

September 15, 2022

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T&B Planning, Inc  
Director of New Business Services/Project Manager  
3200 El Camino Real, Suite 100  
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**VIA EMAIL**  
**canderson@tbplanning.com**

Subject: Results of a Habitat Assessment and Visual Survey for the Mohave Ground Squirrel for the Palmdale Logistics Park Project in the City of Palmdale, Los Angeles County, California

Dear Ms. Anderson:

This Letter Report summarizes the results of a habitat assessment and visual survey for the Mohave ground squirrel (MGS) (*Xerospermophilus mohavensis*) for the Palmdale Logistics Park Project located in the City of Palmdale, Los Angeles County, California (Exhibit 1). The survey was conducted by qualified Biologist Phil Brylski, PhD, on March 20, 2022, in accordance with the California Department of Fish and Wildlife's (CDFW's) 2010 Mohave Ground Squirrel Survey Guidelines. During the survey, the site was assessed for the potential to support MGS. The Biologist also surveyed the site listening and visually scanning for MGS individuals as the survey was conducted during the time of year they are most active above ground. The focused survey report prepared by Mr. Brylski, which contains additional details, can be found in Attachment A.

No MGS were detected during the survey. A portion of the site contains potentially suitable MGS habitat—those areas outside of the disturbed areas with low shrub cover identified in Figure 3 in Attachment A. Trapping surveys were recommended by the qualified Biologist as the site does contain potentially suitable habitat and occurs within the species' historical range.

Sincerely,

**P S O M A S**



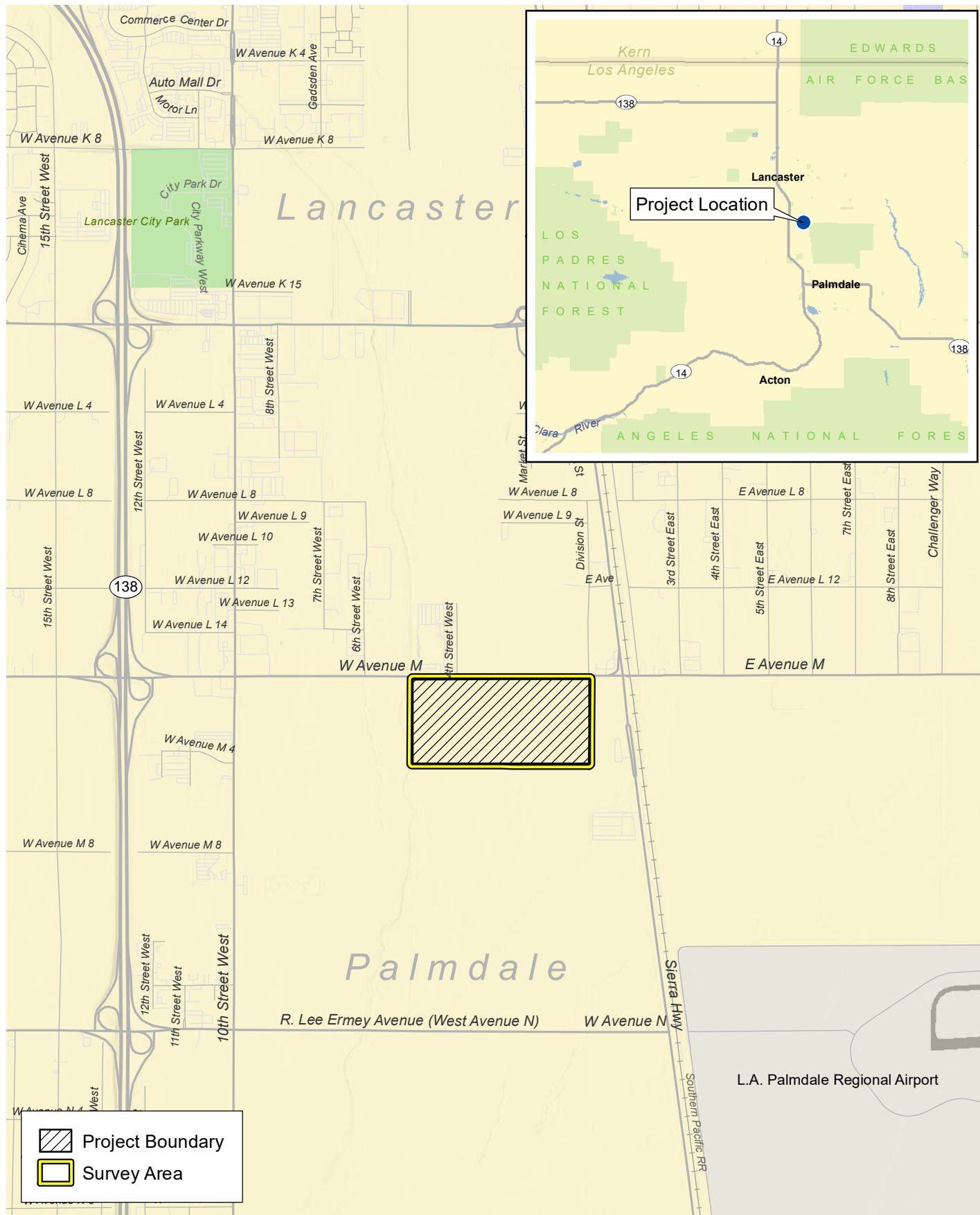
Marc T. Blain  
Senior Project Manager/Biologist





