Appendix D-4
Draft Biological Resources of Paradise Valley, Psomas, November 6, 2007
DRAFT

BIOLOGICAL RESOURCES OF PARADISE VALLEY
Riverside County, California

November 6, 2007

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1.0 Purpose

The purpose of this biological report is to 1) document the assessment of the presence or absence of important biological resources on the proposed Paradise Valley Project site in southeastern Riverside County, California, 2) analyze the potential impacts to those resources from development of the site, 3) determine the level of significance of those impacts, and 4) recommend mitigation measures to reduce the level of significance of the potential impacts.

This report provides a summary of the biological resources observed present on the site (including plant communities), describes the potential occurrence of listed and sensitive plant and wildlife species, and provides an analysis of the potential biological significance of site development in view of federal, state, and local laws and regulations. This report is also intended to provide sufficient biological resource data and impact analysis for Specific Plan-level project design efforts to proceed in compliance with federal, state, and regional regulations and requirements.

This report was prepared based on analysis of data obtained from a review of existing published and unpublished literature and field surveys.

Project impacts are analyzed in two sections of this report. Section 4.0 addresses impacts in the context of the Coachella Valley Multiple Species Habitat Conservation Plan (MSHCP); project mitigation in the context of the MSHCP is addressed in Section 5.0. As of the date of this report, the MSHCP has not been approved by the involved agencies; therefore, Section 6.0 analyzes impacts in the context of existing regulations absent the MSHCP and would be applicable in the event that the MSHCP is not approved. Section 7.0 presents mitigation measures that would be applicable in the event that the MSHCP is not approved.

Mitigation presented in Section 7.0 is an alternative mitigation program was developed in consultation with the US Fish and Wildlife Service (USFWS), the California Department of Fish and Game (CDFG), Riverside County and the applicant. This program is designed to serve as an alternative to the Coachella Valley MSHCP in the event that plan is not implemented prior to the Project obtaining its first grading permit. This alternative program includes provisions that are consistent with conservation objectives set forth in the MSHCP. In the event the MSHCP is not adopted and implemented prior to the issuance of the first grading permit for the Project, the provisions of this alternative mitigation program will be in effect. In the event the MSHCP is put into effect prior to the issuance of the first grading permit for the Project, the Project will comply with the MSHCP, and the following mitigation program will not be put into effect.

1.1 Project Location

Glorious Land Company proposes to construct the Paradise Valley Project (proposed project), a combined development/open space project, on approximately 6,049 acres (approximately 9.4 square miles) which includes the application for a land exchange with the Bureau of Land Management located in central Riverside County, California (Figure 1, Project Location). The project site is located in unincorporated Riverside County, east of the city of Indio.
The proposed project site can be located on U.S. Geological Survey (USGS) Cottonwood Basin 7.5-minute quadrangle in Township 6 South, Range 10 East and includes Sections 1, 9 through 15, and portions of Sections 2 and 3. U.S. Interstate Highway 10 bisects the proposed project site east of the Coachella Valley and is not part of the project site (Figure 2, Location and Topography).

The site of the proposed project without BLM Section 12 is approximately 5,398 acres (approximately 8.4 square miles) in size.

The site is located in Shavers Valley east of the Coachella Valley. The Cottonwood Mountains are to the north, Chiriaco Summit is to the east, the Oroopia Mountains are to the southeast and south, and the Mecca Hills are to the south and southwest of the project site. Chiriaco Summit separates Shavers Valley from Hayfield Valley to the east. Shavers Valley is geographically separated from the Salton Sea and Coachella Valley by the Oroopia Mountains and Mecca Hills. Elevation of the site ranges from about 1,000 to 2,000 feet above mean sea level (MSL) in the northeastern and northwestern portions.
of the site to about 880 feet above MSL in the southern portion of the site above Box Canyon Wash. The Colorado River Aqueduct tunnel crosses the southern flanks of the Cottonwood Mountains, along the northern boundary of the project site, at an elevation of 1,760 to 1,790 feet above MSL.

1.2 Project Description

1.2.1 Paradise Valley Project

Glorious Land Company proposes to develop approximately 3,648 acres (60 percent of the site) of land in phases and leave approximately 1,999 acres (33 percent of the site) as natural or improved open space. There are approximately 402 acres (7 percent) of the site that are not a part of the project. The developed area, at build-out, would include a mix of commercial, civic and institutional (college), retail, single and multi-family residential, and golf resort uses. At build-out there would be a total of 14,045 single and multi-family dwelling units. An age-restricted (senior) golf-oriented resort-style village is proposed for Section 12.

Under this development scenario, the foothills of the Cottonwood Mountains and Mecca Hills, and a substantial portion of the natural washes and drainages, which account for approximately 1,999 acres, would be largely designated as open space to preserve the scenic and ecological values of the surrounding desert environment.

1.2.2 Paradise Valley without BLM Section 12

Without BLM Section 12 (without BLM scenario), Glorious Land Company proposes to develop approximately 3,018 acres (56 percent of the site) as urban development and leave approximately 1,999 acres (37 percent of the site) as natural or improved open space. There are approximately 381 acres (7 percent) of the site that are not a part of the project. The developed area, at build-out, would include a mix of commercial, civic and institutional (college), retail, single and multi-family residential, and golf resort uses. At build-out there would be a total of 12,339 single and multi-family dwelling units.

This development scenario would also largely designate as Open Space the foothills of the Cottonwood Mountains and Mecca Hills, and a substantial portion of the natural washes and drainages, which account for approximately 1,999 acres.
2.0 Methods

This report was prepared based on analysis of data obtained from a review of existing published and unpublished literature and field surveys.

2.1 Literature Review

Psomas reviewed existing information including: previous biological surveys; land use and conservation plans; previous vegetation mapping; and listed and sensitive species data. Psomas also reviewed aerial photos and records of discussions and agreements with resource agencies. In addition, based on the review of this literature, a preliminary assessment of potential impacts to biological and jurisdictional resources was completed.

2.1.1 Previous Biological Survey Reports

The following biological reports were reviewed:

- Paradise Valley Desert Tortoise Presence/Absence and Zone of Influence Surveys (Psomas 2003)
- Biological Resources of Paradise Valley (Psomas 2002)
- Biological Resources of Paradise Valley (Psomas 2001)
- Interim Wildlife Reconnaissance Report for the Paradise Valley Project (Psomas 2000)
- Joshua City Project: Preliminary Biological Constraints (Tierra Madre Consultants, Inc 1995)

2.1.2 Land Use and Conservation Plans

The following land use and conservation plans were reviewed:

- California Desert Conservation Area Plan (CDCA) (BLM 1999)
- Joshua Tree National Park Plan (NPS 2000)
- Riverside County General Plan & EIR (County of Riverside 2003)
- Final Coachella Valley Multiple Species Habitat Conservation Plan (CVAG February 2006)

2.1.3 Vegetation Mapping

Two completed mapping efforts of vegetation communities associated with the site of the proposed project were reviewed for the preparation of this biological resources report:

Vegetation community mapping prepared by Psomas in 2002 in support of the proposed project;
Vegetation community mapping was prepared in support of the Coachella Valley Multiple Species Habitat Conservation Plan.

The methods and results of the two mapping efforts were reviewed.

2.1.4 Reports of Listed and Sensitive Species

The following reports and data sets were reviewed for information on the status and distribution of listed and sensitive species on and in the vicinity of the site:

- Final Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) (CVAG February 2006),
- California Natural Diversity Database (CNDDB) (CDFG 2006a),
- California Native Plant Society Inventory of Rare and Endangered Plants of California (CNPS 2007),
- State and Federally Listed Endangered and Threatened Animals of California (CDFG 2006b),
- State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFG 2006c),
- Special Animals List (CDFG 2006d),
- Endangered and Threatened Species list for Riverside County (USFWS 2007),
- A Flora of Southern California (Munz 1974).
- The Sibley Field Guide to Birds of Western North America (Sibley 2003).
- Mammals of California (Eder 2005).
- Mammals of North America (Kays et. al. 2002).

A preliminary list of listed and sensitive species was derived from a search of the CNDDB. The CNDDB was queried for the Cottonwood Basin, Rockhouse Canyon, Washington Wash, Porcupine Wash, Thermal Canyon, Cottonwood Spring, Mecca, Mortmar and Oroocopia Canyon USGS 7.5-minute topographic quadrangles. The information obtained from the CNDDB identified the known locations of rare, threatened, and endangered species and significant natural communities in the region and assisted in identifying their potential for occurrence on-site. Psomas also reviewed the CVMSHCP for distribution, life history, and known distribution for plant and wildlife species identified by the literature review.
2.1.5  **Endangered, Threatened, or Candidate Species**

2.1.5.1  **Endangered, Threatened, Candidate or State Rare Plant Species**

As a result of the literature review and agency consultation, two plant species listed as endangered, threatened, candidate, or state rare pursuant to the federal or state Endangered Species Acts were preliminarily identified as having the potential to occur within the Paradise Valley project area or in the vicinity of the Paradise Valley project area. These plant species are listed below.

- Coachella Valley milk-vetch (*Astragalus lentiginosus* var. *coachellae*)
- Triple-ribbed milk-vetch (*Astragalus tricarinatus*)

After review of the above species ranges, habitat requirements and known occurrences, only those species that have the potential to occur within the proposed project area are further analyzed in this report.

2.1.5.2  **Endangered, Threatened or Candidate Wildlife Species**

As a result of the literature review and agency consultation, 12 wildlife species listed as endangered, threatened or candidate pursuant to the federal or state Endangered Species Acts were preliminarily identified as having the potential to occur in the Paradise Valley project area or in the vicinity of the Paradise Valley project area. These wildlife species are listed below.

- Desert pupfish (*Cyprinodon macularius*)
- Desert slender salamander (*Batrachoseps major aridis*)
- Desert tortoise (*Gopherus agassizii*)
- Coachella Valley fringe-toed lizard (*Uma inornata*)
- Flat-tailed horned lizard (*Phrynosoma mcallii*)
- Swainson’s hawk (*Buteo swainsoni*)
- Yuma clapper rail (*Rallus longirostris yumanensis*)
- California black rail (*Laterallus jamaicensis coturniculus*)
- Willow flycatcher (*Empidonax traillii*)
- Southwestern willow flycatcher (*Empidonax traillii extimus*)
- Least Bell’s vireo (*Vireo bellii pusillus*)
- Coachella Valley round-tailed ground squirrel (*Spermophilus tereticaudus chlorus*)

After review of the above species ranges, habitat requirements and known occurrences, only those species that have the potential to occur within the proposed project area are further analyzed in this report.
2.1.6 Sensitive Species

2.1.6.1 Sensitive Plant Species

Eighteen sensitive plant species were preliminarily identified from the literature review and agency consultation as having the potential to occur within or in the vicinity of the Paradise Valley project area. These sensitive plant species are listed below.

- spearleaf (*Matelea parvifolia*)
- California saw-grass (*Cladium californicum*)
- creamy blazing star (*Mentzelia tridentata*)
- Mecca-aster (*Xylorhiza cognata*)
- foxtail cactus (*Coryphantha alversonii*)
- California ditaix (*Ditaxis serrata var. californica*)
- Harwood’s milk-vetch (*Astragalus insularis var. harwoodii*)
- Cove’s cassia (*Senna covesii*)
- Oroopia sage (lavender sage) (*Salvia greatae*)
- chaparral sand-verbena (*Abronia villosa var. aurita*)
- little San Bernardino gilia (*Gilia maculata*)
- Latimer’s woodland-gilia (*Saltugilia latimeri*)
- thorny milkwort (*Polygala acanthocephala*)
- slender woolly-heads (*Nemacaulis denuidata var. gracilis*)
- Las Animas colubrina (California snakebush) (*Colubrina californica*)
- spiny abrojo (bitter snakewood) (*Condalia globosa var. pubescens*)
- Parish’s desert-thorn (*Lycium parishii*)
- ayenia (*Ayenia compacta*)

After review of the above species ranges, habitat requirements and know occurrences, only those that species have the potential to occur within the proposed project area are further analyzed in this report.

2.1.6.2 Sensitive Wildlife Species

Fifty-two sensitive wildlife species were preliminarily identified from the literature review and agency consultation as having the potential to occur within or in the vicinity of the Paradise Valley project area. These sensitive wildlife species are listed below.

- Coachella giant sand treader cricket (*Macrobaeneshes valgum*)
- Coachella Valley Jerusalem cricket (*Stenopelmatus cahuitaensis*)
- cheeseweed moth lacewing (*Oliarces clara*)
- Couch’s spadefoot toad (*Scaphiopus couchii*)
- Mojave fringe-toed lizard (*Uma scoparia*)
- Colorado Desert fringe-toed lizard (*Uma notata*)
- rosy boa (*Charina trivirgata*)
- desert rosy boa (*Lichanura trivirgata gracilis*)
- black-crowned night heron (*Nycticorax nycticorax*)
• snowy egret (*Egretta thula*)
• great egret (*Ardea alba*)
• great blue heron (*Ardea herodias*)
• white-faced ibis (*Plegadis chihi*)
• Cooper’s hawk (*Accipiter cooperii*)
• ferruginous hawk (*Buteo regalis*)
• prairie falcon (*Falco mexicanus*)
• golden eagle (*Aquila chrysaetos*)
• mountain plover (*Charadrius montanus*)
• Van Rossem’s gull-billed tern (*Sternula nilotica vanrossei*)
• black skimmer (nesting colony) (*Rynchops niger*)
• burrowing owl (*Athene cunicularia*)
• Costa’s hummingbird (*Calypte costae*)
• Pacific slope flycatcher (*Empidonax difficilis difficilis*)
• vermilion flycatcher (*Pyrocephalus rubinus*)
• loggerhead shrike (*Lanius ludovicianus*)
• gray vireo (*Vireo vicinior*)
• black-tailed gnatcatcher (*Polioptila melanura*)
• Bendire’s thrasher (*Toxostoma bendirei*)
• California thrasher (*Toxostoma redivivum redivivum*)
• Crissal thrasher (*Toxostoma crissale*)
• Le Conte’s thrasher (*Toxostoma lecontei*)
• yellow warbler (*Dendroica petechia brewsteri*)
• yellow breasted chat (*Icteria virens*)
• chipping sparrow (*Spizella passerina*)
• black chinned sparrow (*Spizella atrigularis cana*)
• summer tanager (*Piranga rubra*)
• California leaf-nosed bat (*Macrotus californicus*)
• Arizona myotis (occult little brown bat) (*Myotis occultus*)
• cave myotis (cave bat) (*Myotis velifer*)
• southern yellow bat (*Lasiusus egas*)
• spotted bat (*Euderma maculatum*)
• Townsend’s big-eared bat (*Corynorhinus townsendii*)
• pallid bat (*Antrozous pallidus*)
• pocketed free-tailed bat (*Nyctinomops femorosaccus*)
• western mastiff bat (California mastiff bat) (*Eumops perotis californicus*)
• Palm Springs pocket mouse (*Perognathus longimembris bangsi*)
• pallid San Diego pocket mouse (*Chaetodipus fallax pallidus*)
• Colorado Valley woodrat (*Neotoma albignula venusta*)
• American badger (*Taxidea taxus*)
• mountain lion (*Puma concolor*)
• southern mule deer (*Odocoileus hemionus fuliginatus*)
• Nelson’s (desert) bighorn sheep (*Ovis canadensis nelsoni*)
After review of the above species ranges, habitat requirements and known occurrences, only those species that have the potential to occur within the proposed project area are further analyzed in this report.

2.1.7  Current Aerial Photos

Psomas obtained recent survey grade, full color digital orthophotography of the site for review and to assist in determining current biological and jurisdictional conditions. The aerial photos had one foot pixel resolution and were georeferenced to California State Plane zone 6, NAD83.

2.1.8  Jurisdictional Waters

As part of the vegetation surveys and mapping, vegetation was evaluated to identify species associated with wetlands and riparian conditions. A detailed delineation of jurisdictional waters will be conducted as part of the permitting processes for the U.S. Army Corps of Engineers, California Department of Fish and Game, and State Water Resources Control Board.

2.1.9  Agency Discussions and Agreements

Psomas reviewed records of discussions with Joshua Tree National Park staff and agreements with the U.S. Fish and Wildlife (USFWS) and California Department of Fish and Game (CDFG) concerning biological resources of the site and potential impacts to those resources.

2.1.10  Reports of Previously Conducted Field Surveys

Between 2000 and 2003 a variety of focused were conducted on the site; site conditions were reassessed in 2006. Following is a list summarizing the surveys conducted on the site, information on survey methodology is provided in the following sections.

2006 – Reconnaissance survey to assess site conditions
2003 – Protocol survey for desert tortoise
2003 – Wildlife inventory
2002 – Small mammal surveys
2002 – Wildlife inventory
2002 – Plant community mapping
2001 – Focused surveys for desert tortoise
2001 – Wildlife inventory
2001 – Botanical surveys
2000 – Botanical surveys
2000 – Survey for desert tortoise

2.1.10.1  Field Surveys 2006

Field surveys were conducted in November 2006 to assess current conditions and determine whether significant changes to biological resources occurred since previous biological surveys. Field surveys were conducted on foot and by vehicle. All areas of the site were observed.
Particular emphasis was placed on assessing any recent changes due to fires, floods, earthquakes or human activities.

2.1.10.2 Vegetation and Sensitive Plant Surveys 2000/2001/2002

Field surveys of vegetation were conducted by Dr. Edith Read (Psomas), Scott D. White (White and Leatherman Bioservices), Jeff Crain (P&D Consultants, Inc.), and Ken McDonald (Chambers Group, Inc.). All of these consulting firms are on the qualified list of biological resource consultants approved by Riverside County. Botanical field surveys were conducted on the project site during September 2000 and from March to May of 2001.

Plant communities were mapped on September 25, 2002. The plant communities were identified and mapped in the field directly on an aerial photo. Aerial photographs were used to determine property boundaries of the site and to assist in the delineation of plant community boundaries. Vegetation mapping was based on a combination of field observation of dominant species, and the Manual of California Vegetation (Sawyer and Keeler-Wolf, 1995).

Voucher specimens collected by Scott D. White were deposited with Rancho Santa Ana Botanical Garden in Claremont, California.

2.1.10.3 General and Sensitive Wildlife Surveys

Wildlife surveys were of two types: 1) inventories of all wildlife species observed during hiking and driving coverage of the Paradise Valley project site, and during focused surveys for desert tortoise and special status small mammals; 2) focused surveys for desert tortoise, Palm Springs pocket mouse, and Coachella Valley round-tailed ground squirrel. These surveys were a combined effort of wildlife biologists from Psomas and Chambers Group, Inc. Below is a list that summarizes the types of all wildlife surveys:

- 2000
  - wildlife inventory
  - desert tortoise surveys
- 2001
  - wildlife inventory
  - focused surveys for desert tortoise
- 2002
  - wildlife inventory
  - focused small mammal surveys
- 2003
  - protocol surveys for desert tortoise

The methods used to detect and identify wildlife included: sight, scat, animal tracks, burrows, nests, and vocalizations. Binoculars were used to aid in the identification of observed wildlife. All wildlife species encountered during the field surveys were identified and recorded. The purpose of the field surveys was not to extensively search for every wildlife species occurring within the study area, but to ascertain general conditions and identify habitat areas that could be suitable for listed and sensitive wildlife species.
During the field surveys, the potential for species listed in Table 1 to occur was assessed as low, moderate, or high. Wildlife field guides and photographs were used to assist with identification of wildlife species during the field surveys.

Because no sensitive insect or arthropod species were identified as issues during the pre-survey review, a detailed insect and arthropod survey was not attempted.

### 2.1.10.4 2001 Focused Desert Tortoise Surveys

Signs and burrows of desert tortoise were recorded as encountered during Psomas' general wildlife survey of the site during the May through August period in 2000. In addition, focused surveys were conducted June 2-6, 2001 for desert tortoise using the line distance sampling methodology. The USFWS approved the methodology and personnel for the surveys prior to the commencement of the surveys (P. Medica – Southern Nevada Field Office – letter to E. Read dated May 8, 2001; letter copied to M. McDonald – Carlsbad Field Office).

The Chambers Group, Inc. used the line-distance sampling method, which followed the protocol outlined in an Introduction to Density Monitoring of Desert Tortoise Populations Using the Line Distance Sampling Technique (Medica 2001). A total of 50 transects covering more than 49 linear miles were surveyed using the above methodology. Survey protocols followed line distance sampling and were conducted by biologists from the Chamber's Group under the permit of Kathy Buescher (Permit# TE-702631) and on the USFWS approved list of qualified individuals. A total of 50 square transects were surveyed. Each transect was 1.6 kilometers in length (400 m per side) and was surveyed between 6:00 am and 1:00 pm each day from June 2 and June 6, 2001.

As part of the survey protocols and concurrent with the Paradise Valley surveys, a known reference group of tortoises was monitored at Sand Hill, Twentynine Palms to determine the percentage of animals visible to surveyors at the time of sampling in the Paradise Valley project area. This information provides a basis for assessing accuracy of tortoise density estimation in areas that have not been previously surveyed.

### 2.1.10.5 2003 Protocol Desert Tortoise Surveys

The survey was conducted in accordance with 1992 USFWS Field Survey Protocol for Any Federal Action That May Occur within the Range of the Desert Tortoise. Prior to the initiation of the surveys, Chris Otahal of the USFWS (Carlsbad Field Office) and Kim Nichol of CDFG approved the proposed survey methodology and qualifications of the biologists (C. Otahal, personal communication to E. Read via email, March 25-26, 2003; K. Nichol, personal communication to E. Read via email, March 17, 2003).

All of the USFWS 1992 protocol requirements were followed during the 2003 survey. The 1992 protocol requires that the property be 100% visually covered by walking transects 30 feet wide or less and that zone of influence surveys be conducted around the site. Zone of influence surveys must be conducted in potentially suitable tortoise habitats along transects at 100, 300, 600, 1,200, and 2,400-foot intervals from and parallel to the site boundary.
The 1992 USFWS protocol suggest that all surveys should be conducted between March 25 and May 31. Consistent with this recommendation, the 2003 survey was conducted between April 1 and May 22. When a burrow or other suitable cover site was encountered a hand-held mirror was used to assess the status of the burrow. No fiber-optic scopes or video cameras were placed inside tortoise burrows. No live tortoises were touched, handled, or harassed in any manner during the survey.

2.1.10.5.1 Orientation
Prior to walking transects, a day-long comprehensive orientation was conducted for the field crew. The orientation was conducted in sections of the property containing known locations of tortoise sign. Orientation included a demonstration in the use of the hand-held global positioning system (GPS) units for navigational and data recordation purposes, a discussion of the field methodology, proper use of data sheets, basic tortoise ecology, and a discussion of the classification of tortoise sign that would be encountered.

2.1.10.5.2 Navigation
The surveyors used GPS units to follow previously established transect lines during the 2003 surveys.

A combination of survey-grade geographical information system (GIS) mapping and navigation grade Wide Area Augmentation System (WAAS) enabled GPS was used to accurately navigate the property in an efficient and reproducible manner. In order to more efficiently, manage field crews and systematically track survey progress, transects lines were developed in each of the USGS sections within the site based on previously surveyed section corners. Computer Aided drafting (CAD) based line work from a recently certified American Land Title Association (ALTA) survey of the property, including section corners and section lines, was imported into the GIS. A transect origin point was established at the most southwesterly section corner of the property. From this point, a master set of 30 feet parallel transect lines, oriented at 0 degrees north was established and propagated across the entire property.

This master set of transect lines was then clipped using each individual section to generate independent sets of transect lines based on the section number. Subsequently, each section consisted of at least 176 transects, each with north and south reference waypoints. Because the transect origin points were established based on the actual surveyed section corners and section lines, as opposed to those shown on the USGS topography map or arbitrary locations chosen in the field, the entire transect grid was locked into the real world locations on the site.

Transect lines were navigated in a north-south orientation using hand-held GPS units.

2.1.10.5.3 Standardized Data Sheets
Data sheets were utilized in the field to record pertinent information about survey conditions and tortoise sign. Each crewmember was responsible for the completion of a data sheet at the conclusion of each transect walked. Information recorded included: desert tortoise sign, time of day transect started and stopped, temperature at the beginning and end of each transect, section and transect number, local landform and vegetation, and weather conditions.
When tortoise sign was encountered, all relevant information associated with the sign, and required by the 1992 protocol, was recorded. Type of sign encountered was recorded along with all measurements, quantities, classes, descriptions, and GPS coordinates. A GPS location was recorded for each sign found.

2.1.10.6 2002 Focused Small Mammal Surveys

Small mammal surveys were conducted in 2002. Live-trapping surveys were conducted from May 13 to May 17, 2002 and from May 24 to May 28, 2002. Ms. Kathy Buescher of Chambers Group, Inc. served as principal investigator for the trapping study under authority of a CDFG Memorandum of Understanding (MOU) between CDFG and Chambers Group, Inc. dated May 8, 2002. The MOU also approved the proposed trap locations and methodology.

A total of six live trapping grid locations were randomly selected using geographic coordinates representing the extent of the Paradise Valley project site. Each trapping grid consisted of 50 traps in two lines of 25 traps each. The two trap lines were set 10 meters apart from one another. In total there were 300 traps spread across representative geographic locations on the site.

The live traps were left open during the day and checked at intervals of four hours or less until approximately one hour before sunset. At approximately one hour before sunset the traps were left open, and checked within two hours of sunrise the following day. If during the day the temperature reached 90°F in the shade, traps were shut until the temperature decreased. The traps were baited with a mixture of birdseed, oats, and peanut butter each time they were opened or when an animal was removed from the trap.

2.2 Listed and Sensitive Species with Potential to Occur on Site

Species that occur within the Lower Colorado Valley Desert Bioregion of Southern California, in which the project site is located, are listed in the PTO table below. The mountain lion (*Puma concolor*) is a CDFG fully protected species (Section 3.7.2.2). It is listed below in the PTO table, but does not have sensitive species designation.

