

Appendix I. Fish and Wildlife Consultation

Appendix I. Fish and Wildlife Consultation

This section documents the fish and wildlife service consultation conducted during the preparation of this EA. This agency consultation with the U.S. Fish and Wildlife Service (USFWS) is required by Section 7 of the Endangered Species Act.

I.1 Biological Assessment/Opinion

A Biological Assessment of the Area of Disturbance, as defined in Chapter III, was completed in July 2007 and submitted to the USFWS. The Biological Assessment, completed in July 2007, is included as **Attachment I-1**. The Biological Opinion will be provided in the Final Environmental Assessment.

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BIOLOGICAL ASSESSMENT
SOUTHERN NEVADA REGIONAL HELIPORT
CLARK COUNTY, NEVADA

July 2007



Prepared for:

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1.0 INTRODUCTION

The Clark County Department of Aviation (CCDOA) is the sponsor of a proposed heliport project and is conducting an Environmental Assessment (EA) on the potential impacts of the heliport. The EA for the Southern Nevada Regional Heliport is being completed in compliance with standards established in the National Environmental Policy Act (NEPA), FAA Order 1050.1E, *Environmental Impact: Policies and Procedures*, and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*.

The purpose of this biological assessment (BA) is to review the proposed Southern Nevada Regional Heliport project in sufficient detail to determine to what extent the Proposed Action may affect federally threatened, endangered, or candidate species. Although the U.S. Fish and Wildlife Service (USFWS) does not require the assessment of impacts to State or Bureau of Land Management (BLM) sensitive species, they are briefly reviewed in Appendix A to further describe the biological resources in the project area. This BA is prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act of 1973 (ESA), as amended (ESA; 16 U.S.C. 1536 (c)), and follows the standards established in ESA guidance.

The species considered in this document are:

- Desert tortoise (*Gopherus agassizii*; Threatened)

2.0 PROPOSED ACTION

Clark County has identified a purpose and need to provide a site, facilities, and preferred flight corridors for use primarily by helicopters providing air tours of the Grand Canyon. Such provisions would allow the County to accommodate continually increasing demand for helicopter air tours in the Las Vegas region; to reserve limited land capacity at McCarran International Airport for that airport's intended role within the Clark County Airport System as a primary airport for commercial passenger service; and to reduce helicopter tour overflights of existing residential areas of Clark County.

The Proposed Action includes the construction and operation of a general aviation heliport. A conceptual layout of the heliport can be found in Appendix B. The project area for the Proposed Action includes a site for the heliport (Parcel # 20401000004, known as the South of Sloan site), corridors required to extend utilities to the heliport, and a site for a pumping station. Figure 1 shows the project area, which is located in Clark County, Nevada, in the following townships and ranges on the Jean, Hidden Valley, and Sloan, Nevada, USGS 7.5' quadrangles:

- Sections 8, 9, 16, 17, 18, 19, 20, 29, 30, and 31 of Township 23 S, Range 61 E
- Section 36 of Township 23 S, Range 60 E
- Sections 1, 11, 12, 14, 15, 16, 21, 28, 29, 31, and 32 of Township 24 S, Range 60 E
- Section 6 of Township 25 S, Range 60 E
- Sections 1 and 12 of Township 25 S, Range 59 E

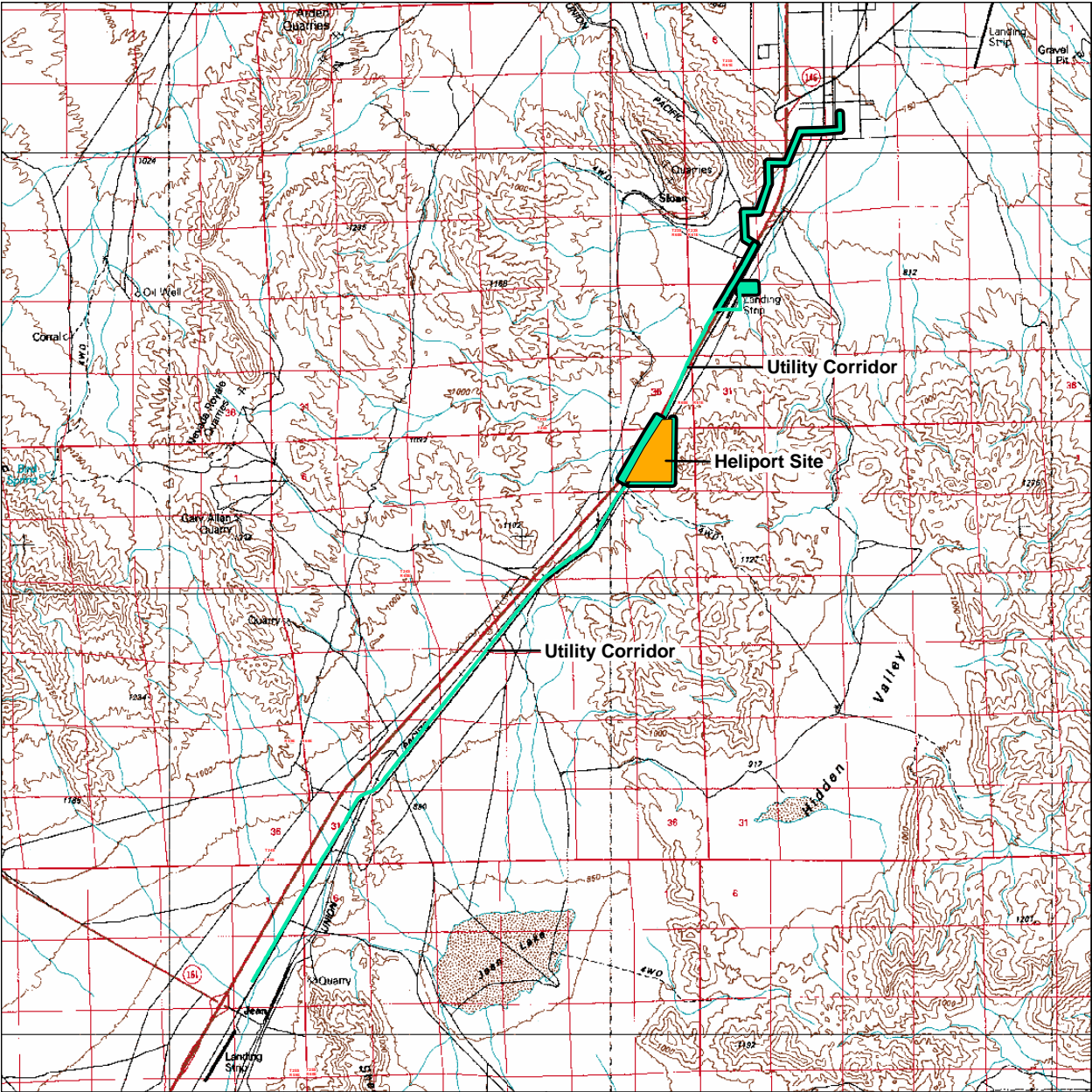


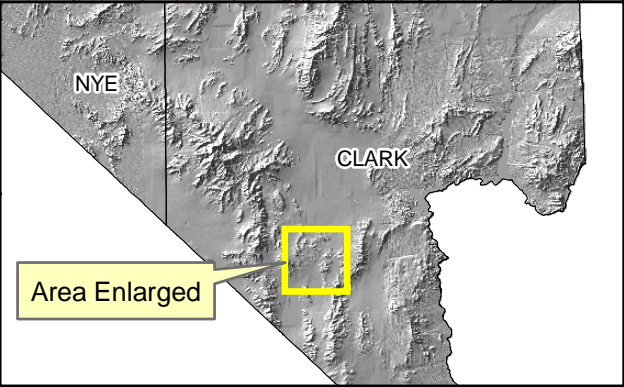


Figure 1. Proposed Project Area

-  Heliport Utility Corridor
-  Heliport Site

0 0.5 1 2
Kilometers

0 0.5 1 2
Miles



Basemap taken from the Mesquite Lake, NV USGS 30 x 60 minute series topographic quadrangle.



The Federal Aviation Administration (FAA) will act as the lead federal agency, and will make a final determination as to whether a federal action associated with this project or its reasonable alternatives would cause significant environmental impacts. The requested FAA actions include approval of the location and construction of a new heliport, first-time approval of the heliport layout plan, and declaration of eligibility for Airport Improvement Program (AIP) grant funding.

The BLM will serve as a cooperating agency and will make its own determination as to whether a BLM action associated with this project would cause significant environmental impacts. In the case of the Proposed Action, BLM action includes the transfer of land ownership from the BLM to Clark County. Additionally, the BLM will be asked to approve rights-of-way (ROW) for utilities; these utilities would require 17.4-miles of ROW for water, power, and communication utilities.

Legislation was enacted (signed by President Bush) on November 30, 2005¹ to allow the transfer of the land to Clark County, as soon as practicable, and to establish ownership and operating conditions². The land transfer is subject to environmental review for NEPA compliance; as a primary component of the Proposed Action, this environmental review will occur in the EA for the Southern Nevada Regional Heliport. Once the Proposed Action has received environmental approval, the BLM can complete the land transfer.

CONSERVATION/MINIMIZATION MEASURES

The conservation measures listed below are intended to be implemented as part of the Proposed Action to reduce the potential effects of the Proposed Action on listed species.

1. All relevant permits from the State of Nevada and Clark County shall be obtained prior to construction.
2. A Worker Environmental Awareness Program (WEAP) shall be implemented for construction crews prior to the commencement of groundbreaking/excavation activities. Training materials and briefings shall include, but not be limited to, discussion of the federal ESA, the consequences of noncompliance with this act, identification and values of wildlife and natural plant communities, hazardous substance spill prevention and containment measures, and review of all required and recommended conservation measures.

¹ *Transportation, Treasury, Housing and Urban Development, The Judiciary, The District of Columbia, and Independent Agencies Appropriations Act of 2006*, Pub. L. 109-115, 119 Stat. 2429, Section 180 (2005).

