Biological Resource Assessment of
APN 0459-432-48
Adelanto, California

January 10, 2022

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Abstract

Development has been proposed for APN 0459-432-48, Adelanto, California. The approximately 3 acre (1.2 ha) study area was located north of Joshua Avenue and west of Raccoon Avenue, T6N, R5W**,** the N1/2 of the SE1/4 of the NE1/4 of the NW1/4 of Section 31, S.B.B.M. A survey was conducted on 24 November and 3 December 2021 to inventory biological resources. The proposed project area was characteristic of a disturbed creosote scrub (*Larrea tridentata*) plant community. A total of 13 plant species and 10 wildlife species or their sign were observed during the line transect survey. No desert tortoises (*Gopherus agassizii*) or their sign were observed within the study area. The study site did not provide suitable habitat for Mohave ground squirrels (*Xerospermophilus mohavensis*). No desert kit foxes (*Vulpes macrotis*) or their sign were observed within the study area. No burrowing owls (*Athene cunicularia*), or their sign were observed during the field survey. No potential cover sites for burrowing owls were observed during the field survey. A Joshua tree (*Yucca brevifolia*) was present within the northern easement of the study site. No alkali mariposa lilies (*Calochortus striatus*), desert cymopterus (*Cymopterus deserticola*), or Barstow woolly sunflowers (*Eriophyllum mohanense*) are expected to occur within the study area due to lack of suitable habitat. A prairie falcon (*Falco mexicanus*) was observed on an adjacent transmission tower. Prairie falcons and other raptors may fly over the site, but there are no nesting or roosting opportunities available within the study site. Smaller migratory birds would not be expected to nest in the limited vegetation within the study site. No state or federally listed species are expected to occur within the proposed project area. No ephemeral streams or washes were present within the study area.

Recommended Protection Measures:

Based on the small size, proximal commercial development, lack of sensitive wildlife sign, no projected impact to Joshua trees, no other sensitive plant species, condition of the study site and adjacent land, no protection measures are recommended.

Significance: This project will not result in a significant adverse impact to biological resources.

Development has been proposed for the southern portion of APN 0459-432-48, Adelanto, California (Figure 1). Development would include installation of access roads, connection to existing utilities (water, sewer, electric, etc.), parking areas, etc. The project site would be graded prior to construction activities.

An environmental analysis should be conducted prior to any development project. An assessment of biological resources is an integral part of environmental analyses (Gilbert and Dodds 1987). The purpose of this study was to provide an assessment of biological resources potentially occurring within or utilizing the proposed project area. Specific focus was on the presence/absence of rare, threatened and endangered species of plants and wildlife. Species of concern included the desert tortoise (*Gopherus agassizii*), Mohave ground squirrel (*Xerospermophilus mohavensis*), burrowing owl (*Athene cunicularia*), desert kit fox (*Vulpes macrotis)*, prairie falcon (*Falco mexicanus*), Joshua tree (*Yucca brevifolia*), desert cymopterus (*Cymopterus deserticola*), Barstow woolly sunflower (*Eriophyllum mohanense*), and alkali mariposa lily (*Calochortus striatus*).