Table 1, *Listed and Sensitive Species Having the Potential to Occur Within the Proposed Project Area*, summarizes results and conclusions from previous field surveys and the literature review with regard to the potential for the occurrence of listed, candidate, state rare and sensitive plant and wildlife species within areas potentially impacted by the Paradise Valley project.
Table 1
Listed and Sensitive Species Having the Potential to Occur Within the Project Area

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Status</th>
<th>General Habitat Description</th>
<th>General Distribution</th>
<th>Potential For Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Astragalus</em></td>
<td>Coachella Valley milk-vetch FE, CNPS: 1B</td>
<td>The Coachella Valley milk-vetch occurs in dunes and sandy flats, along the disturbed margins of sandy washes, and in sandy soils along roadways, in areas formerly occupied by undisturbed sand dunes. Within the sand dunes and sand fields, this milk-vetch tends to occur in the coarser sands at the margins of dunes, not in the most active blow sand areas. As this species is strongly affiliated with sandy substrates, it may occur in localized pockets where sand has been deposited by wind or by active washes. It may also occur in sandy substrates in creosote bush scrub, not directly associated with sand dune habitats. Blooming period: Feb – May.</td>
<td>The distribution of this species is restricted to the Coachella Valley in Riverside County, between Cabazon and Indio, with the exception of six outlying occurrences within a 5-mile area along Rice Road in the Chuckwalla Valley north of Desert Center. Elevation range: 131-2,148 feet MSL.</td>
<td>Low potential to occur. The proposed project site contains a limited amount of potentially suitable habitat for Coachella Valley milk-vetch. The proposed project site is outside the known range of this species.</td>
<td></td>
</tr>
</tbody>
</table>

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<tr>
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<tr>
<td>Matelea parvifolia</td>
<td>spearleaf CNPS: 2</td>
<td>Found in Mojavean desert scrub, creosote desert scrub, and Sonoran desert scrub on dry, rocky ledges and slopes. Blooming period: Mar - May.</td>
<td>Found in San Bernardino, Riverside and San Diego counties. Elevation range: 1,443 – 3,591 feet MSL.</td>
<td>Low to Moderate potential to occur. Not observed during surveys but habitat is present.</td>
<td></td>
</tr>
<tr>
<td>Xylorhiza cognata</td>
<td>Mecca-aster CNPS: 1B</td>
<td>It typically occurs on fluvial mud hills in washes and along lower slopes. Most of the known occurrences are along roads or well-traveled hiking routes. Also found on steep canyon slopes within Sonoran desert scrub. Blooming period: Jan - Jun</td>
<td>Mecca Aster is endemic to the Indio Hills and the Mecca Hills of Riverside County. It is known to occur from Maconmer Palms and Eiskra Palms on the Coachella Valley Preserve east along the base of the Indio Hills. The easternmost location in the Indio Hills is in the vicinity of</td>
<td>Low potential to occur. Not observed during surveys and Project area is outside of known elevation range of species.</td>
<td></td>
</tr>
<tr>
<td>Scientific Name</td>
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<tr>
<td><em>Coryphantha aiversonii</em></td>
<td>foxtail cactus</td>
<td>CNPS: 4</td>
<td>Occurs in Mojavean desert scrub and Sonoran desert scrub. Found in sandy or rocky habitats, usually granitic. Also found in gravelly slopes and dissected alluvial fans. Blooming period: Apr – Jun.</td>
<td>Curtis Palms. In the Mecca Hills, it occurs in Painted Canyon, in Box Canyon along Hwy 195, and in Hidden Spring Canyon. Has also been found in Imperial County.</td>
<td>Moderate potential to occur. Not observed during surveys, but a closely related species (<em>Mammillaria tetragancistra</em>) was observed, and pockets of suitable habitat are present.</td>
</tr>
<tr>
<td><em>Astragalus insularis var. harwoodii</em></td>
<td>Harwood's milk-vetch</td>
<td>CNPS: 2</td>
<td>Occurs in desert dunes and Mojavean desert scrub, on sandy or gravelly soils.</td>
<td>Found in San Bernardino, Riverside, and Imperial counties. Elevational range: 246 – 5,000 feet MSL.</td>
<td>Low to Moderate potential to occur.</td>
</tr>
<tr>
<td><em>Cladium californicum</em></td>
<td>California saw-grass</td>
<td>CNPS: 2</td>
<td>Occurs in freshwater and alkali marshes and seeps.</td>
<td>Elevational range: 200 to 1,975 feet MSL.</td>
<td>Low potential to occur.</td>
</tr>
<tr>
<td><em>Mentzelia tridentata</em></td>
<td>creamy blazing star</td>
<td>CNPS: 1B</td>
<td>Occurs in Mojavean desert scrub.</td>
<td>Elevational range: 2,295 to 3,805 feet MSL.</td>
<td>Low potential to occur.</td>
</tr>
<tr>
<td><em>Ditaxis serrata var. californica</em></td>
<td>California ditaxis</td>
<td>CNPS: 3</td>
<td>Found within Sonoran desert scrub on sandy washes and alluvial fans of the foothills and lower desert slopes. Blooming period: Mar – Dec.</td>
<td>Found in San Bernardino, Riverside, San Diego and Imperial counties. Elevational range: 100 – 3,280 feet MSL.</td>
<td>Low to Moderate potential to occur. Not observed during surveys but habitat is present.</td>
</tr>
<tr>
<td><em>Calliandra eriophylla</em></td>
<td>fairyduster, false mesquite</td>
<td>CNPS: 2</td>
<td>Found within Sonoran desert scrub on sandy or rocky sites. Blooming period: Jan – Mar.</td>
<td>Found in Imperial, Riverside, and San Diego Counties. Elevational range: 393-4,920 feet MSL.</td>
<td>Low potential to occur. Not observed during surveys, and project is outside known range.</td>
</tr>
<tr>
<td><em>Senna covesii</em></td>
<td>Cove’s cassia</td>
<td>CNPS: 2</td>
<td>Found on dry, sandy desert washes and on slopes within Sonoran desert scrub. Blooming period: Mar – Jun.</td>
<td>Found in Imperial, Riverside, San Bernardino and San Diego counties. Elevational range: 1,000 – 3,510 feet MSL.</td>
<td>Low to Moderate potential to occur. Not observed during surveys but habitat is present.</td>
</tr>
<tr>
<td><em>Salvia greatae</em></td>
<td>Orocoipa sage, lavender sage</td>
<td>CNPS: 1B</td>
<td>Found in Mojavean desert scrub and Sonoran desert</td>
<td>The Orocoipa sage is endemic to the</td>
<td>Low to Moderate potential to occur.</td>
</tr>
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<tr>
<td><em>Proboscidea althaefolia</em></td>
<td>desert unicorn plant, desert devil's claw</td>
<td>CNPS: 4</td>
<td>Found on gently sloping sandy flats and washes in Sonoran desert scrub. Blooming period: May – Aug.</td>
<td>Found in San Bernardino, Riverside, San Diego, and Imperial Counties. Elevational range: 492 – 3,280 feet MSL.</td>
<td>Low to Moderate potential to occur. Not observed during surveys but habitat is present.</td>
</tr>
<tr>
<td><em>Linanthus maculatus</em></td>
<td>Little San Bernardino Mountains linanthus</td>
<td>CNPS: 1B</td>
<td>Found in sandy places in desert dunes, Joshua tree woodlands, Mojavean desert scrub, and Sonoran desert scrub. Often found in washes or bajadas. The preferred habitat of little San Bernardino Mountains linanthus is in loose, soft, sandy soils on low benches along washes, generally where the substrate shows some evidence of water flow. It is known from fewer than fifteen occurrences near Joshua Tree National Park in Riverside and San Bernardino Counties. Population of this species also found in San Diego County. Found in a restricted range in the vicinity of the Little San Bernardino Mountains near Desert Hot Springs.</td>
<td></td>
<td>Moderate potential to occur. Not observed during surveys; however, the project site contains suitable habitat, and there are two recorded occurrences within 30 miles of the project site. The species has also been observed during surveys but habitat is present.</td>
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<tr>
<td>Polygala acanthoclada</td>
<td>thorny milkwort</td>
<td>CNPS: 2</td>
<td>Chenopod scrub, Joshua tree woodland and Pinyon and juniper woodland. Blooming period: May – Aug.</td>
<td>Found in San Bernardino and Riverside counties. Elevation range: 2,492 – 7,494 feet MSL.</td>
<td>Low potential to occur. The project site does not contain suitable habitat to support thorny milkwort. The project site is also outside the known range of this species.</td>
</tr>
<tr>
<td>Nemacaulis denuidata var. gracilis</td>
<td>slender woolly-heads</td>
<td>CNPS: 2</td>
<td>Found in dunes or sand of desert dunes, Sonoran desert scrub, and coastal dunes. Blooming period: Mar - May.</td>
<td>Found in Riverside, San Bernardino, San Diego and Imperial counties. Elevation range: -164 – 1,312 feet MSL.</td>
<td>Low to Moderate potential to occur. Not observed during surveys but habitat is present.</td>
</tr>
<tr>
<td>Colubrina californica</td>
<td>Las Animas colubrina, California snakebush</td>
<td>CNPS: 2</td>
<td>Found on narrow, steep, rocky ravines or washes within Sonoran desert scrub and Mojavean desert scrub</td>
<td>Found in Riverside, San Diego and Imperial counties. Elevation range: 32 – 3,280 feet MSL.</td>
<td>Low potential to occur. Not observed during surveys.</td>
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<tr>
<td>Condalia globosa var. pubescens</td>
<td>spiny abrojo, bitter snakewood, spiny crucillo</td>
<td>CNPS: 4</td>
<td>Blooming period: Apr – Jun. Found in creosote bush scrub/Sonoran desert scrub. Blooming period: Mar – May.</td>
<td>Found in Riverside and Imperial counties. Elevational range: 460 – 3,280 feet MSL.</td>
<td>Low to Moderate potential to occur. Not observed during surveys, but habitat is present in areas designated for open space including the Cottonwood Mtn. foothill area, and the canyon areas of the offered properties.</td>
</tr>
<tr>
<td>Lycium parishii</td>
<td>Parish's desert-thorn</td>
<td>CNPS: 2</td>
<td>Found in coastal sage scrub and Sonoran desert scrub. Blooming period: Mar – Apr.</td>
<td>Found in Riverside, San Diego and Imperial counties. Elevational range: 1,000 – 3,280 feet MSL.</td>
<td>Moderate potential to occur. Lycium was observed uncommonly during surveys, however, identification of many plants could not be confirmed due to poor vegetative condition.</td>
</tr>
</tbody>
</table>

**Listed Endangered, Threatened, and Candidate Wildlife**

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<thead>
<tr>
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<tbody>
<tr>
<td>Batrachoseps major aridus</td>
<td>desert slender salamander</td>
<td>FE, SE</td>
<td>Desert slender salamanders have been found in a single area that includes desert fan palm oasis, desert wash, and desert scrub habitats. It is found in crevices between limestone sheets and under limestone slabs and other rocks along the base of cliffs where continuous water seepage occurs. Wet seeps are necessary for the existence of this species. Can also be found in holes in moist soil on canyon walls. This salamander is known only from Hidden Palm Canyon, a tributary of Deep Canyon, about 10 miles south of Palm Desert, Riverside County in the Santa Rosa Mountains; and nearby Guadalupe Canyon, Riverside County. Found at an elevation of about 2,800 feet MSL.</td>
<td></td>
<td>Low potential to occur. Outside of known range.</td>
</tr>
<tr>
<td>Gopherus agassizii</td>
<td>desert tortoise</td>
<td>FT, ST</td>
<td>It is most common in desert scrub, desert wash,</td>
<td>In California desert tortoises occur in the</td>
<td>Present. The Project is located</td>
</tr>
<tr>
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<tr>
<td>Uma inornata</td>
<td>Coachella Valley fringe-toed lizard</td>
<td>FT, SE</td>
<td>This species is restricted to areas of fine, windblown sand deposits (for burrowing) in the sandy plains, sand hummocks, and mesquite dunes and it occurs wherever there are large patches of the appropriate substrate. It is associated with sparse desert scrub, alkali scrub, and desert wash habitats. In November, when temperatures cool, the lizard goes underground, either burying itself or digging a tunnel. It remains until February.</td>
<td>Found in the Coachella Valley, Riverside County from near sea level to around 1,600 feet MSL. This species exists today only in pockets of undeveloped land and in preserve areas.</td>
<td>Not expected to occur on site. No habitat on site. Project site is on the edge of the known range.</td>
</tr>
</tbody>
</table>

Joshua tree habitats and flat desert having sandy or gravely soil, but occurs in almost every desert habitat except on the most precipitous slopes. They inhabit river washes, rocky hillsides, and flat desert. They spend most nearly all of its time waiting out extreme temperatures in its underground burrows. They are active primarily during late winter and spring. By October, most have begun their winter hibernation. Tortoises require friable soils for burrow construction and grasses or other low growing vegetation (wildflowers) for food. Mojave and Sonoran deserts including the Colorado Desert Subdivision in California from below sea level to 5,241 feet MSL. In California, desert tortoises occur in northeastern Los Angeles, eastern Kern, and southeastern Inyo counties, and over most of San Bernardino, Riverside, and Imperial counties. In California, the tortoise is naturally absent from most areas west of the Salton Sea. Thus the Imperial Valley and portions of the southern Coachella Valley do not support native populations of tortoises. Tortoises, however, are found naturally along the northern, eastern and western rim of the Coachella Valley in the foothills of the Little San Bernardino Mountains, the Painted and Whitewater Hills (in the latter they are common), and the San Jacinto and northern Santa Rosa Mountains. | within the United States Fish and Wildlife Service (USFWS) designated as critical habitat (CHU), and the Bureau of Land Management (BLM)/California Department of Fish and Game (CDFG) Southern California Recovery Unit, for the Desert Tortoise. Live tortoises were observed on site during 2002 general wildlife surveys and during 2003 focused protocol surveys. |
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<tbody>
<tr>
<td>Phrynosoma mcallii</td>
<td>flat-tailed horned lizard</td>
<td>FPT, SSC, BLMS</td>
<td>Flat-tailed horned lizard is a specialized sand-dweller seen in areas with shifting sand substrate to forage. This lizard is restricted to areas of fine, wind-blown sand deposits and sparse vegetation in desert washes and desert flats and ants as its prey. The best habitat consisted of hard packed sand or desert pavement overlain with fine blow sand. It is probably most abundant in areas of creosote bush and is found in desert scrub, wash, succulent shrub, and alkali scrub habitats.</td>
<td>In California, it occurs throughout most of the Colorado Desert from the northern end of the Coachella Valley in central Riverside County, southwest to eastern San Diego and Imperial counties to the Mexican border. Its known elevational range extends from 170 feet below sea level at Frink, Imperial County, California to 820 feet on Superstition Mountain, Imperial County.</td>
<td>Low. The proposed project site supports potentially suitable habitat and the project site is on the edge of the known range.</td>
</tr>
<tr>
<td>Micrathene whitneyi</td>
<td>elf owl</td>
<td>SE (nesting)</td>
<td>Elf owls arrive on their California breeding grounds in March, after migrating from wintering grounds in Mexico and Central America. They nest the scant remaining desert riparian forests of cottonwood, mesquite, sycamore and willow along the lower Colorado River. Absent from desert riparian habitat dominated by salt cedar. They nest primarily in trees and saguaros, in natural cavities or those excavated by woodpeckers. They often select cavities in dead branches. Trunks must be thick enough to keep out the desert heat. Elf owls are found in desert lowlands and desert foothills.</td>
<td>They are now limited in range to a 125 mile stretch of the Colorado River from just north of Needles in San Bernardino County south to Walter's Camp near Palo Verde in Imperial County and at Corn Springs in Riverside County. Since 1970, reported only north of Needles, 22 miles north of Blythe, Riverside County, and at Corn Springs. West of the Colorado River, there are records at the bases of Cottonwood Springs and Corn Springs, Riverside County.</td>
<td>Not expected to occur. No habitat on site. Project is outside of the species known range.</td>
</tr>
<tr>
<td>Melanerpes uropygialis</td>
<td>Gila woodpecker</td>
<td>SE</td>
<td>This species is a primary cavity nester. It is a permanent resident of mature cottonwood/willow riparian forest and mesquite riparian woodland. Occurs mostly in desert riparian and desert wash habitats, but also found in orchard-vineyard and urban habitats, particularly in shade trees and date palm groves.</td>
<td>The Gila woodpecker is restricted to scattered locations along the Colorado River between Needles, San Bernardino County and Yuma and at Brawley south of the Salton Sea in the Imperial Valley of Imperial County.</td>
<td>No potential to occur. No habitat on site. Project site is outside known range.</td>
</tr>
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PSOMAS
November 6, 2007
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<tbody>
<tr>
<td>Buteo swainsoni</td>
<td>Swainson's hawk</td>
<td>ST (nesting),</td>
<td>Swainson's hawks require large, open areas with abundant prey in association with suitable nest trees. Suitable foraging areas include native grasslands or lightly grazed pastures and croplands, open deserts, sparse shrub lands. Swainson's hawks often nest peripherally to riparian systems of the valley as well as utilizing lone trees or groves of trees, such as oaks, cottonwoods, walnuts and willows, adjacent to their hunting areas. In the Great Basin, they typically nest in juniper trees of juniper-sage flats not near riparian zones.</td>
<td>Most nesting is confined to the Central Valley, Klamath Basin and parts of the Great Basin where suitable nesting and foraging habitat is still available. About two-thirds of the statewide population nest in the southern Sacramento Valley and northern San Joaquin Valley regions. Moderate numbers nest in northeastern California and the Klamath Basin. Several pairs have nested in southern Mono County and the Owens Valley in Inyo County. They are an uncommon breeding resident and migrant in the Mojave Desert and very limited breeding has been reported from Lanfair Valley, Owens Valley, Fish Lake Valley, Antelope Valley, southern Kern County, northern Los Angeles County and in eastern San Luis Obispo County. In southern California, now mostly limited to spring and fall transient.</td>
<td>Observed</td>
</tr>
<tr>
<td>Empidonax traillii</td>
<td>willow flycatcher</td>
<td>SE (nesting)</td>
<td>A rare to locally uncommon, summer resident in wet meadow and montane riparian habitats. Most often occurs in broad, open river valleys or large mountain meadows with lush growth of shrubby willows. They require dense willow thickets for nesting and roosting. Low, exposed branches are used for singing posts and hunting perches.</td>
<td>Willow flycatchers are common throughout the state in migration, especially in fall migration from mid-August to early September. Spring migration peaks mid-May. During the breeding season (May through August) they are very rare and are confined to a few locations. Regular nesting is currently known only from a few mountain meadows in the Sierra Nevada and several rivers in Trinity, Inyo, Kern, Santa</td>
<td>Low. No nesting habitat on site.</td>
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</tr>
<tr>
<td><em>Empidona</em> <em>x</em> <em>traillii extimus</em></td>
<td>South-western willow flycatcher</td>
<td>FE, SE (nesting)</td>
<td>Southwestern willow flycatchers typically arrive in southern California at the end of April and adults depart from the breeding territory in mid-August to early September. They are restricted to riparian woodlands along streams, rivers, wetlands and marshes with mature, dense stands of willows, cottonwoods, or smaller spring fed or boggy areas with willows or alders. Riparian habitat provides both breeding and foraging habitat for the species. The southwestern willow flycatcher nests from zero to 13 feet above ground in thickets of trees and shrubs approximately 13 to 23 feet tall with a high percentage of canopy cover and dense foliage. Nesting willow flycatchers invariably prefer areas with surface water nearby.</td>
<td>It occurs from near sea level to over 8,500 feet MSL, but is primarily found in lower elevation riparian habitat in southern California. Breeds in California from the Mexican border north to Independence in the Owens Valley, the South Fork Kern River, and Santa Ynez River in Santa Barbara County. River systems where the flycatchers persist include the Colorado, Owens, Kern, Mojave, Santa Ana, Pilgrim Creek, Santa Margarita, San Luis Rey, San Diego, San Mateo Creek, San Timoteo Creek, Santa Clara, Santa Ynez, Sweetwater, San Dieguito, and Temecula Creek.</td>
<td>Low. No nesting habitat on site.</td>
</tr>
<tr>
<td><em>Vireo bellii pusillus</em></td>
<td>least Bell's vireo</td>
<td>FE, SE (nesting)</td>
<td>Least Bell's vireos primarily occupy riverine riparian habitats that typically feature dense cover within 1-2 m of the ground and a dense, stratified canopy. Typically it is associated with southern willow scrub, cottonwood-willow forest, mule fat scrub, sycamore alluvial woodland, coast live oak riparian forest, arroyo willow riparian forest, or mesquite in desert localities. It uses habitat which is limited to the immediate vicinity of water courses. 2,000 feet elevation in the interior.</td>
<td>A spring and summer resident of southern California. Except for a few outlying pairs, the subspecies is currently restricted to southern California south of the Tehachapi Mountains, along the coast and the western edge of the Mojave desert to northwestern Baja California below 2,000 feet in elevation. Breeding pairs have been observed in the counties of Monterey, San Benito, Inyo, Santa Barbara, San Bernardino, Ventura, Los Angeles, Orange, Riverside, and San Diego.</td>
<td>Low. No nesting habitat on site.</td>
</tr>
<tr>
<td><em>Cyprinodon macularius</em></td>
<td>desert pupfish</td>
<td>FE, SE</td>
<td>Desert pupfish inhabit isolated seeps, desert ponds, salty marshes, desert hot springs.</td>
<td>The surviving natural populations of desert pupfish in California are confined to the</td>
<td>Not expected to occur. The project site does not contain suitable habitat.</td>
</tr>
<tr>
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<tr>
<td><em>Spermophilus tereticaudus chlorus</em></td>
<td>Coachella Valley round-tailed ground squirrel</td>
<td>FC, SSC</td>
<td>The Coachella Valley round-tailed ground squirrel is typically associated with sand fields and dune formations, although it does not require active blow sand areas. They prefer open, flat, grassy areas in fine-textured, sandy soil within desert succulent scrub, desert wash, desert scrub, alkali scrub, and leves. They seem to prefer areas where hummocks of sand accumulate at the base of large shrubs that provide burrow sites and adequate cover. They may also be found in areas where sandy substrates occur in creosote bush scrub and desert saltbush or desert sink scrub that supports herbaceous growth. They may occur in areas of more coarse sands, associated with washes.</td>
<td>Habitat to support the desert pupfish. The project site is also outside the known range of this species.</td>
<td>Observed</td>
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**Sensitive Wildlife**

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<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Status</th>
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<tbody>
<tr>
<td><em>Scaphiopus couchii</em></td>
<td>Couch's spadefoot toad</td>
<td>SSC, BLMS</td>
<td>This species frequents arid and semi-arid habitats occurring along desert washes, in desert riparian, palm oasis, desert succulent shrub, and desert scrub habitats. It is also found in cultivated cropland areas. Couch's</td>
<td>In California, it is known only from the western side of the Colorado River from Chemehuevi Wash, San Bernardino County, southward to the vicinity of Ogilby, Imperial County. In</td>
<td>Not expected to occur on site. Pools after rains are unlikely to persist long enough on site for breeding.</td>
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<tr>
<td><em>Charina trivirgata</em></td>
<td>rosy boa</td>
<td>BLMS</td>
<td>Desert and chaparral from the coast to the Mojave &amp; Colorado deserts. Prefers moderate to dense vegetation &amp; rocky cover. Habitats with a mix of brushy soil &amp; rocky soil such as coastal canyons &amp; hill sides, desert canyons, washes &amp; mountains</td>
<td>California, its known elevation range extends from 690 (near Palo Verde, Imperial County) to 1,120 (at Imperial Gables, Imperial County).</td>
<td>Moderate to high. The proposed project site supports potentially suitable habitat. Found in Joshua Tree National Park.</td>
</tr>
<tr>
<td><em>Uma notata</em></td>
<td>Desert fringe-toed lizard</td>
<td>SSC, BLMS</td>
<td>This species is a habitat specialist that is totally restricted to habitats of aeolian sand. It is restricted to fine, loose, wind-blown sand dunes, dry lakebeds, sandy beaches or river banks, desert washes, and sparse desert scrub.</td>
<td>In California, its range extends from northeastern San Diego County through the southern two-thirds of Imperial County to the Colorado River. Its known elevational ranges extend from below sea level at −242 feet (at the edge of the Salton Sea, Imperial County) to 590 feet (northeast of Borrego Springs, San Diego County).</td>
<td>Not expected to occur. Known range is approximately 90 miles south of the project site. No aeolian sands on site.</td>
</tr>
<tr>
<td><em>Uma scoparia</em></td>
<td>Mojave fringe-toed lizard</td>
<td>SSC, BLMS</td>
<td>Throughout most of its range, this species is found in creosote bush scrub. It is restricted to fine, loose, wind-blown deposits in sand dunes, dry lake beds, river banks, desert washes, sparse alkali scrub and desert shrub habitats.</td>
<td>The known distribution of this near-endemic to California extends from extreme southern Inyo County through most of San Bernardino County and rarely into the northeast corner of Los Angeles County southward and eastward through the eastern half of Riverside County to the vicinity of Blythe. Its known elevational range extends from</td>
<td>Low potential to occur. No aeolian sands on site.</td>
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<tr>
<td>Aquila chrysaetos</td>
<td>golden eagle</td>
<td>SSC (nesting and wintering)</td>
<td>Range-wide, golden eagles occur locally in open country such as tundra, open coniferous forest, sage-juniper flats, desert, barren areas, especially in rolling foothills and mountainous regions. Within southern California, the species favors grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Uses rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, and cliffs and rock outcrops. Nesting is primarily restricted to rugged, mountainous country. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.</td>
<td>Within California the distribution, abundance, and seasonality of the golden eagle is described as: uncommon permanent resident and migrant throughout California, except center of Central Valley. It ranges from sea level up to 11,500 feet MSL.</td>
<td>Moderate. Suitable habitat on site.</td>
</tr>
<tr>
<td>Accipiter cooperii</td>
<td>Cooper's hawk</td>
<td>SSC (nesting)</td>
<td>The Cooper's hawk breeds primarily in riparian areas and oak woodlands and apparently is most common in montane canyons. It frequents landscapes where wooded areas occur in patches and groves and often uses patchy woodlands and edges with snags for perching. Dense stands with moderate crown-depths are usually used for nesting. They hunt in broken woodland and habitat edges. Within the range in California, it most frequently uses dense stands of live oak, riparian deciduous, or other forest habitats near water. They are also found and can breed in suburban and urban settings.</td>
<td>In California the Cooper's hawk is a breeding resident throughout most of the wooded portion of the state. It breeds in the southern Sierra Nevada foothills, New York Mountains, Owens Valley, and other local areas in southern California. Its breeding range is from sea level to above 9,000 feet MSL. In southern California, the species is present year-round nearly throughout the state, except for the Colorado River and desert areas, where the species no longer breeds.</td>
<td>High. Suitable habitat on site.</td>
</tr>
<tr>
<td>Buteo regalis</td>
<td>ferruginous hawk</td>
<td>SSC wintering, BLMS</td>
<td>An occupant of open dry country. Within California, ferruginous hawks winter</td>
<td>In the winter, ferruginous hawks can be found throughout</td>
<td>Low. Nearest reported occurrence in</td>
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<tr>
<td><em>Falco mexicanus</em></td>
<td>prairie falcon</td>
<td>SSC (nesting)</td>
<td>Habitat use of the prairie falcon includes annual grasslands to alpine meadows, but they are also associated primarily with perennial grasslands, savannas, rangeland, some agricultural fields, desert scrub areas and even marshland and ocean shores. The species requires sheltered cliff ledges for cover and nesting which may range in height from low rock outcrops of thirty feet to vertical, 400 feet high (or more) cliffs and typically overlook some treeless country for hunting.</td>
<td>California, with the exception of the extreme northeastern and northwestern regions. However, they are most common in the southern region of the state. It is migratory; it generally arrives in California in September and departs by mid-April. There are no breeding records from California.</td>
<td>San Jacinto.</td>
</tr>
<tr>
<td><em>Charadrius montanus</em></td>
<td>mountain plover</td>
<td>SSC (wintering)</td>
<td>Within California, they winter in open plains with low, herbaceous or scattered shrub vegetation; it may occur in areas with sparse shrub cover, but avoids high and dense cover. Within southern California, the largest numbers of birds occur in short grasslands and freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. They prefer short vegetation, bare ground.</td>
<td>It does not nest in California. It occurs within the state only during the wintering season. It is a winter resident from September through March with peak arrival in November. Currently, Mountain Plovers winter in flocks in the Sacramento and San Joaquin valleys, in central and south-coastal California, east locally to the</td>
<td>Low. No suitable habitat on site.</td>
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<tr>
<td>Athene cunicularia</td>
<td>burrowing owl</td>
<td>SSC (burrow sites), BLMS</td>
<td>flat topography, and areas with burrowing rodents.</td>
<td>southwestern deserts and south to central Mexico. In winter (mid-October to March) flocks are regularly found on the Carrizo Plain, other parts of San Luis Obispo County, and along the western edges of Kern, Kings, Tulare, and Fresno counties. It winters below 3,200 feet MSL.</td>
<td>High. Suitable habitat on site.</td>
</tr>
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</table>
| Pyrocephalus rubinus | vermilion flycatcher | SSC (nesting) | The burrowing owl occurs in shortgrass prairies, grasslands, lowland scrub, agricultural lands, rangelands, prairies, coastal dunes, desert floors, and some artificial, open areas as a year-long resident. They may also occur in forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. They require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows, most notably the California ground squirrel. As a critical habitat feature need, they require the use of rodent or other burrows for roosting and nesting cover. They may also use pipes, culverts, and nest boxes where burrows are scarce. | It is a year-long resident formerly common in appropriate habitats throughout the state, excluding the humid northwest coastal forests and high mountains. In California, burrowing owls are restricted to the central valley extending from Redding south to the Grapevine, east through the Mojave Desert and west to San Jose, the San Francisco Bay area, the outer coastal foothills area which extend from Monterey south to San Diego and the Sonoran desert. It is a resident in the open areas of the lowlands over much of the southern California region. Found as high as 5,300 feet MSL in Lassen County. | Low. Not common except for
in southern California. |
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<tr>
<td>Lanius ludovicianus</td>
<td>loggerhead shrike</td>
<td>SSC (nesting)</td>
<td>The loggerhead shrike prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting. It is known to forage over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs. Individuals like to perch on posts, utility lines and often use the edges of denser habitats. The highest density occurs in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats.</td>
<td>A common resident and winter visitor in lowlands and foothills throughout California. Rare on coastal slope north of Mendocino County, occurring only in winter.</td>
<td>Observed</td>
</tr>
<tr>
<td>Toxostoma bendirei</td>
<td>Bendire’s thrasher</td>
<td>SSC, BLMS</td>
<td>A very local spring and summer resident and breeder in flat areas of desert succulent shrub and Joshua tree habitats in Mojave Desert area. Nests in cholla, yucca, palo Verde, thorny shrub, or small tree, usually 0.5 to 20 feet above ground.</td>
<td>Occurs primarily in San Bernardino County and western Kern County. A recent study reported breeders more widespread than recorded previously, including in the Colorado Desert in Riverside County. A few found in Inyo County. Migrants appear in California in February. Most have left breeding grounds by August, although fall and winter records occasionally reported from breeding areas, and to the north and</td>
<td>High. Suitable habitat present, reported from Joshua Tree National Park.</td>
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<tr>
<td><em>Toxostoma crissalae</em></td>
<td>Crissal thrasher</td>
<td>SSC</td>
<td>This species occurs in desert saltbrush, mesquite brushlands, desert riparian, and desert wash habitats. Occupies dense thickets of shrubs or low trees in desert riparian and desert wash habitats. In eastern Mojave Desert of San Bernardino and southeastern Inyo counties, also occurs in dense sagebrush and other shrubs in washes within juniper and pinyon-juniper habitats, up to 5,900 feet. Nests in dense vegetation along streams/washes; mesquite, screwbean mesquite, ironwood, catclaw, acacia, arrowweed, willow.</td>
<td>A resident of southeastern deserts. Still fairly common in Colorado River Valley, but local and uncommon elsewhere. Found in eastern Mojave Desert of northeastern San Bernardino and southeastern Inyo counties. Also resident in Imperial, Coachella, and Borrego valleys of Riverside, San Diego and Imperial counties, but numbers have declined markedly in recent decades.</td>
<td>Moderate. Reported from Mecca.</td>
</tr>
<tr>
<td><em>Toxostoma lecontei</em></td>
<td>Le Conte's thrasher</td>
<td>SSC, BLMS</td>
<td>This desert inhabitant is uncommon to rare and occurs in open desert wash, desert scrub (creosote bush scrub), alkali desert scrub and desert succulent shrub habitats on sandy and often alkaline soils. Also occurs in Joshua tree habitat with scattered shrubs. This species often inhabits areas where soil is fine alluvium or sandy and topography is flat and open, including dunes and gently rolling hills. It requires areas with an accumulated leaf litter under most plants as diurnal cover for its mostly arthropod prey. Commonly nests in a dense, spiny shrub or densely branched cactus in desert wash habitat.</td>
<td>The Le Conte's Thrasher is a widespread but rare permanent resident in the western and southern San Joaquin Valley, upper Kern River Basin, Owens Valley, Mojave Desert, and Colorado Desert. Although formerly found north to Fresno County, rarely recorded north of Kern County since the 1950s. Its elevational distribution is generally between sea level and 3,773 feet MSL; though in Death Valley it occurs down to ~265 feet, and in the Mojave Desert it is known up to approximately 5,250 feet MSL.</td>
<td>Moderate. Known location approximately six miles east of site.</td>
</tr>
<tr>
<td><em>Dendroica petechia</em></td>
<td>Yellow warbler</td>
<td>SSC (nesting)</td>
<td>Yellow warblers in southern California breed and forage in lowland and foothill riparian woodlands dominated by cottonwoods, sycamores, aspens, alders, or willows and other small trees and shrubs typical of low, open-canopy riparian habitat.</td>
<td>It usually arrives in California in April, and mostly is gone by October. It is scarce at elevations above 8,000 feet MSL. Small numbers regularly overwinter in southern California lowlands. Breeding distribution</td>
<td>Low. No suitable breeding habitat on site.</td>
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<tr>
<td><em>Icteria virens</em></td>
<td>yellow-breasted chat</td>
<td>SSC (nesting)</td>
<td>In southern California they are primarily found in tall, dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories. Nesting areas are associated with streams, swampy ground, and the borders of small ponds. Breeding habitat must be dense to provide shade and concealment. It winters south to Central America.</td>
<td>An uncommon summer resident and migrant in coastal California and in foothills of the Sierra Nevada. Found up to about 4,800 feet in valley toothri riparian, and up to 6,500 feet east of the Sierra Nevada in desert riparian habitats. Uncommon along coast of northern California east to Cascades and occurs only locally south of Mendocino County. In southern California, breeds locally on the coast and very locally inland. In migration, may be found in lower elevations of mountains in riparian habitat. It usually arrives in April and departs by late September for the wintering grounds in Mexico and Guatemala.</td>
<td>Low. No suitable breeding habitat on site.</td>
</tr>
<tr>
<td><em>Piranga rubra</em></td>
<td>summer tanager</td>
<td>SSC (nesting)</td>
<td>An uncommon summer resident and breeder in desert riparian habitat. Breeds and forages in mature, dense, desert riparian habitat dominated</td>
<td>An uncommon summer resident along lower Colorado River; also occurs very locally elsewhere in southern California deserts from observed. No suitable breeding habitat on site.</td>
<td>This species breeds in Morongo Valley.</td>
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<tr>
<td><em>Macrotus californicus</em></td>
<td>California leaf-nosed bat</td>
<td>SSC</td>
<td>In California, they occupy the low-lying dessert areas of southern California. Habitats occupied include desert riparian, desert wash, desert scrub, desert succulent shrub, alkali desert scrub, and palm oasis. Needs rocky, rugged terrain with mines or caves for roosting. Day roosts usually are in deep mine tunnels or caves, occasionally in buildings or bridges. The roost must provide shelter from heat and aridity. Night roosts may be in buildings, mines, bridges, rock shelters, or other sites with overhead protection. These bats often are found in large groups.</td>
<td>Inyo County south to the Mexican border. Found in additional desert and other localities in migration. It is a rare but regular migrant and winter visitor along the coast, mostly from Los Angeles County southward, scattered records occur in northern California.</td>
<td>Low. Known from Joshua Tree National Park. No known suitable roosting habitat on site.</td>
</tr>
<tr>
<td><em>Corynorhinus townsendii</em></td>
<td>Townsend's big-eared bat</td>
<td>SSC, BLMS</td>
<td>This species is found in all, but subalpine and alpine habitats. Townsend's big-eared bats live in a variety of communities, including coastal conifer and broadleaf forests, oak and conifer woodlands, and grasslands and deserts, and high-elevation forests and meadows. Edge habitat between forested and open areas is preferred for foraging. Requires caves, mines, tunnels, buildings, or other human-made structures for roosting. May use separate sites for night, day, hibernation, or maternity roosts. Hibernation sites are cold, but not below freezing.</td>
<td>Townsend's big-eared bat is found throughout California, but the details of its distribution are not well known. This species may be found at any season throughout its range. They are found in the mountains and foothills of southern California such as the San Bernardino and Cleveland National Forests. There are two subspecies within California: <em>P. t. townsendii</em> occupies the humid, coastal regions of northern and central California.</td>
<td>Low. No recent occurrences in Riverside County.</td>
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<tr>
<td><em>Antrozous pallidus</em></td>
<td>pallid bat</td>
<td>SSC, BLMS</td>
<td>Maternity roosts are warm. Unlike many species which take refuge in crevices, <em>C. townsendii</em> only roosts in the open, hanging from walls and ceilings. Habitat for Townsend’s big-eared bats must include appropriate roosting, maternity, and hibernacula sites free from disturbances by humans.</td>
<td>remainder of the state.</td>
<td>High. Suitable habitat on site. Reported from Joshua Tree National Park.</td>
</tr>
<tr>
<td><em>Myotis velifer</em></td>
<td>cave myotis</td>
<td>SSC, BLMS</td>
<td>A wide variety of habitats is occupied, including deserts, grasslands, shrublands, woodlands, and forests form sea level up through mixed conifer forests. They are most common in open, dry habitats, with rocky, areas for roosting. Pallid bats day roosts in rock crevices, tree hollows, mines, caves, and a variety of man-made structures. Night roosts may be in more open sites, such as porches and open buildings. Few hibernation sites are known, but they probably use rock crevices.</td>
<td>The pallid bat is a locally common species of low elevations in California. It occurs throughout California except for the high Sierra Nevada from Shasta to Kern Counties and the northwestern corner of the state from Del Norte and western Siskiyou Counties to northern Mendocino County. Local data suggest that this species may be most common at elevations below 6,000 feet MSL on both coastal and desert sides.</td>
<td>Low. No reported occurrences within 50 miles of site. No roosting habitat present on site.</td>
</tr>
<tr>
<td><em>Myotis occultus</em></td>
<td>Occult little brown bat/Arizona myotis</td>
<td>SSC</td>
<td>Habitations occupied in California include desert scrub, desert succulent shrub, desert wash, and desert riparian. A colonial cave-dweller, occurring in colonies of several thousand individuals in most of its range. Mines and buildings also may be used. Hibernation caves have high humidity, often with standing or running water and little air movement. Hibernating cave myotis may form clusters. Uses temporary night roosts.</td>
<td>Restricted, in California, to lowlands of Colorado River and adjacent mountain ranges, in San Bernardino, Riverside, and Imperial counties, although more common farther east. This species was once common, with several colonies of 1,000 individuals in Riverside Mountains. However, these colonies have experienced significant declines, and status in California is uncertain.</td>
<td>Low. Occurs 50 miles east of project site. No roosting habitat present on site.</td>
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<tr>
<td>Nyctinomops femorosaccus</td>
<td>pocketed free-tailed bat</td>
<td>SSC</td>
<td>Habitats used include pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oasis. Pocketed Free-tailed Bats are characteristically associated with rocky, desert areas with relatively high cliffs. They generally use crevices in rocks as day-roosts, although they sometimes are found in man-made structures.</td>
<td>The pocketed free-tailed bat is found in Riverside, San Diego, and Imperial counties. This species is rare in California, but is more common in Mexico. May occur in Orange County.</td>
<td>High. Suitable habitat on site. Reported from Joshua Tree National Park.</td>
</tr>
<tr>
<td>Eumops perotis californicus</td>
<td>western mastiff bat, California mastiff bat</td>
<td>SSC, BLMS</td>
<td>A cliff dwelling species, where maternity colonies of 30 to several hundred roost generally under exfoliating rock slabs. It can also be found in similar crevices in large boulders and buildings. They are found in a variety of habitats, such as semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban, but the species' distribution may be geomorphically determined, occurring primarily where there are significant rock features offering suitable roosting habitat. Crevices in cliff faces, high buildings, trees, and tunnels are required for roosting. When roosting in rock crevices, needs vertical faces to drop off to take flight.</td>
<td>Uncommon resident in southeastern San Joaquin Valley and Coastal Ranges from Monterey County southward through southern California, from the coast eastward to the Mojave and Colorado Deserts.</td>
<td>High. Suitable habitat on site. Reported from Joshua Tree National Park.</td>
</tr>
<tr>
<td>Perognathus longimembriis bangsi</td>
<td>Palm Springs pocket mouse</td>
<td>SSC</td>
<td>Generally, their habitat is described as having level to gently sloping topography, sparse to moderate vegetative cover, and loosely packed or</td>
<td>This subspecies occurs in the lower Sonoran life zone from the San Gorgonio Pass area east to the Little San Bernardino</td>
<td>Observed</td>
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<tr>
<td>Chaetodipus pallidus</td>
<td>pallid San Diego pocket mouse</td>
<td>SSC</td>
<td>Common resident of sandy herbaceous areas, usually in association with rocks or coarse gravel in southwestern California. Occurs mainly in arid coastal and desert border areas. Habitats of the San Diego pocket mouse include coastal scrub, chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland.</td>
<td>Found in San Diego County, in Riverside County southwest of Palm Springs, in San Bernardino County from Cactus Flat in the San Bernardino Mountains to Oro Grande and east to Twenty-nine Palms. Elevation range from sea level to and 6,000 feet.</td>
<td>High. Suitable habitat on site. Reported from Joshua Tree National Park.</td>
</tr>
<tr>
<td>Taxidea taxus</td>
<td>American badger</td>
<td>SSC</td>
<td>In California, Badgers occupy a diversity of habitats. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated ground. Grasslands, savannas, openings in desert scrub, and mountain meadows near timberline are preferred. Badgers are generally associated with dry, open, treeless regions, prairies, parklands, and cold desert areas. Seem to occur primarily in areas of low to moderate slope. Badgers prey primarily on burrowing rodents.</td>
<td>In California, Badgers ranged throughout the state except for the humid coastal forests of northwestern California in Del Norte County and the northwestern portion of Humboldt County. The badger's altitudinal range extends from below sea level in Death Valley to over 12,000 feet MSL.</td>
<td>Moderate. Suitable habitat on site.</td>
</tr>
<tr>
<td>Puma concolor</td>
<td>mountain lion</td>
<td>Fully Protected</td>
<td>This species has a very large home range. It feeds primarily on mule deer and tends to be found where deer can be obtained. Mountain lions use rocky areas, cliffs, and ledges that provide cover within open woodlands and chaparral, as well as riparian areas that provide protective habitat connections for movement.</td>
<td>Widespread, uncommon permanent resident, ranging from sea level to alpine meadows. Found in nearly all habitats, except xeric regions of the Mojave and Colorado deserts that do not support mule deer populations. Excluded from croplands in the</td>
<td>High. Suitable habitat on site.</td>
</tr>
<tr>
<td>Scientific Name</td>
<td>Common Name</td>
<td>Status</td>
<td>General Habitat Description</td>
<td>General Distribution</td>
<td>Potential For Occurrence</td>
</tr>
<tr>
<td>----------------</td>
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<td>--------------------------</td>
</tr>
<tr>
<td><em>Ovis canadensis nelsoni</em></td>
<td>Nelson's (desert) bighorn sheep</td>
<td>BLMS</td>
<td>They inhabit desert mountains. These are arid, rocky, sparsely vegetated lands. They graze along open slopes, washes and alluvial fans where they can see approaching predators, while steep canyons and rock bluffs serve as escape terrain. They avoid higher elevations, likely because of decreased visibility associated with denser vegetation. Optimal habitat includes steep walled canyons and ridges bisected by rocky or sandy washes, with available water.</td>
<td>Central Valley.</td>
<td>Sign observed on site.</td>
</tr>
</tbody>
</table>

