

September 4, 2024

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Subject: Results of a Mohave Ground Squirrel Protocol Survey for the 460-acre Adelanto Industrial Park Project, Adelanto, San Bernardino County, California

Dear Ms. Haughton:

The purpose of this report is to document the results of a California Department of Fish and Wildlife (CDFW) protocol survey for Mohave ground squirrel (*Xerospermophilus mohavensis*; MGS) conducted by Dipodomys Ecological Consulting LLC (DEC) for the 460-acre Adelanto Industrial Park Project (project). Presented in this report are a description of the project, project location, the biological setting of the site, MGS natural history, survey methodology, results of survey efforts for MGS, and conclusions.

Project Description and Location

The Mileski Living Trust proposes to construct the Adelanto Industrial Park (AIP) Project on a 460-acre area of desert within the City of Adelanto, San Bernardino County, California. The AIP would consist of an industrial distribution facility comprised of industrial warehouses and office space.

The project is located south of Air Base Road, between Adelanto Road and Cobalt Road (**Figures 1 and 2**). Surrounding land use consists of the Southern California Logistics Airport and undeveloped open space to the north, the Victorville Federal Correctional Institution to the east, and a mix of industrial development and open desert to the south and west. The project site can be found on the U.S. Geological Survey (USGS) 7.5-minute Adelanto topographic quadrangle map within Sections 34 and 35, Township 6 North and Range 5 West, as shown in **Figure 1**, Project Location.

Biological Setting

The project is comprised of three vegetation communities: *Larrea tridentata* shrubland alliance (CDFW CA Code 33.010.00), *Larrea tridentata*-*Ambrosia dumosa* shrubland alliance (CDFW CA Code 33.140.00) and *Bromus rubens*-*Schismus (arabicus, barbatus)* Herbaceous Semi-Natural Alliance (CDFW CA Code 42.024.00). The topography within the project is flat with coarse sandy soils. Site elevation ranges from 2,900-2920 feet above mean sea level (amsl). Dominant trees and shrubs within the project include Joshua tree (*Yucca brevifolia*), creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), cheesebush (*Ambrosia salsola*), and Cooper's boxthorn (*Lycium cooperi*). Dominant herbaceous plants within the project include red-stemmed filaree (*Erodium cicutarium*), fiddleneck (*Amsinckia tessellata*), desert dandelion (*Malacothrix glabrata*), freckled milkvetch (*Astragalus lentiginosus*), Mojave lupine (*Lupinus odoratus*), blue dicks (*Dipterostemon capitatus*) and

Mediterranean grass (*Schismus barbatus*). A full compendium of plants documented, along with representative site photographs are included in **Attachment B** and **Attachment C**.

Principal sources of disturbance include off highway vehicle (OHV) activity, illegal dumping, and road debris associated with high levels of traffic on Air Base Road. Further, the low density and small size of the shrubs onsite suggests the area was grubbed of vegetation in the recent past. The site also shows evidence of past agricultural use due to the presence of abandoned concrete irrigation standpipes.

Mohave Ground Squirrel Natural History

Mohave ground squirrels are medium-sized (210-230mm, 85-130g), diurnal squirrels. Their dorsal pelage is light gray to cinnamon-brown, while their ventral side is creamy. Unlike round-tailed ground squirrels (*Xerospermophilus tereticaudus*), which occur sympatrically in the southeast portion of their range, MGS have a short, flat tail that is light-colored on its underside, and have brown cheeks instead of white.

MGS inhabit a small geographic area in the western Mojave Desert. This species ranges from Palmdale in the southwest, the Lucerne Valley in the southeast, Olancho in the northwest, and the Avawatz Mountains in the northeast (Gustafson 1993). Although occurrences in the southern portion of their range are rare, occurrences have been documented on the California Natural Diversity Database (CNDDDB) as recently as 2011 (**Figure 3**). Vegetation communities (as classified by the California Native Plant Society) typically associated with MGS include Mojave Creosote Scrub, Shadscale Scrub, Desert Saltbush Scrub, Desert Sink Scrub, and Joshua Tree Woodland. MGS feed primarily on the leaves and seeds of forbs and shrubs. In the northern portion of their range, MGS have been found to feed on spiny hopsage (*Grayia spinosa*), winterfat (*Krascheninnikovia lanata*), and saltbush (*Atriplex* sp.), especially in early spring when forbs are unavailable, during summer when forbs have dried out, and during drought conditions (Leitner and Leitner 1998). Recent studies have also indicated that MGS feed on the following forbs and shrubs: freckled milkvetch, Mojave lupine, buckwheat (*Eriogonum* sp.), white mallow (*Eremalche exilis*), fiddleneck, Russian thistle (*Salsola tragus*), desert pincushion (*Chaenactis* sp.), Cryptantha (*Cryptantha pterocarya*), Bigelow's tickseed (*Leptosyne bigelovii*), Valley lessingia (*Lessingia glandulifera*), desert dandelion, Phacelia (*Phacelia* sp.), wire lettuce (*Stephanomeria* sp.) Anderson's desert thorn (*Lycium andersonii*), spiny horsebrush (*Tetradimya spinosa*), and Joshua tree (Leitner and Leitner 2017).

MGS have adapted to live in hot desert environments by limiting their activity aboveground through estivation and hibernation. The timing of emergence from hibernation varies by location: in the northern portion of their range male MGS emerge mid-March (Leitner and Leitner 1998); however, in the southern portion of their range, MGS may emerge as early as mid-January (Recht 1977). Throughout their active period, MGS store fat in preparation for estivation, which typically occurs between July and September, but may occur as early as April or May during drought conditions (Leitner et al. 1995). MGS reproduction is dependent on fall and winter rains and individuals may forgo breeding entirely if low rainfall (<80mm) results in reduced herbaceous plants (Leitner and Leitner 2017).