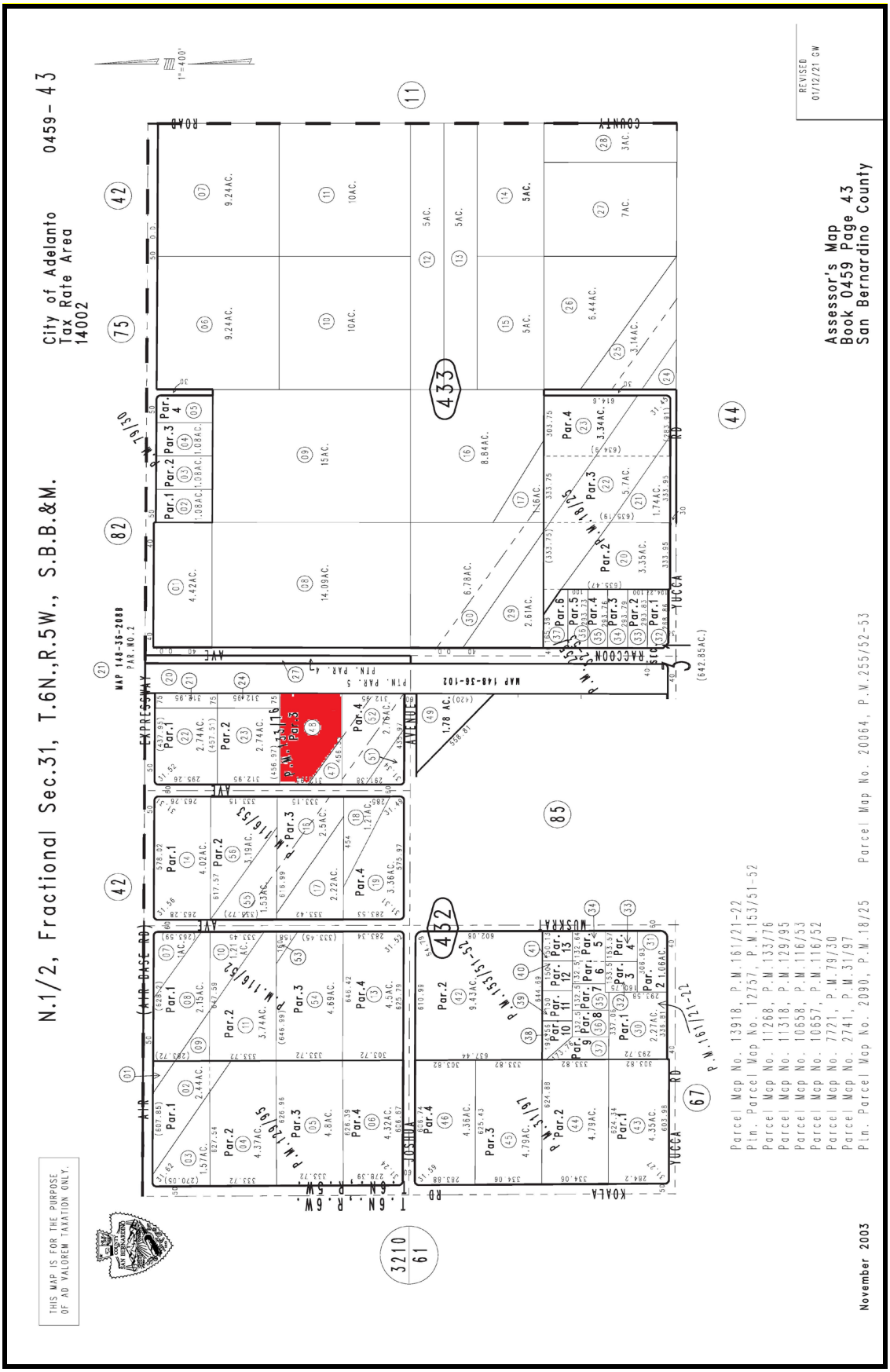

Figure 1. Approximate location of proposed project area as depicted on APN map.

Study Area

The approximately 3 acre (1.2 ha) study area was located north of Joshua Avenue and west of Raccoon Avenue, T6N, R5W**,** the N1/2 of the SE1/4 of the NE1/4 of the NW1/4 of Section 31, S.B.B.M. (Figure 2). Disturbed creosote scrub (*Larrea tridentata*) plant community occurred adjacent to the northern, southern, and western boundaries of the study area (Figure 3). Panther Avenue (dirt road) was present west of the study site. An approximately 50 foot (15 m) wide dirt road was present east of the study site. Raccoon Avenue was east of the dirt road. A disturbed creosote scrub plant community occurred east of Raccoon Avenue. A high voltage line and transmission towers, oriented northwest to southeast, were present adjacent to the study site.