² Ownership and operating conditions: The parcel shall not be disposed of by the County. The parcel shall be used for the operation of a heliport facility. If the County ceases to use the site for heliport operations, the parcel shall revert to federal ownership. Any for-profit helicopter tour originating from or concluding at the site that crosses the Sloan Canyon National Conservation Area (NCA) (a) shall pay a conservation fee, (b) except for safety reasons, shall not fly outside a specific two-mile path when inside the boundaries of the Sloan Canyon NCA, and (c) except for safety reasons, shall not fly below specific heights above the ground when crossing the boundaries of the Sloan Canyon NCA.

3. As part of the WEAP, a desert tortoise education program shall be presented to all personnel who will be on site. All permittees and their employees shall be informed, through this education program, of the occurrence of the desert tortoise in the project area and of the threatened status of the species. They shall also be advised of the definition of “take”, the potential impacts to the tortoise, and the potential penalties for taking a threatened species. All field personnel involved in the activities permitted herein shall be educated about the desert tortoise and shall be alert for the presence of wildlife, including desert tortoise. All informed persons shall sign a statement indicating that they have completed the education program and understand fully its provisions.
4. Where feasible, the project area including utility corridors will be fenced with a temporary tortoise-proof fence prior to ground disturbing activities. Fence design shall be approved by the BLM prior to construction and should include entrance/exit areas equipped with cattle guards or tortoise-proof gates. A qualified tortoise biologist shall be on-site during fence installation to ensure that no tortoises are harmed.
5. In areas where tortoise-proof fencing is difficult to install or cost-prohibitive, qualified on-site biologists shall monitor all construction vehicles and heavy machinery to ensure that no desert tortoises are harmed. The biologists would be responsible for moving tortoises out of harm’s way if necessary, providing instruction as needed, and monitoring and reporting on compliance.
6. No more than 24 hours prior to commencement of surface-disturbing project activities (including tortoise-proof fencing) and 24 hours following fence installation activities, qualified biologists shall do a 100 percent desert tortoise clearance survey of the entire project area. All tortoise burrows or other burrows that could be occupied by a tortoise shall be searched for resident tortoises. If no tortoises are discovered inside the burrow, it shall be collapsed or blocked to prevent tortoise re-entry. The entire project area shall be searched three times unless no tortoises are seen during the second search. Any tortoises or eggs discovered shall be excavated by hand to allow for safe removal. To avoid injury or death of desert tortoises, only authorized biologists may remove and handle tortoises or tortoise eggs.
7. Should a desert tortoise or a desert tortoise nest be encountered during construction, all construction activities in the area shall stop and a qualified tortoise biologist shall excavate nests and tortoises from the occupied area. All tortoises or eggs shall be excavated by hand to allow for safe removal. To avoid injury or death of desert tortoises, only authorized biologists may remove and handle tortoises or tortoise eggs. Ground disturbance shall not resume until approved by the BLM or USFWS Authorized Officer.

8. Any tortoises found on the property shall be removed and released 300 to 1000 feet outside of the boundary nearest the point of collection by qualified tortoise biologists. Prior to handling any tortoise, permits shall be obtained from the appropriate state and federal agencies and BLM protocol shall be followed when handling and releasing desert tortoises or eggs. If removed from a burrow, the animal should be placed in the shade of a shrub, in an unoccupied burrow, similar to the hibernacula in which it was found, or in an artificially constructed burrow following BLM protocol. Tortoises should be placed on lands under the ownership of the BLM unless written permission is granted by the private landowner. The BLM land should not be slated for development in the near future to ensure the relocated tortoises will not need to be relocated again. Tortoises that cannot be appropriately relocated will be removed from the area and placed with the Desert Tortoise Conservation Center. Tortoises showing symptoms of Upper Respiratory Tract Disease (URTD) shall be left in the wild after gathering BLM specified data.
9. If possible, construction shall be limited to those months when special status and/or migratory birds do not have potential to be nesting in the project area. If construction must occur during the months of March 15 through July, a qualified biologist must be on-site prior to groundbreaking activities to perform breeding bird surveys and identify nesting birds. If active nests are located, then an appropriately-sized buffer area must be established, marked and avoided during construction so that laying, incubation and the rearing of young continues until the young have fledged.
10. Weed monitoring shall occur for species identified by the State of Nevada as well as for additional species specified by Clark County during a given year. Such species comprise the official list of weeds for which a county may cost-share funding for control and removal efforts. Should such species be found during monitoring, control and eradication efforts shall be implemented following County control procedures. Herbicides shall not be used around the gravel pit unless approved in writing by the BLM.
11. Clark County shall implement a litter control program during construction activities that will include the use of covered, raven-proof trash receptacles, removal of trash from the construction site to the trash receptacles following the close of each work day, and proper disposal of trash in a designated solid waste disposal facility at the end of each work week. This effort will reduce the attractiveness of the area to opportunistic predators such as coyotes, kit foxes, and common ravens.
12. Within the project area, control erosion and runoff using BMP's as recommended by the FAA and BLM.
13. In order to minimize erosion and soil deposition outside of the project area, ephemeral washes within the project area shall be avoided to the maximum extent practicable.
14. A maximum speed limit of 15 miles per hour shall be maintained while traveling in areas of groundbreaking or excavation. This effort will reduce the potential for vehicle-wildlife related collisions.

15. Any fuel or hazardous waste leaks or spills shall be contained immediately and cleaned up at the time of occurrence. Contaminated soil will be removed and disposed of at an appropriate facility.
16. Reclamation of the proposed project site and utility corridors would consist of sloping cut areas to 2.5:1 or 3:1. Compacted areas would be ripped and the area seeded with native seed. Any salvaged plants would also be used in reclamation.

3.0 ENVIRONMENTAL SETTING

PROJECT AREA

The South of Sloan site is located approximately 17 miles south of Las Vegas in Clark County, Nevada, on the east side of I-15 (Figure 1). The entire helipoint site is located on lands that are administered by the BLM – Las Vegas Field Office, but will be congressionally granted to the CCDOA. The utility corridors occur largely within BLM administered land. The project area is situated within the Great Basin portion of the Basin and Range Physiographic Province. Alluvial fans extend from the surrounding mountain ranges to the Valley floor. The project area includes approximately 526 acres including the helipoint site, 17.4-miles of utility corridors, and the pumping station site.

The helipoint site is approximately 229-acres and ranges from 2,960-3,360 feet (902-1,024 m) above mean sea level (MSL). Surface soils within the helipoint site are typically gravelly sandy loam and do not have a high gypsum content. The eastern portion of the site has steep, rocky terrain and falls within the transition from the creosote bush community to blackbrush community. The western portion of the site is much flatter and has friable soils conducive to burrowing. Several ephemeral channels traverse the helipoint site from east to west. These channels support little riparian vegetation and are isolated from other waters. There are no perennial watercourses within the helipoint site and the ephemeral channels do not constitute jurisdictional waters because they are isolated from downstream waters.

The utility corridors run north and south of the helipoint site and occur mainly within the creosote bush community. The elevation along the northern section of utility lines ranges from 2500-2960 feet (762-902 m) MSL, while the southern section ranges from 2850–3040 feet (869-927 m) MSL. Geology and soils characteristics are similar to the western portions of the helipoint site. Several ephemeral channels traverse the site from east to west on the northern end of the ROW and from west to east along the southern end of the ROW. There are no perennial watercourses within the ROW and the ephemeral channels do not constitute jurisdictional waters because they are within an enclosed hydrographic basin with no outlet.

ACTION AREA

The action area includes all areas in which the Proposed Action may directly or indirectly affect mobile sensitive species. Directly affected areas for all species consist of the direct disturbance area within the project area. Indirectly affected areas include the project area and a buffer zone, or Zone of Influence (ZOI), of up to 2,400 feet surrounding the project area.

VEGETATION

The action area consists entirely of Mojave Desert shrubland, which is characterized most importantly by its elevation, gentle slopes, and dominant vegetation. The area is dominated by the Sonora-Mojave Creosote Bush-White Bursage Desert Scrub (creosote bush) Community (EPA 2005). The creosote bush community, in which white bursage (*Ambrosia dumosa*) commonly co-dominates, occurs on alluvial slopes, valley floors, and mountain slopes below 4,000 feet (1,219 m) MSL. This community is usually found on well-drained soils, forming a continuous layer, except on the rockiest slopes, washes, saltbush flats, and dry lakebeds. Vegetation cover ranges from 5 percent to 80 percent within the project area. Although creosote bush, white bursage, Mojave yucca (*Yucca schidigera*), desert trumpet (*Eriogonum inflatum*), and Mormon tea (*Ephedra nevadensis*) dominate the landscape, a number of other plants were observed and recorded during surveys of the project area. These plants include:

Upland Species

Arabian schismus (*Schismus arabicus*)
Beardtongue (*Penstemon sp.*)
Big galletta (*Pleuraphis rigida*)
Bristly fiddleneck (*Amsinckia tessellata*)
Broom snakeweed (*Gutierrezia sarothrae*)
Burrobrush (*Hymenoclea salsola*)
Burrobush (*Ambrosia dumosa*)
Coyote tobacco (*Nicotiana attenuata*)
Creosote bush (*Larrea tridentata*)
Desert globe mallow (*Sphaeralcea ambigua*)
Desert indianwheat (*Plantago ovata*)
Desert marigold (*Baileya multiradiata*)
Desert trumpet (*Eriogonum inflatum*)
Devil's spineflower (*Chorizanthe rigida*)
Fourwing saltbush (*Atriplex canescens*)
Fremont's dalea (*Psoralea fremontii*)
Littleleaf ratany (*Krameria erecta*)
Louisiana sagewort (*Artemisia ludoviciana*)
Low woollygrass (*Dasyochloa pulchella*)
Mexican bladdersage (*Salizaria mexicana*)
Nevada joint-fir (*Ephedra nevadensis*)
Parry's wirelettuce (*Stephanomeria parryi*)
Purple sage (*Salvia dorii*)
Red brome (*Bromus rubens*)
Robinson's monardella (*Monardella robinsonii*)