Throughout the range of MGS, they may co-occur with antelope ground squirrels (*Ammospermophilus leucurus*), round-tailed ground squirrels, and California ground squirrels (*Otospermophilus beecheyi*). MGS may be misidentified with round-tailed ground squirrels, but this is unlikely to occur with antelope ground squirrels, because the latter species has white dorsal stripes that makes them resemble a chipmunk more than an MGS. California ground squirrels are also notably larger and are not typically confused with MGS.

MGS are classified as threatened and are protected under the California Endangered Species Act. Primary threats to MGS include limited distribution, low abundance, and habitat loss from by converting suitable habitat to urban, suburban, agricultural, and military land uses (Gustafson 1993, Leitner and Leitner 2017).

Methods

Mohave ground squirrel (MGS) protocol surveys for the Adelanto Industrial Park Project were conducted by Karl Fairchild (CDFW Scientific Collecting Permit S-182820007-18333-001; MOU Principal Investigator) and Karla Flores (CDFW Scientific Collecting Permit SC-10572; MOU Principal Investigator). Due to the size of the project, a project-specific survey strategy was developed in consultation with CDFW Region 6 and generally was in accordance with the 2023 CDFW MGS Survey Guidelines. The project-specific survey strategy was reviewed and approved by CDFW prior to conducting surveys. The survey consisted of concurrent live trapping and camera trapping. Live trapping consisted of an initial visual survey followed by concurrent live trapping and camera trapping efforts at six grid locations. Details for each survey type are described below.

Visual Survey

An initial review of the California Natural Diversity Database (CNDDDB) was conducted prior to the visual assessment to determine the historical recorded occurrences of MGS near the project site (**Figure 3**). The visual survey was conducted by Karl Fairchild and Karla Flores on April 12, 2024. The visual survey consisted of driving and walking throughout the project site to identify suitable habitat for MGS. This included identifying plants known to provide forage material for MGS such as spiny hopsage, winterfat, Cooper's boxthorn, Anderson's desert thorn, and Joshua tree (Leitner 2022). Areas supporting suitable habitat for MGS where these plants are concentrated were recorded on an aerial map. Suitable soil types for burrowing and burrow densities were also noted.

Live Trapping

Live trapping surveys conducted by Karl Fairchild and Karla Flores were conducted in accordance with a project-specific survey plan reviewed and approved by CDFW on April 12, 2024. The site-specific survey strategy consisted of setting up six 100-trap grids arranged in a 10x10 (315x315m) configuration across the project (**Figure 2a**). Coordinate locations for the six grids are listed in **Table 1**. Traps consisted of non-perforated XLK Sherman traps (3x3.75x12") spaced 35 meters apart. Artificial shade was provided with A-frame cardboard shade covers staked to the ground with metal tent stakes. All traps were baited with 4-way livestock feed and peanut butter powder and were opened within one hour of sunrise and were checked no more than every four hours. All traps were closed within one hour of sunset. Trapping was conducted when temperatures were between 50- and 90-degrees Fahrenheit, and inclement conditions (rain, thunderstorms) were not present. All animals captured were released at their capture location, and the following information recorded for each capture: species, weight, age, sex, and reproductive condition. Live-trapping surveys were conducted for a period of five days in each of the three survey windows established by the MGS survey guidelines (1st: March 15-April 3; 2nd May 1-31; 3rd June 1-July 15). Details for each survey period are presented in **Table 2**. MGS Survey and Trapping Forms, including weather details, are presented in **Attachment A**.

TABLE 1
UTM COORDINATES FOR CORNERS OF LIVE TRAPPING GRID

Grid	Corner	Zone	Easting	Northing	Grid	Corner	Zone	Easting	Northing
1	SW	11	463715	3825300	4	SW	11	464485	3824905
1	NW	11	463715	3825615	4	NW	11	464485	3825220
1	SE	11	464030	3825300	4	SE	11	464800	3824905
1	NE	11	464030	3825615	4	NE	11	464800	3825220
2	SW	11	464080	3825300	5	SW	11	464930	3824525
2	NW	11	464080	3825615	5	NW	11	464930	3824840
2	SE	11	464395	3825300	5	SE	11	465245	3824525
2	NE	11	464395	3825615	5	NE	11	465245	3824840
3	SW	11	464900	3825305	6	SW	11	465315	3824900
3	NW	11	464900	3825620	6	NW	11	465315	3825215
3	SE	11	465215	3825305	6	SE	11	465630	3824900
3	NE	11	465215	3825620	6	NE	11	465630	3825215

*Datum: WGS 1984

TABLE 2
MOHAVE GROUND SQUIRREL SURVEY DATE

Grid	Surveyor	Session 1	Session 2	Session 3
1	Karl Fairchild	April 13-17, 2024	May 15-19, 2024	June 16-20, 2024
2	Karla Flores	April 13-17, 2024	May 15-19, 2024	June 16-20, 2024
3	Karla Flores	April 19-23, 2024	May 21-25, 2024	June 21-25, 2024
4	Karl Fairchild	April 19-23, 2024	May 21-25, 2024	June 21-25, 2024
5	Karla Flores	April 24-28, 2024	June 21-25, 2024	June 26-30, 2024
6	Karl Fairchild	April 24-28, 2024	June 21-25, 2024	June 26-30, 2024

Camera Trapping

Camera trapping surveys were conducted concurrent with live-trapping efforts as required in the 2023 MGS Survey Guidelines. Camera surveys consisted of setting up a total of 30 camera trapping stations throughout the project site (**Figure 2b**). Camera stations were set up within and outside of live-trapping grids for maximum coverage. Each camera trap station consisted of a Bushnell Core Low Glow Trail Camera (Model 1199932CB) secured to a 36-inch U-post facing a bait station. The bait station consisted of a feeding tube filled with 4-way livestock feed staked to the ground with a 12-inch railroad spike. Cameras operated 24 hours a day, concurrent with live-trapping surveys, and followed the setup specifications described in Attachment B of the MGS Survey Guidelines. Coordinate locations for each camera trap station are listed below in **Table 3**. Photos from the camera trap stations were downloaded and reviewed by the Principal Investigators after every five-day trapping session. A list of species detected at the camera trap stations is included in **Table 5**.