Methods

A line transect survey was conducted to inventory plant and wildlife species occurring within the proposed project area (Cooperrider et al. 1986, Davis 1990). The USFWS (2010) has provided recommendations for survey methodology to determine presence/absence and abundance/distribution of desert tortoises. This guidance was used in developing the survey methodology as appropriate for this specific study site. Line transects ranged from approximately 230 to 460 feet (70 to 140 m) long and spaced about 30 feet (10 m) apart (U.S. Fish & Wildlife Service 2010). The California Department of Fish and Game (2012) prepared recommendations for burrowing owl survey methodology. Consistent with the survey protocol the entire site was surveyed and adjacent areas were evaluated (CDFG 2012). A habitat assessment was conducted for Mohave ground squirrels to determine whether habitat was present for the species (CDFW 2019, Leitner and Leitner 2017).

All observations of plant and animal species were recorded in field notes. Field guides were used to aid in the identification of plant and animal species (Arnett and Jacques 1981, Borror and White 1970, Burt and Grossenheider 1976, Gould 1981, Jaeger 1969, Knobel 1980, Robbins et al. 1983, Stark 2000). Observations were aided with the use of 10x42 and 10x50 binoculars. Observations of animal tracks, scat, and burrows were also utilized to determine the presence of wildlife species inhabiting the proposed project area (Cooperrider et al. 1986, Halfpenny 1986, Lowrey 2006, Murie 1974). Aerial photographs, California Natural Diversity Database (2019), and the USGS topographic map were reviewed. Results from previous surveys of adjacent study sites were considered (Panorama Environmental, Inc. 2018, Harmsworth Associates 2018, Hagan 2019a-b, RCA Associates, Inc. 2019, 2021, LADWP 2021). Photographs of the study site were taken (Figure 4).

Results

A total of 10 line transects were walked on 24 November 2021. Weather conditions consisted of warm temperatures (estimated 60 degrees F), 0% cloud cover, and moderate to high winds. Random transects were walked on 3 December 2021. Weather conditions were not noted on 3 December 2021. A sandy loam surface soil texture was characteristic throughout the study area. No blue line streams within this study site were noted on the USGS topographic map or aerial photographs. No wetlands or desert washes were observed during the field survey within the study area. Topography of the study area was approximately 2,010 feet (887 m) above sea level. Heavy equipment tracks were observed within the study site.