FE = Federally Endangered  
FT = Federally Threatened  
FC = Federal Candidate for Listing  
FPT = Federally Proposed Threatened  
FPD = Federally Proposed for Delisting  
SE = California State Endangered  
ST = California State Threatened  
SSC = Species of Special Concern  
SR = State Rare  
BLMS = Bureau of Land Management Sensitive Species  
Fully Protected = Fish and Game Code. Species may not be taken or possessed at any time and no license or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.  

California Native Plant Society  
CNPS 1B = Plants rare, threatened or endangered in California and throughout its range.  
CNPS 2 = Plants rare, threatened or endangered in California, but more common outside of the state.  
CNPS 3 = Plants about which more information is needed to assign them to one list or another or to reject them.  
CNPS 4 = Plants of limited distributions or infrequent throughout a broader range of California.

Sources:  
(a) CDFG website. Habitat Conservation Planning Branch. Species Accounts (CDFG 2006a).  
(b) Special Animals List (CDFG 2006b).  
(c) State and Federally Listed Endangered and Threatened Animals of California (CDFG 2006c).  
(d) State and Federally Listed Endangered, Threatened and Rare Plants of California (CDFG 2006d).  
(e) Inventory of Rare and Endangered Plants (CNPS 2008).  
(f) Recirculated Draft Coachella Valley Multiple Species Habitat Conservation Plan (2007).
3.0 Existing Setting

No significant changes in biological conditions since 2002 were found during site surveys in 2006 or were evident from a review of current aerial photos.

No evidence of recent wildfire was found in 2006. No burned stems, charred trunks or charred rocks were found on the site evidencing large wildfires. No evidence of large scale floods, such as uprooted vegetation, deep scour channels, newly cut channels or debris piles, was found. No evidence of significant human disturbance since 2002 was found. No large scale vegetation conversion, planting, grading, construction or road building was evident.

A comparison between aerial photos taken in 2006 and previous aerial photos found no appreciable change in vegetation communities. There was no appreciable change in size, location, or type of vegetation communities.

3.1 General Setting

The site is located in Shavers Valley east of the Coachella Valley and is geographically separated from the Coachella Valley by the Mecca Hills.

3.1.1 Topography and Climate

Elevation of the site ranges from about 2,000 feet above mean sea level (MSL) in the northeastern and northwestern portions of the site to about 1,100 feet above MSL in the southern portion of the site above Box Canyon Wash.

Landform types on the site fall into two general categories: uplands and washes. Uplands consist of foothills of the Cottonwood Mountains and desert pavement areas of lower bajadas. Washes range in size from narrow gullies with barely discernible streambeds to broad alluvium with multiple braided, interconnecting channels around upland mesas. The principal wash of this larger nature is Pinkham Wash, which originates off site and separates the Little San Bernardino Mountains from the Cottonwood Mountains. The wash extends from the north (off site) south beyond the project site into Box Canyon, between the Mecca Hills and Oroopia Mountains.

There are no Aeolian (wind-formed) sand formations or dunes, or perennial springs/seeps on the site.

Shavers Valley differs subtly from the Coachella Valley due to a number of factors. Shavers Valley is between 400 and 1400 feet higher in elevation than the Coachella Valley and has somewhat different climatic conditions than the Coachella Valley. Distinctions between the two valleys are shown by the Climate Zone map for the State of California (Brenzel, 2001). While this map is intended primarily for the horticulture and agriculture trades, it is based on a substantial temperature database compiled by the U.S. Department of Agriculture (USDA 1990) and is a reliable data source for factors associated with variations in species distribution. Relevant descriptions are included below.
The Coachella Valley is located in Climate Zone 13, which is described as:

“Low or Subtropical Desert...Average summer highs range from 106 to 108 degrees Fahrenheit. Winters are short and mild. Frosts, anticipated from December 1 to February 15, are brief. Although the average minimum winter temperature is 37 degrees Fahrenheit, with just 15 nights below freezing, lows of 19 to 13 degrees Fahrenheit have been recorded.” (page 60).

The project site is located in Climate Zone 11, which is described as:

“Medium to High Desert of California and Southern Nevada...like Zone 13 (this zone) has hot summers...(but) about 85 nights have temperatures below 32 degrees Fahrenheit, with lows between 11 and 0 degrees Fahrenheit.” (page 59).

Additional comparisons of the “growing season” for each zone indicate that summer temperatures in the project site area are cooler on average, in comparison to the Coachella Valley. Unlike the project site area, the Coachella Valley climate zone has a mid-summer break in the growing season (June, July, August) in which “heat stops growth in summer.” Native vegetation may not experience a break in the growing season if there is summer rain, but in general it can be expected that the lower elevations of the Coachella Valley would be associated with hotter summer temperatures than the proposed project area and this would affect the length of “growing season” for native vegetation in general.

3.1.2 Disturbance

There are numerous disturbance factors that affect the biological resources of the site including: U.S. Interstate 10 (I-10), transmission and pipeline corridors, the Colorado River Aqueduct, energy facilities, illegal dumping and off road activity. I-10 is a major disturbance factor while the others are less significant.

The northern and southern portions of the site are separated by I-10 a major transportation corridor. Based on the USGS maps, I-10 was constructed through the Paradise Valley project area before 1972.

I-10 has impacted the washes onsite, altering their historic storm flows. There is a large culvert that parallels a frontage road under the Interstate on the west side of the property, and several bridges to the west that would not impede large storm flows. Other small culverts under the interstate that are intended to convey flows could be quickly blocked with sediment and rocks during storm events altering historic patterns.

I-10 from the frontage road eastward is a major barrier to dispersal of mammalian and reptilian wildlife that utilize washes. Avian and arthropod fauna would not necessarily be affected by such barriers, although freeway effects on these faunal groups have not been well documented because they are typically not the focus of wildlife corridor studies. I-10 has been a barrier to mammalian and reptilian wildlife movement across Shavers Valley since its construction.
The natural gas pipeline and aqueduct cross the northern part of the site in an east-west direction, parallel to I-10 (the aqueduct is north of I-10, the pipeline is south of I-10). The pipeline and aqueduct are buried, but rock piles and disturbed/weedy vegetation are evident along the corridor. There is a natural gas pump station on the south side of I-10. The power transmission line crosses the site just west of the natural gas pump station and extends south, then southeast across the eastern third of the property.

Although the site shows little evidence of significant current disturbance, the site has been disturbed in the past from off-road vehicle use, shooting, and illegal dumping typical of most desert regions in southern California. Most of the past disturbance is concentrated along I-10 and along various pipeline and transmission line corridors that cross the site.

Livestock grazing and wild burros or horses were not observed during any of the field surveys and are not considered to be disturbance factors.

3.2 Vegetation Communities

The project site is located within the Sonoran Desert floristic subdivision of the California desert province (Hickman, 1993; Baldwin et al., 2002) and thus has many of the floristic components common to Arizona and Baja. Several broad categories of vegetation associations occur on the project site, as described in the following subsections.

The vegetation of the project site, especially the annual flora, is largely dependent on winter rainfall for growth and reproduction. The average annual precipitation for the Indio region, as recorded at the Indio Fire Station since 1927, is 3.13 inches (Western Regional Climate Center, 2003). Of this total, an average of 0.84 inch (or 27 percent of the total) falls during the period April – September. However, this summer rainfall is limited by distance from moist subtropical air masses (Baldwin et al., 2002), and is therefore less predictable than in regions such as Arizona that are closer to the Gulf of Mexico. In this kind of climate, wildlife such as desert tortoise, which depend largely on productivity of the annual vegetation, are also dependent on the winter rainfall regime.

As noted, vegetation communities on the site were mapped by Psomas in 2002, and were also separately mapped for the Coachella Valley Multiple Species Habitat Conservation Plan. The Psomas 2002 vegetation mapping was done by botanists in the field using aerial photos and USGS topographic maps and was based on the Manual of California Vegetation. The CVMSHCP vegetation maps were developed from: the University of California at Santa Barbara Gap Map, LANDSAT satellite thematic mapping imagery, color infrared aerial photographs, and blue-line aerial photographs. No field surveys of the Paradise Valley site were conducted for the CVMSHCP vegetation mapping.

Both the Psomas 2002 and the CVMSHCP vegetation mapping identified two vegetation communities (natural communities) on the site: Sonoran creosote bush scrub and dry desert wash woodland (Figure 3, Vegetation Communities as Mapped by Psomas, Figure 4 Vegetation Communities as Mapped by CVAG).
Sonoran creosote bush scrub and dry desert wash woodland are described in detail below.

3.2.1 Sonoran Creosote-Bush Scrub

Sonoran creosote bush scrub occupies approximately 4,044 acres of the project site based on the 2002 mapping, with approximately 3,637 acres in the project without BLM Section 12. There are approximately 3,249 acres of Sonoran creosote bush scrub on the project site based on the CVMSHCP mapping with approximately 2,718 acres in the project without BLM Section 12. Sonoran creosote bush scrub is associated primarily with bajadas that originate from the southern flanks of the Cottonwood Mountains. This community is distributed across the upland mesas and desert pavement areas of the site.

Creosote bush (Larrea tridentata) and white bursage (Ambrosia dumosa) are the dominant shrubs, although creosote bush tends to be significantly less abundant than white bursage on the higher slopes and rocky outcrops of the foothills. Additional common species include brittlebush (Encelia farinosa), ocotillo (Fouquieria splendens) and numerous cacti, particularly California barrel cactus (Ferocactus cylindraceous). The diversity of cacti is typical of the Sonoran Desert floristic region.

In previous biological reports of the site this community was termed creosote bursage scrub.

Sonoran creosote bush scrub is distributed in the Colorado Desert region from the Little San Bernardino Mountains, south and eastward into Baja California, southern Arizona and Sonora. It is the dominant plant community below 2,500 or 3,000 feet mean sea level (MSL). It intergrades broadly with Mojave creosote bush scrub in southeastern San Bernardino County and eastern Riverside County.

A Manual of California Vegetation (Sawyer and Keeler-Wolf 1995) classifies this species assemblage as creosote bush-white bursage series. The Preliminary Descriptions of the Terrestrial Communities of California (Holland 1986) classifies this species assemblage as Sonoran creosote bush scrub (Element Code 33100). The CVMSHCP classifies this plant community as Sonoran creosote desert bush scrub.

A Manual of California Vegetation (Sawyer and Keeler-Wolf 1995) describes the creosote bush-white bursage series as having both creosote bush and white bursage as equally important or conspicuous shrubs in the canopy. Box-thorn (Lycium sp.), brittlebush, chollas (Opuntia sp.), desert-holly (Atriplex hymenelytra), echedras (Ephedra sp.),
Paradise Valley
2007 Biological Resources Report

Legend
- Project Boundary
- BLM Section 12 Boundary

Vegetation Communities
- Sonoran Creosote-Bush Scrub (SCBS)
- Desert Dry Wash Woodland (DDWW)
- Disturbed
- Interstate 10

---

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Note on vegetation mapping:
Vegetation mapping based on ground surveys using survey grade, full color orthophotography flown 2002.

Vegetation Communities
As Mapped by Psomas

PSOMAS
PRV0007-4 August 2007

Figure 3
indigo bush (*Psorothamnus schottii*), prickly-pears (*Opuntia* sp.), and/or saltbushes (*Atriplex* sp.) may be present in this series. Shrubs are usually less than 3 m high and the shrub canopy is two-tiered. Emergent Joshua tree (*Yucca brevifolia*) or ocotillo may be present. The ground layer is open, and seasonal annuals are present. A Manual of California Vegetation (Sawyer and Keeler-Wolf 1995) describes this plant community as being found on alluvial fans, bajadas, and upland slopes. The soils are well drained, and may have pavement surfaces.

Holland describes Sonoran creosote bush scrub as having shrubs that are 0.5 to 3.0 m tall, widely spaced with bare ground between the shrubs. This plant community is very similar in appearance to Holland’s Mojave creosote bush scrub (Element Code 34100), but with greater species and life form diversity including several succulents. A majority of the Sonoran creosote bush scrub growth occurs from winter to early spring (or rarely at other seasons) if rainfall is sufficient. Shrubs may be dormant for long periods of time. Many species of ephemeral herbs may flower in late February and March if the winter rains are sufficient. Site factors for this plant community include well-drained secondary soils of slopes, fans and valleys rather than upland sites with thin residual soils or sites with high soil salinity. This is the basic creosote scrub of the Colorado Desert.

The CVMSHCP describes Sonoran creosote desert bush scrub as occurring on the vast intermountain bajadas, reaching greatest development on coarse, well-drained soil with a total salinity of less than 0.02 percent. Sonoran creosote bush scrub occupies areas surrounding the Salton basin between the higher rocky hillsides and the desert saltbush community. The transition to desert saltbush occurs as the soil becomes heavier and the salt content increases to approximately 0.2%. The physiognomy of the Sonoran creosote bush scrub community is simple because of low species diversity and the broad spacing of the shrubs, 0.5 - 3 meters tall, usually with bare ground between. The co-dominant species in the community is white bursage, a much shorter shrub than creosote varying from 20-60 cm in height.

### 3.2.2 Dry Desert Wash Woodland

Desert dry wash woodland occupies approximately 1,935 acres of the project site based on the 2002 Psomas mapping with approximately 1,712 acres in the project without BLM Section 12. There are approximately 2,736 acres of desert dry wash woodland on the site based on the CVMSHCP mapping with approximately 2,637 acres in the project without BLM Section 12. It is associated primarily with washes. Blue Palo verde (*Cercidium floridum*) and ironwood (*Olecrana tesota*) are the dominant trees in this community, with density and abundance varying considerably across the washes. Smoke tree (*Psorothamnus spinosus*) is locally prominent but does not occur as a co-dominant with blue Palo verde and ironwood on the site. Mistletoe (*Phoradendron californicum*) is a parasitic species that is common on the Palo verde trees. Palo verde also occurs as sparsely distributed individuals across the uplands.

Within the dry desert wash woodland are a number of other plant species including catclaw acacia (*Acacia greggii*), desert lavender (*Hyptis emoryi*), jojoba (*Simmondsia chinensis*), and indigo-bush (*Psorothamnus schottii*). Creosote bush and white bursage, elements of Sonoran creosote bush scrub, often co-occur within the washes.
In previous biological reports of the site this community was termed Palo verde-ironwood woodland and scrub.

A Manual of California Vegetation (Sawyer and Keeler-Wolf 1995) classifies this species assemblage as blue Palo verde-ironwood-smoke tree series. Preliminary Descriptions of the Terrestrial Communities of California (Holland 1986) classifies this species assemblage as desert dry wash woodland (Element Code 62200). The CVMSHCP classifies this plant community as dry desert wash woodland.

In general, the microphyll (small leafed) species such as Palo verde and ironwood are what distinguishes the flora of the Sonoran Desert from the Mojave Desert (Baldwin et al., 2002).

A Manual of California Vegetation (Sawyer and Keeler-Wolf 1995) describes this series as having blue Palo verde, ironwood, or smoke tree as the sole, dominant, or important trees in the canopy. Desert willow (*Chilopsis linearis*), black willow (*Salix gooddingii*), honey mesquite (*Prosopis glandulosa*), and/or screwbean (*Prosopis pubescens*) may be present. Trees are less than 18 m tall and the tree canopy can be continuous, intermittent, or open. Shrubs are common and the ground layer is sparse. Annuals are seasonally present.

Holland describes desert dry wash woodland as an open to dense, drought-deciduous, microphyllous riparian thorn scrub woodland to 30 – 60 feet tall, dominated by any of several members of the bean family. Site factors for this plant community include sandy or gravelly washes and arroyos of the lower Mojave and Colorado deserts, largely in frost-free areas. These washes typically have braided channels that substantially rearrange with every surface flow event.

CVMSHCP describes dry desert wash woodland as occurring in washes associated with canyon mouths and alluvial fans in the Santa Rosa, Little San Bernardino, Cottonwood, Eagle, and Orocopia Mountains, and the Mecca Hills.

Dry desert wash woodlands are distributed along the larger drainages of the lower Mojave Desert and more generally through the Colorado Desert. Its elevational range is 10 below sea level to 1,640 feet MSL.

### 3.3 Plants

A standard in the professional practice of botany is to conclude species absence in only a few limited instances:

- Where the species is detectable without flowers or fruits (e.g., perennial shrubs with distinctive vegetative features)
- Suitable habitat is clearly absent
- Numerous surveys over many years have not detected the species

In general and outside of these limited cases, even with field surveys, botanists assess probability of occurrence rather than make a definitive conclusion about species presence or absence.

PSOMAS

November 6, 2007

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Failure to detect the presence of the species is not definitive, and may be due to variable effects associated with fire, rainfall patterns, and/or season. For example, plant species with a moderate potential for occurrence are considered to be those for which habitat is present, the project is within the known range of the species, and one or more surveys did not detect the presence of the species.

3.3.1 Threatened, Endangered and Rare Plants

No plant species listed as endangered, threatened, candidate, or state rare pursuant to the federal or state Endangered Species Act were observed on the Paradise Valley project site during previous field surveys. However, because of the time of year in which the surveys took place, a habitat assessment was performed for potentially suitable habitat conditions to support listed plant species, especially for annual species that appear above ground in a vegetative stage earlier or later in the year.

As a result of previous field surveys and the literature review, it was concluded that one listed plant species has a moderate to high potential to occur on the Paradise Valley project site (Table 1).

3.3.1.1 Coachella Valley milk-vetch

The Coachella Valley milk-vetch is a federally endangered species, and is a Covered Species under the CVMSHCP. The Coachella Valley milk-vetch has a low potential to occur on the project site. This species is restricted to the Coachella Valley between Cabazon and Indio, with the exception of six outlying occurrences within a 5-mile area along Rice Road in the Chuckwalla Valley north of Desert Center. The Paradise Valley project site, both with and without the acquisition of Section 12 from the BLM, is outside the known range of this species, and contains only a limited amount of suitable habitat.

3.3.1.2 Triple-ribbed milk vetch

The triple-ribbed milk vetch is a federally endangered species, and is a Covered Species under the CVMSHCP. This species occurs in the Whitewater and Morongo Valleys in Riverside and San Bernardino Counties, on rocky slopes in canyons and along boulder strewn, sandy desert washes. Most of the populations of this species have been found in the eastern end of the San Bernardino Mountains and the western end of the Little San Bernardino Mountains. The preferred habitat for the triple-ribbed milk vetch is located within the designated open space within the proposed development, i.e. along the foothills of the Cottonwood Mountains and Mecca Hills. Section 12 does not contain suitable habitat for the triple-ribbed milk vetch.

3.3.2 Sensitive Plants

No plant species designated as sensitive or locally important were observed within the Paradise Valley project site during previous field surveys. However, because of the time of year in which the surveys took place, a habitat assessment was performed for potentially suitable habitat conditions to support sensitive plant species, especially for annual species that appear above ground in a vegetative stage earlier or later in the year.
As a result of the field surveys and the literature review, it was concluded that eleven sensitive plant species have a moderate to high potential to occur on the Paradise Valley project site (Table 1).