TABLE 3
COORDINATE LOCATIONS FOR CAMERA TRAP STATIONS

Grid	Camera	Zone	Easting	Northing	Grid	Camera	Zone	Easting	Northing
1	1	11	463329	3825367	4	16	11	464997	3825546
1	2	11	463532	3825568	4	17	11	465135	3825393
1	3	11	463554	3825384	4	18	11	465305	3825386
1	4	11	463798	3825522	4	19	11	465529	3825524
1	5	11	463908	3825469	4	20	11	465543	3825351
2	6	11	464159	3825528	5	26	11	464962	3824610
2	7	11	464315	3825416	5	27	11	465166	3824724
2	8	11	464648	3825568	5	28	11	465308	3824676
2	9	11	464710	3825483	5	29	11	465553	3824786
2	10	11	464478	3825293	5	30	11	465500	3824576
3	11	11	464294	3825173	6	21	11	465029	3825168
3	12	11	464435	3825050	6	22	11	465148	3825035
3	13	11	464252	3824938	6	23	11	465037	3824959
3	14	11	464614	3825113	6	24	11	465375	3825154
3	15	11	464706	3824950	6	25	11	465546	3825014

*Datum: WGS 1984

Results

Visual Survey

Data collected during the visual survey showed that low-quality MGS habitat is present within the project. The vegetation communities onsite consist of *Larrea tridentata* shrubland alliance and *Larrea tridentata-Ambrosia dumosa* shrubland alliance both of which consist of plants that are consumed by MGS, including two primary MGS food plants: winterfat and spiny hopsage (though in low density). Other plants also associated with MGS in microhistology and metabarcoding studies (Leitner 2022) are present onsite, including: Joshua tree, creosote bush, Cooper's boxthorn, desert dandelion, red-stemmed filaree and fiddleneck. Visual observations of burrows and burrow complexes showed that soil onsite is suitable for burrowing. Nevertheless, the habitat characteristics are generally poor for MGS, due to the high levels of disturbance, moderately compacted soils, prevalence of non-native herbaceous species, and poorly developed layer of low-growing shrubs.

Live Trapping

No Mohave ground squirrels were captured at the six survey grids during the three survey windows. Live-trapping captures consisted entirely of non-sensitive species: white-tailed antelope ground squirrel, California ground squirrel (*Otospermophilus beecheyi*), Great Basin whiptail (*Aspidoscelis tigris*), side-blotched lizard (*Uta stansburiana*), and Mojave rattlesnake (*Crotalus scutulatus*) (Table 4; Figure 4a-f).

**TABLE 4
RESULTS OF MOHAVE GROUND SQUIRREL LIVE TRAPPING SURVEYS**

	Common name	Scientific name	Session			Total
			1	2	3	
Grid 1	White-tailed antelope ground squirrel	<i>Ammospermophilus leucurus</i>	0	1	0	1
	California ground squirrel	<i>Otospermophilus beecheyi</i>	0	16	13	29
	Great Basin Whiptail	<i>Aspidoscelis tigris</i>	0	16	11	27
Grid 2	White-tailed antelope ground squirrel	<i>Ammospermophilus leucurus</i>	12	30	21	63
	California ground squirrel	<i>Otospermophilus beecheyi</i>	0	1	1	2
	Great Basin Whiptail	<i>Aspidoscelis tigris</i>	1	7	10	18
Grid 3	White-tailed antelope ground squirrel	<i>Ammospermophilus leucurus</i>	13	13	11	37
	California ground squirrel	<i>Otospermophilus beecheyi</i>	0	0	0	0
	Great Basin Whiptail	<i>Aspidoscelis tigris</i>	8	22	16	46
	Side-blotched lizard	<i>Uta stansburiana</i>	0	1	0	1
Grid 4	White-tailed antelope ground squirrel	<i>Ammospermophilus leucurus</i>	28	65	16	109
	California ground squirrel	<i>Otospermophilus beecheyi</i>	0	1	0	1
	Great Basin Whiptail	<i>Aspidoscelis tigris</i>	21	11	2	34
Grid 5	White-tailed antelope ground squirrel	<i>Ammospermophilus leucurus</i>	2	6	6	14
	California ground squirrel	<i>Otospermophilus beecheyi</i>	0	0	0	0
	Great Basin Whiptail	<i>Aspidoscelis tigris</i>	0	15	4	19
Grid 6	White-tailed antelope ground squirrel	<i>Ammospermophilus leucurus</i>	0	9	3	12
	California ground squirrel	<i>Otospermophilus beecheyi</i>	0	2	0	2
	Mojave rattlesnake	<i>Crotalus scutulatus</i>	0	0	1	1
	Great Basin Whiptail	<i>Aspidoscelis tigris</i>	3	17	6	26
Total			88	233	121	442

Camera Trapping

No Mohave ground squirrels were detected in the 589,999 images recorded during the camera trapping surveys. A total of 18 non-target species were observed visiting the 30 camera stations during the three survey windows. Details for species observed at camera trap stations are listed in **Table 5 and Attachment A**. The maximum number of species visiting each camera station was 10, and the average number of species visiting each camera site as 6.96.