Sandpaper plant (*Petalonyx thurberi*)
Schott's pygmycedar (*Peucephyllum schottii*)
Shadscale (*Atriplex confertifolia*)
Spiny menodora (*Menodora spinescens*)
Stork's bill (*Erodium cicutarium*)
Vervain (*Verbena sp.*)
Virgin River brittlebush (*Encelia virginensis*)
Waterjacket (*Lycium andersonii*)
Winterfat (*Krascheninnikovia lanata*)
Yellow nightshade groundcherry (*Physalis crassifolia*)

Riparian Species

Catclaw Acacia (*Acacia greggii*)
Yellow rabbit brush (*Chrysothamnus viscidiflorus*)

Succulents

Beavertail cactus (*Opuntia basilaris*)
Cottontop cactus (*Echinocactus polycephalus*)
Devil cholla (*Opuntia stanlyi*)
Diamond cholla (*Cylindropuntia ramosissima*)
Gold cholla (*Cylindropuntia echinocarpa*)
Johnson's fish hook cactus (*Sclerocactus johnsii*)
Joshua tree (*Yucca brevifolia*)
Mojave yucca (*Yucca schidigera*)
Spinystar (*Escobaria vivipara*)

WILDLIFE

Desert ecosystems typically exhibit a low diversity of wildlife species when compared to mountain or forest ecosystems. Small reptiles and birds suited for dry conditions are regularly the only wildlife seen in the creosote bush community. The surveys of the action area, performed by SWCA between August 27 and August 29, 2004 and October 25, 2006 and November 9, 2006, yielded several species of wildlife commonly seen in this desert community including small mammals, reptiles, and birds. These species include:

Mammals

Black-tailed jackrabbit (*Lepus californicus*)
Western cottontail (*Sylvilagus audubonii*)
White-tailed antelope ground squirrel
(*Amnospermophilus leucurus*)
Coyote (*Canis latrans*)

Reptiles

Mojave green rattlesnake (*Crotalus
scutulatus*)
Desert tortoise (*Gopherus agassizii*)
Side-blotched lizard (*Uta stansburiana*)

Raptors

Western burrowing owl (*Athene cunicularia
hyugaea*)
Red-tailed hawk (*Buteo jamaicensis*)

Other Birds

Black-throated sparrow (*Amphispiza bilineata*)
Sage sparrow (*Amphispiza belli*)
Lesser nighthawk (*Chordeiles acutipennis*)
Common raven (*Corvus corax*)
Gambel's quail (*Callipepla gambelii*)
Greater roadrunner (*Geococcyx californianus*)
Loggerhead shrike (*Lanius ludovicianus*)
Mourning dove (*Zenaida macroura*)
Cactus wren (*Campylorhynchus
brunneicapillus*)
Say's phoebe (*Sayornis saya*)
Horned lark (*Eremophila alpestris*)
House finch (*Carpodacus mexicanus*)
Western meadowlark (*Sturnella neglecta*)

4.0 SITE INVESTIGATIONS

The assessment and conservation measures contained within this document are based on regulatory and agency guidelines, the best available scientific information on the distribution and abundance of the affected species, and the associated effects of the Proposed Action on these species. This BA includes the most recent results of survey efforts and a detailed review of pertinent biological and management literature.

SURVEY PROTOCOL

SWCA biologists followed standard BLM and USFWS survey protocol that states that a presence-absence survey should be conducted for any surface-disturbing project resulting in the clearing or crushing of vegetation. The presence-absence survey should include a 100% cover survey for desert tortoises, tortoise habitat, and tortoise signs (e.g., scat, burrows, and carcasses) over the entire project area, plus a survey of the ZOI at intervals of 100, 300, 600, 1,200, and 2,400 feet around the disturbance area. ZOI surveys are performed to give an accurate representation of tortoise activity in the action area. The entire project area and the ZOI (i.e. the action area) were surveyed using belt transects at a maximum of 30 feet in width. Because surveys were specifically performed for desert tortoise, only habitat deemed suitable for this

species was surveyed, and this habitat is described further in Section 5.0. Biologists also surveyed for general wildlife and sensitive species, while performing tortoise surveys. Other wildlife species observed during these surveys are listed in the wildlife section above.

FIELD SURVEYS

Between August 27 and August 29, 2004, SWCA biologists performed pedestrian surveys of the heliport site. Parallel transects were walked throughout the entire site at 30-foot intervals between biologists. The biologists searched for live desert tortoises, their sign, including tracks, scat, carcasses, and burrows, and their habitat. When encountered, width and length of live tortoises were estimated. The sex and general health of each individual was also estimated. Length of the gular horn, flatness of the plastron, tail length, and the presence of inflated chin glands were all used when assessing the sex of each individual. A safe distance was maintained from each tortoise and no tortoises were harassed during field surveys. Although sign were recorded on data forms, specific locations were not recorded using a global positioning system (GPS).

The Proposed Action and project design were later refined and utility corridors were added. Therefore, between October 25 and November 9, 2006, SWCA biologists performed pedestrian surveys of the remaining action area (utility corridors, ZOI, and additional 90-ft southern and eastern sections of heliport site) for desert tortoise. Surveys were conducted using the same protocol as the 2004 surveys; however, GPS points of all sign were recorded.

During both 2004 and 2006 surveys, biologists also recorded observations of other special status species or their habitat. General vegetation and wildlife species observed were also recorded. After each day, survey forms were collected.

5.0 SPECIES ACCOUNTS

Threatened and endangered species are placed on a federal list by the USFWS and receive protection under the ESA. The USFWS has listed 17 species within Clark County, Nevada, as endangered, threatened, or candidate species (Table 1). Of these species, the desert tortoise is the only species with potential to occur within the action area. All of the other species in Table 1 are found in riparian or aquatic habitats, none of which occur in the action area. Table 1 below provides a list of all the endangered, threatened, and candidate species within Clark County and the presence/absence of potential habitat for those species within the action area.

A variety of other sensitive plant and wildlife species have the potential to occur within the action area as well. These species are considered special status or sensitive species by the BLM or are included on the sensitive species list for Nevada, which is maintained by the Nevada Natural Heritage Program (NNHP). A brief description and analysis of these species is included in Appendix A.

Table 1. USFWS Listed Endangered, Threatened, and Candidate Species within Clark County

Common Name	Scientific Name	Status	Potential Habitat*
Plants			
Slender moonwort	<i>Botrychium lineare</i>	C	None
Birds			
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	C	None
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	E	None
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	None
Wood stork	<i>Mycteria americana</i>	E	None
Brown pelican	<i>Pelecanus occidentalis</i>	E	None
Yuma clapper rail	<i>Rallus longirostris yumanenensis</i>	E	None
Reptiles			
Desert tortoise	<i>Gopherus agassizii</i>	T	Present
Amphibians			
Relict leopard frog	<i>Rana onca</i>	C	None
Fishes			
Pahrump poolfish	<i>Empetrichthys latos</i>	E	None
Humpback chub	<i>Gila cypha</i>	E	None
Bonytail chub	<i>Gila elegans</i>	E	None
Virgin River chub	<i>Gila seminuda</i>	E	None
Moapa dace	<i>Moapa coriacea</i>	E	None
Lahontan cutthroat trout	<i>Oncorhynchus clarki henshawi</i>	T	None
Woundfin	<i>Plagopterus argentissimus</i>	E	None
Razorback sucker	<i>Xyrauchen texanus</i>	E	None

Source: USFWS 2005

Status: C = Candidate; T = Threatened; E = Endangered; PT = Proposed Threatened

* Potential habitat within the action area is based on project survey data and designated critical habitat.

DESERT TORTOISE

LISTING STATUS

In response to the dramatic decrease in numbers of the Mojave population of the desert tortoise throughout its entire range, the USFWS (1989) emergency-listed the species as endangered on August 4, 1989 (54 FR 32326). The Mojave population was then proposed under normal listing procedures on October 13, 1989 (54 FR 42270), and subsequently listed as threatened on April 2, 1990 (55 FR 12178) (USFWS 1990). The State of Nevada has listed the desert tortoise as a fully protected species and has also designated the desert tortoise as its official state reptile.

On March 30, 1993, the USFWS (1993a) released the *Draft Recovery Plan for the Desert Tortoise (Mojave Population)* (58 FR 16691). The Final Recovery Plan was released on June 28, 1994 (USFWS 1994b). The Recovery Plan for the desert tortoise divides the species' range into six recovery units and recommends the establishment of 14 reserves, or Desert Wildlife Management Areas (DWMAs), ranging from 160 to 1,300 square miles in size. Using the DWMAs as the basis for areas recommended for recovery, the USFWS (1993b) proposed a rule to list critical habitat for the desert tortoise on August 30, 1993 (58 FR 45748), under provisions of the ESA (16 U.S.C. 1531 et seq.). Following an extensive review of information and public comments, the USFWS formally designated more than 10,000 square miles of critical habitat for the species in a final ruling, published February 8, 1994 (USFWS 1994c). The action area for the proposed project does not occur within desert tortoise critical habitat.

DISTRIBUTION, DESCRIPTION, AND LIFE HISTORY

The distribution of the desert tortoise covers the broadest range of latitude, climate, habitats, and biotic regions of any North American tortoise (Germano et al. 1994). The range of the desert tortoise roughly approximates the distribution of the creosote bush scrub community and includes the Mojave and Sonoran Deserts in southern California, southern Nevada, northwestern Arizona, the southwestern corner of Utah, and Sonora and northern Sinaloa, Mexico.

Habitat requirements for the desert tortoise are somewhat variable in regard to the different regions in which it occurs and seem to correspond to genetic and morphological differences as well. In Nevada, desert tortoises typically occur on flats, valleys, bajadas, and rolling hills, generally between 2,000 to 3,500 feet (610 to 1097 m) in elevation.