Sarah Thomas  
Biologist

Exhibits: Exhibit 1– Regional Location and Local Vicinity  
Attachment A – MGS Visual Survey and Habitat Assessment Memorandum

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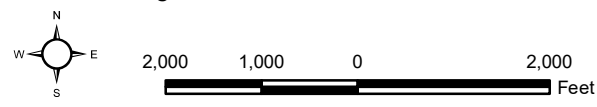


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 Project Boundary  
 Survey Area

## Regional Location and Local Vicinity

Palmdale Logistics Park



## Exhibit 1



**ATTACHMENT A**

**MGS VISUAL SURVEY AND HABITAT ASSESSMENT MEMORANDUM**

July 26, 2022

Mr. Marc Blain  
Vice President, Psomas  
225 South Lake Ave., Suite 1000  
Pasadena, CA 91101

Subject: Visual survey and habitat assessment for the Mohave ground squirrel for the Palmdale Logistics Park in Palmdale, Los Angeles County.

This memo summarizes the results of a visual survey and habitat assessment for the Mohave ground squirrel (*Xerospermophilus mohavensis*, MGS) on the approximately 76.97-acre site of the proposed Palmdale Logistics Park in Palmdale. The survey was conducted from 1030 to 1530 on March 20, 2022 by Phil Brylski, PhD, who holds a Memorandum of Understanding with the California Department of Fish and Wildlife for MGS surveys.

The site is approximately 520 feet west of the intersection of Avenue M and Sierra Highway (Figure 1). The site is located on the U.S. Geological Survey (USGS) Lancaster West 7.5-minute topographic map (Township 6N, Range 12W; NE<sup>1/4</sup> Section 3) at elevations from approximately 2,520 to 2,540 feet above mean sea level. The UTM coordinates for the approximate center of the site are 11S 396037E, 3834145N. Site photos are found in Appendix 1.

### **Background on the Mohave Ground Squirrel**

The MGS is a small ground squirrel, approximately 9 inches long, that inhabits the Mojave Desert in parts of Inyo, Kern, Los Angeles and San Bernardino counties. The historical range of the MGS covered approximately 5 million acres from Palmdale in the south to Owens Lake in the north, and from the eastern edge of the Sierra Nevada to the Mojave River Valley (Gustafson 1993, Leitner 2008).

MGS occur in a range of open desert habitats, most commonly in creosote scrub but also in Joshua tree woodland, desert saltbush scrub, desert sink scrub, desert greasewood scrub, and shadscale scrub (Gustafson, 1993). MGS typically occur in areas with open vegetative cover and small bushes (< 0.6 meter [2 feet] in height) spaced approximately 6 to 9 meters (20 to 30 feet) apart. MGS consume leaves, forbs, shrubs, and grasses of several species and genera, including creosote (*Larrea tridentata*), winter fat (*Krascheninnikovia lanata*), spiny hop-sage (*Grayia spinosa*), saltbush (*Atriplex* spp.), golden linanthus (*Linanthus aureus*), Mediterranean grass (*Schismus arabicus*), box thorn (*Lycium* spp.), and several other plant species (Best 1995).

Winter fat, spiny hop-sage, and saltbush are thought to make up approximately 60% of the species' shrub diet, indicating that these are important food sources when forbs are unavailable. These diet data are based on observations in the northern part of the species' range, and the extent that they are the same or differ in the southern part of the range has not been analyzed, apart from limited observations.

MGS dig burrows in sandy and gravelly soils on flat to moderately sloping terrain. The burrows are used to avoid predators and high temperatures, and for aestivating during winter months.

MGS are active only during the spring-summer months and spend most of the year (approximately seven months) below ground.



Figure 1. Project site on topographic map.