**TABLE 5
RESULTS OF CAMERA TRAPPING**

Camera	White-tailed antelope ground squirrel (Ammospermophilus leucurus)	Great Basin whiptail (Aspidoscelis tigris tigris)	Domestic dog (Canis familiaris)	Coyote (Canis latrans)	Spiny pocket mouse (Chaetodipus sp.)	Common raven (Corvus corax)	Kangaroo rat (Dipodomys sp.)	Horned lark (Eremophila alpestris)	Black-tailed jackrabbit (Lepus californicus)	California ground squirrel (Otospermophilus beecheyi)	House sparrow (Passer domesticus)	Silky pocket mouse (Perognathus sp.)	Deer mouse (Peromyscus sp.)	Say's phoebe (Sayornis saya)	Desert cottontail (Sylvilagus audubonii)	Side-blotched lizard (Uta stansburiana)	Desert kit fox (Vulpes macrotis)	Mourning dove (Zenaida macroura)
1		Y					Y		Y	Y			Y				Y	
2				Y					Y			Y						
3						Y	Y	Y	Y			Y						
4						Y	Y	Y	Y	Y		Y					Y	
5						Y		Y	Y	Y		Y						Y
6					Y	Y		Y	Y	Y			Y					Y
7	Y	Y		Y	Y	Y			Y			Y				Y		Y
8	Y	Y				Y	Y	Y	Y			Y	Y				Y	Y
9	Y					Y		Y	Y				Y			Y	Y	Y
10	Y				Y	Y		Y	Y									Y
11	Y	Y	Y			Y			Y			Y				Y		Y
12						Y	Y	Y	Y			Y						Y
13	Y	Y				Y			Y		Y	Y						Y
14						Y		Y	Y		Y	Y						Y
15	Y	Y				Y			Y	Y						Y		Y
16	Y				Y	Y		Y	Y			Y						Y
17	Y				Y	Y	Y	Y	Y			Y	Y					Y
18	Y	Y		Y	Y	Y		Y	Y			Y						Y
19	Y	Y			Y	Y	Y	Y	Y			Y						Y
20	Y	Y		Y	Y	Y	Y	Y	Y									
21	Y				Y	Y		Y	Y			Y		Y			Y	Y
22		Y				Y		Y	Y									Y
23	Y	Y		Y	Y	Y		Y	Y							Y		Y
24				Y		Y		Y	Y			Y						Y
25				Y		Y			Y									Y
26					Y	Y	Y	Y	Y			Y					Y	
27	Y	Y				Y		Y	Y			Y				Y		Y
28						Y	Y	Y	Y			Y						Y
29				Y		Y	Y		Y			Y				Y		Y
30						Y		Y	Y			Y						

Conclusions

The Adelanto Industrial Park Project is located within the southern portion of the MGS range where MGS occurrences have historically been rare, and populations are generally believed to be extirpated. Despite this, one juvenile MGS was recorded near the project in 2011, three miles southwest of the project, in an area that has now been developed into a solar farm. Since no additional records have been documented in that area since, this individual is believed to have been a dispersing juvenile. Additionally, MGS have been recorded approximately three miles northeast of the project site, near the northeast corner of the Southern California Logistics Airport. The California Natural Diversity Database (CNDDDB) shows records from this area, with occurrences in 1987 and 2007. Most notably, MGS were recorded at a camera station in this area in 2021 (Leitner, personal communication), data not yet included in CNDDDB. This pattern of occurrences suggests that a small, relict population may be present in that area.

A query of the California Natural Diversity Database (CNDDDB) for the Adelanto quadrangle and the surrounding eight quadrangles yielded 16 MGS occurrences. The closest and most recent of these occurrences is the above-mentioned 2011 occurrence, approximately 3 miles southwest of the project. The closest occurrence was documented in 1980 approximately 2.7 miles east of the project. (**Figure 3**).

Recent studies examining MGS population trends show that MGS have been absent from the southern and southwestern portion of the range since at least the mid-1990s (Leitner 2021). The closest MGS core population to the project, described in the 2019 CDFW MGS Conservation Strategy, is the Edwards Air Force Base core population area located approximately 37 miles northwest of the project. However, even at this core population area, studies have found that western portion of the Edwards Air Force Base core population area no longer supports an MGS population given that surveys conducted since 1998 have failed to detect MGS there (Leitner 2008; 2015; 2021).

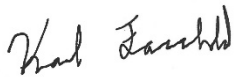
Studies documenting MGS population trends and geographic distribution from 1998-2020 have concluded that MGS are no longer present in the southern portion of their range (Leitner 2008; 2015; 2021). The most recent of these studies covering the period of 2013-2020 found that while MGS continue to be detected in the four known core population areas (Coso Range-Olancha, Little Dixie Wash, Coolgardie Mesa-Superior Valley, and Edwards Air Force Base), the southern portion of the historical range of MGS remains unoccupied (Leitner 2021). Results of this 2021 study underscored previous conclusions that MGS are not only extirpated from the southern portion of the range, but there is also no indication across the 22-year period of study that MGS are attempting to reoccupy this portion of the range.

This local extirpation of MGS in the southern portion of the range may be tied to low rainfall levels and climate change. Data collected at the Coso Study Area showed that MGS reproduction is sensitive to winter precipitation levels and that MGS reproduction correlates with a minimum threshold of 65mm of winter precipitation. Records from the Coso study area showed that following a prolonged drought in the Mojave Desert from 1989-1991, MGS did not reproduce for 2 years. Given that MGS detections in the southern portion of the range began to drop in 1991, it has been suggested that the local extirpation of MGS in this portion of the range may be linked to that particular drought event. This suggests that subsequent years with drought conditions exacerbated by climate change may have created conditions that are unsuitable to support an MGS population and may be inhibiting recolonization/re-occupancy by MGS (Leitner 2021).

Collectively, these population trends and survey results suggest that MGS are unlikely to occupy the project and no impacts to MGS are expected due to construction activities. Based on the results of this survey, CDFW survey guidelines indicate that the department will stipulate that no MGS occur on the project site. This stipulation will expire March 15, 2025.

I hereby certify that the information in this report is true, and that it conforms to accepted biological standards. Please feel free to contact Karl Fairchild by phone at (541) 609-1038 or by email at kfairchild@dipodomysecological.com, or Karla Flores by phone at (619) 972-4319 or by email at kflores@dipodomysecological.com with any questions regarding this report.