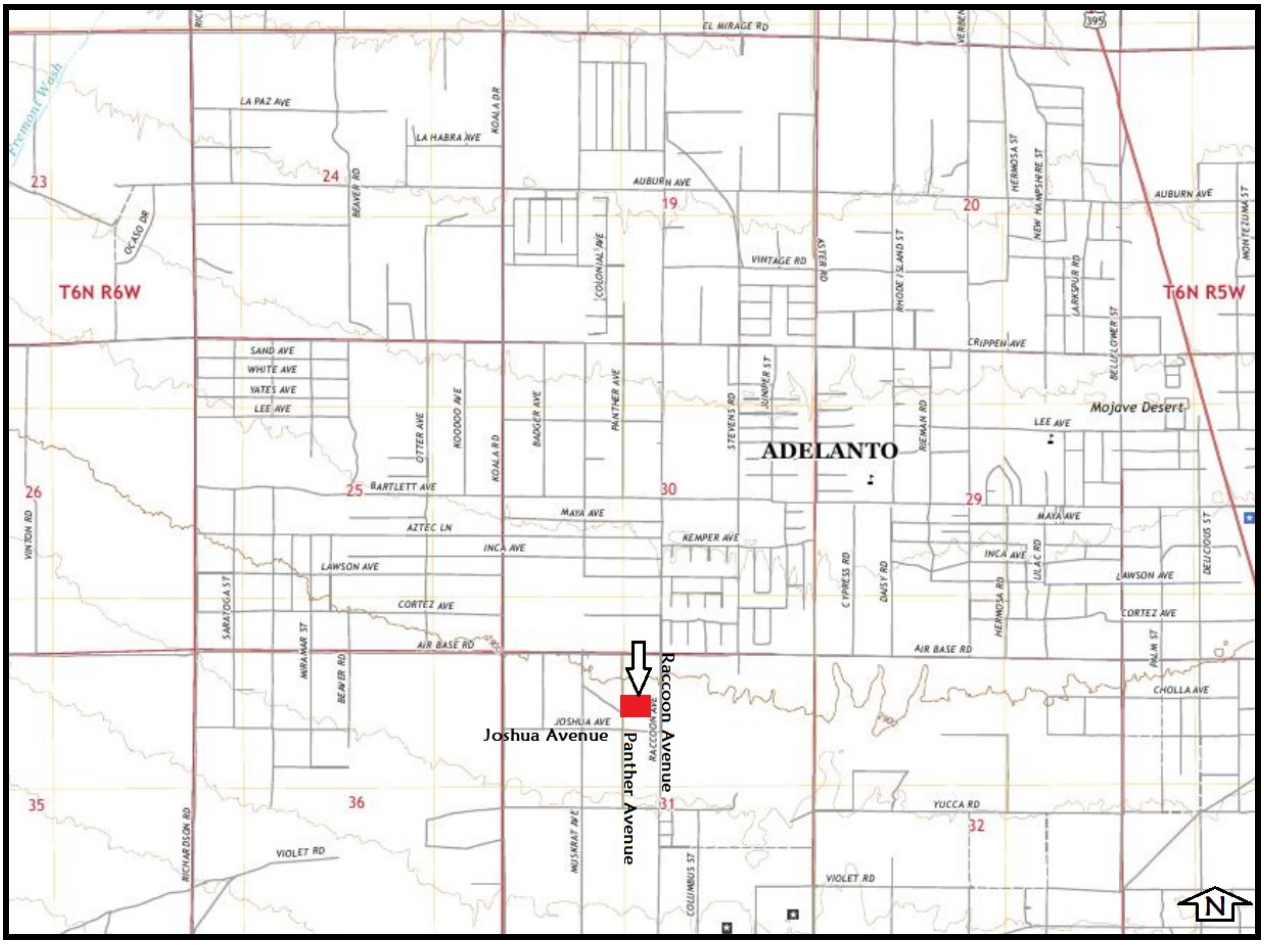

Figure 2. Approximate location of study area as depicted on excerpt from USGS Quadrangle, Adelanto, CA, 7.5', 2018.