Mojave desert tortoises are primarily active between March and June, with a secondary activity period between September and October. Tortoises construct and maintain a series of up to 7 to 12 single-opening burrows at a given time (Barrett 1990; Bulova 1994). During inactive periods, tortoises hibernate, estivate, or rest in their burrows or caliche caves, spending as much as 98% of their time underground (Marlow 1979; Nagy and Medica 1986). During active periods, they usually spend nights and the hotter portion of the day in their burrows.

Tortoise activities are primarily concentrated in core areas or home ranges. Home ranges of tortoises overlap because they do not defend a specific or exclusive area. Home range sizes can be from 10 to 450 acres and can vary with sex, age, season, and density or availability of resources (USFWS 1994c). Tortoises typically avoid plateaus, playas, sand dunes, steep slopes (more than 20%), and areas with obstacles, such as dense vegetation and rocky terrain that would inhibit movement. Tortoises generally prefer areas characterized by scattered shrubs and abundant inter-space for growth of herbaceous plants, with soils ranging from sand to sandy gravel. Friable soil is important for digging burrows.

There are significant morphological, genetic, ecological, and behavioral differences between desert tortoise populations in different geographical areas within its range, and the species is therefore divided into two distinct populations: Sonoran and Mojave. The Sonoran population occurs south and east of the Colorado River in Arizona and Mexico, and the Mojave population occupies those portions of the Mojave and Colorado River Deserts north and west of the Colorado River, in southwestern Utah, northwestern Arizona, southern California, and southern

Nevada. The Mojave population is the one evaluated within this document. In Nevada, where it is federally listed and state-listed, desert tortoises occur over most of Clark County and in portions of Nye, Lincoln, Mineral, and Esmeralda Counties. The desert tortoise's range in Nevada has been reduced to 50–60% of its historic range since the 1920s and is now highly fragmented.

Desert tortoises eat a variety of annual grasses and flowers, as well as perennial plants, including portions of some shrubs and cactus. Forage species selected by tortoises in the Mojave Desert include Dwarf white milkvetch (*Astragalus didymocarpus*), Layne's milkvetch (*A. layneae*), evening primrose (*Camissonia boothii*), rattlesnake weed (*Chamaesyce albomarginatus*), hill lotus (*Lotus humistratus*), and desert wishbone bush (*Mirabilis bigelovii*; Jennings 1993).

STATUS OF SPECIES IN THE ACTION AREA

It is presumed that populations of Mojave Desert Tortoise are declining throughout Clark County (RECON 2000). The habitat in and around the action area appears to be of high quality; however, there was disturbance in portions of the action area, including the project area. Dirt roads were present where people have dumped trash and created unofficial shooting ranges. The project area covers approximately 526 acres of desert tortoise habitat. The friable soils and vegetation present in the project area are typical of quality desert tortoise habitat. As shown in Table 2, 174 sign of desert tortoise including a live tortoise were observed in the project area during surveys. An additional 244 sign including four live tortoises were observed in the ZOI. A select sampling of photos of sign recorded can be seen in Appendix C. Locations of live desert tortoises, tortoise cover sites, tortoise carcasses, and tortoise scat are exhibited in Figures 2 - 7.

The documentation of numerous instances of sign in the area indicates that tortoises have and currently inhabit the area. When estimating tortoise density, the BLM uses total corrected sign (TCS) instead of actual number of sign. Using this methodology, two burrows and a piece of scat, for instance, all within the same area are only counted as one piece of TCS because it is likely that all of these sign are from the same individual tortoise. In this manner, tortoise densities are not exaggerated and should be more reflective of actual tortoise densities. Using field survey data for this project, it was determined that the action area contains a total of 418 TCS. This correlates to an average of 0.79 TCS per acre (418 TCS/526ac). Though portions of the project area contain suitable tortoise habitat, desert tortoise numbers are very low for the project area as a whole.

The relatively low density of tortoises observed for the action area likely means that there are many threats to tortoises in this area inhibiting the continuation of a successful population. Though some portions of the action area appeared undisturbed, some areas are highly disturbed and several threats were identified. A typical Mojave Desert raven population occurs at the site, which likely has an impact on immature desert tortoises. Several off-highway vehicle roads were noted throughout the action area, which likely lead to increased access for humans into undisturbed habitat and may result in sporadic instances of tortoise/vehicle collisions. A few high-traffic areas were characterized by large volumes of litter and frequent use by recreationalists. SWCA biologists observed people driving in the desert and using firearms on almost a daily basis. All of the tortoises observed during surveys appeared to be very healthy, showing no signs of URTD, infection, or other abnormalities.

Table 2. Observed Sign within Project Action Area by Day

Survey Day	Sign Type					Total
	Live Tortoises	Tortoise Carcasses	Burrows	Scat	Other Sign	
2004 Survey*						
1 – 3	0	3	84	2	0	89
2006 Survey						
1	0	0	29	4	0	33
2	1	1	20	5	0	27
3	0	0	1	1	0	2
4 (ZOI)	0	1	9	2	0	12
5 (ZOI)	1	3	19	8	0	31
6 (ZOI)	0	0	25	8	0	33
7 (ZOI)	2	7	33	4	0	46
8 (ZOI)	0	2	69	19	0	90
9 (ZOI)	0	0	21	5	0	26
10 (ZOI)	1	0	5	0	0	6
11	0	1	17	5	0	23
Total Sign	5	18	332	63	0	418

Source: SWCA 2004 and 2006 Surveys

* GPS data for the project area from 2004 is not available. 2004 data is only available as hard copy data forms.

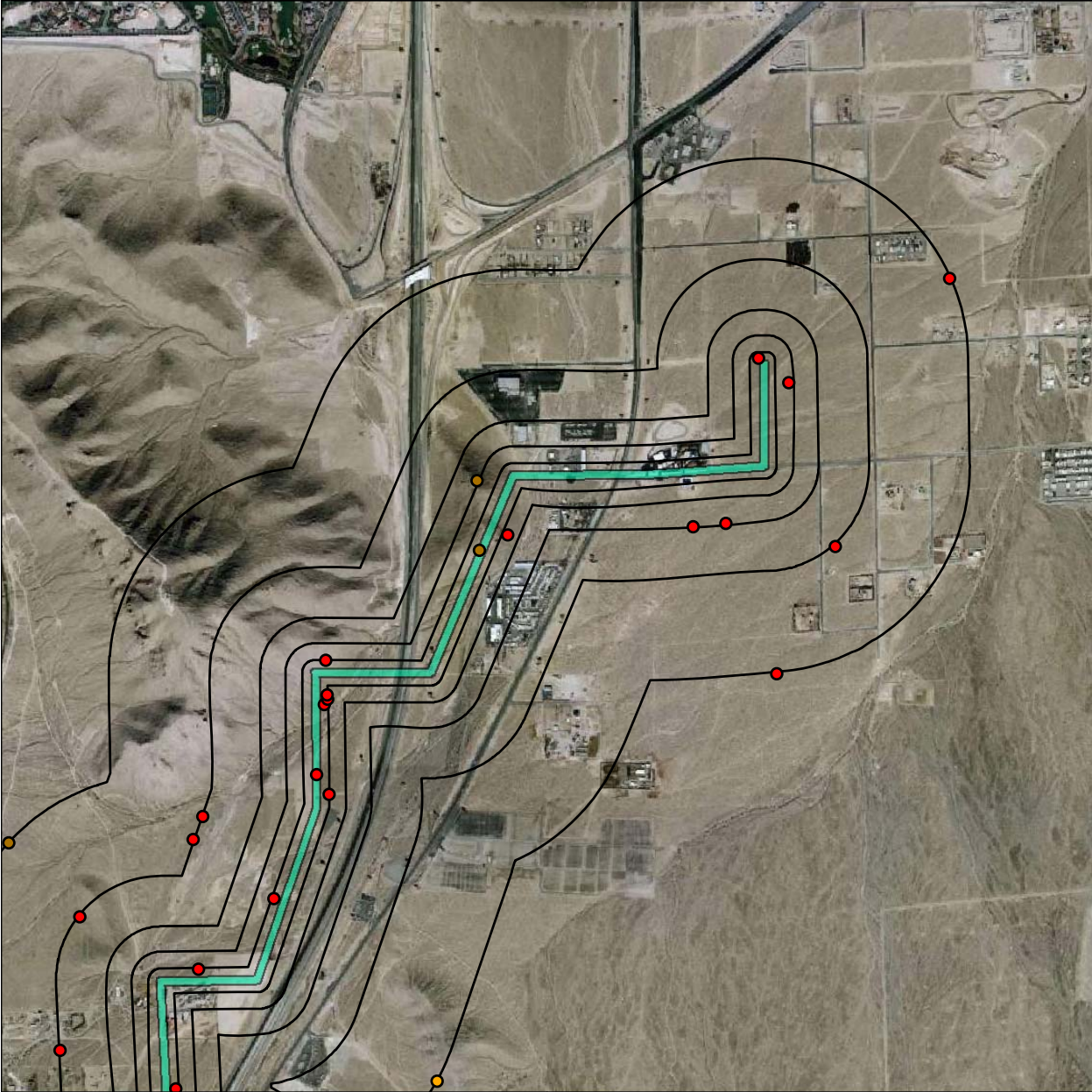


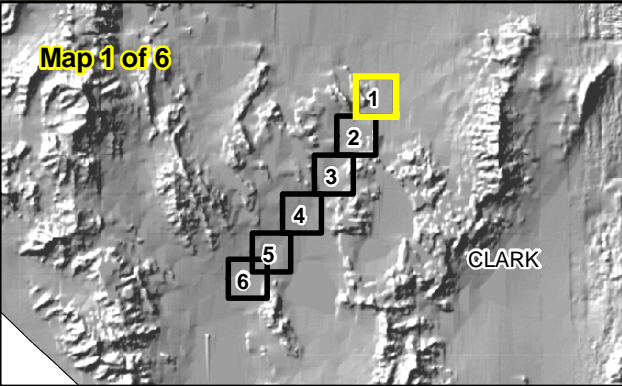
Figure 2. Tortoise Sign Observed (1 of 6)

- Live Tortoise
- Tortoise Carcass
- Tortoise Coversite
- Tortoise Scat
- ZOI Line
- Heliport Utility Corridor
- Heliport Site

0 1,000 2,000 4,000 Feet



Basemap taken from AirPhoto color aerial photography, Feb. 2007.