Sincerely,



Karl Fairchild
Principal Investigator



Karla Flores
Principal Investigator

Figures and Attachments

Figure 1-Project Location

Figure 2-Survey Area

Figure 3- Historical MGS Occurrences

Figure 4- Results

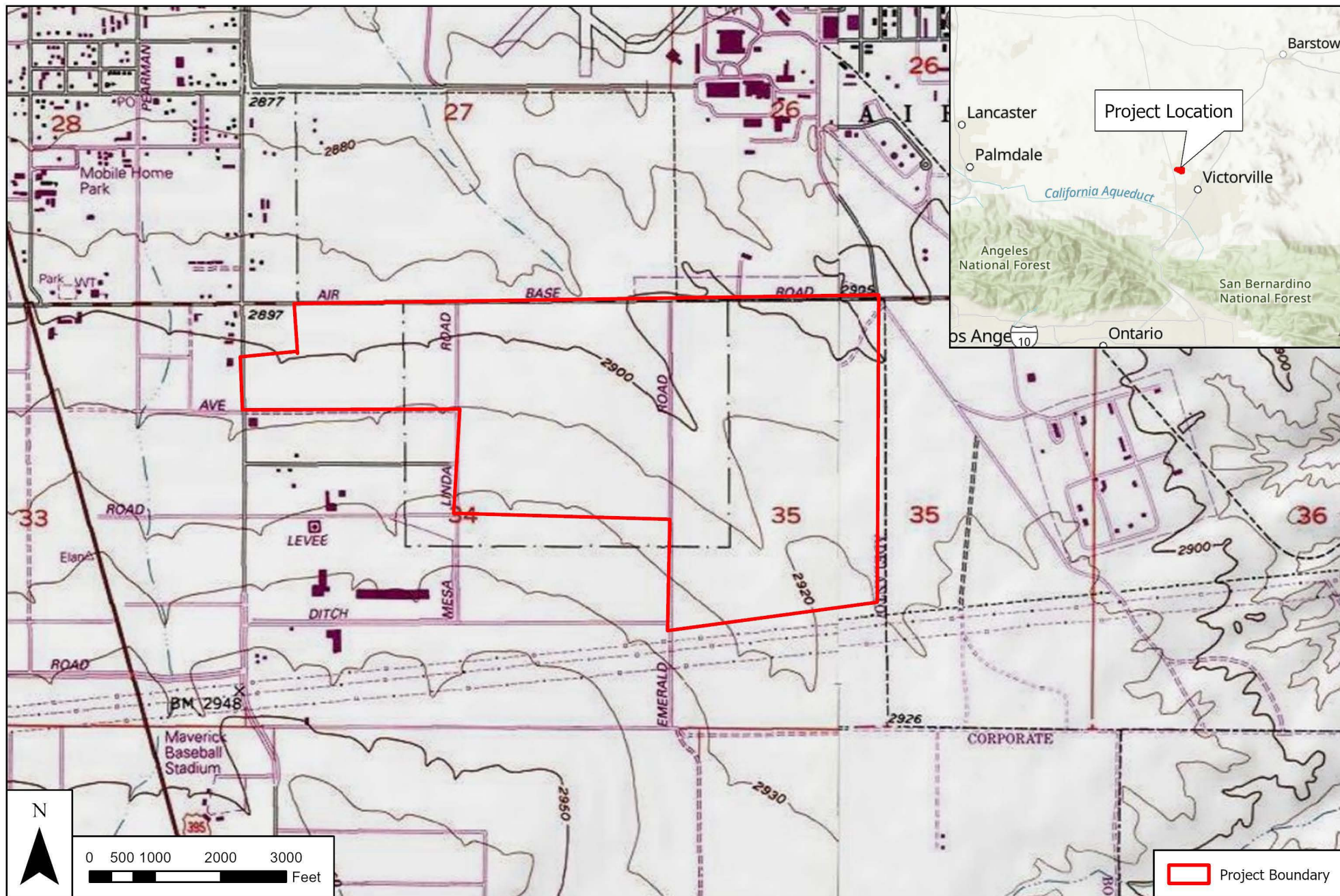
Attachment A-CDFW Mohave Ground Squirrel Survey and Trapping Form(s)