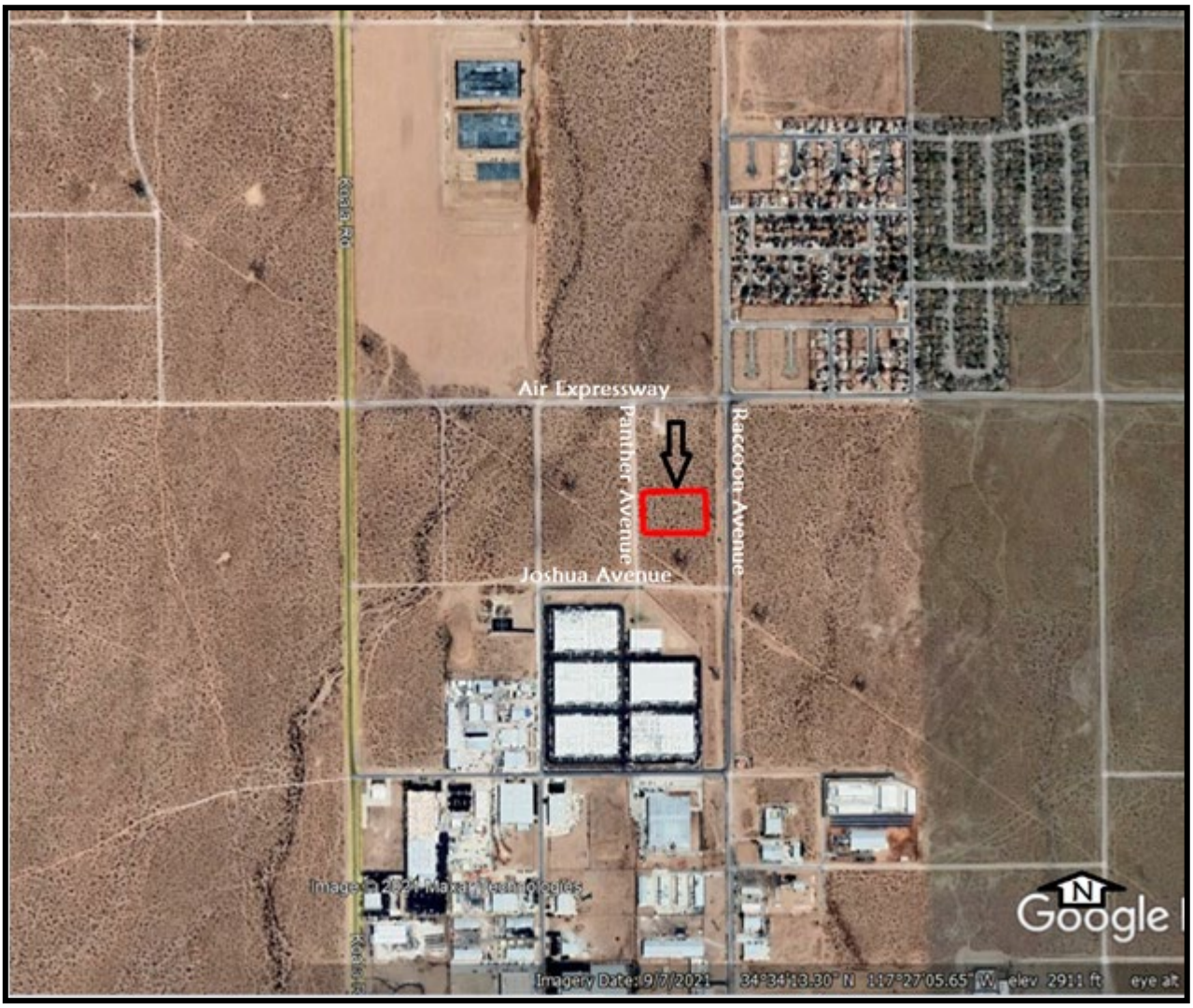

Figure 3. Aerial photograph, dated 2021 showing surrounding land use, Google Earth.

Figure 4. Representative photographs depicting the general habitat within the study site.

The proposed project area was characteristic of a disturbed creosote scrub (*Larrea tridentata*) plant community. A total of 13 plant species were observed during the line transect survey (Table 1). The dominant shrub species throughout the study area was creosote scrub. Schismus (*Schismus* sp.) and tumble mustard (*Sisymbrium altisissiimum*) were the dominant annual species throughout the study area. One Joshua tree was present within the study site but located within a 75 foot (23 m) easement. Three Joshua trees were near the study site. No alkali mariposa lilies, Barstow woolly sunflowers, desert cymopterus or suitable habitat for these plant species were observed within the study area.

A total of 10 wildlife species, or their sign were observed during the line transect survey (Table 2). No desert tortoises or their sign were observed during the field survey. No burrowing owls or their sign were observed within the study site during the field survey. No burrowing owl cover sites were observed within the study site during the field survey. No bird nests were observed within the study area. No potential nesting sites were present within the study site. No desert kit foxes or their sign were observed within the study site. No suitable Mohave ground squirrel habitat was observed within the study site.

Discussion

It is possible that some annual species were not visible during the time the field survey was performed. The study site is missing the diversity of shrub species and number of individual shrubs which make up an intact habitat. Burro bush (*Ambrosia dumosa*), goldenhead (*Acamptopappus sphaerocephalus*), and Mormon tea (*Ephedra nevadensis*) were present but sparse throughout the study site. Winterfat (*Eurotia lanata*) and spiny hop sage (*Grayia spinosa*) were not present within the study site. Other than Joshua tree, no sensitive plant species are expected to exist on the study site. Although not observed, several wildlife species would be expected to occur within the proposed project area (Table 3).

Habitat in the general area will continue to become degraded and fragmented. Habitat degradation due to commercial facilities and power development will continue to further degrade the habitat for wildlife within and around the study site. Burrowing animals within the proposed project area are not expected to survive construction activities. More mobile species, such as lagomorphs (rabbits and hares), coyotes (*Canis latrans*), and birds are more likely to survive construction activities. Development of this site will result in less cover and foraging opportunities for the common species occurring within and adjacent to the study area.