## Methods

A visual/auditory survey was carried out concurrent with the habitat assessment. The habitat assessment examined soil, vegetation, topographic and disturbance features to assess the suitability of habitat for MGS on the site. The entire site was covered. The survey was conducted from 1030 to 1530 on March 20, 2022 under mild weather (sunny with temperatures from 65 to 75 °F, and 5-8 miles-per-hour winds).



Figure 1. Project site on aerial photo.

The literature review included the following:

- Summaries of MGS surveys in the project region for the periods 2013-2020, 2008-2012, and 1998-2007 (Leitner 2008, 2015, and 2021).
- Records in the California Natural Diversity Database (CNDDDB, CDFW 2022) and the online database of museum mammal specimens (Vertnet.org); and
- The California Department of Fish and Wildlife 2019 Mohave ground squirrel Conservation Strategy (CDFW 2019).

## Results

No MGS were seen or heard during the field survey.

The site is relatively flat, with the following plant communities:

- Joshua tree (*Yucca brevifolia*) woodland, with creosote bush scrub in the understory.
- Mormon tea (*Ephedra nevadensis*)-fourwing saltbush (*Atriplex canescens*) scrub.
- Mormon tea – Mojave cottonthorn (*Tetradymia stenolepis*) scrub,
- rubber rabbitbrush (*Ericameria teretifolia*) – great basin sagebrush (*Artemisia tridentata*); and
- ruderal, with common species being red stemmed filaree (*Erodium cicutarium*), bristly fiddleneck (*Amsinckia tessellata*), and nonnative mustards (*Sisymbrium* sp. and *Brassica* sp.).

## History of MGS in the Project Region

### *MGS Occurrences in Project Area Based upon CNDDDB and Museum Records*

The site is located on the southwestern corner of the species' range. The nearest MGS records are approximately 5.5 miles east and southeast of the site, dating to the period 1973-1977. There are also museum records 3.4 miles south and 2 miles north dating to the period 1920 to 1944. The CNDDDB references what appears to have been a visual sighting (i.e., not a trapping record) from the northern site in 1984; subsequent live-trapping surveys from this vicinity in 1991 and 2005 were negative for MGS.

### *MGS Survey Results in Project Area from 1998 to 2020*

Leitner (2008, 2015, 2021) summarized the results from all MGS surveys across the species range over three time periods. The survey results for the project region are as follows:

- In the 1998-2007 period, Leitner (2008) showed 15 or more MGS live-trapping surveys in the Palmdale-Lancaster area, which yielded no MGS captures.
- In the 2008 to 2012 period, Leitner (2015) showed eight MGS live-trapping surveys in in the Palmdale-Lancaster area, which yielded no MGS captures; and
- In the 2013-2020 period, Leitner (2021) showed three MGS live-trapping surveys in the Palmdale-Lancaster area, which yielded no MGS captures.

## Mohave ground squirrel habitat suitability

The Joshua tree woodland, Mormon tea-fourwing saltbush scrub, and Mormon tea – Mojave cottonthorn scrub are potentially suitable for MGS. Great basin sagebrush has not been included on the list of plant communities known to support MGS (Gustavson 1993), though it cannot be ruled out at this time. There are two disturbed areas within the site (Photos 3 and 4) that cover approximately 17 acres (Figure 3). The disturbed areas lack shrubs, with a forb cover dominated by common storksbill and common fiddleneck, or have sparse shrub cover. MGS could forage in these areas, but have low potential for MGS habitation.



Figure 3. Project site on aerial photo showing area (yellow polygons) of disturbed habitat.

## Discussion

The few historical MGS records known from the Palmdale-Lancaster area date from 1920 to 1973. Numerous protocol or regional trapping surveys carried out in that area from 1998 to 2020 have not yielded any MGS captures or sightings. These data suggest that MGS is unlikely to currently occur on the project site or in the vicinity. However, CDFW would likely request an MGS protocol live-trapping survey to determine presence/absence because the site is within the species' historical range and there is suitable habitat on the site. The MGS protocol recommends one trapping grid per 80 acres; therefore, a single grid would be sufficient for the site.

## References

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- California Department of Fish and Wildlife. 2022. California Natural Diversity Database, Element report for the Mohave ground squirrel. California Department of Fish and Game, Natural Heritage Division, Sacramento, California.
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- , 2008. Current status of the Mohave ground squirrel. *Trans. West. Sect. Wildl. Soc.* 44:11-29.

## Appendix 1. Site photos



Photo 1. Creosote bush scrub habitat in northeastern part of the site, looking east.



Photo 2. Atriplex scrub habitat in northwestern part of the site, looking south.



Photo 3. Disturbed habitat in the central part of the site, looking northwest.



Photo 4. Disturbed habitat in the west-central part of the site, view looking north.