Attachment B-Species Compendium

Attachment C-Representative Photographs

References

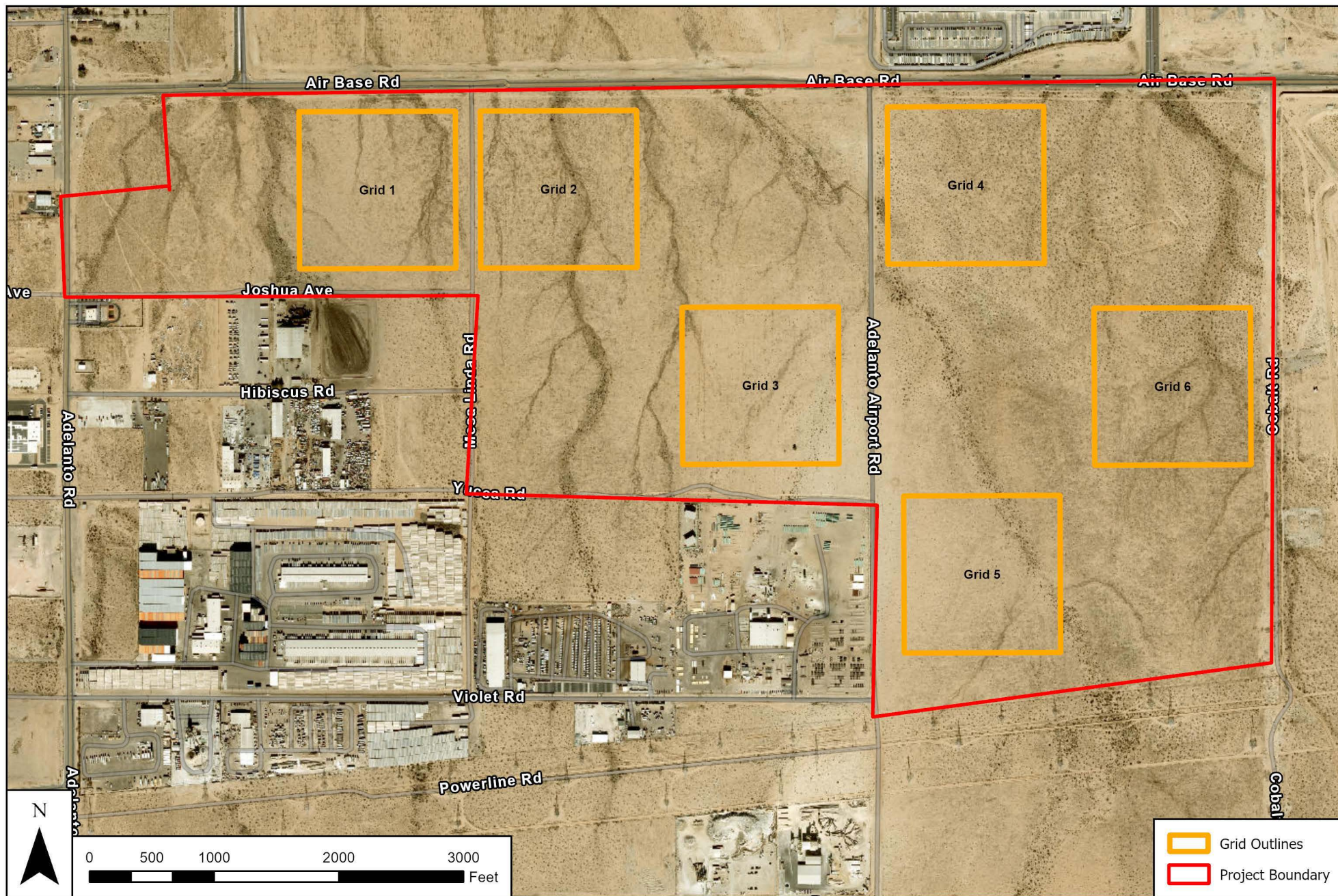
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SOURCE: ESRI