3.3.2.1 Mecca aster

The Mecca aster is neither state- nor federally-listed as threatened or endangered, but is a Covered Species under the CVMSHCP. This species is endemic to the Indio Hills and Mecca Hills, on fluvial mud hills in washes and along lower slopes. A portion of CVMSHCP Core Habitat for the Mecca aster is present within the Paradise Valley project site, but is located in the designated open space, not in the planning area for the proposed project. The planning area of the project is outside the known range for the species. Section 12 does not contain suitable habitat for the Mecca aster and is outside the CVCMSHCP Core Habitat.

3.3.2.2 Orocopia sage

The Orocopia sage is neither state- nor federally-listed as threatened or endangered, but is a Covered Species under the CVMSHCP. This species is endemic to the Orocopia Mountains and Mecca Hills within Riverside County. The planning area of the project is outside the known range for the species. Section 12 does not contain suitable habitat for the Orocopia sage and is outside the CVMHCP Core Habitat.

3.3.2.3 Little San Bernardino Mountains linanthus

The Little San Bernardino Mountains linanthus is neither state- nor federally-listed as threatened or endangered, but is a Covered Species under the CVMSHCP. This species occurs in sandy places on desert dunes, Joshua tree woodlands, and Sonoran and Mojavean desert scrubs. This species is known from fewer than fifteen occurrences near the northern border of Joshua Tree National Park, has been found as far west as near the mouth of Big Morongo Canyon. No populations of little San Bernardino Mountains linanthus have been found south of the Little San Bernardino Mountains since it was collected near Palm Springs in 1907 (Andrew Sanders, UCR Herbarium, pers. comm., August 13, 2007). No little San Bernardino Mountains linanthus were observed during the surveys, and the project site is outside the known range for the species. Section 12 is also outside the known range for the little San Bernardino Mountains linanthus.

3.4 Wildlife

The vegetation communities form the basis of the wildlife habitats of the Paradise Valley project area. They provide the primary plant productivity upon which wildlife depends, along with nesting and denning sites, escape cover and protection from adverse weather. Many of the wildlife species that occur in the area use several of the plant communities to obtain all their life history needs.

In general, more complex natural communities, with more vegetation layers and more plant species, provide higher value wildlife habitat than less complex vegetation communities. More complex communities have more niches for wildlife and usually support more animal species.
than less complex communities. Although simple communities may support few wildlife species, they may provide habitat for great numbers of those few species.

Table I summarizes results and conclusions from the field surveys and the literature review with regard to the potential for the occurrence of listed, candidate, and sensitive wildlife species within the Paradise Valley project site.

A standard in the professional practice of wildlife biology is to conclude species absence in only a few limited instances:

- Where the species known range and historic range is over 25 miles from the project site.
- Suitable habitat is clearly absent.
- Numerous surveys over many years have not detected the species.

In general and outside of these limited cases, even with field surveys, wildlife biologists assess probability of occurrence rather than make definitive conclusions about species presence or absence. Failure to detect the species is not definitive, and may be due to variable effects associated with fire, rainfall patterns and/or season. For example, wildlife species with a moderate potential for occurrence are considered to be those for which habitat is present, the project is within the known range of the species, and one or more surveys did not detect the species.

### 3.4.1 Threatened, Endangered or Candidate Wildlife Species

As a result of the general wildlife field surveys, the focused desert tortoise field surveys and the special status small mammal surveys, two listed and one candidate wildlife species were observed on the Paradise Valley project site. These listed and candidate wildlife species are listed below. Other Threatened, Endangered, or Candidate wildlife species of the Colorado Desert are not expected to occur on site due to lack of suitable habitat or the site is outside of the known range for these species (see PTO table for details).

- desert tortoise
- Swainson’s hawk (flying over site during annual migration; not a permanent or part time resident of the southern California Colorado Desert)
- Coachella Valley round-tailed ground squirrel

During agency consultation the USFWS, CDFG, and the BLM expressed concerns about the desert tortoise and the Coachella Valley round-tailed ground squirrel. The desert tortoise is a listed wildlife species. The Coachella Valley round-tailed ground squirrel is a federal candidate to be listed by the USFWS. These listed wildlife species and the Swainson’s hawk are described below.
3.4.1.1 Desert Tortoise

3.4.1.1 Description and Natural History

The desert tortoise is the official state reptile of California and is a unique native of the Mojave and Sonoran desert. The desert tortoise is a medium sized, ectothermic reptile. Their legs are short, stocky, and heavily scaled for digging. Their shell is tan to dark brown, approximately 6 inches high. Desert tortoises can measure up to 15 inches in length and 8 inches in width. Adult desert tortoise can weigh up to 10 pounds.

The desert tortoise is most common in desert scrub, creosote bush scrub, Mojave-saltbush scrub, desert wash, Joshua tree habitats and flat desert having sandy or gravelly soil, but occurs in almost every desert habitat except on the most precipitous slopes. They inhabit river washes, desert alluvial fans, canyon bottoms, rocky hillsides, and flat desert. Tortoises require friable soils for burrow construction and grasses or other low growing vegetation (wildflowers) for food. Major topographical features used by tortoises include flats, valleys, bajadas, and rolling hills. They typically avoid plateaus, playas, sand dunes, steep slopes and areas with many obstacles to free movement. They prefer surfaces covered with sand and fine gravel versus course gravel, pebbles, and desert pavement. Creosote bush, burrobush, saltbush, Joshua tree, Mojave yucca and cacti are often present in the habitat along with other shrubs, grasses, and wildflowers.

Desert tortoises may be active at any time of the year, but most activity takes place between March and June, and to a lesser extent in late summer in areas with summer rains. During the activity period desert tortoises forage and look for mates. In early spring, tortoises may be active all day, foraging on tender grasses, broad-leaved annuals, and new shoots of perennials. By late spring, activity is reduced to less than an hour in the early morning, one out of four days. By October, most tortoises have begun their winter hibernation.

Tortoises are herbivores, eating annual forbs and grasses, and prefer green vegetation over dry. Although tortoises can spend many years without drinking water, if water is available they will drink it.

Desert tortoises spend most of their time avoiding extreme temperatures in underground burrows. They use burrows for shelter against extreme temperatures, as burrows stay relatively cool in the summer and relatively warm in the winter. The tortoises dig their burrows in dry gravelly soil beneath large bushes in open desert, or in the banks of sandy loam soils of washes. A typical burrow entrance is approximately 9” wide by 6” high and the entrances are half-moon shaped. On occasion, a tortoise will take cover under a bush or any natural shelter. The burrows are often crucial to survival, especially in hot weather when the direct rays of the sun can kill a tortoise in an hour or less.

Although they are long-lived (up to 70 years), they do not become sexually mature until they are 12-15 years old. The clutch size varies normally from between 1 to 15 eggs, and the number laid in one season can vary. Eggs are usually laid between April and June and sometimes in the fall. Eggs resemble ping-pong balls in color, shape and size. The eggs hatch approximately 120 days later. The hatchlings are only 1.4 inches in length and have a very thin shell, which makes them
vulnerable to predators, the most common being the raven. Only about 5 out of every 100 hatchlings survive to adulthood.

3.4.1.1.2 Current Status

Desert tortoise populations north and west of the Colorado River are listed as federally threatened. The desert tortoise is also designated by CDFG as a state threatened species.

The USFWS designated Critical Habitat for the desert tortoise in 1994. The proposed project site is within designated Critical Habitat

3.4.1.1.3 Distribution

The desert tortoise is widely distributed across the Mojave and Sonoran deserts of California, Nevada, Utah, and Arizona. In California, desert tortoises occur in the Mojave and Sonoran deserts (including the Colorado Desert Subdivision in California) from below sea level to 7,220 feet MSL. In California, desert tortoises occur in northeastern Los Angeles, eastern Kern, and southeastern Inyo counties, and over most of San Bernardino, Riverside, and Imperial counties. In California, the tortoise is naturally absent from most areas west of the Salton Sea. Thus the Imperial Valley and portions of the southern Coachella Valley do not support native populations of tortoises. Tortoises, however, are found naturally along the northern, eastern and western rim of the Coachella Valley in the foothills of the Little San Bernardino Mountains, the Painted and Whitewater Hills (in the latter they are common), and the San Jacinto and northern Santa Rosa Mountains.

Tortoise activities are concentrated in core areas, known as home ranges. These home ranges overlap because tortoises do not defend a specific, exclusive area, they do not maintain territories.

3.4.1.1.4 Desert Tortoise Surveys on Site

Two surveys for desert tortoise have been conducted on the project site: the first in 2001, and the second in 2003. Additionally, incidental observations of tortoise and tortoise sign have been made during other site surveys.

The project site was surveyed for desert tortoise between June 2 and June 6, 2001 (Chambers 2001). The 2001 survey used the line-distance sampling method, following the protocol outlined in an Introduction to Density Monitoring of Desert Tortoise Populations Using the Line Distance Sampling Technique (Medica, Philip A., 2001). A total of 50 transects covering more than 49 linear miles were surveyed using the line-distance sampling method in 2001.

A 100% coverage desert tortoise survey of the site was conducted between April 1 and May 22, 2003. The survey was conducted in accordance with 1992 USFWS Field Survey Protocol For Any Federal Action That May Occur Within the Range of the Desert Tortoise. Prior to the initiation of the survey, Chris Otahal of the USFWS (Carlsbad Field Office) and Kim Nichol of the CDFG approved the proposed survey methodology and qualifications of the biologists. Following the 1992 USFWS protocol, the site was 100 percent visually covered by walking transects 30 feet wide or less and zone of influence surveys were conducted around the project site. Zone of influence surveys were conducted in potentially suitable tortoise habitats along
transects at 100, 300, 600, 1200, and 2400-foot intervals from and parallel to the property boundary.

3.4.1.1.5 Project Site Occurrence and Distribution
The desert tortoise occurs on the project site. Locations of tortoise and tortoise sign are shown on Figure 5, Tortoise Transect and Sign Locations. I-10 is a significant barrier to tortoise movement between the northern and southern portions of the site. Traffic on I-10 has likely also been a significant cause of mortality for local tortoise populations.

A total of three tortoise carcasses were observed during the 2001 survey but no live tortoises were observed.

During the 2003 survey one hundred twenty-three (123) tortoise carcasses were found on-site. One of the 123 (0.8%) was categorized as Class 1: Carcass is fresh or putrid, while 103, or 83.7 percent, were Class 5: Disarticulated and scattered.

Ten (10) live tortoises were found on-site during the 2003 desert tortoise surveys. Eight of the tortoises were classified as adult, one as sub-adult, and one as juvenile. Seven (7) of the live tortoises were found associated with a burrow or shelter of some type. The remaining three (3) tortoises were observed walking or basking in the sun.

Additionally, two live tortoises were observed off-site on the zone of influence transects during the 2003 surveys. One was found on a zone of influence transect north of the freeway and one on a zone of influence transect south of the freeway. Each tortoise found on zone of influence transects was found in steep terrain.

Tortoise sign was also found during the 2003 desert tortoise surveys. Burrows and shelters were the most commonly encountered tortoise sign. One hundred seventy-three (173) burrows/shelters were recorded on-site during the survey. Many of these burrows/shelters were found with additional associated sign such as scat, tracks, or eggshell fragments.

Off-site on the zone of influence transects one burrow was found north of Section 3 and several other sign (including a live tortoise) east of Section 1. The Mecca Hills south of Sections 9 and 15 contain the majority of sign found on zone of influence transects south of the freeway. Recent sign found in these hills south of Sections 9 and 15 includes one live tortoise in a burrow, two Class 1 carcasses, and two Class 1 active burrows.
### 3.4.1.2 Coachella Valley Round-Tailed Ground Squirrel

#### 3.4.1.2.1 Description and Natural History

The Coachella Valley round-tailed ground squirrel is a subspecies of the round-tailed ground squirrel, which occurs in the Coachella Valley and is associated with sandy substrates. The Coachella Valley round-tailed ground squirrel is also called the Palm Springs round-tailed ground squirrel. The Coachella Valley round-tailed ground squirrel is typically associated with sand fields and dune formations, although it does not require active blow sand areas. They prefer open, flat, grassy areas in fine-textured, sandy soil within desert succulent scrub, desert wash, desert scrub, alkali scrub, and leves in cropland habitat. These squirrels are most abundant in dune areas where the transition from desert dune to Sonoran creosote scrub takes place. They seem to prefer areas where hummocks of sand accumulate at the base of large shrubs that provide burrow sites and adequate cover. They may also be found in areas where sandy substrates occur in creosote bush scrub and desert saltbush or desert sink scrub that supports herbaceous growth. In addition to wind blown sand habitats, they may occur in areas of more coarse sands, associated with washes.

The burrows of the Coachella Valley round-tailed ground squirrel are typically located at the base of a large creosote bush or other shrub, often on a small mound or hummock. The entry is several inches across leading to tunnels that are neither usually deep nor over five or six feet in length. Young are born in March or April in litters of four to twelve. In winter, they remain in their underground burrows for much of the time. They feed on seeds and green leaves of desert plants, including the stems of Mormon tea (*Ephedra* sp.), leaves and beans of mesquite, cactus fruit, ocotillo blossoms, and agricultural crops, but may occasionally take small lizards (including flat-tailed horned lizards) and insects; they have also been observed to feed on carrion.

#### 3.4.1.2.2 Current Status

The Coachella Valley round-tailed ground squirrel is Federal Candidate for Listing and a California Species Special of Concern.

#### 3.4.1.2.3 Distribution

This species is restricted to the Coachella Valley associated with sandy substrates. The current and historical distribution for the Coachella Valley round-tailed ground squirrel is from San Gorgonio Pass to the vicinity of the Salton Sea in Riverside County. Occurrences of this species have been documented in Cabazon, Whitewater Station, Coachella, Mecca, Agua Caliente, and along the Coachella Canal near Box Canyon. Elevation range for the species is from below sea level to 2,900 feet msl.

#### 3.4.1.2.4 Project Site Occurrence and Distribution

The Coachella Valley round-tailed ground squirrel was found on the project site during the focused small mammal surveys and general wildlife surveys (Figure 6, *Small Mammal Observation Locations*).
3.4.1.3 Swainson's Hawk

3.4.1.3.1 Description and Natural History

The Swainson’s hawk, once one of the most common birds of prey in the low grasslands of California, is a large, slender buteo with long, pointed wings. Sexes are similar in plumage and females average larger than males. Adult coloring varies considerably: the birds may be light, rufous, or dark morphs, or they may be an intermediate color. Light or rufous morphs have dark heads and breast bands and light bellies. The bodies of dark morphs are entirely sooty black. Breeding Swainson’s hawks need large expanses of grassland foraging habitat. The diet of the Swainson's hawk is varied with the California vole (*Microtus californicus*) being the staple in the Central Valley. They prey in summer on small mammals (especially voles) and insects, but also on snakes and other reptiles, and occasionally birds. During migrations and on winter grounds, their main diet is insects, especially grasshoppers. They follow tractors and mowers, capturing disturbed rodents, insects, and even birds. Swainson’s hawks soar effortlessly for long periods and often hunt from a soar or a glide. On migration they are often seen in small to large flocks, flying or descending en masse to feed on grasshoppers.

Swainson’s hawks arrive in their California breeding areas from early March to early April. Swainson’s hawks require large, open areas with abundant prey in association with suitable nest trees. Suitable foraging areas include native grasslands or lightly grazed pastures and croplands, open deserts, sparse shrub lands that support prey such as rodents. The species cannot forage in most perennial crops or in annual crops that grow much higher than native grasses, which makes prey more difficult to find. Swainson's hawks often nest peripherally to riparian systems of the valley as well as utilizing lone trees or groves of trees, such as oaks (*Quercus* sp.), cottonwoods (*Populus* sp.), walnuts (*Juglans* sp.) and large willows (*Salix* sp.), adjacent to their hunting areas. In the Central Valley, they construct large, conspicuous nests of sticks in tall trees usually near rivers or streams adjacent to their hunting areas. In the Great Basin, they typically nest in juniper (*Juniperus* sp.) trees of juniper-sage flats not near riparian zones.

By late August or early September, Swainson’s hawks begin to migrate south, some times aggregating in flocks of hundreds of birds. Adept at soaring and using wind currents, the birds can fly hundreds of miles during a single flight. Traveling as far south as the pampas of Argentina, they complete one of the longest migrations of any North American hawk, an annual round trip of about 11,000 - 17,000 miles.

3.4.1.3.2 Current Status

The Swainson’s hawk is designated by CDFG as a state threatened species. It is also designated as a Forest Service sensitive species by the U.S. Forest Service.
Paradise Valley
2007 Biological Resources Report

Legend
- Project Boundary
- BLM Section Boundary

Small Mammal Survey (Chambers Group, 2001)
- Palm Springs Ground Squirrel (3 Captures)
- Palm Springs Pocket Mouse (2 Captures)

Small Mammal Observation Locations

PSOMAS
PRV0007-T August 2007

Figure 6
3.4.1.3.3 Distribution

The Swainson’s hawk once nested in lowlands throughout most of California. Migrants are seen in much of the historical range, but most nesting is confined to the Central Valley, Klamath Basin and parts of the Great Basin where suitable nesting and foraging habitat is still available. About two-thirds of the statewide population nest in the southern Sacramento Valley and northern San Joaquin Valley regions. Moderate numbers nest in northeastern California and the Klamath Basin. Several pairs have nested in southern Mono County and the Owens Valley in Inyo County. They are an uncommon breeding resident and migrant in the Mojave Desert and very limited breeding has been reported from Lanfair Valley, Owens Valley, Fish Lake Valley, Antelope Valley, southern Kern County, northern Los Angeles County and in eastern San Luis Obispo County. In southern California, they are now mostly limited to spring and fall migration.

3.4.1.3.4 Project Site Occurrence and Distribution

A single individual of Swainson’s hawk was observed flying over the Paradise Valley property during wildlife surveys conducted between May 13 and July 3, 2002. No nesting habitat nor evidence of nesting was observed. Paradise Valley does not constitute substantial foraging habitat for the Swainson’s hawk.

The Paradise Valley property is outside of the breeding range for Swainson’s hawk (England et al, 1997).

3.4.2 Sensitive Wildlife Species

Four sensitive wildlife species, or sign indicating their presence, were observed on the Paradise Valley project property during the general wildlife field surveys, the focused desert tortoise field surveys and the special status small mammal surveys and are discussed below. These sensitive wildlife species are listed below.

- loggerhead shrike
- summer tanager
- Palm Springs pocket mouse
- Nelson’s (desert) bighorn sheep (scat only, no individuals)

These wildlife species, with the exception of Nelson’s (desert) bighorn sheep, are designated by CDFG as species of special concern. Species of special concern status applies to animals not listed under the federal Endangered Species Act or the California Endangered Species Act, but which nonetheless 1) are declining at a rate that could result in listing, or 2) historically occurred in low numbers and known threats to their persistence currently exist. The Palm Springs pocket mouse and Nelson’s (desert) bighorn sheep are BLM sensitive species. These sensitive wildlife species are described below.

As a result of the field surveys and the literature review, it was concluded that thirteen additional sensitive wildlife species have high to moderate potential to occur on the Paradise Valley project site, either as residents or migrants (see Table 1).
Most of the species listed in Table 1 are considered to be absent or of low potential for occurrence due to lack of suitable habitat and/or the Paradise Valley project site is outside the species’ known geographic/elevational range. The Paradise Valley project site does not have the dunes or aeolian sand features that are more typical of the central and western Coachella Valley/Palm Springs area, and which are associated with a number of sensitive wildlife species.

3.4.2.1 Loggerhead Shrike

3.4.2.1.1 Description and Natural History
The loggerhead shrike is a predatory songbird with strong, hooked bills they use to kill and dismember prey (insects or small vertebrates, including birds, small mammals, amphibians and reptiles). When foraging it perches conspicuously on fences, wires, and treetops and usually flies directly to prey on ground or in a shrub and sometimes hovers. It frequently skewers prey on thorns, sharp twigs, barb wire, or it forces it into a crotch to feed on or to cache for feeding later.

The loggerhead shrike prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting. They build nests on stable branches in densely-foliaged shrub or tree, usually well-concealed. It is known to forage over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs. Individuals like to perch on posts, utility lines and often use the edges of denser habitats. The highest density occurs in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats.

3.4.2.1.2 Current Status
The loggerhead shrike is designated by CDFG as a species of special concern.

3.4.2.1.3 Distribution
The loggerhead shrike is a common resident and winter visitor in lowlands and foothills throughout California. It is rare on coastal slope north of Mendocino County, occurring only in winter.

3.4.2.1.4 Project Site Occurrence and Distribution
Loggerhead shrikes were observed on the Paradise Valley project site during the wildlife field surveys. The loggerhead shrike is expected to breed onsite.

3.4.2.2 Summer Tanager

3.4.2.2.1 Description and Natural History
The summer tanager is a brightly colored tropical bird. Adult males are rosy red year round. Females show overall reddish washes, but most have a mustard tone. It is an uncommon summer resident and breeder in desert riparian habitat. Summer tanagers breed and forage in mature, dense, desert riparian habitat dominated by cottonwoods and willows along streams and rivers. Early arrivals from wintering grounds may appear in late March, but the main migration is April
through early May. Nesting is primarily May through June. The nest is built on a horizontal limb of large trees including cottonwoods, usually 10 to 35 feet above the ground, and often over an opening such as a creek bed. The summer tanager winters from central Mexico south through Central America to Bolivia and Brazil. It occurs in small numbers in winter in southern California, southern Arizona and in southern Florida.

Tanagers eat insects, including bees and wasps, and small wild fruits. They glean from foliage and bark, and hawks flying insects. Eats many bees and wasps; often takes larvae from hives and nests

3.4.2.2.2 Current Status
The summer tanager is designated by CDFG as a species of special concern.

3.4.2.2.3 Distribution
The summer tanager is an uncommon summer resident and breeder in desert riparian habitat along lower Colorado River; also occurs very locally elsewhere in southern California deserts from Inyo County south to the Mexican border. It once nested at a few localities in the Coachella Valley, but is no longer known to do so. Found in additional desert and other localities in migration. It is also known to breed at widely scattered localities in the desert: Brock Experimental Ranch, east of Holtville, Imperial County; Morongo Valley, San Bernardino County; Mojave Narrows Regional Park near Victorville, San Bernardino County; and Amargosa River, south of Tecopa, Inyo County. The summer tanager also nested in the South Fork Kern River Valley. One pair has been noted intermittently at Whitewater Canyon, Riverside County. It is a rare but regular migrant and winter visitor along the coast, mostly from Los Angeles County southward, scattered records occur in northern California.

3.4.2.2.4 Project Site Occurrence and Distribution
Summer tanager was observed on the Paradise Valley project site during the wildlife field surveys. The summer tanager is not expected to breed onsite.

3.4.2.3 Palm Springs Pocket Mouse

3.4.2.3.1 Description and Natural History
The Palm Springs pocket mouse is one of seven subspecies of Perognathus longimembris, the "silky pocket mice" that occur in southern California. Pocket mice of the P. longimembris group are nocturnal, solitary, and generally exhibit strong intraspecific aggression. They spend the day in burrows they construct, comprised of a system of tunnels and resting areas, with the entrance plugged. This species generally breeds from January to August, with a peak of activity from March to May. Several studies suggest that reproduction in heteromyids may be dependent on availability of annual vegetation. The little pocket mice hibernate in winter and are active above ground in spring, summer, and fall.

Generally, their habitat is described as having level to gently sloping topography, sparse to moderate vegetative cover, and loosely packed or sandy soils. Inhabits desert riparian, desert scrub, desert wash and sagebrush habitats. Most common in creosote dominated desert scrub. They are rarely found on rocky sites and occur in all canopy coverage classes.
3.4.2.3.2  **Current Status**

The Palm Springs pocket mouse is designated by CDFG as a species of special concern. It is also a BLM sensitive species.

3.4.2.3.3  **Distribution**

This subspecies occurs in the lower Sonoran life zone from the San Gorgonio Pass area east to the Little San Bernardino Mountains and south along the eastern edge of the Peninsular Range to Borrego Valley and the east side of San Felipe Narrows. The Coachella Valley and San Gorgonio Pass area contain the major portion of the species' range, including the western, northern and eastern limits of its range, which also extends along the eastern edge of the Peninsular Ranges to Borrego Valley. The southern boundary of the range extends into Imperial and San Diego counties. The species occurs on three existing preserves: the Coachella Valley Preserve, the Whitewater River Floodplain Preserve, and the Willow Hole-Edom Hill Preserve/ACEC. It occurs at the highest reported densities in the Snow Creek area. Two individuals were captured in a small mammal trapping grid in the blowsand habitat adjoining the San Gorgonio River wash just north of One Horse Spring; this location is approximately 3 miles west of Snow Creek Road. Surveys confirmed that the species also occurs at Dos Palmas Preserve/ACEC and in the Cottonwood Canyon area of Joshua Tree National Park. The Palm Springs pocket mouse is moderately abundant in the Highway 62/Mission Creek area, where the species is not currently protected.

3.4.2.3.4  **Project Site Occurrence and Distribution**

The Palm Springs pocket mouse was found on the site during the focused small mammal surveys and general wildlife surveys.

3.4.2.4  **Nelson's (Desert) Bighorn Sheep**

3.4.2.4.1  **Description and Natural History**

The bighorn sheep is a robust, brownish sheep with a bobbed tail and a large white rump patch. The belly, the insides of the legs and the end of the muzzle are also white. Males have large distinct curved horns whose circumference can be as much as 18 inches at the base. The curled horns can be over 43 inches long and spread 26 inches from tip to tip. A ewe’s horns are shorter and noticeably more flattened from side to side than a ram’s. Also, a ewe’s horns never curl around to form even a half circle, whereas an older ram’s horns may form a full circle or more.

The Nelson’s (desert) bighorn sheep is distinguished by its geographic range and they have important habitat requirements that relate to topography, visibility, water availability, and forage quality and quantity. They have excellent eyesight and can spot predators from a long way off. During their evolution, bighorn sheep developed predator evasion behaviors that depend critically on the use of escape terrain, which is generally defined as steep, rugged terrain. Escape terrain is important because bighorn sheep typically do not outrun their predators, but rather use their climbing abilities to escape their enemies. Bighorns have a well-developed sense of balance and are at home on distant steep slopes and rocky ledges.

They inhabit desert mountains which are arid, rocky, sparsely vegetated lands. They graze along open slopes, washes and alluvial fans where they can see approaching predators, while steep
canyons and rock bluffs serve as escape terrain. They avoid higher elevations, likely because of decreased visibility associated with denser vegetation such as chaparral. They prefer open areas of low-growing vegetation for feeding, with close proximity to steep, rugged terrain for escape, lambing, and bedding, an adequate source of water, and travel routes linking these areas. Low rolling terrain and washes seasonally provide an important source of high quality forage, with a greater diversity of browse species than in steeper terrain. Areas of flat terrain, such as valley floors, serve as important linkages between neighboring mountainous regions, thereby allowing sheep temporary access to resources (forage, water, or lambing habitat) in neighboring areas, and allowing gene flow to occur between subpopulations.

Bighorns are ruminants, which allow them to digest grass, even when it is dried out. They are mostly diurnal and will feed on and off throughout the day on a large variety of plants. The eat grasses, sedges, and forbs. They will also browse on shrubs and trees like the desert ironwood when their preferred food is scarce. The desert bighorns need water about every three days in the summer. Bighorn sheep use springs and water in depressions, and some wildlife refuges construct artificial water holes. However, desert bighorn sheep get a lot of their moisture from the food they eat. Nelson’s (desert) bighorn sheep are restricted to the vicinity of water during the hot summer, dispersing at other times of year.

Males do not defend territories, but battle other males over mating access to the females. Rams will charge each other and smash their heads together in impressive and loud battles. Age and the size of its horns determine the dominant status of a ram. Rutting may be yearlong for desert bighorns, peaking in August and September. Males usually don't mate until they are seven years old. Groups of ewes stay in distinct ranges, with little interchange between groups. Rams may travel between groups, particularly during the rut. Nelson’s (desert) bighorn sheep are polygamous. The lambing season is mid-April to early June, depending on conditions. Desert bighorns may give birth at any time, but most births occur from January to April. When ewes are ready to give birth they will typically seek out the most precipitous terrain, where their lambs will presumably be the safest. Ewes reach sexual maturity at 2.5 year, possibly as yearlings under good conditions. Rams reach sexual maturity at the same age, but are unlikely to mate until larger.

3.4.2.4.2 Current Status
The Nelson’s (desert) bighorn sheep is a BLM sensitive species.

3.4.2.4.3 Distribution
Nelson’s (desert) bighorn sheep occur in desert mountain ranges from White Mountains of Mono and Inyo counties, south to San Bernardino Mountains, Little San Bernardino, Eagle, and Orocopia Mountains, thence southeastward to the Chocolate Mountains in Imperial County, then south to Mexican border. An isolated population also occurs in the San Gabriel Mountains.

3.4.2.4.4 Project Site Occurrence and Distribution
Psomas biologists found Nelson’s (desert) bighorn sheep scat and tracks in the upper part of a wash at the northeastern Paradise Valley project boundary. Individuals were not observed.
3.5 Wildlife Corridors

In general, a wildlife corridor can be considered a linear feature that connects at least two fragments of habitat (Hobbs, 1992; Hess, 1994). The assumed function of a wildlife corridor is to facilitate the movement of wildlife between two or more habitat fragments (Rosenberg et. al. 1997; Soule 1991). In human-dominated landscapes habitat fragments are often surrounded by housing developments and are bisected by roads, freeways, railroad tracks, and other linear obstacles. Wildlife corridors that pass through such areas usually consist of a crossing point of some sort. In general, crossing points are narrow, relatively short in length, and are constricted in nature. Crossing points allow wildlife to pass under, through, or over obstacles or barriers that would otherwise hinder or prevent movement of wildlife from one habitat fragment to another. Crossing points are typically artificial man-made structures such as culverts, underpasses, overpasses, or tunnels that were not designed for wildlife movement, but incidentally provide opportunities for wildlife to traverse physical obstacles, particularly freeways.