The desert tortoise is a state endangered and federally listed threatened species. The proposed project area was located within the geographic range of the desert tortoise. The proposed project site was not located in critical habitat designated for the Mojave population of the desert tortoise. No desert tortoises are present within the study site. Based on the USFWS desert tortoise guidance, surveys on small projects (<40 acres) can be accomplished at any time of year (USFWS 2010). This 3 acre project site is considered a small project. No desert tortoises or their sign were observed within the study area during the line transect survey. No desert tortoises have been documented within 5 miles of this area. One desert tortoise was documented in 2007 east of Highway 395 nearly 5 miles (8 km) southeast of the study site.

Table 1. List of plant species that were observed during the line transect survey of APN 0459-432-48, Adelanto, California.

Common Name	Scientific Name
Creosote bush	*Larrea tridentata*
Burrobush	*Ambrosia dumosa*
Mormon tea	*Ephedra nevadensis*
Goldenhead	*Acamptopappus sphaerocephalus*
Sapphire woollystar	*Eriastrum sapphirinum*
Vinegar weed	*Trichostema lanceolatum*
Autumn vinegar-weed	*Lessingia germanorum*
Fiddleneck	*Amsinckia tessellata*
Tumble mustard	*Sisymbrium altisissiimum*
Mustard sp.	Brassicaceae
Russian thistle	*Salsola iberica*
Barb-wire tumble weed	*Salsola paulensii*
Schismus	*Schismus* sp.

Table 2. List of wildlife species, or their sign, that were observed during the line transect survey of APN 0459-432-48, Adelanto, California.

Common Name	Scientific Name
Rodents	Order: Rodentia
Kangaroo rat	*Dipodomys* sp.
Desert cottontail	*Sylvilagus auduboni*
Black-tailed jackrabbit	*Lepus californicus*
Coyote	*Canis latrans*
Prairie falcon	*Falco mexicanus*
Common raven	*Corvus corax*
Dark-eyed junco	*Junco hyemalis*
Ants, small, black	Order: Hymenoptera
Harvester ants	Order: Hymenoptera

Table 3. List of wildlife species that may occur within the study area, APN 0459-432-48, Adelanto, California.

Common Name	Scientific Name
Deer mouse	*Peromyscus maniculatus*
Merriam kangaroo rat	*Dipodomys merriami*
Northern mockingbird	*Mimus polyglottos*
Sage sparrow	*Amphispiza belli*
White crowned sparrow	*Zonotrichia leucophrys*
Western whiptail	*Cnemidophorus tigris*
Side blotched lizard	*Uta stansburiana*
Gopher snake	*Pituophis melanoleucus*
Darkling beetle	*Coelocnemis californicus*
Spider	Order: Araneida

Surveys and the CNDD have not documented any sign of desert tortoise in the general vicinity (Panorama Environmental, Inc. 2018, Harmsworth Associates 2018, Hagan 2019a-b, RCA Associates, Inc. 2019, 2021, LADWP 2021). Due to the lack of recent desert tortoise sign in the last 15 years, lack of desert tortoise sign within the study site, and the small size of the study site no minimization measures are recommended for desert tortoises.

Burrowing owls are considered a species of special concern by the California Department of Fish and Wildlife (CDFW). No burrowing owls or their sign were observed within the study site. A major element which defines burrowing owl habitat is the presence of suitable burrows. Suitable burrows are considered to be those >4.3 inches (>11 cm) in both height/width and >59 inches (>150 cm) long (CDFW 2012). These are typically formed by coyotes, desert kit foxes, badgers, or California ground squirrels that are present within a site. No potential cover sites for burrowing owls were observed within the study area. Although these common desert wildlife could move in at any time burrowing owls would not likely occupy them until the host wildlife has abandoned them. Therefore, there is no expectation that burrowing owls would immigrate into this site in the next few years. No minimization measures are recommended for burrowing owls.

Many species of birds and their active nests are protected under the Migratory Bird Treaty Act. A prairie falcon (*Falco mexicanus*) was observed on an adjacent transmission tower. Prairie falcons and other raptors may fly over the site, but there are no nesting or roosting opportunities available within the study site. Smaller migratory birds would not be expected to nest in the limited vegetation within the study site. No minimization measures are recommended for nesting migratory birds.