Adelanto Industrial Park Project

Figure 1
Project Location

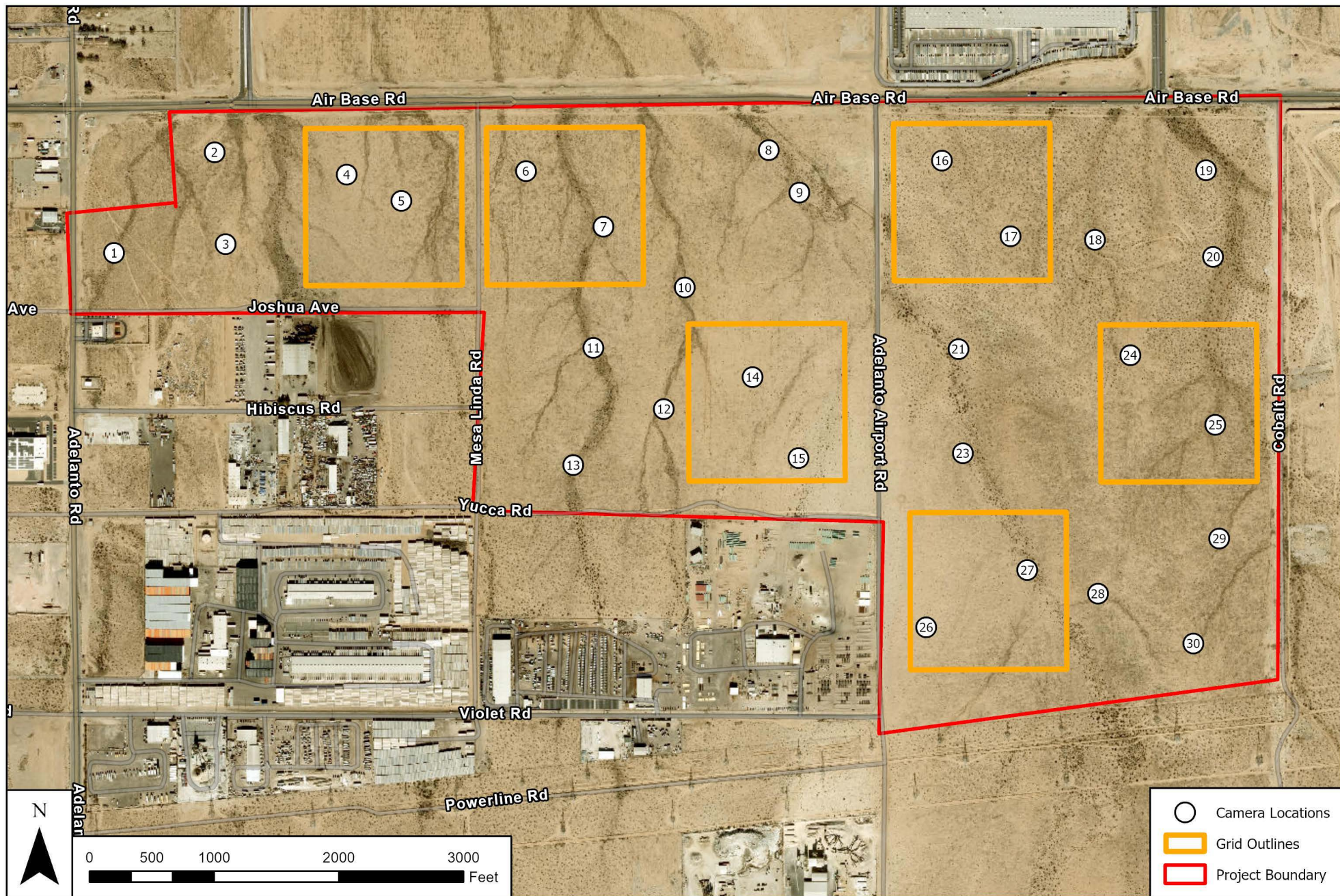


SOURCE: ESRI

Adelanto Industrial Park Project

Figure 2a

Survey Area: Grid Locations

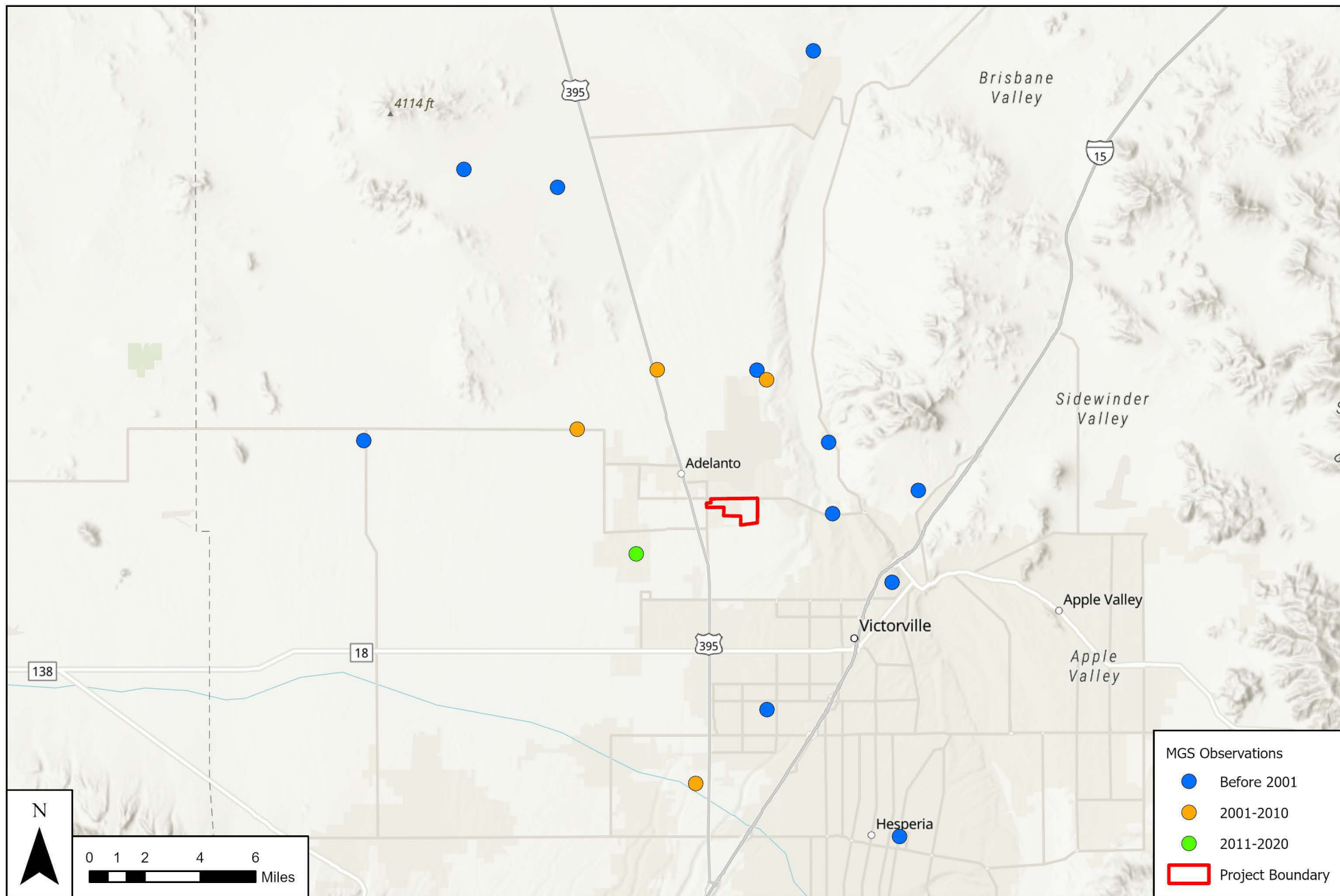


SOURCE: ESRI

Adelanto Industrial Park Project