Wildlife movement in a north-south direction, between the Cottonwood Mountains and the Mecca Hills/Orocopia Mountains, is currently impeded by Interstate 10. Wildlife species that cannot fly or otherwise be transported on the wind are forced to move through the few bridges and culverts that cross the washes.

In a meeting with the USFWS held June 13, 2000 to discuss potential issues related to wildlife species, Psomas was informed that the movement of Nelson’s (desert) bighorn sheep is of concern to USFWS(Psomas 2000). Potential project impacts to movement corridors between the Cottonwood Mountains and the Orocopia/Mecca Hills Mountains were of specific concern to USFWS.

The proposed project will be located between the Cottonwood Mountains to the north and the Mecca Hills to the southwest and Orocopia Mountains to the southeast. Interstate 10 previously altered the movement of wildlife between the Cottonwood Mountains and the Mecca Hills and Orocopia Mountains. A system of stormwater diversion levees diverts drainage flows to the culverts and bridges conveying drainage from north to south under Interstate 10. The culverts and bridge under Interstate 10 have probably reduced the isolating effect of Interstate 10 and serve as wildlife corridor passages. The proposed Paradise Valley development will compound the effects of the barrier that Interstate 10 currently poses to wildlife movement.

The Desert Tortoise and Linkage Conservation Area of the CVMSHCP currently contains five biological corridors that are part of larger linkages that connect the Cottonwood Mountains and the Joshua Tree National Park Conservation Area with the Mecca Hills/Orocopia Mountains Conservation Area.

Two wildlife corridors are located wholly or partially within the project area: Corridor 2, centered on East Cactus City Wash and Hazy Gulch culverts, with East Cactus City Wash conveyed under Interstate 10 via a 90-foot wide by 7-foot high bridge and the Hazy Gulch conveyed under Interstate 10 via a 68-foot wide by 13-foot high bridge; and Corridor 3, centered on Happy Gulch, conveyed under Interstate 10 via a 52-foot wide by 6-foot high bridge.
3.5.1 **MSHCP Methodology for Identification of Linkages and Corridors**

Various sections of the MSHCP describe the planning process for addressing and incorporating habitat linkages and corridors in the MSHCP Conservation Areas. The process described is based on best available scientific data and specified goals with specific corridors then being identified in Conservation Areas.

Section 3.0 of MSHCP document, titled Plan Development, describes the conservation planning methodology, the mapping process used to identify areas of high Conservation value, and other subjects of plan development. Section 3.1.3 describes the application of the “best available science standard” in development of the MSHCP:

The planning team used the best available scientific data in developing the Plan. The data used in Plan development was a combination of existing biological data and new data collected during Plan development. The location and extent of biological data gathered during Plan development was determined by available funding and access to private property. Survey areas for species were selected to help identify the likely limits of distribution of the species in the Plan Area. A list of all the surveys conducted to assist with the preparation of this Plan is found in Section 3.4 of Appendix I. Annual plant species surveys were conducted only in years when sufficient amounts of rainfall resulted in germination of the plant species. In addition to a fine filter approach for a select group of species, a coarse filter approach was utilized. The coarse filter approach emphasizes Conservation of Core Habitat areas, conserved natural communities, and Essential Ecological Processes, Biological Corridors, and Linkages.

Section 3.1.4 of the MSHCP describes the planning process used to identify the Conservation Areas.

Item 8 states:

*Delineate Core Habitat areas, Essential Ecological Process areas, and Biological Corridors and Linkages.* For each of the Covered Species for which sufficient data were available, the planning team delineated Core Habitat areas, defined as areas of unfragmented Habitat with intact ecological processes large enough for a self sustaining population of the species. Areas needed to maintain Essential Ecological Processes, Core Habitat, Biological Corridors and Linkages were also identified.

Item 9 states:

… The corridors were intended to provide not only for movement of Covered Species, but also for other species, including coyotes, bobcats, mountain lions, and foxes, necessary to maintain predator-prey relationships, general biological diversity, and the opportunity for species adaptation in response to potential climatic change. …

Item 13 states:
Delineate Conservation Goals and Objectives. Conservation Goals and specific
Conservation Objectives were developed for each Covered Species, natural community,
Essential Ecological Process, Biological Corridor, and Linkage in the Conservation Areas
to ensure that Conservation would be accomplished and that the tools for compliance
monitoring were in place.

Section 3.4 of the MSHCP describes the evaluation of initial conservation alternatives.

Item 5 states:

Biological Corridors and Linkages. For each Covered Species, the planning team
assessed whether connectivity of the population in each Conservation Area was
maintained with populations in other Conservation Areas and to populations outside the
Plan Area to the maximum extent Feasible.

Appendix I of the MSHCP provides the following information on the methodology employed to
refine specific corridor locations within Conservation Areas.

Through field visits and aerial photo analysis, potential habitat linkage and corridor areas
were more accurately mapped and incorporated into the third iteration Site Identification
map. The map was evaluated for adequate buffers to habitat and linkage areas; these buffer
areas were included within all proposed conservation areas, where adequate undeveloped
land was available for this purpose. Aerial photos were also used to exclude existing land uses,
such as roads, levees, and developed areas.

Other sections of Appendix I describe field surveys and mapping of natural communities but do
not mention methods for identification of specific corridors.

3.5.2 Incorporation of Linkages and Corridors In MSHCP
Conservation Areas

The MSHCP provides a description of the value of linkages and corridors in conservation
planning, defines “linkage” and “corridor,” and describes, in general, how corridors and linkages
function within the Desert Tortoise and Linkage Conservation Area. The MSHCP also identifies
specific corridor locations with Conservation Areas.

Appendix I of the MSHCP states that linkages allow migration in wide-ranging animals, plant
propagation, interchange of genetic material among populations, movement in response to
environmental change or natural disasters, and recolonization following extirpation. Biological
corridors are described in Appendix I as wildlife movement areas that are constrained by existing
development, freeways, or other impediments. Corridors are considered to be of particular
importance in that they give large predators access to otherwise isolated preserves. Large
predators play an important role in controlling populations of mesopredators, which in turn prey
upon target species. Biological Corridors may also aid in the function of ecosystem processes,
such as sand transport.
The MSHCP provides definitions of the terms “biological corridor” and “linkage” as follows:

**Linkage** - Habitat that provides for the occupancy of Covered Species and their movement between larger blocks of Habitat over time, potentially over a period of generations. In general, Linkages are large enough to include adequate Habitat to support small populations of the species and, thus, do not require that an individual of the species transit the entire Linkage to maintain gene flow between populations. What functions as a Linkage for one species may provide only a Biological Corridor or no value for other species. (MSHCP Plan Definitions)

**Biological Corridor** Wildlife movement area that is constrained by existing development, freeways, or other impediments. (MSHCP Plan Definitions)

Appendix I of the MSHCP provides the following definitions:

**corridor**—A route that allows movement of individuals or taxa from one region or place to another. In ecoregional planning, it is important to establish corridors among sites for conservation targets that require such areas for dispersal and movement. Focal species may help in designing corridors and linkages. (MSHCP Appendix I, Glossary)

**linkage** – A planned connection between habitat “islands” to provide protected movement opportunities and increased range for various species, thereby helping to maintain healthy populations and genetic diversity. (MSHCP Appendix I, Glossary)

Section 4.3.17 of the MSHCP provides the following description of corridors and linkages within the Desert Tortoise and Linkage Conservation Area:

This area provides Biological Corridors focused on large I-10 underpasses, linking the Mecca Hills and Orocopia Mountains Wildernesses with Joshua Tree National Park. North of I-10 and west of Thermal Canyon, this Conservation Area also includes the lower slopes of the Little San Bernardino Mountains and their associated canyon mouths and alluvial fans to provide a Linkage to the central part of the Plan Area. Desert tortoise and Palm Springs pocket mouse, which has scattered Habitat in this area, may use this corridor. Coyotes, bobcats, and other mammals may also use the Biological Corridors in this area.

Section 4.3.17 of the MSHCP also provides the specific conservation objectives for the Desert Tortoise and Linkage Conservation Area including the following specific objectives for conservation of corridors:

*Conserve at least 14,143 acres, such that the functionality of each individual Biological Corridor listed below is not compromised, to maintain Linkages between the Joshua Tree National Park Conservation Area and the Mecca Hills/Orocopia Mountains Conservation*
Area and Biological Corridors under I-10 for desert tortoise, and to maintain ecosystem function for Covered Species.

a. Conserve Corridor 1, centered on Thermal Canyon.

b. Conserve Corridor 2 centered on the E. Cactus City Wash and Hazy Gulch culverts.

c. Conserve Corridor 3 centered on the Happy Gulch culvert.

d. Conserve Corridor 4 centered on the Desperation Arroyo culvert.


Aside from the freeway bridges and culverts and any Existing Use areas, which are unavoidably narrow segments, the Biological Corridors shall expand to one mile wide to minimize edge effects.

3.5.3 Discussion of MSHCP Treatment of Linkages and Corridors

Although the MSHCP lists general goals and Conservation Area objectives for corridors, it is unclear as to how the corridors were actually identified. Specifically, it is unclear why one mile was selected as a basis for corridor width. Also, it is unclear what field data was collected to determine crossings to be included while others were excluded. Generally, bridges were included and culverts were excluded however, at least two large bridges were excluded.

Shavers Valley, comprising a portion of the DTLCA, is about 14 miles from west to east (i.e., from Chiriaco Summit to Cactus City Rest Area). Interstate 10 traverses the entire 14-mile length of Shavers Valley. Field surveys and review of aerial photographs reveal numerous bridges and culverts along a 10-mile reach of Interstate 10. These underpasses extend from an unnamed wash located about 1 mile east of the Cottonwood Springs/I-10 interchange to West Cactus Wash located about 1 mile east of Cactus City Rest Area. The bridges identified through analysis for the Paradise Valley project include two bridges that were not included in the MSHCP description of corridors, West Cactus Wash and Cactus Wash (see Figure 8).

Along the 10-mile reach of Interstate 10 a total of 18 bridges were identified. The bridges are, generally, evenly dispersed along the Interstate 10 alignment. Land management patterns along the 10-mile reach consist primarily of a checker-board pattern of BLM and private lands. Topography and terrain are generally uniform along the reach, consisting of gently sloping alluvial fans with at the base of steep foothills and mountains about 1 to 3 miles north or south of Interstate 10. Thus, suitable conditions for habitat linkages with dispersed corridors, centered on bridges, exist along the entire 10-mile reach Interstate 10.
3.6 Jurisdictional Waters

3.6.1 USACOE

The vegetation surveys and mapping revealed that no hydrophytic vegetation is present on the site. Thus, no areas of the site meet the three-parameter federal definition of "wetlands." Prior to project construction, a detailed delineation of jurisdictional waters will be conducted. Any areas identified as Waters of the U.S. will be subject to Corps jurisdiction. The project will comply with applicable permit requirements of Sections 401 and 404 of the federal Clean Water Act.

3.6.2 CDFG

The Desert Dry Wash Woodland, as mapped by Psomas, is associated riparian conditions of the alluvial fan. It is anticipated that portions of the alluvial fan will meet the CDFG definition of streambed. Prior to project construction, a detailed delineation of jurisdictional waters will be conducted. Any areas identified as streambed or other Waters of the State will be subject to CDFG jurisdiction. The project will comply with applicable permit requirements of Sections 1600-1616 of California Fish and Game Code.

3.7 Regulatory Framework Laws, Regulations, and Land Use Planning

This section identifies and describes the federal, state, and local statutes, ordinances, and/or policies that govern the protection and conservation of biological resources that may be affected by project development. These laws and regulations are described separately below.

3.7.1 Federal

3.7.1.1 Endangered Species Act (ESA) (16 U.S.C. § 1531 et seq.).

The purpose of the federal Endangered Species Act (ESA) is to conserve "the ecosystems upon which endangered and threatened species depend" and to conserve and recover listed species. The ESA was passed in 1973 and has since been amended and reauthorized. The ESA provides a process for listing species as either threatened or endangered, and methods of protecting listed species. The ESA is administered by the Interior Department's USFWS and the National Oceanic and Atmospheric Administration (NOAA)–Fisheries. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the NOAA–Fisheries’ responsibilities are mainly for marine species.

- Section 4 – Listing and Critical Habitat. Species are listed as either endangered or threatened under Section 4 of the ESA. The ESA defines as "endangered" any plant or animal species that is in danger of extinction throughout all or a significant portion of its range. A “threatened” species is a species that is likely to become endangered in the
foreseeable future. A “proposed” species is one that has been officially proposed by USFWS for addition to the federal threatened and endangered species list.

Under Section 4 critical habitat for threatened and endangered species is designated at the time a species is listed unless USFWS determines that it is not possible or is not prudent to designate critical habitat. Critical habitat includes geographic areas “on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection.” Critical habitat may include areas not occupied by the species at the time of listing but that are essential to the conservation of the species. Critical habitat designations affect only Federal agency actions or federally funded or permitted activities.

Section 7 – Interagency Cooperation. The ESA requires that all federal departments and agencies shall use their authority to conserve threatened and endangered species. Procedural rulemakings provide for interagency cooperation with USFWS in meeting the goals of the Act. The Act states that each Federal agency shall, in consultation with the USFWS, insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species, to be critical, unless such agency has been granted an exemption for such action. In the relatively few cases where the USFWS determines the proposed action will jeopardize the species, they must issue a “biological opinion” offering “reasonable and prudent alternatives” about how the proposed action could be modified to avoid jeopardy to listed species.

Section 9 – Definition of “Take.” Section 9 of the ESA makes it unlawful for a person to “take” a listed species. The law states that “take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” The Secretary of the Interior, through regulations, defined the term “harm” in this passage as “an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.”

Section 10 – Habitat Conservation Plans. This provision of the ESA is designed to relieve restrictions on private landowners who want to develop land inhabited by endangered species. Private landowners who develop and implement an approved “habitat conservation plan” providing for conservation of the species can receive an “incidental take permit” that allows their development project to go forward.

The presence of any federally threatened or endangered species in a project site generally imposes severe constraints on development; particularly if development would result in “take” of the species or its habitat.

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. Authorization is granted in one of three means:
- Obtain 10(a) Permit - A 10(a) permit is issued under section 10(a)(1)(b) of the ESA or any other equivalent statutory or regulatory framework designed to protect species of concern. A Habitat Conservation Plan (HCP) must be prepared and approved by USFWS prior to issuance of a 10(a) Permit. Habitat Conservation Plans can either be for an individual project covering one or a few species; or can be for numerous projects over a large area covering many species. The large scale HCPs are generally termed Multispecies Habitat Conservation Plans.

- Participate in a Section 7 Consultation - Section 7 of the ESA requires federal agencies (conducting or authorizing the proposed action), in consultation with USFWS, to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of critical habitat of endangered or threatened species. An incidental take statement is obtained resulting from the above-mentioned consultation. This statement includes conclusions from the consultation and any required mitigation measures to offset the adverse impacts of the incidental take.

- Compliance with Special Rule - Under Section 4(d) of the FESA, USFWS initiates a special rule to allow for take of threatened species only in conjunction with a state-initiated conservation plan.


The Migratory Bird Treaty Act protects all native breeding birds, their nests and eggs, whether or not they are considered sensitive by resource agencies. The provisions of this act govern the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts and nests. The MBTA prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase or barter, any migratory bird, their eggs, parts, and nests, except as authorized under a valid permit. The law applies to the removal of nests occupied by migratory birds during the breeding season.

3.7.1.3 Clean Water Act (33 USC 1251 et seq., as amended by Public Law 92-500).

The Clean Water Act of 1977 and the Water Quality Act of 1987 (amendments to the Federal Water Pollution Control Act) provide the backbone for national water quality policy and action. The goal is to eliminate pollutant discharges into "waters of the U.S." Sections 401, 402, and 404 of the Clean Water Act are pertinent to California's surface, coastal, and groundwater water management. The term "waters of the United States" is defined as: (1) all navigable waters (including all waters subject to the ebb and flow of the tide); (2) all interstate waters and wetlands; (3) all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce; (4) all impoundments of waters mentioned above; (5) all tributaries to waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to waters mentioned above.
• Section 401 - Water Quality Certification. Section 401 (40 CFR 121) ensures activities requiring a federal permit (such as a the Army Corps of Engineers [Corps]) Section 404 permit for discharge of dredged or fill material into waters of the U.S. and includes wetlands), comply with the Clean Water Act, state water quality laws, and other appropriate state regulations (e.g., California Water Code). Section 401 is implemented through a water quality certification process. In the State of California, the Regional Water Quality Control Board (RWQCB) implements Section 401 requirements.

• Section 402 - National Pollution Discharge Elimination System. The Water Quality Act of 1987 amended Section 402 with a new subsection regulating stormwater discharges. The amendment requires a phased approach to control pollutants mobilized and transported by stormwater runoff. Although pollutants entering storm and surface water systems have historically been considered nonpoint in nature, they are now regulated as point sources under Section 402(p) and subject to the permitting process of the Clean Water Act’s National Pollutant Discharge Elimination System (NPDES). In the State of California, the Regional Water Quality Control Board (RWQCB) implements Section 402 requirements.

• Section 404 - Dredge and Fill Requirements. Section 404 of the Clean Water Act (USC 1394) regulates the discharge of dredged or fill material into waters of the United States, including wetlands. The Corps administers a permitting program under the provisions of Section 404. Under the law, discharges of dredged or fill material into navigable waters of the U.S., including wetlands, may require a nationwide permit or an individual permit. The Corps has established a series of nationwide permits (NWPs) that authorize certain activities, provided that a proposed activity can demonstrate compliance with standard terms and conditions. No activity is authorized under any NWP that is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or that will destroy or adversely modify the critical habitat of such species. If the conditions cannot be met, a regional or individual permit will be required.

3.7.2 State

3.7.2.1 California Environmental Quality Act (CEQA) (Public Resources Code (PRC), Sections 21000 et seq.).

CEQA is the principal statute mandating environmental assessment of projects in California. The purpose of CEQA is to evaluate whether a proposed project may have an adverse effect on the environment and, if so, if that effect can be reduced or eliminated by pursuing an alternative course of action or through mitigation.

The CEQA Guidelines are the regulations that govern the implementation of CEQA. The CEQA Guidelines are codified in the California Code of Regulations (CCR), Title 14, Chapter 3, Sections 15000 et seq. and are binding on state and local public agencies.
The basic goal of CEQA is to develop and maintain a high-quality environment now and in the future, while the specific goals of CEQA are for California's public agencies to:

- Identify the significant environmental effects of their actions; and, either
- Avoid those significant environmental effects, where feasible; or
- Mitigate those significant environmental effects, where feasible.

CEQA applies to "projects" proposed to be undertaken or requiring approval by state and local public agencies. "Projects" are activities that have the potential to have a physical impact on the environment and may include the enactment of zoning ordinances, the issuance of conditional use permits and variances and the approval of tentative subdivision maps.

3.7.2.2 California Endangered Species Act (CESA) (Fish and Game Code 2050 et seq.).

This act is similar to the federal ESA and is administered by the California Department of Fish and Game (CDFG). 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. State threatened and endangered species are fully protected against take except as otherwise provided in state law.

The CDFG is authorized to enter into “memoranda of understanding” with individuals, public agencies, and other institutions to import, export, take, or possess state-listed species for scientific, educational, or management purposes. There are no state agency consultation procedures under CESA. For projects that affect both a state and federal listed species, compliance with the Federal Endangered Species Act will satisfy CESA if the CDFG determines that the federal incidental take authorization is "consistent" with CESA under Fish and Game Code Section 2080.

Species that are California fully protected include those protected by special legislation for various reasons, such as the mountain lion and white-tailed kite. Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

3.7.2.3 California Fish and Game Code Section 2081

Under Section 2081 of the California Fish and Game Code, the CDFG may authorize by permit the incidental take, of state-listed threatened, or endangered species.

3.7.2.4 California Fish And Game Code Section 1600 - 1607.

Under section 1601 of the California Fish and Game Code CDFG regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake
which supports fish or wildlife resources. Section 1600 requires any state or local governmental agency or public utility to notify CDFG prior to beginning a construction project that will:

- Divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake;
- Use materials from a streambed; or
- Result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake.

For a watercourse to be considered under CDFG jurisdiction, it must have a terminus, banks, and channel through which water can flow, at least periodically. Included are watercourses with surface or subsurface flows that contain (or once contained) fish and wildlife or supports (or once supported) riparian vegetation. Based on the information in the notification form and a possible field inspection, CDFG may propose reasonable modifications in the proposed construction that would allow for the protection of the fish and wildlife resources.

3.7.2.5 Native Plant Protection Act (Fish and Game Code 1900-1913)

California's Native Plant Protection Act (NPPA), administered by the CDFG, requires all State agencies to utilize their authority to preserve, protect and enhance endangered or rare native plants of this state. CDFG shall establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. As used in this chapter, "native plant" means a plant growing in a wild uncultivated state that is normally found native to the plant life of California. A species, subspecies, or variety is endangered when its prospects of survival and reproduction are in immediate jeopardy from one or more cause. A species, subspecies, or variety is rare when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens.

3.7.2.6 California Fish and Game Code Section 3500 - 3516.

Section 3503 of the California Department of Fish and Game Code states, "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." Furthermore, Section 3513 states, "It is unlawful to take or possess any migratory non-game bird as designated in the Migratory Bird Treaty Act or any part of such migratory non-game bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Treaty Act."

3.7.3 Regional

3.7.3.1 Coachella Multiple Species Habitat Conservation Plan

The project site is within the area covered by the Coachella Multiple Species Habitat Conservation Plan (CVMSHCP). Currently the CVMSHCP is being revised following the failure of one of the participating cities to approve the plan.

The Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) is being developed under the Federal and California Endangered Species Acts, and under the provisions
of the state’s Natural Community Conservation Planning Act (Fish and Game Code Section 2800 et seq.) The CVMSHCP is intended to protect species in the Coachella Valley by providing sufficient contiguous habitat for the long-term viability of 27 species of plants and animals. The 27 species covered by the CVMSHCP include species that are either 1) currently listed by USFWS or CDFG as rare, threatened, or endangered; or 2) could become listed in the foreseeable future. The 27 species are termed the "covered species". The CVMSHCP is being developed by the Coachella Valley Association of Governments (CVAG), in cooperation with the U.S. Fish and Wildlife Service (USFWS), U.S. Forest Service (USFS), Bureau of Land Management (BLM), and the California Department of Fish and Game (CDFG).

Extensive work has been conducted for the CVMSHCP documenting the natural history, known occurrences, habitat preferences, and historic distributions of the CVMSHCP covered species (CVAG 2003). Additionally species distribution and core habitat models have been developed for many of the species addressed in the CVMSHCP. These models map known occurrences, core habitat, and represent a data-based scientific prediction of species distribution.

The CVMSHCP will establish an approximately 240,000-acre Reserve System from lands within 21 Conservation Areas.

There are detailed Conservation Objectives for the Reserve System and each of the Conservation Areas in the CVMSHCP. The Objectives are designed to ensure conservation of Core Habitat for Covered Species, Habitat viability by protecting Essential Ecological Processes, Biological Corridors and Linkages, and conserved natural communities. The CVMSHCP also contains provisions for management of the Reserve System, a Monitoring Program, and Adaptive Management.

The project site lies in the CVMSHCP Desert Tortoise and Linkage Conservation Area which includes approximately 90,000 acres of land between the Mecca Hills and Orocopia Mountains Wildernesses and Joshua Tree National Park. The Desert Tortoise and Linkage Conservation Area contains Core Habitat for the desert tortoise, Mecca aster and Orocopia sage. The Conservation Area also contains Other Conserved Habitat for Le Conte’s thrasher, Coachella Valley round-tailed ground squirrel, and the Palm Springs pocket mouse. The Conservation Area contains Biological Corridors that link the Mecca Hills and Orocopia Mountains with Joshua Tree National Park. The corridors include large I-10 underpasses.

The CVMSHCP describes the following Conservation Objectives for the Desert Tortoise and Linkage Conservation Area.

- Conserving 46,350 acres in the Conservation Area
- Conserving 45,038 acres of contiguous Core Habitat for the desert tortoise in the Riverside County portion of the Conservation Area with priority on land in the Desert Wildlife Management Area of the NECO Plan
- Minimizing fragmentation, disturbance and edge effects to Core Habitat
- Protecting individual tortoises when development occurs
- Conserving Habitat for Mecca aster and Orocopia sage
• Conserving at least 1,855 acres for Core Habitat for Mecca aster in the Riverside County portion of the Conservation Area
• Conserving at least 398 acres for Core Habitat for Oroopia sage in the Riverside County portion of the Conservation Area
• Conserving at least 25,375 acres Other Conserved Habitat for Le Conte’s thrasher in the Riverside County portion of the Conservation Area
• Conserving at least 6,783 acres desert dry wash woodland natural community in the Riverside County portion of the Conservation Area
• Maintaining current flow capacity in washes with desert dry wash woodland natural community
• Conserving at least 14,143 acres to maintain the functions of Biological Corridors
• Maintaining Linkages between the Mecca Hills and Oroopia Mountains and Joshua Tree National Park
• Maintaining Biological Corridors under I-10 for desert tortoise, ecosystem function and hydrologic regime

The CVMSHCP requires avoidance minimization and mitigation measures for approved development projects for Covered Activities that are within Conservation Areas. Covered Activities involve certain activities carried out or conducted by permittees, within the CVMSHCP Plan Area, that will receive Take Authorization under the Section 10(a) Permit and the NCCP Permit. For the Desert Tortoise and Linkage Conservation Area these include: 1) conducting a 100% coverage desert tortoise presence/absence survey of the development area and adjacent areas within 200 feet prior to development, 2) tortoise-proof fencing the development area if fresh tortoise sign is found, 3) conducting a tortoise clearance survey, and 4) moving all tortoises found to a specified location. All surveys and tortoise relocation must be done by approved biologists following currently approved protocols.

In § 6.12.2, the CVMSHCP provides a process for a “Like Exchange” of property to allow for changes in the boundaries of a Conservation Area. This mechanism permits an exchange of land as long as the exchange results in equal or greater benefits to species and natural communities to those covered under the CVMSHCP. Both the USFWS and the CDFG must concur in a proposed Like Exchange, so that it does not require an Amendment to the MSHCP. A Like Exchange requires consultation with USFWS and CDFG and the preparation of a detailed Equivalency Analysis.

Additional avoidance, minimization, and mitigation measures detailed in §4.4 of the CVMSHCP for approved development projects for Covered Activities within a Conservation Area apply to species in addition to the desert tortoise, including burrowing owl, Crissal thrasher, and Le Conte’s thrasher, among others. The specific §4.4 avoidance, minimization, and mitigation requirements for each species will be detailed in the mitigation portion of this document.

Section 4.5 of the CVMSHCP requires avoidance or minimization of indirect effects from development adjacent to or within the Conservation Areas. Indirect effects are often called edge effects, and include noise, lighting, drainage, intrusion of people, and the introduction of non-native plants and non-native predators, such as dogs or cats. The following Land Use Adjacency
Guidelines need to be considered with a proposed development project adjacent to or within a Conservation Area in order to minimize edge effects:

- Drainage - Proposed development within or adjacent to a Conservation Area will incorporate plans to ensure that the quantity and quality of runoff discharged to a Conservation Area will not adversely alter existing conditions. Stormwater systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials, or other elements that might degrade or harm biological resources or ecosystem processed within a Conservation Area.
- Toxics – Proposed development within or adjacent to a Conservation Area will incorporate measures to ensure that application of chemicals or generation of bioproducts such as manure do not result in any discharge to a Conservation Area.
- Lighting – Proposed development within or adjacent to a Conservation Area will shield and direct light toward the development area.
- Noise – Proposed development within or adjacent to a Conservation Area that generates noise above 105 dBA (A-weighted decibel) will incorporate setbacks, berms.
- Invasives – Proposed development within or adjacent to a Conservation Area will not incorporate invasive, non-native plant species into the landscape. Landscape treatments should incorporate native plant materials to the maximum extent feasible utilizing a recommended list of native species (CVMSHCP Table 4-112).
- Barriers – Proposed development within or adjacent to a Conservation Area will incorporate barriers in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass, or dumping in a Conservation Area. Such barriers may include native landscaping, rocks/boulders, fencing, walls, and/or signage.
- Grading/Land Development – Proposed development within or adjacent to a Conservation Area shall not have manufactured slopes that extend into a Conservation Area.

3.7.3.2 Northern and Eastern Colorado Desert Coordinated Management Plan

The Northern and Eastern Colorado Desert Coordinated Management Plan (NECO) is a landscape-scale, multi-agency planning effort that protects and conserves natural resources while simultaneously balancing human uses of the California portion of the Sonoran Desert ecosystem. The planning area encompasses over five million acres and hosts 60 sensitive plant and animal species. Lands within the planning area are also popular for hiking, hunting, rockhounding, and driving for pleasure. Several commercial mining operations, livestock grazing, and utility transmission lines exist in the area as well. NECO amends the 1980 California Desert Conservation Area (CDCA) plan.

The NECO Plan delineated Core Habitat for the desert tortoise in the Desert Wildlife Management Area. A portion of the CVMSHCP Desert Tortoise and Linkage Conservation Area is within the NECO plan area. In the portion of the CVMSHCP Area where the NECO Plan applies to federal land, new surface disturbance is cumulatively limited to one percent of the federal portion of each Desert Wildlife Management Area.
4.0 Impacts under CVMSHCP

4.1 Vegetation Communities

Development of the project would impact approximately 3,648 acres of vegetation communities. Approximately 1,999 acres of the vegetation communities on the site would not be impacted and would remain as Undisturbed/Conservation Area. Additionally the vegetation within the SCE easement would not be impacted.

Development of the project without BLM Section 12 would impact approximately 3,648 acres of vegetation communities. Approximately 1,999 acres of the site would not be impacted and would remain as Undisturbed/Conservation Area. Additionally the vegetation within the SCE easement would not be impacted.

