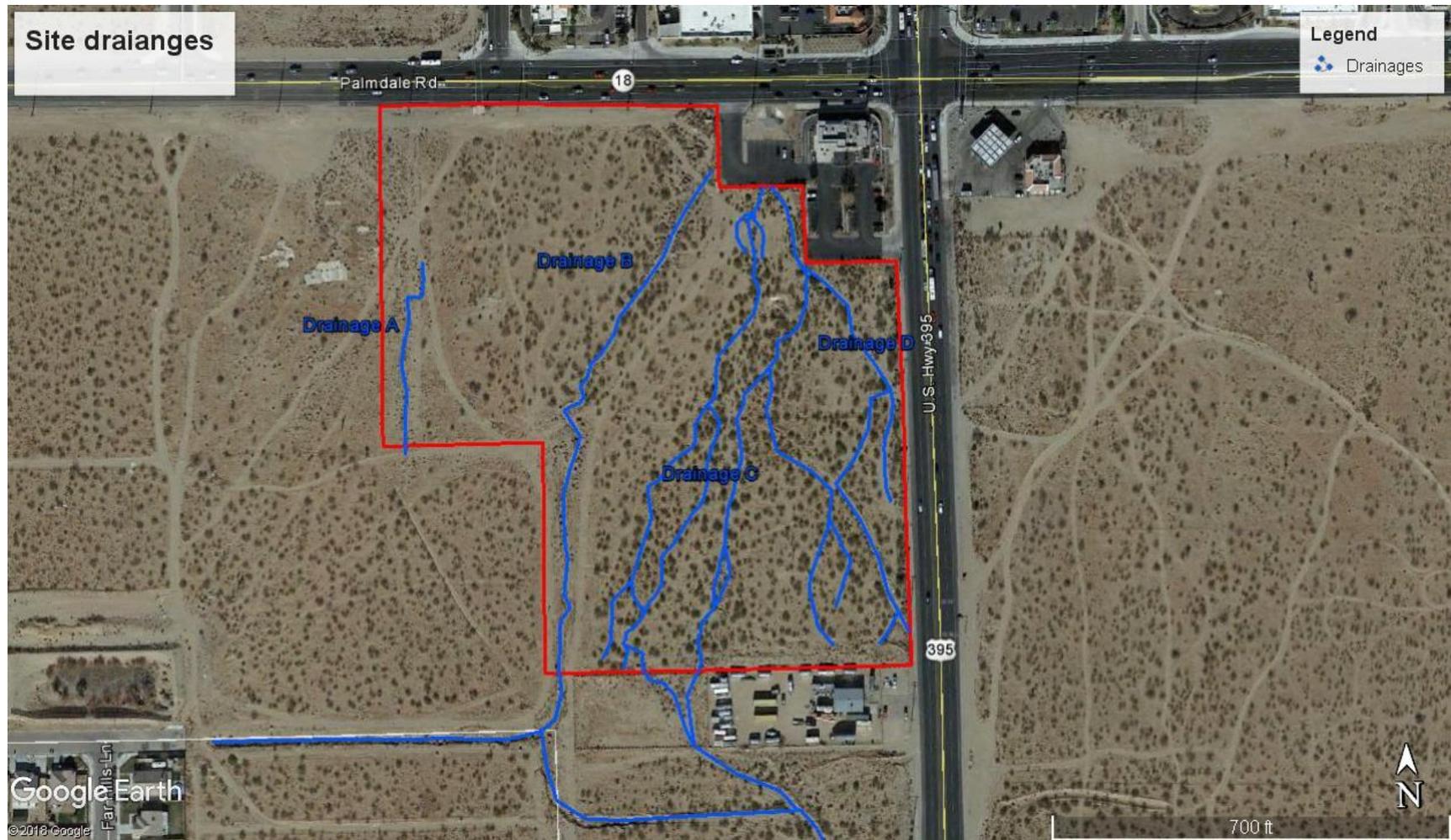


Exhibit 8: Desert Grove site (in red) drainages (blue line). Source: Google Earth, Inc.

4.0 BIOLOGICAL CONSTRAINTS

There are a number of potential biological constraints at Desert Grove project site. Any significant impacts to these biological constraints that would result from the proposed project would require appropriate mitigation.

Significance of impacts to biological resources are assessed using impact significance threshold criteria, which reflect the policy statement contained in California Environmental Quality Act (CEQA), Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established the following policy of the State of California:

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

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to the CEQA Guidelines, (Section 15064.7, Thresholds of Significance), each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. In the development of thresholds of significance for impacts to biological resources CEQA Guidelines provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Appendix G, Environmental Checklist Form. Section 15065(a) states that a project may have a significant effect where:

The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species, ..