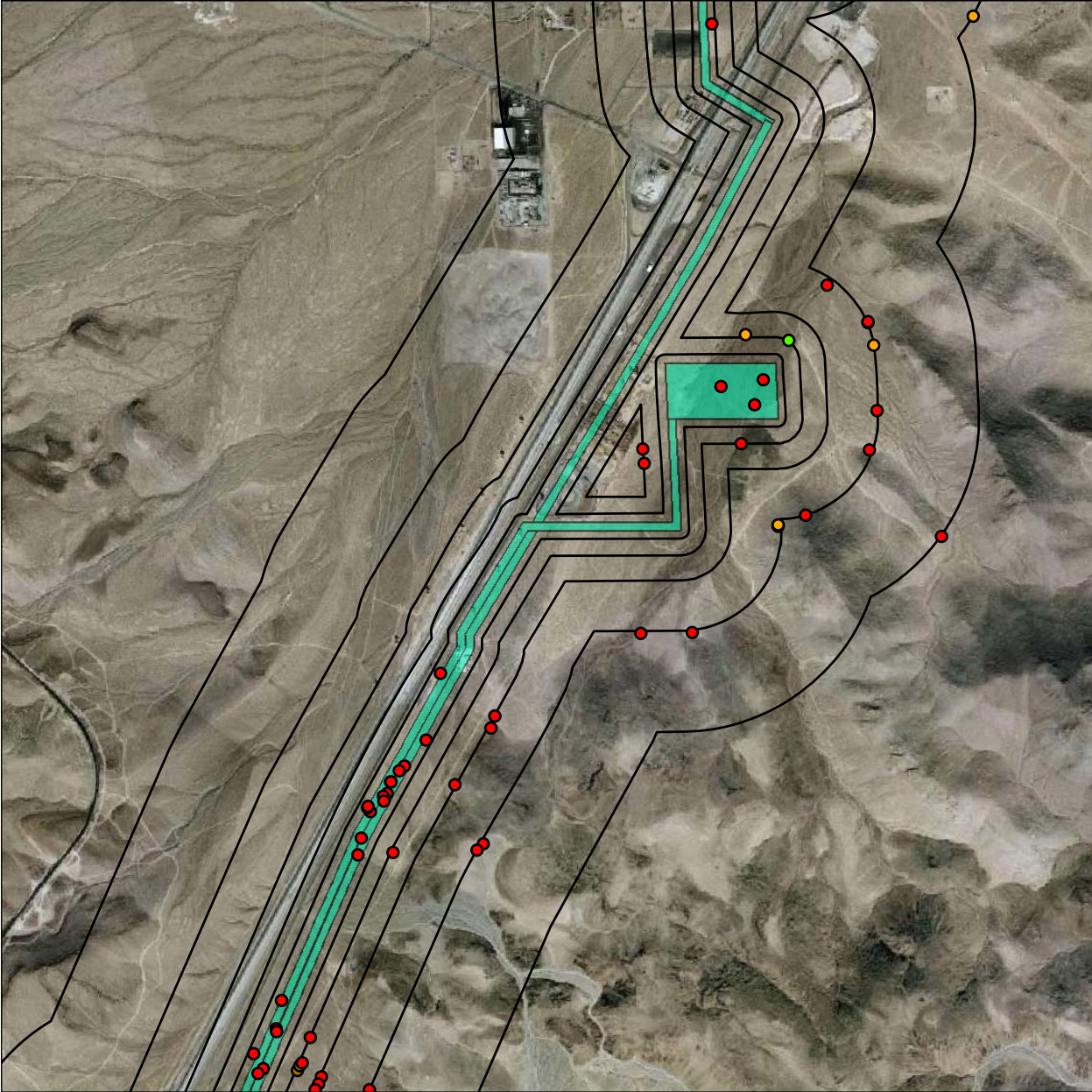


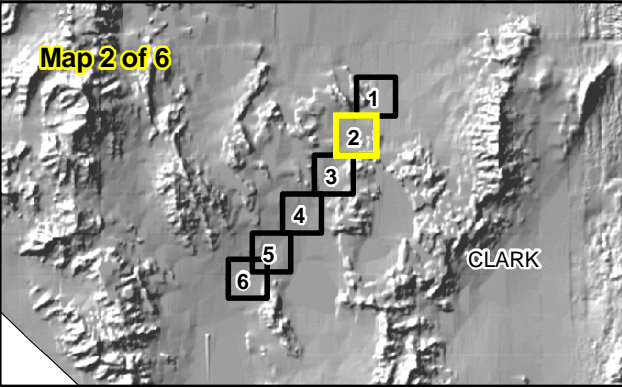
Figure 3. Tortoise Sign Observed (2 of 6)

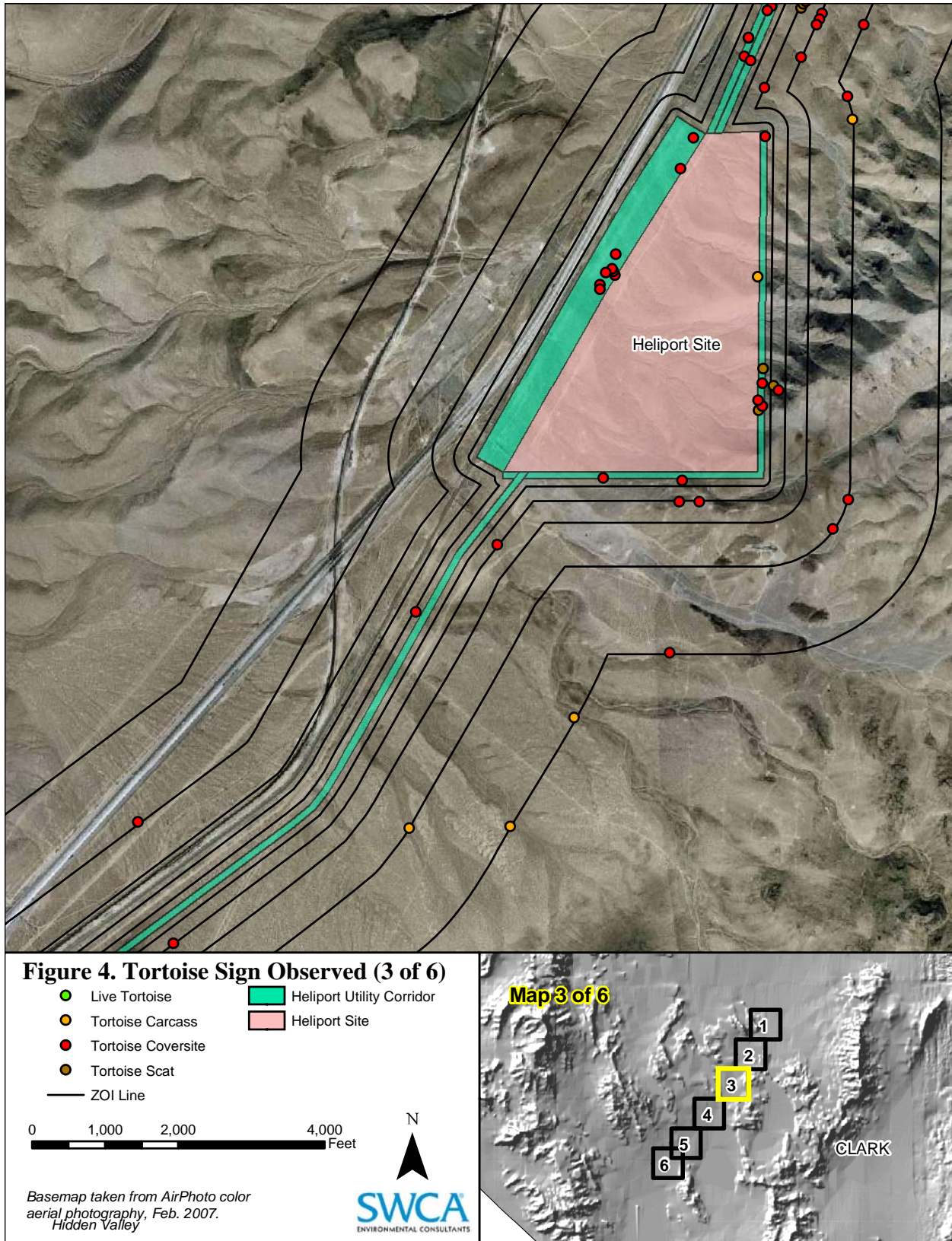
- Live Tortoise
- Tortoise Carcass
- Tortoise Coversite
- Tortoise Scat
- ZOI Line
- Heliport Utility Corridor
- Heliport Site

0 1,000 2,000 4,000 Feet



Basemap taken from AirPhoto color aerial photography, Feb. 2007.





Note: 2004 sign data for the Heliport Site is not mapped; however, sign was observed and recorded.