4.1.1 Sonoran creosote bush scrub

4.1.1.1 Development With Acquisition of Section 12

Development of the project would impact approximately 1,632 acres of Sonoran creosote bush scrub based on the CVMSHCP vegetation mapping (Figure 7, Impacts to Vegetation Communities as Mapped by CVAG). Approximately 1,617 acres of Sonoran creosote bush scrub would remain as Undisturbed/Conservation Area.

4.1.1.2 Development Without Acquisition of Section 12

Development of the project without BLM Section 12 would impact approximately 1,100 acres of Sonoran creosote bush scrub based on the CVMSHCP vegetation mapping. Approximately 1,618 acres of Sonoran creosote bush scrub would remain as Undisturbed/Conservation Area.
Paradise Valley
2007 Biological Resources Report

Legend

- Project Boundary
- BLM Section 12 Boundary

Vegetation Communities

- Sonoran Creosote-Bush Scrub (SCBS)
- Desert Dry Wash Woodland (DDWW)
- Undisturbed/Conservation Area
- Not a Part of the Project, Interstate 10, SCE Easement, and Outholding

Note:
Interstate 10, SCE easement, Not A Part and outholding areas are not calculated for the impacts to vegetation communities.

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<td>Not a Part of Project</td>
<td>381</td>
</tr>
<tr>
<td>Total Area</td>
<td>5,398</td>
</tr>
</tbody>
</table>

Notes on vegetation mapping:
Vegetation mapping based on ground surveys using survey grade, full color orthophotography flown 2002.

Impacts to Vegetation
Communities As Mapped by CVAG

PSOMAS
PRV0007-0 August 2007

Figure 7
4.1.2 *Dry desert wash woodland*

4.1.2.1 Development with Acquisition of Section 12

Development of the project would impact approximately 2,016 acres of dry desert wash woodland based on the CVMSHCP vegetation mapping. Approximately 720 acres of dry desert wash woodland would remain as Undisturbed/Conservation Area.

4.1.2.2 Development Without Acquisition of Section 12

Development of the project without BLM Section 12 would impact approximately 1,918 acres of dry desert wash woodland based on the CVMSHCP vegetation mapping. Approximately 720 acres of dry desert wash woodland would remain as Undisturbed/Conservation Area.

4.2 *Plants*

4.2.1 *Threatened, Endangered and Rare Plants*

4.2.1.1 Coachella Valley milk-vetch

The Coachella Valley milk-vetch has a low potential to occur on the project site, and would not be significantly impacted as a result of the development of the proposed project. The Paradise Valley project site, both with and without the acquisition of Section 12 from the BLM, is outside the known range of this species, and contains only a limited amount of suitable habitat. Thus, no direct or indirect impacts to this species will result from the proposed project. The Coachella Valley milk-vetch would not be significantly impacted as a result of the proposed project.

4.2.1.2 Triple-ribbed milk vetch

The triple-ribbed milk vetch would not be significantly impacted as a result of the proposed project. The preferred habitat for the triple-ribbed milk vetch is located within the designated open space within the proposed development, i.e. along the foothills of the Cottonwood Mountains and Mecca Hills. No direct or indirect impacts to this species will result from the proposed project. The triple-ribbed milk vetch would not be significantly impacted as a result of the proposed project.

4.2.2 *Sensitive Plants*

4.2.2.1 Mecca aster

No direct or indirect impacts to this species will result from the proposed project. A portion of CVMSHCP Core Habitat for the Mecca aster is present within the Paradise Valley project site, but is located in the designated open space, not in the planning area for the proposed project. Approximately 346 acres of Core Habitat for the Mecca Aster would remain as undisturbed Conservation Area. No CVMSHCP Core Habitat for the Mecca aster will be impacted by the proposed development, and the planning area of the project is outside the known range for the
species. The Mecca aster would not be significantly impacted as a result of the proposed project with or without Section 12.

4.2.2.2 Orocopia sage

No direct or indirect impacts to this species will result from the proposed project. No CVMSHCP Core Habitat for the Orocopia sage will be impacted by the proposed development, and the planning area of the project is outside the known range for the species. Section 12 does not contain suitable habitat for the Orocopia sage and is outside the CVMHCPl Core Habitat. The Orocopia sage would not be significantly impacted as a result of the proposed project.

4.2.2.3 Little San Bernardino Mountains linanthus

No direct or indirect impacts to this species would occur from the proposed project. The little San Bernadino Mountains linanthus would not be significantly impacted as a result of the proposed project.

4.3 Wildlife

4.3.1 Threatened and Endangered

4.3.1.1 Desert tortoise

Approximately 3,648 acres of desert tortoise Core Habitat would be impacted by the proposed project with acquisition of Section 12, and approximately 3,018 acres would be impacted without acquisition of Section 12 from the BLM. The CVMSHCP allows for 605 acres of impact to desert tortoise habitat for the Desert Tortoise and Linkage Conservation Area. Direct impacts to individual tortoises, tortoise burrow sites, and tortoise foraging habitat are expected to occur as a result of the construction of the proposed project. Indirect impacts are expected to occur from increased human activity in the project vicinity that may lead to increased off-road vehicle activity, an increased incidence of tortoise collection and harassment, and an increase in trash. Increased trash would attract tortoise predators/antagonists such as common ravines, feral dogs and coyotes.

4.3.1.2 Coachella Valley round-tailed ground squirrel

Direct impacts resulting from the development of this project would have an adverse effect on an unknown number of individuals on the project site, and will result in the loss of approximately 1,632 acres of ground squirrel habitat including Section 12, or a loss of approximately 1,100 acres of habitat excluding Section 12. Because the ground squirrel occupies a wide range of desert habitats, and its preferred habitat, mesquite hummocks, does not occur on the project site this impact is considered less than significant.
4.3.1.3 Southwestern willow flycatcher

Due to the absence of suitable habitat, the southwestern willow flycatcher is not expected to occur on the site, thus the proposed project is not expected to impact the southwestern willow flycatcher either directly or indirectly. The southwestern willow flycatcher would not be significantly impacted as a result of the proposed project.

4.3.1.4 Least Bell’s vireo

Due to the absence of suitable habitat, the least Bell’s vireo is not expected to occur on the site, thus the proposed project is not expected to impact the least Bell’s vireo either directly or indirectly. The least Bell’s vireo would not be significantly impacted as a result of the proposed project.

4.3.2 Sensitive

4.3.2.1 Flat-tailed horned lizard

Due to the absence of suitable aeolian sand habitat, the flat-tailed horned-lizard is not expected to occur on the site, thus the proposed project is not expected to impact the flat-tailed horned-lizard either directly or indirectly. No significant impacts to the flat-tailed horned-lizard are expected from development of the proposed project.

4.3.2.2 Burrowing owl

There is potential for direct impacts to burrowing owl through loss of individuals, and indirect impacts through loss of suitable habitat. Based on the lack of burrowing owl observations on the site and the widespread extent of habitat occupied by the owl, potential impacts to burrowing owl from the proposed project are not expected to be significant.

4.3.2.3 Yellow warbler

Based on the lack of suitable breeding habitat, the proposed project is not expected to directly impact the yellow warbler; however, the project may have indirect impacts through loss of migratory stopover sites. Because there are numerous stopover sites impacts to this species as a result of the development of the proposed project will not be significant.

4.3.2.4 Yellow-breasted chat

Due to the absence of suitable habitat, the yellow-breasted chat is not expected to occur on the site, thus the proposed project is not expected to directly or indirectly impact the yellow-breasted chat. Impacts to this species as a result of the development of the proposed project are not expected to be significant.

4.3.2.5 Crissal thrasher

Approximately 2,016 acres of Crissal thrasher desert dry wash woodland habitat would be impacted by the proposed project with the acquisition of Section 12 from the BLM, and approximately total 1,918 acres, without the acquisition of Section 12. No Core Habitat for

PSOMAS

November 6, 2007
Crissal thrasher would be impacted by the proposed project. Although suitable habitat for this species will be impacted by the proposed development, large areas of suitable habitat exist within its known range outside of the project area. Direct and indirect impacts to Crissal thrasher are not expected to be significant.

4.3.2.6 Le Conte’s thrasher

Approximately 3,036 acres of Le Conte’s thrasher Core Habitat would be impacted with acquisition of Section 12 from the BLM and approximately 2,607 acres without acquisition of Section 12. The CVMSHCP allows for 2,849 acres of impact to Le Conte’s thrasher habitat in the Desert Tortoise and Linkage Conservation Area. The proposed project will result in both indirect impacts to this species, through loss of suitable habitat, and direct effects, through loss of individuals. Impacts to Le Conte’s thrasher from the proposed project are expected to be significant.

4.3.2.7 Summer tanager

Based on the lack of suitable breeding habitat, the proposed project is not expected to directly impact the summer tanager; however, the project may have indirect impacts on the summer tanager through loss of migratory stopover sites, which are numerous along its migratory path. Impacts to this species as a result of the development of the proposed project are not expected to be significant.

4.3.2.8 Palm Springs pocket mouse

Approximately 3,648 acres of Palm Springs pocket mouse habitat would be impacted by the proposed project with the acquisition of Section 12 from the BLM, and approximately 3,018 acres without the acquisition of Section 12. Direct impact to this species will result from loss of individuals due to construction activities. Indirect impact to this species will result from impacts to the Palm Springs pocket mouse within the designated open space from adjacent development. Due to the lack of core habitat for the pocket mouse on site and protection of the pocket mouse in existing preserves, impacts to this species as a result of the development of the proposed project are not expected to be significant.

4.4 Wildlife Corridors

The CVMSHCP requires conservation of at least 14,143 acres within the Desert Tortoise and Linkage Conservation Area, in order to maintain linkages between the Joshua Tree National Park Conservation Area and the Mecca Hill/Orocopya Mountains Conservation Area and biological corridors under I-10 and to maintain ecosystem function for covered species. Within the Desert Tortoise and Linkage Conservation Area, five north-south wildlife corridors have been designated: Corridor 1, located to the west of the proposed project site; Corridor 2, centered on East Cactus City Wash and Hazy Gulch located in the western portion of the proposed project site; Corridor 3, centered on Happy Gulch, located within Section 12, and; Corridors 4 and 5, both located to the east of the proposed project site.
The CVMSHCP document includes Figure 4-22d, which identifies “Linkages or Biological Corridors” of the Desert Tortoise and Linkage Conservation Area. Section 4.3.17 of the CVMSHCP document designates corridors 1 – 5 within the Desert Tortoise Linkage Conservation Area.

The CVMSHCP states that, aside from the freeway bridges and culverts, and any existing use areas, which are unavoidably narrow segments, the biological corridors will expand to one mile wide to eliminate edge effects. The Desert Tortoise and Linkage Conservation Area contains five designated north-south wildlife corridors, two of which are partially contained within the Paradise Valley proposed project. (Figure 8 Wildlife Corridors)

Based on data provided by CVAG that correlates culvert and bridge locations with corridor designations, Figure 4-22d identifies Corridor 3 as a one-mile wide corridor; the boundary between Corridor 1 and Corridor 2 is not shown. Assuming that the boundary lies mid-way between Thermal Canyon and East Cactus City Wash, Corridor 2 is approximately 3½ miles wide.

4.4.1 Development With Acquisition of Section 12

The proposed Paradise Valley project, with the acquisition of Section 12 from the BLM, would constrict Corridor 2, centered on East Cactus City Wash and Hazy Gulch. The constriction would consist of reducing the Corridor width from approximately 3½ to 2½ miles and by developing areas immediately north and south of one of the two culverts identified in the CVMSCHP as passageways beneath I-10. The Hazy Gulch component of Corridor 2 will be cut off by development, leaving the East Cactus City Wash as the only CVMSHCP-identified corridor for animal movement under I-10. However, other bridges that were not identified in the CVMSHCP but are within Corridor 2, provide safe passageways for wildlife beneath I-10. West Cactus Wash and Cactus Wash bridges are located west of and within one-half mile of the East Cactus City Wash bridge. West Cactus Wash and Cactus Wash bridges will not be affected by the project.

The width of Corridor 2 will be constricted by the proposed project and by cutting off access to one of the CVMSCHP-specified passageways beneath I-10. However it is expected that the retained 2½ mile width of Corridor 2 and the retention of 3 bridges to serve as passageways beneath I-10 will allow Corridor 2 to continue to function as a wildlife corridor. The project would cut off Corridor 3, centered on Happy Gulch, by developing the entire one-mile wide corridor within the project site. Impacts to Corridors 2 and 3 are considered to be less than significant because other functional corridors and the regional linkage will be retained in Shavers Valley. The project will reduce habitat connectivity between the Mecca Hills, Oroopia Mountains, and Joshua Tree National Park from a 10-mile width to a 7-mile width. The project will cut off two bridges (Hazy Gulch and Happy Gulch) of the 18 bridges from use as corridors along the 10-mile reach. The remaining 16 bridges along the 7-mile reach of I-10 will continue to function as corridors. Although the project will result in the loss of some corridor function, the remaining corridors beneath I-10 and the areas of undeveloped land within Shavers Valley will continue to serve as a functional linkage between the Mecca Hills, Oroopia Mountains, and Joshua Tree National Park.
Park. Thus, the functional linkage will be retained in accordance with MSHCP provisions. The project impacts to wildlife corridors and linkages are less than significant.

4.4.2 Development Without Acquisition of Section 12

The proposed Paradise Valley project, with the acquisition of Section 12 from the BLM, would constrict Corridor 2, centered on East Cactus City Wash and Hazy Gulch. The constriction would consist of reducing the Corridor width from approximately 3½ to 2½ miles and by developing areas immediately north and south of one of the two culverts identified in the CVMSCHP as passageways beneath I-10. The Hazy Gulch component of Corridor 2 will be cut off by development, leaving the East Cactus City Wash as the only CVMSCHP-identified corridor for animal movement under I-10. However, other bridges that were not identified in the CVMSCHP but are within Corridor 2, provide safe passageways for wildlife beneath I-10. West Cactus Wash and Cactus Wash bridges are located west of and within one-half mile of the East Cactus City Wash bridge. West Cactus Wash and Cactus Wash bridges will not be affected by the project.

The width of Corridor 2 will be constricted by the proposed project and by cutting off access to one of the CVMSCHP-specified passageways beneath I-10. However it is expected that the retained 2½ mile width of Corridor 2 and the retention of 3 bridges to serve as passageways beneath I-10 will allow Corridor 2 to continue to function as a wildlife corridor. Corridor 3 will also be fragmented, and effectively isolated, by the proposed development by cutting off direct north to south animal movement under I-10, due to development both north and south of Section 12. The only means of animal movement under I-10 along Corridor 3 would be via circuitous movement around the developed areas and through Section 12. Impacts to Corridors 2 and 3 are considered to be less than significant because other functional corridors and the linkage will be retained in Shavers Valley. The project will reduce habitat connectivity between the Mecca Hills, Oroopia Mountains, and Joshua Tree National Park from a 10-mile width to a 7-mile width. The project will cut off two bridges (Hazy Gulch and Happy Gulch) of the 18 bridges from use as corridors along the 10-mile reach. The remaining 16 bridges along the 7-mile reach of I-10 will continue to function as corridors. Although the project will result in the loss of some corridor function, the remaining corridors beneath I-10 and the areas of undeveloped land within Shavers Valley will continue to serve as a functional linkage between the Mecca Hills, Oroopia Mountains, and Joshua Tree National Park. Thus, the functional linkage will be retained in accordance with MSHCP provisions. The project impacts to wildlife corridors and linkages are less than significant.
4.5 Conservation Areas – Edge Effects

4.5.1 Drainage

Stormwater runoff from the planning area has the potential to deleteriously impact the Conservation Area by introducing runoff containing sediment, nutrients, toxins, petroleum products, metals, organics, pesticides, chemicals, toxins, and other elements that might degrade or harm the biological processes of the ecosystem within the Conservation Area. Development activities can result in two types of water quality impacts: erosion and sedimentation and discharge of other pollutants during construction; and long-term impacts from runoff from the completed development and associated land uses.

4.5.2 Toxics

The application of chemicals, such as pesticides or chemical fertilizers on landscaping, or production of manure by horses has the potential to deleteriously impact the natural habitat by discharge to the Conservation Area.

4.5.3 Lighting

The introduction of light into the Conservation Area has the potential to affect adjacent ecosystems in the dedicated natural and recreational open space by confusing animal navigation, altering competitive interactions, changing predator-prey relations, and influencing animal physiology (Longcore and Rich, 2004).

4.5.4 Noise

Noise from the proposed development has the potential to affect adjacent ecosystems in the Conservation Area by changing animal physiology and behavior, such as fleeing from a non-threatening noise, which can deplete an animal’s energy resources thereby increasing susceptibility to predators, disease, and starvation. Noise can also cause animals to relocate from prime habitat, and cause alterations in migration or movement patterns, as well as impede communication (i.e. breeding calls).

4.5.5 Invasives

Introduction of invasive, non-native plant species, via transportation of seeds from nearby landscaped areas, into the Conservation Area has the potential to cause changes in the function of an ecosystem by changing the suite of species found in a particular ecosystem, thereby altering the fire regime, nutrient cycling, and hydrology (Mack et al. 2000)
4.5.6 Barriers

Introduction of domestic animal predation, unauthorized public access, or dumping into the Conservation Area from the adjacent development has the potential to cause changes in the ecosystem by altering predator-prey relations, loss of habitat by refuse dumping and volunteer trails by unauthorized human use.

4.5.7 Grading/Land Development

Grading or land development extending to the Conservation Area from the adjacent development could reduce the extent of natural habitat in the open space, and also has the potential to alter hydrology. Errant grading, unanticipated haul-routes, or shortcut routes take by contractors during construction activities also have the potential to impact the Conservation Area.

4.6 Jurisdictional Waters

There are no wetlands located on the project site, so no impacts to wetlands will occur as a result of the proposed project development. The project will maintain ground water levels through a balance of pumping and replenishing that will maintain ground water at natural levels. Non-wetland WUS and CDFG jurisdictional habitat will be addressed through permitting processes as required by involved regulatory agencies. Any impacts to these areas will be offset through compensation by preserving or restoring equivalent habitat, or a combination of these measures.

4.6.1 USACOE

Wetlands will not be impacted by the proposed project. Depending on the results of the detailed delineation, to be conducted before project construction, and on the results of the USACOE’s Jurisdictional Determination, non-wetland waters of the U.S. may be present on the site and may be impacted by the proposed project. The CEQA Guidelines, Appendix G identifies impacts to wetlands that may be present on a project site as potentially significant. The project will maintain ground water levels through a balance of pumping and replenishing that will maintain ground water at natural levels. Impacts to potential jurisdictional waters of the U.S. are not considered significant based on the absence of wetlands.

4.6.2 CDFG

It is anticipated that portions of the alluvial fan will meet the CDFG definition of streambed and will be impacted by the proposed project. The project will maintain ground water levels through a balance of pumping and replenishing that will maintain ground water at natural levels. Impacts to the riparian habitat (desert dry wash woodland) associated with the streambeds may be considered significant.
5.0 Mitigation under CVMSHCP

5.1 Overall Conservation Objectives

Within the Desert Tortoise and Linkage Conservation Area, a total of 46,350 acres will be conserved. The proposed Paradise Valley project will preserve approximately 2,400 acres onsite, and will impact approximately 3,300 acres of habitat. The 2,400 acres conserved onsite by the proposed project will contribute toward the overall CVMSHCP conservation objective. Based on the presumption of 90 percent conservation objective for the Desert Tortoise and Linkage Conservation Area, Paradise Valley would be required to contribute 5,220 acres; Paradise Valley is already providing 2,400 acres through on-site preservation, leaving a deficit requirement for preservation of 2,820. Any offsite mitigation through like exchange for species or habitat impacted by the proposed project would contribute to the required contribution for Paradise Valley.

5.2 Vegetation Communities

This mitigation strategy will adhere to the requirements of the CVMSHCP, including tortoise protections and Like Exchanges of land. Currently the CVMSHCP is expected to be finalized and take permits issued in 2007 or 2008.

5.2.1 Sonoran Creosote Bush Scrub

The CVMSHCP provides no conservation objectives for Sonoran creosote bush scrub; however, given the widespread nature of Sonoran creosote bush scrub throughout the CVMSHCP plan area, it is quite possible that the like exchange requirement for the desert tortoise will protect sizeable areas of Sonoran creosote bush scrub.

5.2.2 Desert Dry Wash Woodland

5.2.3 With Acquisition of Section 12

The CVMSHCP allows for impacts of 273 acres of desert dry wash woodland for the proposed Paradise Valley project. Approximately 720 acres of desert dry wash woodland will be preserved on site. The use of like exchange to Conservation Areas under the CVMSHCP requires that approximately 1,743 acres of desert dry wash woodland, at a mitigation ratio of 1:1, be preserved offsite to reduce impacts to this vegetation community to less than significant (Table 2). Alternatively Paradise Valley may acquire additional lands within the Desert Tortoise and Linkage Conservation Area, thereby increasing its percent of take.

5.2.4 Without Acquisition of Section 12

The CVMSHCP allows for impacts of 264 acres of desert dry wash woodland for the proposed Paradise Valley project. Approximately 720 acres of desert dry wash woodland will be
preserved on site. The use of like exchange to Conservation Areas under the CVMSHCP requires that approximately 1,654 acres of desert dry wash woodland, at a mitigation ratio of 1:1, be preserved offsite to reduce impacts to this vegetation community to less than significant (Table 3). An analysis is being done to demonstrate that like exchange lands will be available. Alternatively Paradise Valley may acquire additional lands within the Desert Tortoise and Linkage Conservation Area, thereby increasing its percent of take.

### Table 2
Paradise Valley Project CVMSHCP Impacts - With Section 12

<table>
<thead>
<tr>
<th>Resource</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2,061</td>
<td>346</td>
<td>16.8%</td>
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<tr>
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<td>(N/A)</td>
<td>0</td>
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</tr>
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</table>

Data Sources:
A -- CVMSCHP Table 4-91b, Sept. 2007
B -- CVMSCHP Table 4-91b, Sept. 2007
C -- CVMSCHP Table 4-91b, Sept. 2007
D -- Psomas Data based on CVAG maps, Aug. 23, 2007
E -- PV's proportional percentage of total acres not conserved, based on allocation of disturbance as proposed by PV team in comment letter, May 29, 2007
F -- PV's acreage allocation of disturbance authorized, based on allocation of disturbance as proposed by PV team in comment letter, May 29, 2007
G -- Psomas data based on proposed project and CVAG maps, Aug. 23, 2007
H -- Psomas data based on proposed project and CVAG maps, Aug. 23, 2007
I -- Off site mitigation obligation at 1:1 ratio (actual ratio may very depending on Like Exchange determination)
Table 3
Paradise Valley Project CVMSHCP Impacts - Without Section 12

<table>
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<tr>
<th>Resource</th>
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<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>PV Mitigation Due Off Site as Like Exchange (Acres) (G - F)</th>
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<td>Remaining Acres to be Conserved Throughout the Desert Tortoise and Linkage Conservation Area</td>
<td>Total Acres Not Conserved (= A + B)</td>
<td>Total Acres on PV</td>
<td>PV Acres as Percent of Not Conserved (= D / C)</td>
<td>PV Portion of Authorized Disturbance (Acres) (= E x A)</td>
<td>PV Impacts (Acres)</td>
<td>PV Preservation On Site (Acres)</td>
<td></td>
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</tr>
<tr>
<td>Mecca Aster</td>
<td>206</td>
<td>1,855</td>
<td>2,061</td>
<td>346</td>
<td>16.8%</td>
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<tr>
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Data Sources
A -- CVMSCHP Table 4-91b, Sept. 2007
B -- CVMSCHP Table 4-91b, Sept. 2007
C -- (CVMSCHP Table 4-91b, Sept. 2007)
D -- Psomas Data based on CVAG maps, Aug. 23, 2007
E -- PV's proportional percentage of total acres not conserved, based on allocation of disturbance as proposed by PV team in comment letter, May 29, 2007
F -- PV's acreage allocation of disturbance authorized, based on allocation of disturbance as proposed by PV team in comment letter, May 29, 2007
G -- Psomas data based on proposed project and CVAG maps, Aug. 23, 2007
H -- Psomas data based on proposed project and CVAG maps, Aug. 23, 2007
I -- Off site data mitigation obligation at 1:1 ratio (actual ratio may vary depending on Like Exchange determination)

5.3 Plants

5.3.1 Threatened and Endangered

5.3.1.1 Coachella Valley milk-vetch

Impacts to the Coachella Valley milk-vetch from the proposed project are not significant; therefore, mitigation is not required.

5.3.1.2 Triple-ribbed milk-vetch

The proposed project does not impact any of the CVMSHCP modeled triple-ribbed milk-vetch habitat, as detailed in CVMSHCP Section 4.4; therefore, required avoidance, minimization, and mitigation requirements for Covered Activities, in addition to Conservation Area specific
measures, are not required. There are no impacts to the triple-ribbed milk-vetch from the proposed project; therefore, mitigation is not required.

5.3.2 Sensitive

5.3.2.1 Mecca Aster

There are no expected impacts to the Mecca aster from the proposed project; therefore, mitigation is not required.

5.3.2.2 Oroopia sage

There are no expected impacts to the Oroopia sage from the proposed project; therefore, mitigation is not required.

5.3.2.3 Little San Bernardino Mountains linanthus

There are no expected impacts to the little San Bernardino Mountains linanthus from the proposed project; therefore, mitigation is not required.

5.4 Wildlife

5.4.1 Threatened and Endangered

5.4.1.1 Desert tortoise

5.4.1.1.1 With Acquisition of Section 12

The CVMSHCP allows for impacts of 605 acres of desert tortoise habitat for the proposed Paradise Valley project. Approximately 2,401 acres of desert tortoise habitat will be preserved on site. The proposed project will not receive mitigation credits for this on-site preservation of desert tortoise habitat. The use of like exchange to Conservation Areas under the CVMSHCP requires will require approximately 3,043 acres of off-site mitigation for the project, with the acquisition of Section 12, to meet the CVMSHCP mitigation requirement; thereby reducing the impacts to this species to less than significant (Table 3).

5.4.1.1.2 Without Acquisition of Section 12

The CVMSHCP allows for impacts of 540 acres of desert tortoise habitat for the proposed Paradise Valley project. Approximately 2,380 acres of desert tortoise habitat will be preserved on site. The proposed project will not receive mitigation credits for this on-site preservation of desert tortoise habitat. The use of like exchange to Conservation Areas under the CVMSHCP will require 2,478 acres of off-site mitigation for the project, without the acquisition of Section 12, to meet the CVMSHCP mitigation requirement. Compliance with the CVMSHCP including the like exchange provision will reduce the impacts to this species to less than significant (Table 2).
5.4.1.3  Additional Avoidance, Minimization, and Mitigation Measures

Section 4.4 of the CVMSHCP articulates required avoidance, minimization, and mitigation measures for Covered Activities, in addition to Conservation Area specific measures. Section 4.4 of the CVMSHCP requires that in modeled desert tortoise habitat in all the Conservation Areas, prior to development, an Acceptable Biologist will conduct a presence/absence survey for desert tortoise and tortoise sign within the development area and adjacent areas. The presence/absence survey must be conducted between February 15 and October 31. Presence/absence surveys require 100 per cent coverage of the survey area. If no sign is found, a clearance survey is not required. If fresh sign is located, the construction area must be fenced with tortoise-proof fencing and a clearance survey conducted during the clearance window. All tortoises encountered will be moved from the development site to a specified location.

Additional utility development protocols have been developed to avoid or minimize potential adverse impacts to the desert tortoise in the Conservation Areas from utility and road right-of-way projects, such as the installation and maintenance of water, sewer, and electric lines and roadway maintenance. Any such utility installation and maintenance projects on the proposed project site will follow the detailed inactive and active season desert tortoise protocols as applicable.

5.4.1.2  Coachella Valley Round-Tailed Ground Squirrel

The proposed project does not impact any of the CVMSHCP core habitat for the Coachella Valley round-tailed ground squirrel, as detailed in CVMSHCP Section 4.3.17; therefore, required avoidance, minimization, and mitigation requirements for Covered Activities, in addition to Conservation Area specific measures, are not required, and the Desert Tortoise and Linkage Conservation Area does not require conservation objectives specific to Coachella Valley round-tailed ground squirrel. Compliance with the overall goals of the CVMSHCP will reduce impacts to the Coachella Valley round-tailed ground squirrel to less than significant, with or without the acquisition of Section 12 from the BLM.

5.4.1.3  Southwestern willow flycatcher

The proposed project does not impact any of the CVMSHCP-designated riparian habitat, i.e. southern arroyo willow riparian forest, Sonoran cottonwood-willow riparian forest, desert fan palm oasis woodland, and southern sycamore-alder riparian woodland, suitable for the Covered riparian bird species, including southwestern willow flycatcher, as detailed in CVMSHCP Section 4.4; therefore, required avoidance, minimization, and mitigation requirements for Covered Activities, in addition to Conservation Area specific measures, are not required. There are no impacts to the southwestern willow flycatcher from the proposed project; therefore, mitigation is not required.

5.4.1.4  Least Bell’s vireo

The proposed project does not impact any of the CVMSHCP-designated riparian habitat, i.e. southern arroyo willow riparian forest, Sonoran cottonwood-willow riparian forest, desert fan palm oasis woodland, and southern sycamore-alder riparian woodland, suitable for the Covered
riparian bird species, including least Bell’s vireo, as detailed in CVMSHCP Section 4.4; therefore, required avoidance, minimization, and mitigation requirements for Covered Activities, in addition to Conservation Area specific measures, are not required. There are no impacts to the least Bell’s vireo from the proposed project; therefore, mitigation is not required.