Therefore, impacts to biological resources are considered potentially significant (before considering offsetting mitigation measures) if one or more of the following criteria discussed below would result from implementation of the proposed project;

Appendix G of the 2004 State CEQA Guidelines indicate that a project may be deemed to have a significant effect on the biological resources if the project is likely to:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.*
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.*
- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.*
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

4.1 List of the potential biological constraints at the Desert Grove project site

1. Special status wildlife species present onsite; loggerhead shrike,
2. Nesting birds,
3. Potential populations of additional special status wildlife species that might occur onsite; particularly burrowing owl, desert tortoise and Mojave ground squirrel,
4. Potential populations of special status plant species that might occur onsite,
5. Areas subject to the CDFW jurisdiction under the 1600 program,
6. Areas subject to the California Regional Water Quality Control Board 401 and Corps 404 programs, if these agencies assert jurisdiction over onsite Drainages.

4.2 Recommendations

The following list of recommendations would be necessary to fulfill CEQA and wildlife agency requirements pursuant to any application to develop portions of this site.

- Conduct a spring season survey for special status plant species, desert tortoise, burrowing owl and Mojave ground squirrel,
- Consult with Corps and Regional Board to determine if drainages are subject to these agencies jurisdiction.

4.3 Permits and consultations likely required

As a result of these potential biological constraints, any proposed project at the Desert Grove project would require the following permits/consultations/co-ordination;

California Environmental Quality Act (CEQA)
CEQA Document

U.S. Fish and Wildlife Service
Consultation required if listed species found during focused surveys

California Department of Fish and Game
Consultation required if listed species found during focused surveys

Federal Migratory Bird Treaty Act of 1918 (MBTA)
The MBTA governs the taking and killing of migratory birds, their eggs, parts, and nests and prohibits the take of any migratory bird, their eggs, parts, and nests. No take of migratory birds is allowed under this act. Construction work must comply with the MBTA.

U.S. Corps of Engineers
Consultation required on drainage jurisdiction

Regional Water Quality Control Board
Consultation required on drainage jurisdiction

California Department of Fish and Wildlife
1600 permit required

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6.0 APPENDICES

6.1 Appendix A: Weather data

Public information national weather service San Diego CA; 2017-2018 rainfall season in review, <http://www.nws.noaa.gov/climate>

A drier than normal rainfall season will end on 30 June 2016; however little rain typically falls from April through June. Summer and early winter were average but spring was dry across southern California. Most of coastal southern California had less than 50% typical rainfall in 2017/2018.

Areas	2017-2018 Total	Normal Total	% of Normal
Santa Barbara	8.52	17.73	48
Lancaster	2.74	5.1	54
downtown Los Angeles	4.68	14.77	32
Long Beach Airport	3.6	12.72	28
John Wayne Airport	2.66	12.76	21
Fullerton	3.21	14.72	22
Riverside	4.3	10.12	42
Oceanside Airport	4.68	10.54	44
San Diego	3.26	10.13	32
Palm Springs	2.89	5.49	53

VICTORVILLE, CALIFORNIA (049325)

Period of Record Monthly Climate Summary

Period of Record : 1/ 1/1917 to 7/31/2009

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	58.7	62.1	67.0	74.1	82.5	91.6	98.3	97.1	91.1	80.2	67.4	59.4	77.5
Average Min. Temperature (F)	29.8	33.1	36.6	41.5	47.7	54.2	60.8	60.0	53.9	44.3	34.5	29.2	43.8
Average Total Precipitation (in.)	0.96	1.06	0.82	0.36	0.13	0.04	0.13	0.20	0.24	0.32	0.50	0.80	5.56
Average Total SnowFall (in.)	0.9	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	1.4
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record.

Max. Temp.: 99.1% Min. Temp.: 98.9% Precipitation: 99.6% Snowfall: 99.5% Snow Depth: 99.2%

6.2 Appendix B: Plant species detected at the Desert Grove project site, 2018.

SCIENTIFIC NAME	COMMON NAME
ASTERACEAE	SUNFLOWER FAMILY
<i>Ericameria nauseosa</i> var. <i>mohavensis</i>	Rubber Rabbitbrush
BRASSICACEAE	MUSTARD FAMILY
<i>Hirschfeldia incana</i>	Shortpod or Summer Mustard
CACTACEAE	CACTUS FAMILY
<i>Cylindropuntia echinocarpa</i>	Silver or Golden Cholla
CHENOPODIACEAE	GOOSEFOOT FAMILY
<i>Salsola tragus</i> *	Russian Thistle
ZYGOPHYLLACEAE	CALTROP FAMILY
<i>Larrea tridentata</i>	Creosote Bush
AGAVACEAE	AGAVE FAMILY
<i>Yucca brevifolia</i>	Joshua tree
POACEAE	GRASS FAMILY
<i>Bromus</i> sp.*	Brome grass
<i>Festuca</i> sp.	Fescue
KEY: Asterisk (*) = non-native species; + = sensitive species; Sources: Taxonomy - Hickman (1993), http://ucjeps.berkeley.edu/interchange.html , November 2005; Common names and non-native species designations according to Roberts (1998), then Hickman (1993)	

6.3 Appendix C: California Native Plant Society Categories

CNPS Status based on California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (Tibor 2001):

List 1A: Plants Presumed Extinct in California

The plants of List 1A are presumed extinct because they have not been seen or collected in the wild for many years. Although most of them are restricted to California, a few are found in other states as well. There is a difference between "extinct" and "extirpated." A plant is extirpated if it has been locally eliminated. It may be doing quite nicely elsewhere in its range. All of the plants constituting List 1A meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection) of the California Department of Fish and Game Code and are eligible for state listing.