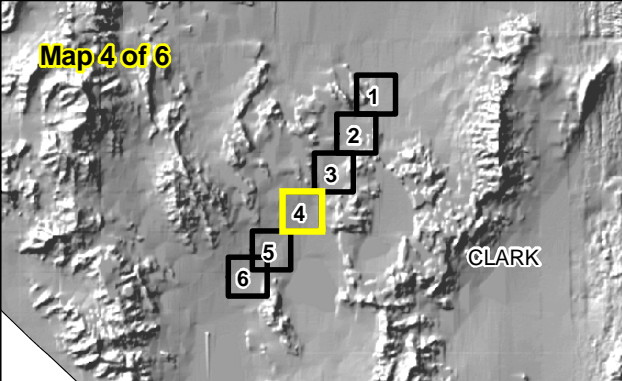
Figure 5. Tortoise Sign Observed (4 of 6)

- Live Tortoise
- Tortoise Carcass
- Tortoise Coversite
- Tortoise Scat
- ZOI Line
- Heliport Utility Corridor
- Heliport Site

0 1,000 2,000 4,000 Feet



Basemap taken from AirPhoto color aerial photography, Feb. 2007. Hidden Valley



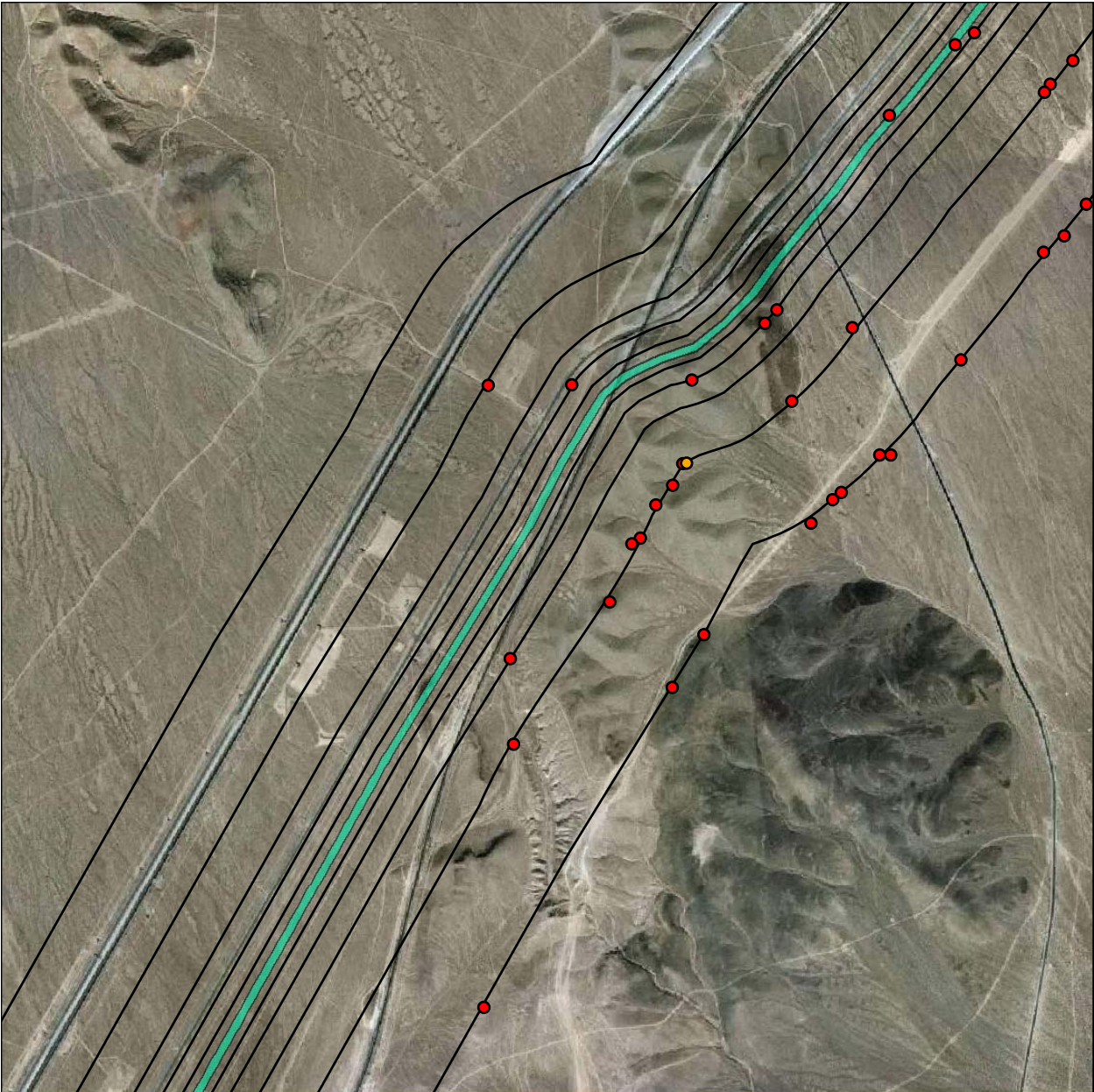


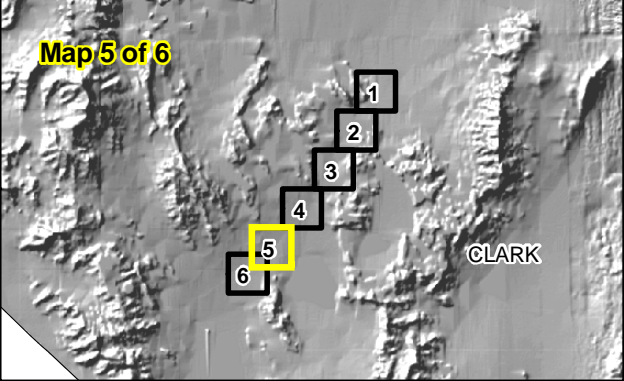
Figure 6. Tortoise Sign Observed (5 of 6)

- Live Tortoise
- Tortoise Carcass
- Tortoise Coversite
- Tortoise Scat
- ZOI Line
- Heliport Utility Corridor
- Heliport Site

0 1,000 2,000 4,000 Feet



Basemap taken from AirPhoto color aerial photography, Feb. 2007.



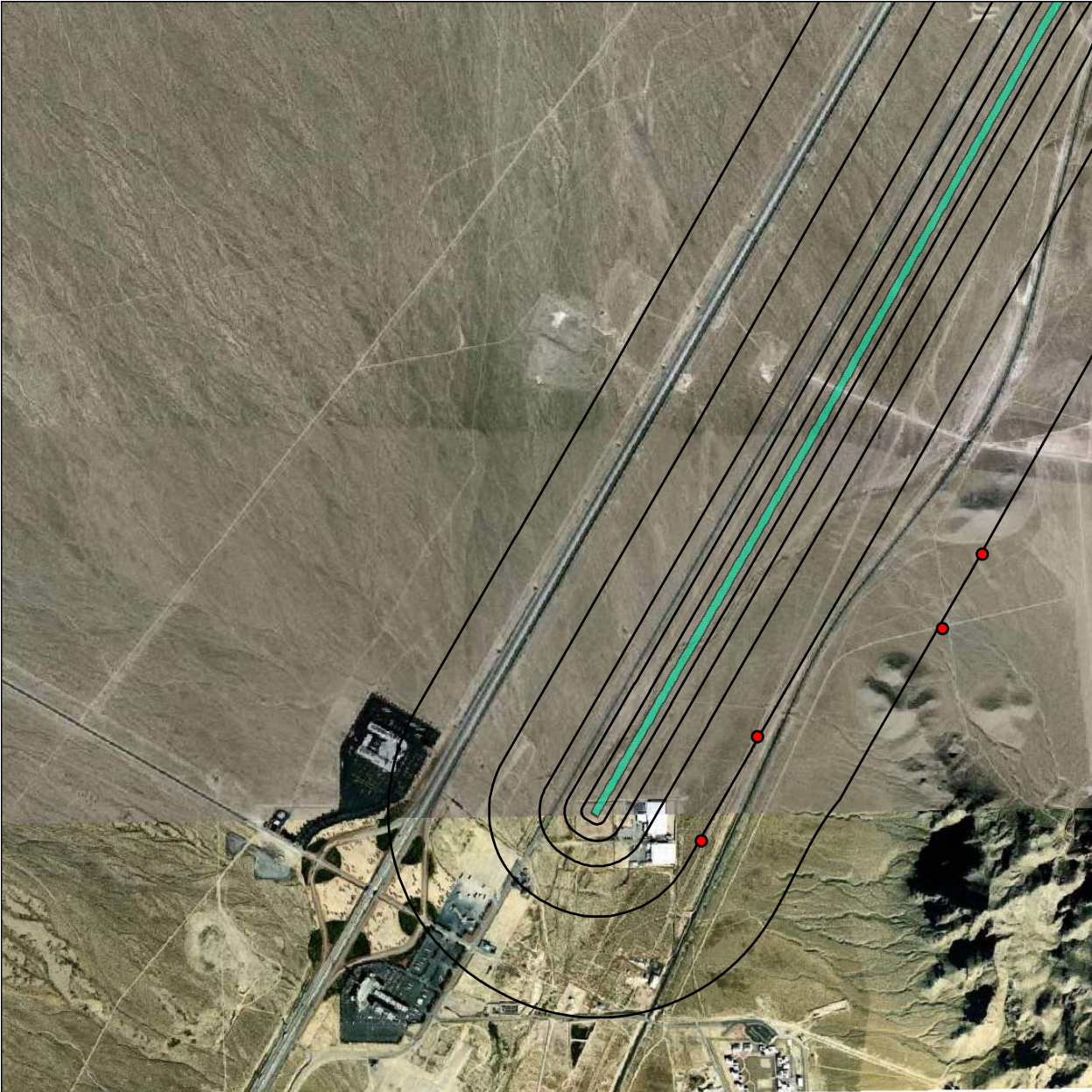


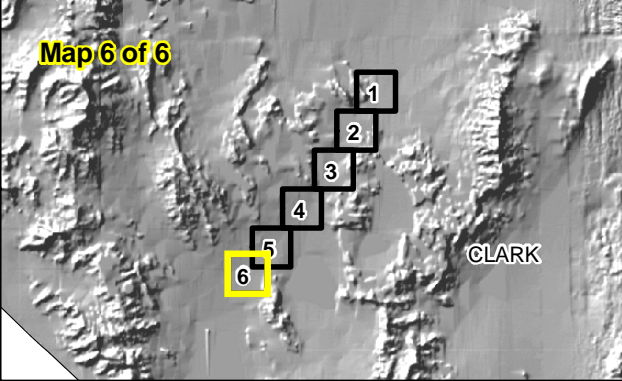
Figure 7. Tortoise Sign Observed (6 of 6)

- Live Tortoise
- Tortoise Carcass
- Tortoise Coversite
- Tortoise Scat
- ZOI Line
- Heliport Utility Corridor
- Heliport Site

0 1,000 2,000 4,000 Feet



Basemap taken from AirPhoto color aerial photography, Feb. 2007.