5.4.2 Sensitive

5.4.2.1 Burrowing owl

Section 4.4 of the CVMSHCP articulates required avoidance, minimization, and mitigation measures for Covered Activities, in addition to Conservation Area specific measures. The Desert Tortoise and Linkage Conservation Area does not have any conservation measures relating to the burrowing owl. Section 4.4 of the CVMSHCP requires that, for projects subject to CEQA, surveys be conducted in the Conservation Areas using an accepted protocol. Prior to development, the construction area and adjacent areas within 500 feet of the development site, or to the edge of the property if less than 500 feet, will be surveyed by an Acceptable Biologist for burrows that could be used by burrowing owl. If a burrow is located, the biologist would determine if a burrowing owl is present in the burrow. If the burrow is determined to be occupied, the burrow will be flagged and a 160-foot buffer during the non-breeding season and a 250-foot buffer during the breeding season, or a buffer to the edge of the property boundary if less than 500 feet, will be established around the burrow. The buffer will be staked and flagged. No Development of O&M activities will be permitted within the buffer until the young are no long dependent on the burrow.

If a burrow is unoccupied, the burrow will be made inaccessible to owls, and the Covered Activity may proceed. If either a nesting or escape burrow is occupied, owls shall be relocated pursuant to accepted Wildlife Agency protocols. A burrow is assumed occupied if records indicate that, based on surveys conducted following protocol, at least one burrowing owl has been observed occupying a burrow on site during the past three years. If there are no records for the site, surveys must be conducted to determine, prior to construction, if burrowing owls are present. Determination of the appropriate method of relocation, such as eviction/passive relocation or active relocation, shall be based on the specific site conditions (e.g. distance to nearest suitable habitat and presence of burrows within that habitat) in coordination with the Wildlife Agencies. Active relocation and eviction/passive relocation require the preservation and maintenance of suitable burrowing owl habitat determined through coordination with the Wildlife Agencies. Potential impacts to the burrowing owl will be mitigated through compliance with CVMSHCP requirements.

5.4.2.2 Crissal thrasher

There is no modeled Crissal thrasher habitat within the Desert Tortoise and Linkage Conservation Area; therefore, required avoidance, minimization, and mitigation requirements for Covered Activities, in addition to Conservation Area specific measures, are not required. There are no impacts to the Crissal thrasher from the proposed project; therefore, mitigation is not required.
5.4.2.3 Le Conte’s thrasher

5.4.2.3.1 With Acquisition of Section 12
The CVMSHCP allows for impacts of 441 acres of Le Conte’s thrasher habitat for the proposed Paradise Valley project. Approximately 1,378 acres of Le Conte’s thrasher habitat will be preserved on site. The proposed project will not receive mitigation credits for this on-site preservation of Le Conte’s thrasher habitat. The use of like exchange to Conservation Areas under the CVMSHCP requires will require approximately 2,595 acres of off-site mitigation for the project, with the acquisition of Section 12, to meet the CVMSHCP mitigation requirement. Compliance with the CVMSHCP including the like exchange provision will reduce the impacts to this species to less than significant (Table 3).

5.4.2.3.2 Without Acquisition of Section 12
The CVMSHCP allows for impacts of 395 acres of Le Conte’s thrasher habitat for the proposed Paradise Valley project. Approximately 1,340 acres of Le Conte’s thrasher habitat will be preserved on site. The proposed project will not receive mitigation credits for this on-site preservation of Le Conte’s thrasher habitat. The use of like exchange to Conservation Areas under the CVMSHCP will require 2,212 acres of off-site mitigation for the project, without the acquisition of Section 12, to meet the CVMSHCP mitigation requirement. Compliance with the CVMSHCP including the like exchange provision will reduce the impacts to this species to less than significant (Table 2).

5.4.2.3.3 Additional Avoidance, Minimization, and Mitigation Measures
Section 4.4 of the CVMSHCP articulates required avoidance, minimization, and mitigation measures for Covered Activities, in addition to Conservation Area specific measures. Section 4.4 of the CVMSHCP requires that in modeled Le Conte’s thrasher habitat in all the Conservation Areas, during the nesting season, January 15 to June 15, prior to the start of construction activities, surveys will be conducted by an Acceptable Biologist on the construction site and within 500 feet of the construction site, or to the property boundary if less than 500 feet, will be established around a nest site. The buffer will be staked and flagged. No construction will be permitted within the buffer during the breeding season of January 15 to June 15 or until the young have fledged.

5.4.2.4 Yellow warbler
The proposed project does not impact any of the CVMSHCP-designated riparian habitat, i.e. southern arroyo willow riparian forest, Sonoran cottonwood-willow riparian forest, desert fan palm oasis woodland, and southern sycamore-alder riparian woodland, suitable for the Covered riparian bird species, including yellow warbler, as detailed in CVMSHCP Section 4.4; therefore, required avoidance, minimization, and mitigation requirements for Covered Activities, in addition to Conservation Area specific measures, are not required. There are no impacts to the yellow warbler from the proposed project; therefore, mitigation is not required.

5.4.2.5 Yellow-breasted chat
The proposed project does not impact any of the CVMSHCP-designated riparian habitat, i.e. southern arroyo willow riparian forest, Sonoran cottonwood-willow riparian forest, desert fan
palm oasis woodland, and southern sycamore-alder riparian woodland, suitable for the Covered riparian bird species, including yellow-breasted chat, as detailed in CVMSHCP Section 4.4; therefore, required avoidance, minimization, and mitigation requirements for Covered Activities, in addition to Conservation Area specific measures, are not required. There are no impacts to the yellow-breasted chat from the proposed project; therefore, mitigation is not required.

5.4.2.6 Summer tanager

The proposed project does not impact any of the CVMSHCP-designated riparian habitat, i.e. southern arroyo willow riparian forest, Sonoran cottonwood-willow riparian forest, desert fan palm oasis woodland, and southern sycamore-alder riparian woodland, suitable for the Covered riparian bird species, including summer tanager, as detailed in CVMSHCP Section 4.4; therefore, required avoidance, minimization, and mitigation requirements for Covered Activities, in addition to Conservation Area specific measures, are not required. There are no impacts to the summer tanager from the proposed project; therefore, mitigation is not required.

5.4.2.7 Palm Springs pocket mouse

The proposed project does not impact any of the CVMSHCP core Palm Springs pocket mouse habitat, as detailed in CVMSHCP Section 4.4; therefore, required avoidance, minimization, and mitigation requirements for Covered Activities, in addition to Conservation Area specific measures, are not required, and the Desert Tortoise and Linkage Conservation Area does not require conservation objectives specific to Palm Springs pocket mouse. Compliance with the overall goals of the CVMSHCP will reduce impacts to the Palm Springs pocket mouse to less than significant, with or without the acquisition of Section 12 from the BLM.

5.4.2.8 Flat-tailed horned lizard

There are no CVMSHCP Section 4.4 avoidance, minimization, and mitigation requirements for the flat-tailed horned lizard, and the Desert Tortoise and Linkage Conservation Area does not require conservation objectives specific to the flat-tailed horned lizard. There are no impacts to the flat-tailed horned lizard from the proposed project; therefore, mitigation is not required.

5.4.2.9 Mitigation Summary

Mitigation measures required for project compliance with the CVMSHCP are summarized in Table 4. In some instances, a single mitigation measure such as habitat acquisition and preservation may mitigate impacts to multiple resources; such instances are addressed as “Compatible Conservation Objectives” in Table 4.
<table>
<thead>
<tr>
<th>Resource</th>
<th>Mitigation</th>
<th>Additional Avoidance, Minimization, and Mitigation Measures</th>
<th>Compatible Conservation Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sonoran creosote bush scrub</td>
<td>Not required; however, like exchange for desert tortoise likely to protect Sonoran creosote bush scrub</td>
<td>Not applicable</td>
<td>Off-site mitigation for desert tortoise likely to protect Sonoran creosote bush scrub</td>
</tr>
<tr>
<td>desert dry wash woodland (DDWW)</td>
<td>Approximately 720 acres of DDWW at a mitigation ratio of 1:1 will be preserved</td>
<td>Not applicable</td>
<td>Off-site mitigation for DDWW likely to protect habitat for desert tortoise and Le Conte’s thrasher.</td>
</tr>
<tr>
<td>Coachella Valley milk-vetch</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>triple-ribbed milk-vetch</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Mecca aster</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Orocopia sage</td>
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<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>little San Bernardino Mountains linanthus</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>desert tortoise</td>
<td>Approximately 2,400 acres of desert tortoise habitat at a mitigation ratio of 1:1 will be preserved</td>
<td>Required</td>
<td>Off-site mitigation for desert tortoise likely to protect DDWW and habitat for Le Conte’s thrasher</td>
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<td>southwestern willow flycatcher</td>
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<td>Not applicable</td>
<td>Not applicable</td>
</tr>
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<td>least Bell’s vireo</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>burrowing owl</td>
<td>Not applicable</td>
<td>Required</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Crissal thrasher</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Le Conte’s thrasher</td>
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<td>Required</td>
<td>Off-site mitigation for Le Conte’s thrasher likely to protect DDWW and habitat for desert tortoise</td>
</tr>
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<td>yellow warbler</td>
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<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Resource</td>
<td>Like Exchange</td>
<td>Mitigation Measures</td>
<td>Compatible Conservation Objectives</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----------------------------------------</td>
<td>----------------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>yellow-breasted chat</td>
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<td>Not applicable</td>
<td>Not applicable</td>
</tr>
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<tr>
<td></td>
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<td></td>
</tr>
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<tr>
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<td>No significant impact to species</td>
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<td></td>
</tr>
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<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td>No significant impact to species</td>
<td></td>
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</tr>
</tbody>
</table>

### 5.5 Wildlife Corridors

#### 5.5.1 With Acquisition of Section 12

The proposed project, with the acquisition of Section 12 from the BLM, will constrict Corridor 2, centered on East Cactus City Wash and Hazy Gulch, and would cut off Corridor 3, centered on Happy Gulch. These impacts are not considered to be significant due to the retention of other functional corridors and a functional linkage within Shavers Valley. Thus, mitigation measures are not required.

#### 5.5.2 Without Acquisition of Section 12

The proposed Paradise Valley project, without the acquisition of Section 12 from the BLM, will fragment the connectivity of both Corridor 2, centered on East Cactus City Wash and Hazy Gulch, and Corridor 3, centered on Happy Gulch. These impacts are not considered to be significant due to the retention of other functional corridors and a functional linkage within Shavers Valley. Thus, mitigation measures are not required.

### 5.6 Conservation Area – Edge Effects

Section 4.5 of the CMVMSHCP requires compliance with the CVMSHCP Land Use Adjacency Guidelines if a proposed development project is within or adjacent to a Conservation Area.

#### 5.6.1 Drainage

##### 5.6.1.1 Proposed Mitigation

Within the proposed development, stormwater will be collected and conveyed in a system of roadside drainage swales, open channels, and closed conduits. At the southern boundary of the project, a spreading basin and long weirs will spread the flows into existing alluvial drainage areas downstream. The roadside drainage swales will provide bio-filtration of stormwater runoff. Stormwater quality basins will also be implemented to manage stormwater pollutants anticipated from the developed areas. The proposed development will create an area that will
mimic the native desert oasis and the project will make an effort to provide stormwater collection for these areas. The bioswales, stormwater quality basins, and possible use of stormwater runoff for the created desert oases, will provide varying levels of effectiveness in treatment of petroleum, toxics, and chemicals. The project will comply with the requirement to prevent introduction of exotic plant materials into the Conservation Area through the runoff discharge.

5.6.1.2 Recommendations

Increased effectiveness of other BMPs can be achieved through infiltration basins, infiltration trenches, retention and irrigation, wet ponds (aka stormwater ponds or retention ponds), and bioretention (California Stormwater Quality Association) to better comply with Section 4.5 of the CVMSHCP.

5.6.2 Toxics

5.6.2.1 Proposed Mitigation

The Specific Plan does not currently address the issue of toxics, as articulated in section 4.5 of the CVMSHCP, by ensuring that application of chemicals or generation of bioproducts such as manure do not discharge into the Conservation Area. Chemicals or bioproducts conveyed into the stormwater collection system may be partially treated through those BMPs discussed above.

5.6.2.2 Recommendations

Increased effectiveness of other BMPs can be achieved through infiltration basins, infiltration trenches, media filters, bioretention (California Stormwater Quality Association) to better comply with Section 4.5 of the CVMSHCP.

5.6.3 Lighting

5.6.3.1 Proposed Mitigation

The proposed development will integrate outdoor lighting objectives to achieve dark sky conditions with low lighting levels, where lighting is used only as needed to provide for safety of vehicular and pedestrian movement. Because no access will be provided to the Conservation Area adjacent to the developed portion of the proposed project, compliance with the dark sky philosophy, as articulated in the Paradise Valley Specific Plan, would ensure that lighting would not be directed toward the Conservation Area.

5.6.3.2 Recommendations

No additional mitigation measures are required to avoid lighting impacts to the Conservation Area.
5.6.4 Noise

5.6.4.1 Proposed Mitigation

The Paradise Valley project will provide for edge conditions to provide a separation between the planning area and natural open space. These edge conditions will include the maintenance of a wall with a maximum 50-foot area maintained along the natural open space edge. This edge will have a second fence that will incorporate a tortoise barrier, thus creating up to a 50-foot buffer of native vegetation between the dedicated open space and the planning area. The noise reduction factors of the wall and adjacent native desert vegetation transition were not addressed in the design guidelines; however, the wall may serve to buffer noise from the planning area.

5.6.4.2 Recommendations

No additional mitigation measures are required to avoid noise impacts to the Conservation Area.

5.6.5 Invasives

5.6.5.1 Proposed Mitigation

The proposed project will landscape only with those plant species not prohibited from the CVMSHCP approved plant palette and prohibits any plant on the CNPS list of noxious invasive species from being utilized in the landscaping. The proposed Paradise Valley project fully complies with this requirement of the Land Use Adjacency Guidelines.

5.6.5.2 Recommendations

No additional mitigation measures are required to impacts by non-native, invasive plants to the Conservation Area.

5.6.6 Barriers

5.6.6.1 Proposed Mitigation

The Paradise Valley project will provide for edge conditions to provide a separation between the planning area and natural open space. These edge conditions will include the maintenance of a wall with a maximum 50-foot area maintained along the natural open space edge. This edge will have a second fence that will incorporate a tortoise barrier, thus creating up to a 50-foot buffer of native vegetation between the dedicated open space and the planning area.

5.6.6.2 Recommendations

Additional mitigation measures can be implemented, such as fence design to prevent passage of domestic animals, such fence design combined with landscaping to ensure that a domestic animal cannot access the Conservation Area by using landscaping to clear the fence. Predator containment or inclusion fencing can also be required to prevent domestic animals, primarily domestic cats, from accessing the Conservation Area and preying upon native wildlife.
5.6.7 Grading/Land Development

5.6.7.1 Proposed Mitigation

The Paradise Valley project will not have manufactured slopes that extend into the Conservation Area.

5.6.7.2 Recommendations

Additional mitigation measures can be implemented, such as installing temporary fences clearly delimiting grading limits, as well as monitoring the grading to confirm that grading is limited only to planned areas.

5.7 Jurisdictional Waters

5.7.1 USACOE

Mitigation is not required for impacts to potential jurisdictional waters of the U.S. as such impacts are not considered significant.

5.7.2 CDFG

Mitigation for impacts to loss of riparian habitat associated with streambeds will be accomplished through the off-site acquisition and preservation of desert dry wash woodland at a replacement ratio of at least 1:1 (at least one acre acquired and preserved for each acre or riparian habitat impacted). It is anticipated that desert dry wash woodland acquired for like exchange will provide some or all of the required habitat.
6.0 Impacts Absent the CVMSHCP

6.1 Vegetation Communities

Development of the project with BLM Section 12 would impact approximately 3,648 acres of the vegetation communities on site. Approximately 1,999 acres of the vegetation communities on site would not be impacted and would remain as Undisturbed/Conservation Area. Additionally the vegetation within the SCE easement would not be impacted.

Development of the project without BLM Section 12 would impact approximately 3,018 acres of the vegetation communities on site. Approximately 1,999 acres of the vegetation communities on site would not be impacted and would remain as Undisturbed/Conservation Area. Additionally the vegetation within the SCE easement would not be impacted.

6.1.1 Sonoran creosote bush scrub

6.1.1.1 With Acquisition of Section 12

Development of the Project with acquisition of Section 12 from the BLM would impact approximately 2,356 acres of Sonoran creosote bush scrub based on the Psomas 2002 vegetation mapping (Figure 9, Impacts to Vegetation Communities as Mapped by Psomas). Approximately 1,688 acres of Sonoran creosote bush scrub would remain as Undisturbed/Conservation Area. Sonoran creosote bush scrub is a common and widespread vegetation community in the Colorado and Sonoran deserts. Impacts to Sonoran creosote bush scrub are considered to be significant.

6.1.1.2 Without Acquisition of Section 12

Development of the Project without the acquisition of Section 12 from the BLM would impact approximately 1,949 acres of Sonoran creosote bush scrub based on the Psomas 2002 vegetation mapping (Figure 9, Impacts to Vegetation Communities as Mapped by Psomas). Approximately 1,688 acres of Sonoran creosote bush scrub would remain as Undisturbed/Conservation Area. Sonoran creosote bush scrub is a common and widespread vegetation community in the Colorado and Sonoran deserts. Impacts to Sonoran creosote bush scrub are not considered to be significant.

6.1.2 Desert Dry Wash Woodland

6.1.2.1 With Acquisition of Section 12

Development of the proposed Paradise Valley project with the acquisition of Section 12 from the BLM would impact approximately 1,292 acres of desert dry wash woodland based on the Psomas 2002 vegetation mapping. Approximately 643 acres of desert dry wash woodland would remain as undisturbed Conservation Area. Desert dry wash woodland is a riparian habitat and is therefore, considered to be sensitive natural community. Impacts to desert dry wash woodland would be significant.
6.1.2.2 Without Acquisition of Section 12

Development of the proposed Paradise Valley project without the acquisition of Section 12 from the BLM would impact approximately 1,069 acres of desert dry wash woodland based on the Psomas 2002 vegetation mapping. Approximately 643 acres of desert dry wash woodland would remain as undisturbed Conservation Area. Desert dry wash woodland is a riparian habitat and is therefore, considered to be sensitive natural community. Impacts to desert dry wash woodland would be significant.
6.2 Plants

6.2.1 Threatened and Endangered

6.2.1.1 Coachella Valley milk-vetch

The Coachella Valley milk-vetch has a low potential to occur on the project site, and would not be significantly impacted as a result of the development of the proposed project. The Paradise Valley project site, both with and without the acquisition of Section 12 from the BLM, is outside the known range of this species, and contains only a limited amount of suitable habitat. Thus, no direct or indirect impacts to this species will result from the proposed project. The Coachella Valley milk-vetch would not be significantly impacted as a result of the proposed project.

6.2.1.2 Triple-ribbed milk vetch

The triple-ribbed milk vetch would not be significantly impacted as a result of the proposed project. The preferred habitat for the triple-ribbed milk vetch is located within the designated open space within the proposed development, i.e. along the foothills of the Cottonwood Mountains and Mecca Hills. No direct or indirect impacts to this species will result from the proposed project. The triple-ribbed milk vetch would not be significantly impacted as a result of the proposed project.

6.3 Wildlife

6.3.1 Threatened, Endangered, or Candidate

6.3.1.1 Desert slender salamander

The proposed project site is outside the known range of this species, thus no significant impacts to desert slender salamander are expected.

6.3.1.2 Desert tortoise

Approximately 3,648 acres of desert tortoise habitat would be impacted by the proposed project with the acquisition of Section 12, and approximately 3,018 acres would be impacted without the acquisition of Section 12. Approximately 2,200 acres of desert tortoise habitat would be preserved on site.

The entire site is designated as Critical Habitat for the desert tortoise and is within the Chuckwalla Critical Habitat Unit. Throughout the entire range of the desert tortoise a total of 6,446,200 acres have been designated as Critical Habitat. The Chuckwalla Critical Habitat Unit encompasses a total of 1,020,600 acres. With Section 12, the proposed project would impact 0.06% of the total area of Critical Habitat and 0.36% of the Chuckwalla Critical Habitat Unit. Without Section 12, the project would impact 0.05% of the total area of Critical Habitat and 0.30% of the Chuckwalla Critical Habitat Unit.
Direct impacts to individual tortoises, tortoise nesting and burrow sites, and tortoise foraging habitat are expected to occur as a result of the construction of the proposed project. Indirect impacts are expected to occur from increased human activity in the project vicinity that may lead to increased off-road vehicle activity, an increased incidence of tortoise collection and harassment, and an increase in trash. Increased trash will attract tortoise predators/antagonists such as common ravines, feral dogs and coyotes.

Impacts to desert tortoise would be significant.

6.3.1.3  Swainson’s hawk

Significant impacts to this species will not occur as a result of the development of the proposed project. Chief nesting sites for Swainson’s hawks are in the Central Valley and Modoc Plateau in northeastern California. This species is typically seen in the area of the project during the spring and fall as they migrate to and from their wintering grounds in South America. An individual Swainson’s hawk was observed flying over the project site; however, this hawk species is not known to nest on or near the area of the project site, and the project site has low value as a stopover roosting site for this migratory species. Several areas throughout southern California are available as suitable migration stopover sites.

6.3.1.4  Willow flycatcher

Development of the proposed project is not expected to have a significant impact on this species. Willow flycatchers have a low potential to occur on site, since no suitable nesting habitat for this species occurs on the project site.

6.3.1.5  Southwestern willow flycatcher

Development of the proposed project is not expected to have a significant impact on this species. Southern willow flycatchers have a low potential to occur on site, since no suitable nesting habitat for this species occurs on the project site.

6.3.1.6  Least Bell’s vireo

Development of the proposed project is not expected to have a significant impact on this species. There is a low potential for this species to occur on site. The project site does not contain suitable nesting habitat for this species.

6.3.1.7  Coachella Valley round-tailed ground squirrel

Direct impacts resulting from the development of this project would have an adverse effect on an unknown number of individuals on the project site, and will result in the loss of approximately 2,356 acres of ground squirrel habitat. Because the ground squirrel occupies a wide range of desert habitats, and its preferred habitat, mesquite hummocks, does not occur on the project site this impact is considered less than significant.
6.3.2 Sensitive

6.3.2.1 Flat-tailed horned lizard

In California the flat-tailed horned lizard occurs throughout most of the Colorado Desert from the northern end of the Coachella Valley in central Riverside County, southward to eastern San Diego and Imperial counties and on to the Mexican border. There elevation range extends from 170 feet below sea level to 820 feet above mean sea level. Potential impacts to this species as a result of the development of the proposed project will not be significant. The flat-tailed horned lizard is a specialized sand-dweller restricted to areas of fine, wind-blown sand deposits and sparse vegetation. The project site is at the edge of this species' known range and does not contain requisite aeolian sands, for these reasons; there is a low potential for this species to occur on the project sight.

6.3.2.2 Rosy boa

This species has a moderate to high potential to occur on the project site, and is known to occur just north of the site in Joshua Tree National Park. The loss of any suitable habitat or individuals due to the proposed project development will not have a significant adverse effect on the rosy boa. The rosy boa has a large range that extends from southern California and southwestern Arizona, south throughout Baja California Mexico and northwestern mainland Mexico. This species is absent in the eastern most portions of southern California and in the vicinity of the Salton Sea, but is widely though sparsely distributed throughout its range in desert and chaparral habitats with moderate to dense vegetation and rocky cover.

6.3.2.3 Golden eagle

The golden eagle has a moderate potential to occur on the project site. Within California the golden eagle is an uncommon permanent resident and migrant. It ranges from sea level up to 11,500 feet MSL. In southern California this species favors grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys; however, nesting is primarily restricted to rugged, mountainous country where cliff-walled canyons provide nesting habitat. In open areas large trees are used for nesting. This species is protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act (BGEPA), which prohibits any form of possession or taking of both bald and golden eagles. The statute imposes criminal and civil sanctions as well as an enhanced penalty provision for subsequent offenses. Further, the BGEPA provides for the forfeiture of anything used to acquire eagles in violation of the statute. Development of the proposed project will not have a significant impact on this species. Although there is a moderate potential for golden eagles to occur on site, suitable nesting habitat would be found in the preserved areas in the northern part of the project site and farther north into the canyons of the Cottonwood Mountains, so project development would not affect nesting habitat. There would be a loss of 3,648 acres with section 12 or 3,018 without section 12 of foraging habitat for this species; however, large areas of suitable foraging habitat can be found throughout the project vicinity.
6.3.2.4 Cooper's hawk

Development of the proposed project could potentially enhance the habitat on site for Cooper's hawks by providing more trees from which they can roost and hunt songbirds.

6.3.2.5 Ferruginous hawk

There are no records of ferruginous hawks breeding in California. They are migratory and winter in California generally arriving in September and departing by mid-April. Within southern California, ferruginous hawks typically winter in open fields, grasslands, and agricultural areas. This species has a low potential to occur on the project site, and would not be significantly impacted as a result of the development of this project.

6.3.2.6 Prairie falcon

There would be a loss of approximately 3,648 acres of foraging habitat with Section 12, and approximately or 3,018 acres without Section 12. Because large areas of suitable foraging habitat are found throughout the project vicinity, this impact is considered less than significant.

6.3.2.7 Mountain plover

Development of the proposed project will not have a significant impact on this species. There is a low potential for this species to occur on the project site. Mountain plover preferred habitat does not occur within the project site.

6.3.2.8 Burrowing owl

Construction of the proposed project could directly and indirectly impact this species resulting in loss of burrowing owl habitat, disrupting breeding activity, or the maiming or killing of individuals of this species; however, for the following stated reasons impacts to burrowing owl from the proposed project will not be significant. In southern California burrowing owls are known from lowlands over much of the region, particularly in agricultural areas or areas designated as open space (CVMSHCP). The Migratory Bird Treaty Act (MBTA) and California Fish and Game Code prohibit except by permit the taking, killing, or keeping any native bird, its parts, or its nest, and the project will comply with the MBTA. Burrowing owls are widespread throughout suitable habitat within southern California. Suitable habitat for burrowing owls is currently protected in the Coachella Valley Preserve and in Joshua Tree National Park.

6.3.2.9 Vermillion flycatcher

No significant impact to this species would occur as a result of the development of the proposed project, since vermillion flycatchers have a low potential to occur on the project site, were not observed on the project site, and are not known nor expected to breed within the boundaries of the project site.

6.3.2.10 Loggerhead shrike

The loggerhead shrike is a common resident and winter visitor in lowlands and foothills throughout California. It exists within a wide range of habitat types, but prefers open country.
with perches used to scan for prey, and fairly dense shrubs and brush for nesting. Loggerhead shrikes were observed on the project site during wildlife surveys, and are expected to breed on site. Development of the proposed project will not have a significant impact on this species. Although in heavy decline in the northeastern part of their range, loggerhead shrikes are still fairly widespread and common in the southwestern United States. For compliance with the MBTA and California Fish and Game Code, active nests would have to be avoided during the nesting season (beginning of March to the end of August), or until fledglings have left the nest.

### 6.3.2.11 Bendire’s thrasher

Suitable habitat for Bendire’s thrasher will be impacted by the development of the proposed project; the impacts are not expected to be significant, since the majority of thrasher breeding occurs outside of the project area in San Bernardino County where large areas of suitable habitat for this species still exist within its known range.

### 6.3.2.12 Crissal thrasher

Approximately 2,016 acres of Crissal thrasher desert dry wash woodland habitat would be impacted by the proposed project with the acquisition of Section 12 from the BLM, and approximately total 1,918 acres, without the acquisition of Section 12. Although suitable habitat for this species will be impacted by the proposed development, large areas of suitable habitat exist within its known range outside of the project area. Direct and indirect impacts to Crissal thrasher are not expected to be significant.

### 6.3.2.13 Le Conte’s thrasher

This species has a relatively small worldwide range and the total world population is probably very low compared to most passerines. California serves as a main population center for this species (www.dfg.ca.gov); however, it occurs as a rare permanent resident throughout its range. Even in optimum habitat Le Conte’s thrasher is found in extremely low density compared with other songbird species. For these reasons direct impact to individuals of this species or to habitat suitable for this species within its known range may be considered significant.

Le Conte’s thrasher is generally found between sea level and 1,150 meters with typical territories rarely having topographical relief greater than 10 – 20 meters. Typical habitat consists of sparsely vegetated desert flats or broad canyon floors with large flood plains and poorly vegetated sides, vegetated margins of sand dunes, and alluvial fans. Substrates are typically sandy and rarely composed of a large proportion of rock or deep silty clays. Le Conte’s thrasher habitat requires accumulated leaf litter under most plants as diurnal cover for arthropod prey. For nesting, this thrasher prefers thick, dense, and thorny shrubs or cholla cactus. In portions of its range where either California or Crissal thrashers are found, the Le Conte’s thrasher is competitively excluded by either of these two species from occupying or sharing the same territory (Sheppard 1996).

Le Conte’s thrasher was not observed on site, but has been determined to have moderate potential to occur on site. The Paradise Valley project is within the known range of Le Conte’s thrasher, and suitable topography for this species is found on the Paradise Valley site; however, other habitat requirements mentioned above are rare on the project site. Paradise Valley has
extensive areas of rocky and stony soils with poor leaf litter accumulation, which are conditions not preferred by this thrasher. Based on this information it is reasonable to assume that the most suitable habitat for Le Conte’s thrasher on the Paradise Valley project site is desert dry wash woodland (DDWW) habitat below toe of slope. This habitat would provide sandy soil, greater leaf litter accumulation than the Sonoran creosote bush scrub habitat, and thicker vegetation for nest sites. Impacts to 1,070 acres without Section 12 or 1,293 acres with the inclusion of Section 12 of DDWW/Le Conte’s thrasher habitat would occur as a result of development of the proposed project.

6.3.2.14 Yellow warbler

The proposed project is not expected to directly impact the yellow warbler; however, the project may have indirect impacts through loss of migratory stopover sites. Because there are numerous stopover sites impacts to this species as a result of the development of the proposed project will not be significant.

6.3.2.15 Yellow-breasted chat

Due to the absence of suitable habitat, the yellow-breasted chat is not expected to occur on the site, thus the proposed project is not expected to directly or indirectly impact the yellow-breasted chat. Impacts to this species as a result of the development of the proposed project are not expected to be significant.