List 1B: Plants Rare, Threatened or Endangered in California and Elsewhere

The plants of List 1B are rare throughout their range. All but a few are endemic to California. All of them are judged to be vulnerable under present circumstances or to have a high potential for becoming so because of their limited or vulnerable habitat, their low numbers of individuals per population (even through they may be wide ranging), or their limited number of populations. All of the plants constituting List 1B meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection) of the California Department of Fish and Game Code and are eligible for state listing.

List 2: Plants Rare, Threatened or Endangered in California, But More Common Elsewhere

Except for being common beyond the boundaries of California, the plants of List 2 would have appeared on List 1B. Based on the "Native Plant Protection Act," plants are considered without regard to their distribution outside the state. All of the plants constituting List 2 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection) of the California Department of Fish and Game Code and are eligible for state listing.

List 3: Plants About Which We Need More Information—A Review List

The plants that comprise List 3 are an assemblage of taxa that have been transferred from other lists or that have been suggested for consideration. The necessary information that would assign most to a sensitivity category is missing.

List 4: Plants of Limited Distribution—A Watch List

The plants in this category are of limited distribution in California and their vulnerability or susceptibility to threat appears low at this time. While these plants cannot be called "rare" from a statewide perspective, they are uncommon enough that their status should be monitored regularly. Many of them may be significant locally. Should the degree of endangerment or rarity of a plant change, they will be transferred to a more appropriate list.

Threat Code Extensions and their meanings:

- .1- Seriously endangered in California
- .2- Fairly endangered in California
- .3- Not very endangered in California

6.4 Appendix D: Wildlife species detected at the Desert Grove project site, 2018.

FAMILY/SPECIES NAME	COMMON NAME
REPTILIA	REPTILES
PHRYNOSOMATIDAE	ZEBRA-TAILED, EARLESS, FRING-TOED, SPINY, TREE, SIDE-BLOTCHED AND HORNED LIZARDS
<i>Uta stansburiana</i>	Common Side-blotched Lizard
AVES	BIRDS
COLUMBIDAE	PIGEONS AND DOVES
<i>Columba livia</i>	Rock Pigeon
TYRANNIDAE	TYRANT FLYCATCHERS
<i>Sayornis saya</i>	Say's Phoebe
LANIIDAE	SHRIKES
<i>Lanius ludovicianus+</i>	Loggerhead Shrike
CORVIDAE	JAYS AND CROWS
<i>Corvus corax</i>	Common Raven
REMIZIDAE	VERDIN
<i>Auriparus flaviceps</i>	Verdin
POLIOPTILIDAE	GNATCATCHERS AND GNATWRENS
<i>Poliophtila caerulea</i>	Blue-gray Gnatcatcher
PARULIDAE	WOOD-WARBLERS
<i>Setophaga nigrescens</i>	Black-throated Gray Warbler
ICTERIDAE	BLACKBIRDS
<i>Sturnella neglecta</i>	Western Meadowlark
FRINGILLIDAE	FRINGILLINE AND CARDUELINE FINCHES
<i>Haemorhous mexicanus</i>	House Finch
PASSERIDAE	OLD WORLD SPARROWS
<i>Passer domesticus</i>	House Sparrow
MAMMALIA	MAMMALS
LEPORIDAE	RABBITS & HARES
<i>Sylvilagus audubonii</i>	Desert Cottontail
<i>Lepus californicus</i>	Black-Tailed Jackrabbit
SCIURIDAE	SQUIRRELS, CHIPMUNKS & MARMOTS
<i>Ammospermophilus leucurus</i>	White-Tailed Antelope Squirrel
HETEROMYIDAE	POCKER MICE & KANGAROO RATS
<i>Dipodomys deserti</i>	Desert Kangaroo Rat

Sources:

Invertebrates: Powell and Hogue (1979) and Hogue 1993.

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6.5 Appendix E: Desert Grove site photographs 2018.



Photograph 1: Site looking northwest from southeastern corner, October 2018.



Photograph 2: Site looking west from northeastern end adjacent car park, October 2018.



Photograph 3: Trash in basin, northeastern portion of site, October 2018.



Photograph 4: Site looking east along northern boundary from northwestern corner, October 2018.



Photograph 5: Site looking north from west-central area, October 2018.



Photograph 6: Site looking east from west-central area, October 2018.



Photograph 7: Joshua tree #1, southern portion of site, October 2108.



Photograph 8: Joshua tree #2, southern portion of site, October 2108.