6.0 EFFECTS ANALYSIS FOR THE PROPOSED ACTION

DESERT TORTOISE

Development of the proposed Heliport at the South of Sloan site would result in the disturbance of approximately 526 acres of occupied and potential tortoise habitat. However, this makes up a very small percentage of the total desert tortoise habitat in southern Nevada and, therefore, the overall impact to the desert tortoise population is not anticipated to be substantial. Pre-construction clearance surveys and relocation of tortoises to nearby areas would reduce the number of direct take of individuals to the greatest extent practicable. However, it is assumed that a small number of tortoises would not be found during clearance surveys and they may be killed during construction of the project. Tortoise fencing around the heliport site would ensure relocated and nearby tortoises do not enter the heliport site following clearance and construction. The proposed project would also result in increased traffic to the area as more people utilize the heliport, leading to the potential for a small number of tortoises being crushed by vehicles. Additionally, increased human utilization of this area could lead to an increase in trash, which could consequently increase the raven population in the area and predation on tortoises. Indirect impacts may also occur from construction noise and increased vehicle noise. Tortoises near the project area may be temporarily displaced due to this increased disturbance. However, this would be a temporary impact, as these individuals would likely return to their original habitat shortly following groundbreaking activities. Overall, the project conservation measures would help reduce impacts to desert tortoise, but impacts would not be completely eliminated.

This project and most projects in southern Nevada occur in typical Mojave creosote bush habitat that supports or could support desert tortoise. Cumulative impacts to desert tortoise from this project and other reasonably foreseeable projects that occur in the area are potentially high. As growth in the area continues at high rates and associated recreation and other land uses continue to rise, desert tortoises are killed, the available habitat for desert tortoises is reduced, and indirect impacts from noise, pollution, and general ecosystem alteration increase. However, the Clark County Desert Conservation Plan includes provisions that have set aside several contiguous pieces of land outside of urban areas that are presumably large enough to sustain a healthy desert tortoise population in southern Nevada. Therefore, these cumulative impacts would not jeopardize the continued existence of the species.

Completion of the project would permanently remove up to 526 acres of occupied and potential tortoise habitat. Additionally, it is expected that the incidental take of a small number of tortoises would occur during construction of the project. However, potential tortoise habitat extends well beyond the boundaries of the project area and the project would only result in a very small reduction in overall habitat for the population. Additionally, the tortoise population within and near the project site appears to be healthy and any incidental take would likely not reduce the population numbers to unrecoverable levels.

7.0 CONCLUSIONS AND DETERMINATIONS

Evaluation of the potential to affect listed species or their habitat in a Biological Assessment can result in three possible outcomes: “No effect, Is not likely to adversely affect, and Is likely to adversely affect” (USFWS 1998, section 3-12). The desert tortoise is the only federally listed species that occurs or has the potential to occur in the action area. The action area contains suitable desert tortoise habitat and the conservation measures implemented under the Proposed Action would largely reduce, but not eliminate impacts to desert tortoise. Therefore, completion of this project *is likely to adversely affect* the desert tortoise, but would not jeopardize the continued existence of the species. The desert tortoise would be adversely affected through the loss of occupied and potential habitat and could be potentially adversely affected through crushing of individuals. The Proposed Action would have *no effect* on the 16 other Clark County federally protected species, because there is no suitable habitat for these species within the proposed action area.

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**APPENDIX A. STATE OF NEVADA AND BLM SENSITIVE SPECIES
REVIEW**

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BLM SENSITIVE SPECIES

Although the USFWS does not require non-federally protected species to be addressed in a BA, SWCA decided that such species would be addressed for this BA, to better understand the biological resources in the action area. There are twelve BLM or Nevada State special status wildlife species that may occur in the survey area, including:

Mammals

- Desert Bighorn Sheep (*Ovis canadensis nelsoni*)

Reptiles

- Banded Gila Monster (*Heloderma suspectum cinctum*)
- Chuckwalla (*Sauromalus ater*)

Birds

- Western Burrowing Owl (*Athene cunicularia*)
- Loggerhead Shrike (*Lanius ludovicianus*)

Plants

- Las Vegas Bearpoppy (*Arctomecon californica*)
- Mojave Milkvetch (*Astragalus mohavensis* var. *mohavensis*)
- The Rosy Two-tone Beardtongue (*Penstemon bicolor* ssp. *roseus*)
- Sheep Fleabane (*Erigeron ovinus*)
- Spring Mountains Milkvetch (*Astragalus remotus*)
- White-margined Beardtongue (*Penstemon albomarginatus*)
- Yellow Two-tone Beardtongue (*Penstemon bicolor* ssp. *bicolor*)

MAMMALS

Bighorn Sheep

Populations of desert bighorn sheep fell drastically with the European colonization of the American Southwest. However, federal protection and relocation programs have helped to increase populations of this species throughout the Southwest. In Nevada, populations have doubled or tripled since the 1960s (McCutchen 2006).

The desert bighorn sheep is a smaller subspecies of bighorn sheep and is suited for the harsh conditions of the desert. The desert bighorn sheep is a large, muscular ungulate with curled horns that can span over 30 inches in large males. Desert bighorn sheep typically inhabit mountain slopes and foothills characterized by exposed ridges, cliffs, and rock outcrops. In winter, bighorn sheep prefer lower slopes between 2,500 and 5,000 feet (762 and 1,524 m), and in the summer, they move to higher elevations between 6,000 and 8,500 feet (1,829 and 2,591 m).

The desert bighorn sheep is the only special status mammal species potentially occurring in the action area. The desert bighorn sheep is a BLM Special Status Species and is fully protected by the State of Nevada as a game species. This species was not identified by NNHP, but populations are known from the Sloan Canyon National Conservation Area (NCA), which borders the action

area. Desert bighorn sheep were not observed during surveys and potential habitat for the species is unlikely within the project area. However, bighorn scat and beds were observed on the eastern side of the action area adjacent to the Sloan Canyon NCA along the 300, 600, 1,200 and 2,400 foot ZOI transects. These areas are likely at the extreme edge of the known desert bighorn sheep habitat within the Sloan Canyon NCA.

REPTILES

Banded Gila Monster

The banded Gila monster is a BLM and Nevada State special status species. NNHP has not identified this species within the action area, but identifies that this species could be potentially observed. Banded Gila monsters live in Mojave Desert scrub with gravelly and sandy soils and is found below 5,000 feet (1524 m) in elevation. Banded Gila monster habitat is typically within canyon bottoms or arroyos with permanent or intermittent streams, near water or moist soils, below 5,000 feet (1,524 m) in elevation. In these areas, individuals are often found under rocks, in burrows of other animals, and in holes it digs itself. The Gila monster is diurnal, especially in the spring (Stebbins 1985).

Because there is no water or moist soil within the action area, the potential for Gila monsters to occur within the action area is negligible. No banded Gila monsters or their sign were observed during surveys. Because of their clandestine nature, few observations of Gila monster are ever made and little is known about their distribution in Clark County, Nevada.

Chuckwalla

The chuckwalla is a BLM special status species and has the potential to occur within the action area. Depending upon the population, the chuckwalla may exhibit a black head, forelegs, and upper trunk, and a reddish-yellow rear and tail. However, some individuals have been known to have a bright red body. They have a thick, blunt tail and grow up to 11-18 inches in length. The chuckwalla is a strict herbivore, eating fruits, leaves, buds, and flowers. These diurnal lizards emerge in the morning and, before seeking food, bask in the sun until they reach their optimum body temperature of 100-105 °F. When the chuckwalla senses danger, it quickly lodges itself between rocks and inflates its lungs, stretching the thick, sagging skin like a balloon. By doubling its size in tight spaces, the chuckwalla fills the space, rendering itself difficult to pull out by predators.

The chuckwalla prefers open flats and rocky areas, often near large rocks and boulders at elevations up to 4,500 feet (1,372 m). No chuckwallas were observed, but potential habitat occurs along the rugged slopes on the northeast side of the project area and throughout portions of the utility corridors.

BIRDS

Two State of Nevada and BLM special status avian species or their habitat were observed during field surveys. The loggerhead shrike and western burrowing owl are both found in open desert habitat. In addition to these specific species, all migratory birds are protected under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. 703 et seq.).

Western Burrowing Owl

The western burrowing owl is a BLM special status species and is fully protected by the State of Nevada. Burrowing owls seem to tolerate non-threatening human activity more than other owl species and can often be found at the margins of airports and golf courses and in vacant urban lots. While most owls are nocturnal, burrowing owls are diurnal, with most activity occurring at dusk and dawn. They are opportunistic feeders, mostly eating beetles, grasshoppers, and other large arthropods. Other, larger prey animals include mice, rats, gophers, reptiles, and amphibians. The burrowing owl hovers while hunting, and is almost silent when in flight.

Western burrowing owls are found in open, dry grass and shrublands and inhabit the abandoned, underground burrows of other animals, such as the desert tortoise. They can construct their own burrows, but usually prefer the deserted excavations of other animals. Burrowing owls are commonly seen perching on fenceposts or on top of the apron outside their burrows. Within the action area, burrowing owls were noted on several occasions and sign of this species, such as burrows and cough pellets, was observed during several days of surveying.

Loggerhead Shrike

The loggerhead shrike is listed as a BLM special status species and is fully protected by the State of Nevada. Adults are gray on top and white underneath, with black wings and a black mask extending from the beak to behind the eye. It also has a heavy hooked bill and an undulating flight with rapid wing beats. The loggerhead shrike is often confused with the mockingbird. It is known for impaling its insect prey on sharp objects, such as thorns or twigs; this may be a territorial gesture or a way of attracting mates.