Joshua trees are currently being considered for listing under the California Endangered Species Act. A petition for listing was accepted in November 2019 and on 22 September 2020 the California Department of Fish and Game Commission decided that listing may be warranted. This started a one year listing review. The decision made the Joshua tree a candidate species until the listing review is completed. Based on Section 2085 of the Fish and Game Code candidate species are to be treated as though listed during the review period. No final decision has been made as of this date. Joshua trees can be avoided within the study site therefore, consultation with the CDFW would not be necessary. Based on the project boundaries set up by the owner only one juvenile Joshua tree (3 foot (0.9 m)) is within the project site. The Joshua tree is within a 75 foot (24 m) easement which would not be impacted by this development. No mitigation measures are recommended.

The Mohave ground squirrel (MGS) is a state listed threatened species. The study area was located within the geographic range of MGS. Research of the California Natural Diversity Database indicated two MGS sightings were present within 2.5 miles of the project site (2019). One sighting was in 2005 north of the study site and one in 2011 to the southeast of the study site. The 2011 sighting has been developed. Dr Phil Leitner updated the status of MGS in the area based on trapping studies from 2008 to 2012 in Adelanto (Leitner 2015). Within this document Dr Leitner noted "Since 2008, there have been a number of protocol surveys in this area, but only one Mohave Ground Squirrel occurrence has been documented. This occurrence was recorded near Adelanto, in an area that is known to support a relict population." The area of this occurrence was subsequently developed. In 2018 a MGS trapping study was completed within 7 miles of the study site with negative results (Panorama Environmental, Inc. 2018).

MGS habitat consists of a variety of desert scrub habitats, none of which occur any longer within, or in proximity to the project site. A table listing MGS habitats and a discussion of required shrubs and annuals can be found in the publication titled "A Conservation Strategy for the Mohave Ground Squirrel" (CDFW 2019). MGS require a diversity of perennial shrubs to carry them through the period when annuals are unavailable. The fewer shrubs the less likely a MGS population would be present (Leitner 2017). The plant community on the study site is missing all elements that define Mohave ground squirrel habitat (Table 1). The 2019 CDFW publication notes on page 34 that unpublished data from P. Leitner suggests abundance of winterfat and spiny hopsage positively relates to the presence of MGS. These shrub species are not present within the study site (Table 1). CDFW did not include the Adelanto and Victorville area within the MGS population area documented in their Mohave ground squirrel conservation strategy (CDFW 2019). Although this does not mean MGS do not occur, it does appear to indicate a low probability of viable MGS populations in the area of the study site based on available data at this time.

There is no MGS habitat present on site, therefore no loss of potential MGS or their habitat can occur. This was determined through an assessment of the inter-relationship of the following factors: lack of requisite habitat elements necessary for forage, and reproduction, no likelihood of immigration from adjacent areas, existing fragmentation of habitat, and no suitable connective corridors in relationship to the distance from the nearest potentially persisting MGS populations/observations. The risk of MGS "take" on this study site during construction and operation of the planned development is infinitesimal. No protocol surveys are required for MGS due to lack of suitable MGS habitat. No protection measures are recommended for MGS.

No suitable habitat for alkali mariposa lily, Barstow woolly sunflower or desert cymopterus was observed within the study site. Based on the results of the field survey these species are not expected to occur within the study area and no protection measures are recommended. No other state or federally listed species are expected to occur within the proposed project area (California Department of Fish and Wildlife 2020, 2021, Smith and Berg 1988, U.S. Fish & Wildlife Service 2016).

Landscape design should incorporate the use of native plants to the maximum extent feasible. Native plants that have food and cover value to wildlife should be used in landscape design (Adams and Dove 1989). Diversity of native plants should be maximized in landscape design (Adams and Dove 1989).

Recommended Protection Measures:

Based on the small size, proximal commercial development, lack of sensitive wildlife sign, no projected impact to Joshua trees, no other sensitive plant species, condition of the study site and adjacent land no protection measures are recommended.

Significance: This project will not result in a significant adverse impact to biological resources.

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