6.3.2.16 Summer tanager

Based on the lack of suitable breeding habitat, the proposed project is not expected to directly impact the summer tanager; however, the project may have indirect impacts on the summer tanager through loss of migratory stopover sites, which are numerous along its migratory path. Impacts to this species as a result of the development of the proposed project will not be significant.

6.3.2.17 California leaf-nosed bat

California leaf-nosed bats occur in the deserts of California, southern Nevada, Arizona, and northwestern Mexico. In California they are found primarily in the mountain ranges bordering the Colorado River Basin, with some records occurring as far west as the Eagle Mountains. In California this species occurs in lowland desert habitat in close proximity to desert wash vegetation. Development of the proposed project may result in direct impacts to California leaf-nosed bats due to loss of 3,648 acres with section 12 or 3,018 without section 12 of foraging habitat. This species feeds on a variety of flying and flightless insects that it gleans from foliage, captures on the ground or captures in the air. Development of the project will not have a significant adverse effect on the California leaf-nosed bat. These bats are dependant on caves or mines with roost temperatures of approximately 80°F, which does not occur on the project site. This project is in close proximity to the western edge of this species range. Foraging habitat for this species is still available throughout its known range.
6.3.2.18 Townsend’s big-eared bat

The Townsend’s big-eared bat is distributed throughout the western United States. It is found in all but subalpine and alpine habitats within its range. In California this species is now considered uncommon, and no recent occurrences have been recorded in Riverside County. Development of the project will not have a significant adverse effect on the Townsend’s big-eared bat. The Townsend’s big-eared bat is not a listed species, and only historical occurrences are known from within the vicinity of the project site.

6.3.2.19 Pallid bat

The pallid bat occurs throughout the southwestern and western United States. This species occupies a wide variety of habitats including grasslands, shrublands, and forests. It is most common in open, dry habitats with rocky areas for roosting. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and in buildings. Roost sites protect the bats from high temperatures. Night roosts may be in more open sites, such as porches and open buildings. Development of the proposed project may result in direct impacts to pallid bats due to loss of 3,648 acres with section 12 or 3,018 without section 12 of foraging habitat. This species feeds on a variety of insects and arachnids that it gleans from foliage, captures on the ground or less frequently captures in the air. Development of the project will not have a significant adverse effect on the pallid bat. The pallid bat is not a listed species, and it is widespread and common throughout California.

6.3.2.20 Pocketed free-tailed bat

Indirect impacts to approximately 3,648 acres of foraging habitat would occur with the acquisition of Section 12, and approximately 3,018 acres without the acquisition of Section 12. Direct impacts to this species will not occur. The only potential roosting sites within the project boundary, the canyon walls of the Cottonwood Mountains, are part of the onsite preserve. Development of the project will not have a significant adverse effect on the pocketed free-tailed bat. A significant amount of foraging habitat still exists within this species known range.

6.3.2.21 Western mastiff bat

Development of the project will not have a significant adverse effect on the western mastiff bat. The only potential roosting sites within the project boundary, the canyon walls of the Cottonwood Mountains, are part of the onsite preserve. Extensive foraging habitat still exists within the western mastiff bat’s known range.

6.3.2.22 Palm Springs pocket mouse

The Palm Springs pocket mouse is one of seven subspecies of pocket mice that occur in southern California. This subspecies occurs in the lower Sonoran life zone with the majority of its range occurring in the Coachella Valley and San Gorgonio Pass area. This species occurs in low density on the project site, and direct impacts to individuals will occur as a result of on site construction activity. This species occurs in Sonoran creosote scrub and DDWW habitat, so direct impacts will also result in the loss of suitable habitat for this species. Indirect impacts will occur to individuals of this subspecies found on site in the Pinkham Wash protected area due to
loss of habitat adjacent to the preserved area and reduction of the local genetic pool. Significant impacts to this subspecies will not occur as a result of the development of this project. This subspecies is common and core areas for this species are currently protected within existing preserves. This species occurs on three existing preserves: the Coachella Valley Preserve, the Whitewater River Floodplain Preserve, and the Willow Hole-Edom Hill Preserve/ACEC.

6.3.2.23 Pallid San Diego pocket mouse

The loss of any suitable habitat or individuals due to the proposed project development is not expected to significantly impact this species. The pallid San Diego pocket mouse is widespread throughout several counties in southern California, mainly in arid coastal and desert border areas, and can be found from sea level to 6,000 feet.

6.3.2.24 American badger

Significant impacts to American badger are not expected to occur as a result of the development of this project. This species is widespread throughout the western United States and was not detected on the project site.

6.3.2.25 Nelson’s bighorn sheep

The northeast corner of the project site and the rest of the foothills and canyon mouths of the Cottonwood Mountains along the northern border of the project site are designated in the project design as part of the managed preserve. Movement of sheep in a north-south direction between various large fragments of core habitat is already impacted by the I-10 freeway, and may be further impacted by development of the project. Some underpasses that could potentially allow for the movement of sheep would be made unusable as wildlife crossings after the project is developed. If I-10 underpasses are used by sheep as wildlife crossings, then movement from Cottonwood Mountains to the Oroopia Mountains could still occur through underpasses in public lands east of the project site. On site impacts to Nelson’s bighorn sheep movement, would be minimized by the preservation of Pinkham Wash which contains four underpass crossings at I-10: West Cactus Wash Bridge, Cactus Wash Bridge, East Cactus Wash, and Hazy Gulch Bridge. Impacts to potential sheep lambing areas and escape terrain along the foothills and canyon mouths of the Cottonwood Mountains is also avoided by project design. Significant impacts to Nelson’s bighorn sheep will not occur as a result of the development of this project.

6.3.2.26 Couch’s spadefoot toad

This species frequents arid and semi-arid habitats. Couch’s spadefoot toads require temporary desert rainpools in which to breed. These pools must last at least 7 days in order for the tadpoles to metamorphose successfully. In California this species is known only from the western side of the Colorado River from San Bernardino County south to Imperial County. No direct or indirect impacts to this species will occur as a result of development of the proposed project. This species is not expected to occur on the project site. It occurs 50 miles or more to the east and southeast in the Colorado River Valley. Also, after rains, pools on site are unlikely to persist long enough to allow for this species to successfully breed.
6.4 Wildlife Corridors

6.4.1 Without Acquisition of Section 12

Wildlife movement includes seasonal migration along migration corridors as well as daily movements for foraging and shelter. Wildlife movement corridors may include corridors for unobstructed movement of larger mammals, riparian corridors providing cover for migrating birds, routes between breeding waters and upland habitat for amphibians, corridors that allow for genetic interchange between populations, roosting and feeding sites for raptors and shorebirds, and corridors that allow for the repopulation of disturbed areas. The proposed project is evaluated to determine the potential effects its location and design may have on the ability of the area to maintain corridors that can continue to function effectively in connecting significant blocks of habitat that occur within the region. The project is also evaluated to determine any effect it may have on fragmenting or isolating segments of core sensitive species habitat, which creates a wildlife movement impact, as well as a potential impact on nursery sites located on or within the vicinity of the project site.

The project site is located in the southwestern extreme of the BLM’s Northern and Eastern Colorado Desert Coordinated Management (NECO) planning area, which includes several Habitat Management Plans and Areas of Critical Environmental Concerns. The project is also located within the USFWS designated Chuckwalla Unit of Desert Tortoise Critical Habitat (Federal Register, 1994), as well as the proposed CVMSHCP Desert Tortoise and Linkage Conservation Area. Essential to effective conservation is a system of large Desert Wildlife Management Areas (DWMAs), which is applied in the NECO plan to address the conservation needs of the desert tortoise. The Plan’s DWMAs are 50% larger than the management areas that were recommended in the federal desert tortoise recovery plan. Under the NECO plan one of the major conservation management directives is to provide habitat connectivity.

The project site is bisected by I-10, which currently forms a significant barrier to wildlife movement in a north-south direction between the Cottonwood Mountains on site and the Mecca Hills and Oroopia Mountains off site. These are large blocks of unfragmented habitat between which wildlife movement would be expected to occur. Wildlife that could be affected by I-10 from moving between these blocks of habitat by I-10 include: Nelson’s (desert) bighorn sheep, which were determined to be present in the northeastern corner of the project site, its chief predator mountain lions, smaller carnivores such as coyotes and bobcats, as well as small mammals and desert tortoises, which are found on the project site both north and south of I-10. Several culverts and bridges are located on or within the vicinity of the project site along the I-10. These culverts and bridges, designed to allow water to flow unobstructed from north to south under I-10, provide crossing points that afford wildlife an opportunity to travel in either direction under the freeway reducing the isolating effects of I-10. Development of the project site means that some of these culverts and bridges will now lead into commercial areas, interpretive parks, and detention easements, and their ability to function as wildlife crossings points for some species may be reduced or eliminated.

The design of the project, which does not include development of BLM Section 12, will eliminate some culverts that have minimal value as crossing points, and affect three bridges that
currently could allow wildlife to cross under I-10. This includes one bridge that leads into the preserved area of Pinkham Wash, as designated by project design. Specifically, impacts will occur to the following crossing points:

- **Hazy Gulch drainage** - the drainage under this bridge will be modified to convey flow in a naturalized landscape setting that will also serve as community open space. The bridge will be maintained at no less than its current size and with a soft-bottom where it currently exists. The drainage under this bridge will lead into developed areas and cease to function as a wildlife crossing.
- **East Cactus City Wash**: temporary and permanent impacts will occur to this bridge crossing as a result of the construction of a new freeway exit ramp. The bridge will be maintained at no less than its current size and with a soft-bottom where it currently exists. The drainage under this bridge will continue to function as a wildlife crossing.

- **Happy Gulch**: development to the north and south of this crossing will force wildlife to take a circuitous route around the developed areas in order to utilize it. The extra effort required by wildlife to navigate the corridor, and the crossing points proximity to the developed area, will reduce its viability as a wildlife crossing.

Though development of the proposed project will possibly reduce or eliminate the ability of onsite culverts and bridges to serve as wildlife crossings, compounding the existing effect the I-10 has on north-south movement, wildlife movement to Mecca Hills and Oroopia Mountains can still occur as it did prior to the development of the project, via culverts and bridges east and west of the project site, including the East Cactus City Wash Bridge. In order to maintain East Cactus City Wash as a viable wildlife crossing point, steps should be taken to reduce or eliminate noise, light spill, and pedestrian access under this bridge.

Currently wildlife can move relatively unobstructed in an east-west direction south of I-10 through the Chuckwalla DWMA. Wildlife with an affinity for desert valley floors can move in an east-west direction through Shavers Valley in the northwestern portion of the Chuckwalla DWMA into the Coachella Valley. Development of the project will extend south of the I-10 and constrict east-west movement within Shavers Valley down to one mile at the narrowest point. The project design which dedicates of a large portion of Pinkham Wash to permanent open space and the protection of this open space area from urban edge effects will limit the impact of the project on east-west wildlife movement. East-west movement can occur north of I-10 along the foothills of the Cottonwood Mountains, and south of I-10 within the Pinkham Wash preserve onsite and offsite within adjacent undeveloped public lands south of the project site.

Development of the project will disrupt the continuity of habitat within the Chuckwalla Unit of Desert Tortoise Critical Habitat, the BLM’s Desert Wildlife Management Area (Figure 10). The project site is located entirely within these conservation planning areas. The proposed project design will reduce the extent and connectivity of the desert tortoise critical habitat and management/conservation areas but will not sever connectivity within these areas. Suitable east-west movement routes for desert tortoise and other wildlife will be retained through the entire management/conservation areas, including the entire Chuckwalla Unit of Desert Tortoise Critical Habitat, into Joshua Tree National Park, and connect to the Pinto Mountain Unit of Desert Tortoise Critical Habitat. Thus, impacts to wildlife movement are not considered to be significant.

Based on field surveys various portions of the project site have served as a nursery for desert tortoise, Coachella Valley ground squirrel, and Palm Springs pocket mouse, and portion of the site may also serve as nesting habitat for several sensitive bird species. Impacts on nursery sites and wildlife movement for some species cannot be completely avoided; however impacts are minimized by the projects design, which will preserve and protect other potential nursery sites.
within the project boundary including portions of Pinkham Wash and Mecca Hills along the western and southwestern portion of the project site, and the Cottonwood Mountains along the northern boundary of the project site. Impacts to nursery sites within the project boundary would not be significant, because the habitat affected is common and widespread and not a specialized or unique nursery site habitat.

6.4.2 With Acquisition of Section 12

With the inclusion of BLM Section 12 in the development plans the Happy Gulch crossing will be affected as follows:

- Happy Gulch- the drainage under this bridge will be modified to convey flow in a naturalized landscape setting that will also serve as community open space. The bridge will be maintained at no less than its current size and with a soft-bottom where it currently exists. The drainage under this bridge will lead into developed areas and cease to function as a wildlife crossing.

6.5 Jurisdictional Waters

There are no wetlands located on the project site, so no impacts to wetlands will occur as a result of the proposed project development. The project will maintain ground water levels through a balance of pumping and replenishing that will maintain ground water at natural levels. Non-wetland WUS and CDFG jurisdictional habitat will be addressed through permitting processes as required by involved regulatory agencies. Any impacts to these areas will be offset through compensation by preserving or restoring equivalent habitat, or a combination of these measures.

6.4.3 USACOE

Wetlands will not be impacted by the proposed project. Depending on the results of the detailed delineation, to be conducted before project construction, and on the results of the USACOE’s Jurisdictional Determination, non-wetland waters of the U.S. may be present on the site and may be impacted by the proposed project. The CEQA Guidelines, Appendix G identifies impacts to wetlands that may be present on a project site as potentially significant. The project will maintain ground water levels through a balance of pumping and replenishing that will maintain ground water at natural levels. Impacts to potential jurisdictional waters of the U.S. are not considered significant based on the absence of wetlands.

6.4.4 CDFG

It is anticipated that portions of the alluvial fan will meet the CDFG definition of streambed and will be impacted by the proposed project. The project will maintain ground water levels through a balance of pumping and replenishing that will maintain ground water at natural levels. Impacts to the riparian habitat (desert dry wash woodland) associated with the streambeds may be considered significant.

6.6 Local Ordinances

No local ordinances are applicable to biological resources of the project site.
7.0 Mitigation Absent CVMSHCP

7.1 Vegetation Communities

7.1.1 Sonoran creosote bush scrub

No significant impacts to Sonoran creosote bush scrub will occur as a result of the development of the project; therefore, mitigation for impacts to this community is not required.

7.1.2 Desert dry wash woodland

7.1.2.1 With Section 12

Impacts to 1,292 acres of desert dry wash woodland will be mitigated through the preservation of desert dry wash woodland at a 3:1 ratio. A total of 643 acres of desert dry wash woodland will be preserved on site. The balance of the mitigation will be achieved through the acquisition and preservation of 3,233 acres of desert dry wash woodland at an off site location. The off site habitat will be in a location with long-term conservation value and will be preserved in perpetuity. Compliance with the mitigation measure will reduce impacts to below a level of significance.

7.1.2.2 Without Section 12

Impacts to 1,069 acres of desert dry wash woodland will be mitigated through the preservation of desert dry wash woodland at a 3:1 ratio. A total of 643 acres of desert dry wash woodland will be preserved on site. The balance of the mitigation will be achieved through the acquisition and preservation of 2,564 acres of desert dry wash woodland at an off site location. The off site habitat will be in a location with long-term conservation value and will be preserved in perpetuity. Compliance with the mitigation measure will reduce impacts to below a level of significance.

7.1 Plants

7.1.1 Threatened and Endangered

7.1.2.3 Coachella Valley milk-vetch

Significant impacts to the Coachella Valley milk-vetch will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.1.2.4 Triple-ribbed milk vetch

Significant impacts to the triple-ribbed milk vetch will not occur as a result of the development of the project; therefore, mitigation for this species is not required.
7.2 Wildlife

7.2.1 Threatened, Endangered or Candidate

7.2.1.1 Desert slender salamander

Significant impacts to the desert slender salamander will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.1.2 Desert tortoise

Mitigation measures include the following (Summary of Avery Plan):

- The upper drainages of the in the Cottonwood foothills appear to provide the best existing habitat for desert tortoise. These areas contained the highest concentration of live desert tortoises observed on site and are designated by the proposed project design as part of the on site managed preserve.

- Based upon the planned disturbance as set forth in the Specific Plan, 1,999 acres of project mitigation lands in the form of natural open space and Biological Corridor will be retained within the Paradise Valley Project as illustrated in the approved Specific Plan master land use plan, which will be conveyed to and be managed by an agency or organization as determined appropriate by USFWS and CDFG. The 1,999 acres includes the upper drainages of the Cottonwood foothills.

- Based upon the planned disturbance as set forth in the Specific Plan (i.e. 3,648 acres of developed land with Section 12 or 3,018 acres of developed land without Section 12) the mitigation obligation for the Paradise Valley Project will be determined as follows: For each acre of Desert Tortoise habitat disturbed, the Project will conserve 4 acres of Desert Tortoise habitat. The 1,999 acres preserved on site will qualify as mitigation lands and will contribute to meeting the overall 4:1 habitat replacement measure.

- During the tortoise active season, March 15 - November 1, no overnight hazards to desert tortoises (e.g., auger holes, trenches, pits, or other: steep-sided depressions) shall be left unfenced or uncovered; such hazards shall be eliminated each day prior to the work crew leaving the site. Large or long-term project areas shall be enclosed with tortoise-proof fencing to keep desert tortoises out of the work area. The fencing shall be wire mesh with a maximum mesh size of 1/2" square fastened securely to posts. The wire mesh shall extend at least 18 inches above the ground and preferably about 12 inches underground. Where burial is not possible, the lower 12 inches shall be folded outward and fastened to the ground. Any gates or gaps in the fence shall be constructed to prevent entry of tortoises. Fenced areas are to be cleared of tortoises by an authorized biologist prior to project activities.

- All workers, including all participating agency employees, construction and maintenance personnel, and others who implement authorized actions shall be given special instruction. This instruction will include training on distribution, general behavior and ecology, protection afforded by State and Federal
endangered species acts (including prohibitions and penal:es), and procedures for reporting encounters, and the importance of following the protection measures. The education program may consist of a class or video presented by a Qualified Biologist. It is recommended that workers carry wallet cards with important information while in the field.

- At least 30 days prior to commencement of any other construction activity, the project proponent shall construct appropriate portions of the tortoise exclusion fence along the development area's boundary, which effectively isolates the disturbance area from tortoise habitat that is to be preserved. This measure will preclude the interaction of tortoise with the future development in the planning area. This mitigation measure is a part of a larger strategy that is being implemented along the urban/wildland interface.

- Consistent with the provisions of the NECO Plan tortoise management provisions, the project proponent shall be responsible for the construction of the planned tortoise exclusion fence along those portions of the US Interstate-10 right-of-way bordering wildlife movement corridors.

- All trash and food items generated by construction and maintenance activities shall be promptly contained and regularly removed from the project site to reduce the attractiveness of the area to common ravens and other desert predators. Portable toilets shall be provided on site if appropriate.

- The Master Homeowners Association (HOA) and all sub-HOAs shall be required to incorporate into their CC&Rs and to enforce trash and garbage management programs, which limit the potential for subsidizing ravens and other potential predators of tortoise and other sensitive wildlife.

7.2.1.3 Flat-tailed horned lizard

Significant impacts to the flat-tailed horned lizard will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.1.4 Swainson's hawk

Significant impacts to Swainson's hawk will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.1.5 Willow flycatcher

Significant impacts to the willow flycatcher will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.1.6 Southwestern willow flycatcher

Significant impacts to the southwestern willow flycatcher will not occur as a result of the development of the project; therefore, mitigation for this species is not required.
7.2.1.7  Least Bell’s vireo

Significant impacts to the least Bell’s vireo will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.1.8  Coachella Valley round-tailed ground squirrel

Significant impacts to the Coachella Valley round-tailed ground squirrel will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2  Sensitive

7.2.2.1  Palm Springs pocket mouse

Significant impacts to the Palm Springs pocket mouse will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.2  Rosy boa

The rosy boa is susceptible to heavy collection for the pet trade, so signage posted along the preserved areas on site should discourage this type of activity.

7.2.2.3  Golden eagle

Significant impacts to the golden eagle will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.4  Cooper’s hawk

Significant impacts to Cooper’s hawk will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.5  Ferruginous hawk

Significant impacts to the ferruginous hawk will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.6  Prairie falcon

Significant impacts to the prairie falcon will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.7  Mountain plover

Significant impacts to the mountain plover will not occur as a result of the development of the project; therefore, mitigation for this species is not required.
7.2.2.8 Burrowing owl

Potential impacts to burrowing owls on the project site will be avoided by conducting an accepted protocol survey within 30 days of any construction activity on site. Occupied burrows would have to be avoided during the nesting season (beginning of March to the end of August), or until young owls are no longer dependant on the burrow. Outside of the breeding season, if a pre-construction survey determines that burrowing owls are present, then, impacts to these owls in areas where construction activity is to take place will be avoided by passive relocation of owls. Since these owls hunt from low perches or the burrow mounds where they nest, collisions with cars have become a major source of mortality when they live nearby major roads or highways. Fencing or walls along roadways would help prevent burrowing owls from flying too low across them.

7.2.2.9 Vermillion flycatcher

Significant impacts to the vermilion flycatcher will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.10 Loggerhead shrike

Significant impacts to the loggerhead shrike will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.11 Bendire's thrasher

Avoiding vegetation clearing or other ground disturbance between February and August would avoid impacts to any breeding pairs of Bendire’s thrashers on the project site.

7.2.2.12 Crissal thrasher

Significant impacts to Crissal thrasher will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.13 Le Conte’s thrasher

Project development would impact approximately 1,293 acres of DDWW habitat with Section 12 or 1,070 acres without Section 12, and preserve approximately 642 acres within onsite conservation areas. Credit would be given for DDWW habitat preserved on site within the Pinkham Wash, so a minimum of 1:1 compensation is required for the remaining 802 acres of impacts. Mitigation for Le Conte’s thrasher would be covered concurrently through mitigation for project impacts to DDWW habitat so long as offsite mitigation purchases of DDWW are also within the known range of Le Conte’s thrasher.

Le Conte’s thrasher is known to be sensitive to disturbance. Any destruction of substrate, leaf litter, or shrubs affects habitat suitability, including construction projects and off-road vehicle use. Shooting may also impact this species in areas where this activity is allowed. This thrasher is typically the largest songbird found in its habitat and therefore makes a tempting target to a recreational shooter. These activities should not be allowed to occur within the Pinkham Wash preserved area. Domestic cats would also have an impact on this species, especially since these
thrashers typically move through their habitat by running along the ground as opposed to flying from bush to bush. Residents should be discouraged from allowing their domestic cats to freely roam the community. Compliance with these measures would reduce impacts to a less than significant level.

7.2.2.14 Yellow warbler

Significant impacts to the yellow warbler will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.15 Yellow-breasted chat

Significant impacts to the yellow-breasted chat will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.16 Summer tanager

Significant impacts to the summer tanager will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.17 California leaf-nosed bat

Significant impacts to the California leaf-nosed bat will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.18 Townsend’s big-eared bat

Significant impacts to the Townsend’s big-eared bat will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.19 Pallid bat

Significant impacts to the pallid bat will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.20 Pocketed free-tailed bat

Significant impacts to the pocketed free-tailed bat will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.21 Western mastiff bat

Significant impacts to the western mastiff bat will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.22 Palm Springs pocket mouse

No significant impacts to Palm Springs pocket mouse are expected, thus no mitigation is required.
7.2.2.23  Pallid San Diego pocket mouse
Significant impacts to the pallid San Diego pocket mouse will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.24  American badger
Significant impacts to the American badger will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.2.2.25  Nelson's bighorn sheep
Minimal impacts to Nelson's bighorn sheep will potentially occur as a result of the development of the proposed project, but will be reduced by project design and by avoiding localized noise pollution and light spill. Hazy Gulch Bridge is adjacent to the development, so minimizing noise and light spill into this underpass would retain its potential value as a viable wildlife crossing. The northern boundaries of the proposed developed area on site borders potential lambing and escape terrain in the proposed preserve area of the Cottonwood Mountain. Avoiding and/or minimizing noise and light spill would retain its potential value to bighorn sheep.

7.2.2.26  Couch's spadefoot toad
Significant impacts to Couch's spadefoot toad will not occur as a result of the development of the project; therefore, mitigation for this species is not required.

7.3  Jurisdictional Waters

7.3.1  USACOE
Mitigation is not required for impacts to potential jurisdictional waters of the U.S. as such impacts are not considered significant; however, USACOE permit requirements may involve habitat preservation or other measures to offset the loss of waters of the U.S.

7.3.2  CDFG
Mitigation for impacts to loss of riparian habitat associated with streambeds will be accomplished through the off-site acquisition and preservation of desert dry wash woodland at a replacement ratio of at least 1:1 (at least one acre acquired and preserved for each acre or riparian habitat impacted).

7.4  Consistency with NECT

7.4.1  NECT and Impacts to Plants and Wildlife
The NECT planning area consists of 5.5 million acres. The NECT Plan provides reserve management for the desert tortoise, integrated ecosystem management for special status species

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and natural communities for all federal lands, and regional standards and guidelines for public lands held by the BLM. The BLM is required to comply with the Federal Land Policy and Management Act (FLPMA), which requires the BLM to manage public lands to protect the quality of the resources present and that management of the public lands be on the basis of multiple use and sustained yield unless otherwise specified by law. Multiple uses of public land under FLPMA may include grazing, mining, recreational activities, including hiking, OHV use, etc.

The Paradise Valley project is located within the Desert Wildlife Management Area (DWMA) of the NECO Plan Area, and has been largely designated as having lands with a relatively low (Class 2) overall ecological value.

Under the NECO Plan, conservation management is directed to provide habitat connectivity and to cover eighty percent of the area of known, or predicted, occurrence of special status species and natural communities. The project site is in the extreme southwestern portion of the NECO Plan Area; therefore, the requirement of habitat connectivity within the context of NECO is not an issue for the Paradise Valley project. The Paradise Valley project is a very small percentage of the NECO Plan Area, and compliance with the CVMSHCP will ensure adequate protection for special status species and natural communities as dictated by NECO.

7.4.2 **NECO and Acquisition of Section 12**

The NECO Plan affects only federal lands but its relevance for the Paradise Valley project is primarily associated with the proposed acquisition (by exchange or purchase) of BLM Section 12. The biological resource values of Section 12 are currently impacted by the bisecting US Interstate-10, is surrounded by private lands on three sides, and is part of a BLM checkerboard ownership pattern. The following NECO Plan objective addresses the issue of the disposal of BLM lands.

"BLM would dispose of lands in areas outside wilderness, DWMA's, and WHMA's which do not contain known occurrences of rare plants, springs, bat or other special status species, and where such action supports consolidation and location of private land to promote private development and increase tax base for local governments. Federal lands potentially suitable for disposal under this action could include lands along freeways and freeway exits, lands adjacent to urban, agricultural, and industrial centers, lands in checkerboard ownership outside other sensitive areas, lands in unclassified areas, and other lands deemed to be unmanageable under federal ownership. Although exchange would be the BLM's preferred method of disposal, the sale of lands could be considered" (BLM, 2002b).

The adopted NECO Plan sets forth conditions and criteria by which the appropriateness of land disposals (sale or exchange) should be considered. This is relevant to BLM Section 12, which the project proponent is proposing to acquire (by exchange or purchase) and incorporate into the overall project plan. Decisions may be made to dispose of federal lands if the following considerations would contribute to developing a pattern of use and conservation to protect
special status species and the habitats and ecological processes they depend upon. Considerations include (1) location of springs and artificial waters, (2) known/predicted occurrence of special status plants and wildlife species, (3) corridors for movement of bighorn sheep and other species, and (4) flow of water and movement of sand and soil and other ecological processes.

According to the NECO Plan, the design of conservation areas, including DWMAS and WHMAs, was based on a consideration of factors, including proximity to freeway exits, and lands in and adjacent to urban and agricultural centers. Acquisition of private lands would be accomplished, as much as possible and practical, through exchange to reduce the impact of loss of tax base to counties and only from willing sellers. Conversely, BLM’s acquisition of private lands would be based upon several priority factors, including tortoise density, populations and connectivity points, and overall species richness.

Based upon the conditions and criteria set forth in the NECO Plan, it appears that, location within a DWMA notwithstanding, the exchange or sale of BLM Section 12 for its incorporation into the Paradise Valley project can be found to be consistent with the NECO Plan. As noted above, Section 12 is already significantly impacted by being traversed by US Interstate-10 and is further impacted by a variety of utility easements carrying natural gas and communications infrastructure. There are no springs or artificial water sources in Section 12. There are no special status plants in Section 12. Neither were special status wildlife species found on these BLM lands, although burrows and carcasses of desert tortoise were found there (see Exhibit III-?). The function of Section 12 as a wildlife movement corridor has been significantly compromised by the aforementioned I-10 right-of-way and utility easements. There are no significant ecological processes that would be lost by the development of these lands.

The exchange/sale and incorporation of BLM Section 12 could be accomplished through a variety of means, including the outright purchase of Section 12 or the exchange of biologically superior lands located east of the subject property, within the BLM checkerboard pattern, and already owned by the project proponent. While any BLM land exchange or sale would be subject to a separate federal action, this consideration is relevant to a consideration of NECO Plan consistency and the potential for the responsible inclusion of BLM Section 12 into the Paradise Valley project. The mitigation discussion below describes how the incorporation of Section 12 into the overall project may be accomplished without significantly impacting the NECO Plan or its conservation goals and objectives.

General and resource-specific mitigation measures set forth below will adequately reduce potential project impacts to levels that are less than significant. The sale or exchange of lands to acquire BLM Section 12 is a project under the National Environmental Policy Act and direct mitigation for the sale or exchange of Section 12 to the project proponent is expected to also further assure CEQA mitigation to a level of impact that is less than significant.
8.0 References


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