The loggerhead shrike inhabits Joshua tree woodlands and creosote scrub communities, which are found within the action area. This bird is most commonly seen perched on treetops in the open country of the western U.S. and was noted during several days of surveys in the action area.

PLANTS

The NNHP identified five BLM special status plant species within three kilometers of the project area: the rosy two-tone beardtongue, sheep fleabane, Spring Mountains milkvetch, white-margined beardtongue, and yellow two-tone beardtongue. In addition, the Las Vegas bearpoppy and the Mojave milkvetch have potential to occur in the project area, but have never previously been recorded.

Las Vegas Bearpoppy

All known species of this distinctive genus of the poppy family are endemic to the northern Mojave Desert. In 1992, Las Vegas bearpoppy was reported to occur in approximately 52 populations in Clark County, Nevada, and at five sites in Mohave County, Arizona, between 1,060 and 3,150 feet (320 and 960 m) in elevation. Approximately 9 (17%) of the 52 Nevada populations were presumed extirpated due to urban expansion in the west half of the species' range in Las Vegas Valley. Because of these severe impacts, the species was originally listed as a category-2 candidate for listing under the ESA, a listing that requires more information before a decision is made. The species was also placed on the Nevada list of critically endangered

species. The Las Vegas bearpoppy is currently listed as a BLM special status species. The species is also fully protected by the State of Nevada as a critically endangered species.

Aerial and ground surveys were conducted in southern Nevada during summer 1994 to relocate historical populations, discover any additional populations, and document their biology, ecology, and conservation status (Mistretta et al. 1996) and in 1996 the MSHCP documented 108 populations in the area (RECON 2000). This species is most commonly found on gypsiferous soils associated with Mojave Desert scrub. However, no gypsum soils were observed during field surveys.

Mojave Milkvetch

The Mojave milkvetch is protected as a BLM special status species. Location data for the Mojave milkvetch is largely incomplete. As of 2001, the Mojave milkvetch was known to occur in 19 different locations in Clark and Nye Counties, Nevada, and from several locations in California. This species is thought to occur between 2,640 feet (805 m) and 5,577 feet (1,700 m) (Morefield 2001). Though this species is not known to occur near the action area, the NNHP has identified the project area as containing potential habitat for the Mojave milkvetch.

Rosy Two-tone Beardtongue

The rosy two-tone beardtongue is listed as a BLM special status species. This species is an herbaceous, short-lived perennial with thick stems that grows up to 47 inches (120 cm) tall. The leaves are opposite, simple, waxy, grayish, and irregularly toothed. The flowers are of a rosy color and have a staminode longer than the corolla throat, which is bearded with yellow hairs.

The rosy two-tone beardtongue typically occurs in gravelly washes or highly disturbed areas receiving enhanced runoff at elevations between 1,800 and 4,840 feet (550 and 1475 m). The NNHP identified rosy two-tone beardtongue as being present within one mile of the project area. Suitable habitat for the rosy two-tone beardtongue is present throughout the project area and while several *Penstemon* plants were noted during field surveys, the species cannot be determined outside of the flowering season.

Sheep Fleabane

Sheep fleabane is protected as a BLM special status species. According to NNHP, this species was observed in the project area in 1892. However the current range of this species is only known to cover the Sheep and Groom Ranges of Nevada with only 15 known occurrences. The sheep fleabane is a perennial herb growing from 2-6 inches (5-15 cm) in height.

The sheep fleabane is most commonly found on limestone cliffs and rock outcrops from 3,600-8,400 feet (1,095-2,560 m). While the action area rises to within this elevation range, the project area falls completely below 3,600 feet (1,095 m); therefore, no habitat for the sheep fleabane occurs within the project area.

Spring Mountains Milkvetch

The Spring Mountains milkvetch is protected as a BLM special status species and has been identified as occurring within one mile of the project area. However, this species has long been

accepted as endemic to the Spring Mountains, specifically the Red Rock Canyon National Recreation Area. Therefore, the validity of this location point is in question.

The Spring Mountains milkvetch prefers rocky hillsides and canyon banks on gravelly sandstone or limestone soils and typically occurs from 5,600-7,050 feet (1,707-2,149 m) (SWCA 2005). The project area does not fall within this elevation range, which leads to further questioning of this species occurring in the project area.

White-margined Beardtongue

The white-margined beardtongue is protected as a BLM special status species and has been identified as occurring within one mile of the project area. This species is known to occur in 15 distinct populations near Hidden Valley, Jean Lake, and Roach Lake, Nevada. The white-margined beardtongue typically occurs from 1,500-3,600 feet (455-1,095 m) on dry lakebeds and in washes that lead to these lakes (RECON 2000).

The project area is situated just west of Hidden Valley and Jean Lake and several washes traverse the utility corridor on their way to Jean Lake. The project area seems to contain ample habitat for the white-margined beardtongue. Several *Penstemon* plants were noted during field surveys, but the species couldn't be determined outside of the flowering season.

Yellow Two-tone Beardtongue

The yellow two-tone beardtongue is listed as a BLM special status species. The yellow two-tone beardtongue is a perennial herb found in shallow gravelly washes, roadsides and cliffs above steeper washes between 1,970 and 5,480 feet (600 and 1,670 m) (SWCA 2005). This species is often associated with creosote bush and Joshua tree. In a vegetative state, this species looks identical to the rosy two-tone beardtongue.

The NNHP identified yellow two-tone beardtongue as being present within one mile of the project area. Suitable habitat for the yellow two-tone beardtongue is present throughout the project area and while several *Penstemon* plants were noted during field surveys, the species cannot be determined outside of the flowering season.

EFFECTS

Desert bighorn sheep were not observed and do not likely occur within the project area, and direct impacts are not anticipated. Desert bighorn sheep are not federally listed as endangered species in Nevada. Two specific population segments of desert bighorn sheep (*Ovis Canadensis* and *Ovis canadensis californiana*) (USFWS 1998a, 2000) are listed by the U.S. Fish and Wildlife Service as endangered in California; however, this designation does not apply to the bighorn sheep in the study area for this project.

The legislation for the transfer of the South of Sloan land (Transportation et al. 2005) makes specific requirements of the for-profit helicopter air tour flights that leave from or return to a heliport on this parcel and are flown through the Sloan Canyon NCA. One requirement is that the helicopters be flown along a defined 2-mile-wide corridor through the Sloan Canyon NCA; this defined corridor avoids the highest ridges in the NCA and big game guzzler (i.e. water catchment) locations. Another requirement is that the helicopters be flown at a minimum

altitude of between 500 feet and 1,000 feet (152 and 305 m) above ground level for operations on the western border and eastern border of the Sloan Canyon NCA, respectively. Flights occurring outside of the NCA do not have to meet these requirements. A practice that is common-place for the operators today, and is that is anticipated to continue, is for the helicopter pilot to maintain a minimum altitude of 500 feet above the ground.

It is expected that up to 160 daily helicopter operations to and from the Grand Canyon may occur through the Sloan Canyon NCA in 2011. This number is anticipated to increase to up to 200 daily helicopter operations in 2017. However, because helicopter operations would be voluntarily confined to narrow flight corridors through potential bighorn sheep habitat in the Sloan Canyon NCA, the potential areas of disturbance would be limited and the duration of potential disturbance would be brief. Based on these factors and the Sloan Canyon NCA helicopter flight restrictions, overflights of helicopters through the Sloan Canyon NCA and project area are not expected to have significant impacts on bighorn sheep. Therefore, it is not anticipated that the Proposed Action would substantially impact the desert bighorn sheep.

No individual banded Gila monsters were observed and suitable habitat was not identified in the action area. Therefore, the Proposed Action would have no impact on the banded Gila Monster. Chuckwallas were not observed in the action area, but potential habitat for the species was observed. There is the potential for individuals to be crushed during construction, which would be an adverse impact to chuckwalla, but it is assumed that chuckwalla would move from the area during construction and only temporary, minor impacts from displacement would occur. Additionally, the best quality chuckwalla habitat occurred in the action area, outside of the project area, which means direct impacts from the Proposed Action are unlikely. It is not anticipated that the Proposed Action would have a substantial impact on the chuckwalla.

Within the action area, there is ample nesting and foraging habitat for the BLM and state of Nevada special status avian species, including the western burrowing owl and the loggerhead shrike, which occupy open desert habitat. Both the western burrowing owl and the loggerhead shrike were seen during surveys of the action area. The proposed developments could affect nesting or foraging habitat throughout the action area. However, if groundbreaking activities are completed outside of the nesting season (February to August), impacts could be diminished. Additionally it is not anticipated that mobile species such as migratory birds would be directly taken during construction activities. Therefore, it is not anticipated that the Proposed Action would have a substantial impact on these Nevada or BLM sensitive species.

Because the project area does not contain appropriate habitat for the Las Vegas bearpoppy, sheep fleabane or Spring Mountains milkvetch, the Proposed Action would have no impact on these species. The project area does contain suitable habitat for the Mojave milkvetch, rosy two-tone beardtongue, white-margined beardtongue and yellow two-tone beardtongue. While none of these species were positively identified during field surveys, several plants of the *Penstemon* genus were observed. Additional field surveys for these sensitive species prior to groundbreaking activities would determine if the Proposed Action would impact these species. Presently it is anticipated that the Proposed Action would not have a substantial impact on these BLM special status species, based on field surveys not identifying these species in the project area. If sensitive *Penstemon* species are identified within the project area impacts should be reassessed.

APPENDIX B. HELIPORT CONCEPTUAL LAYOUT

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APPENDIX C. DESERT TORTOISE SIGN PHOTOS

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10-30-06 Carcass52



10-31-06 Tortoise 55A



11-02-06 Carcass69



11-02-06 Carcass79



10-31-06 Burrow117



11-02-06 Burrow70C



11-02-06 Burrow71



11-03-06 Burrow91



11-03-06 Burrow92D



11-03-06 Burrow95



11-03-06 Burrow97A, Scat97B



11-06-06 Burrow321A