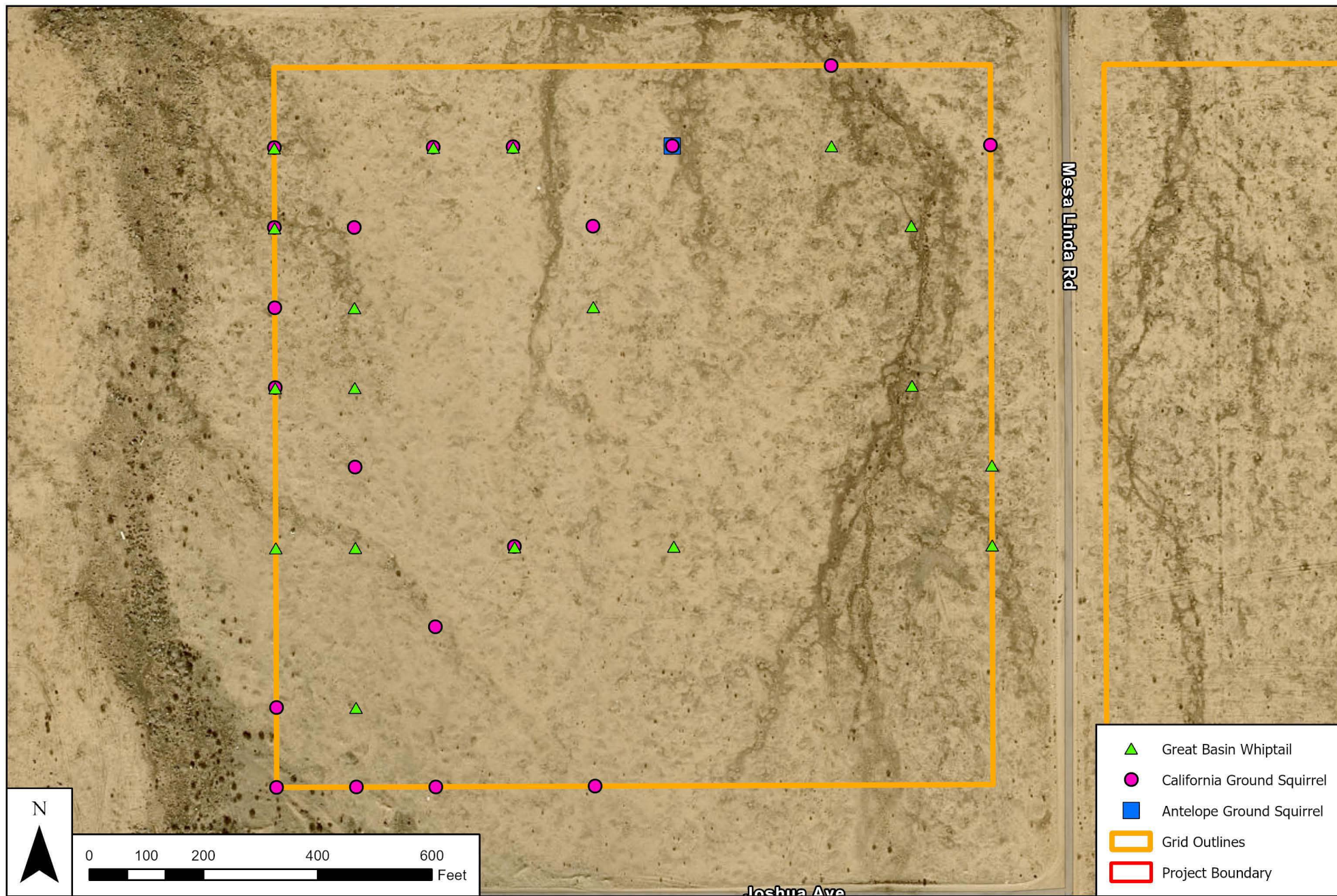
Figure 2b

Survey Area: Camera Locations



SOURCE: ESRI

Adelanto Industrial Park Project

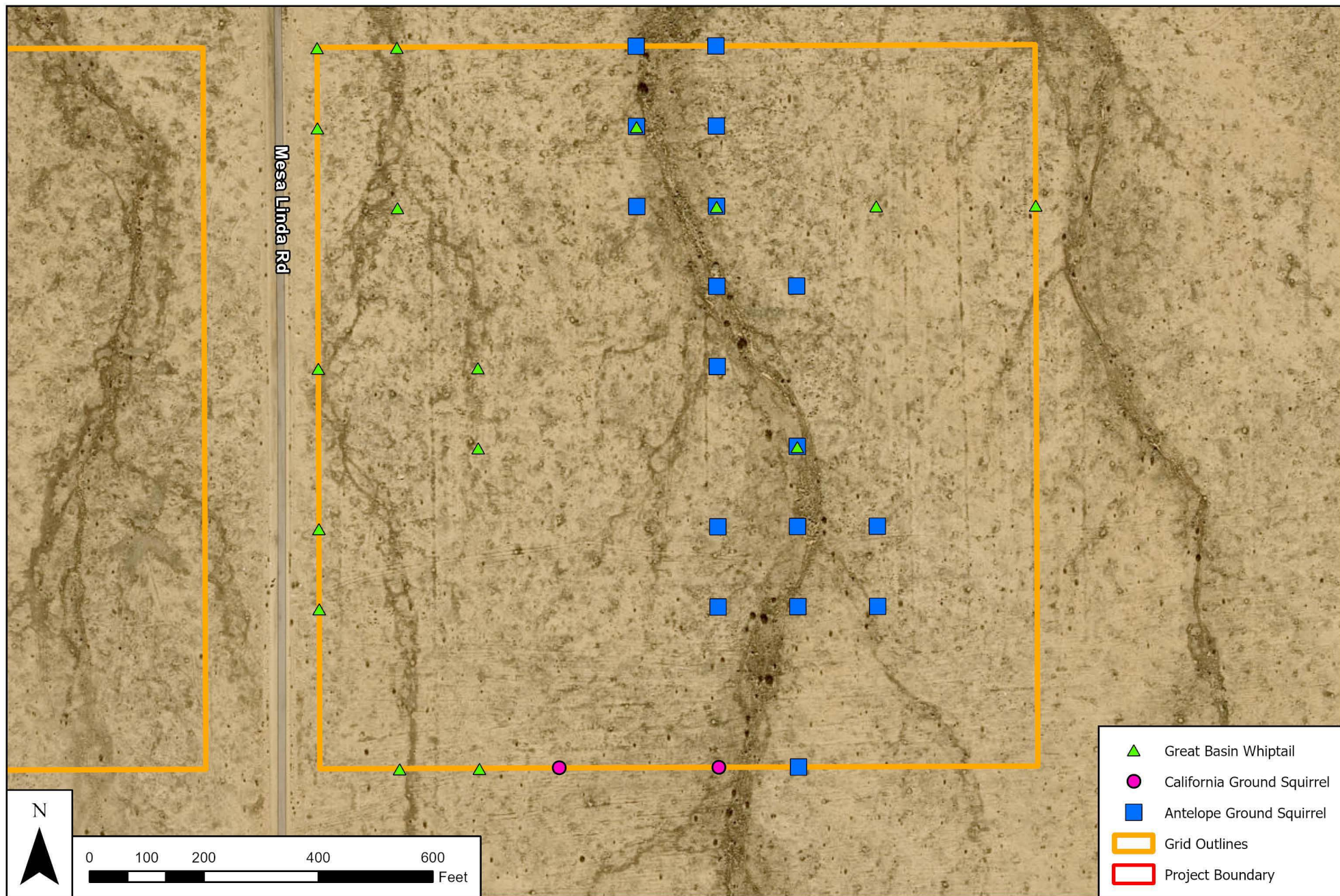


SOURCE: ESRI

Adelanto Industrial Park Project

Figure 4a

Trapping Results: Grid 1

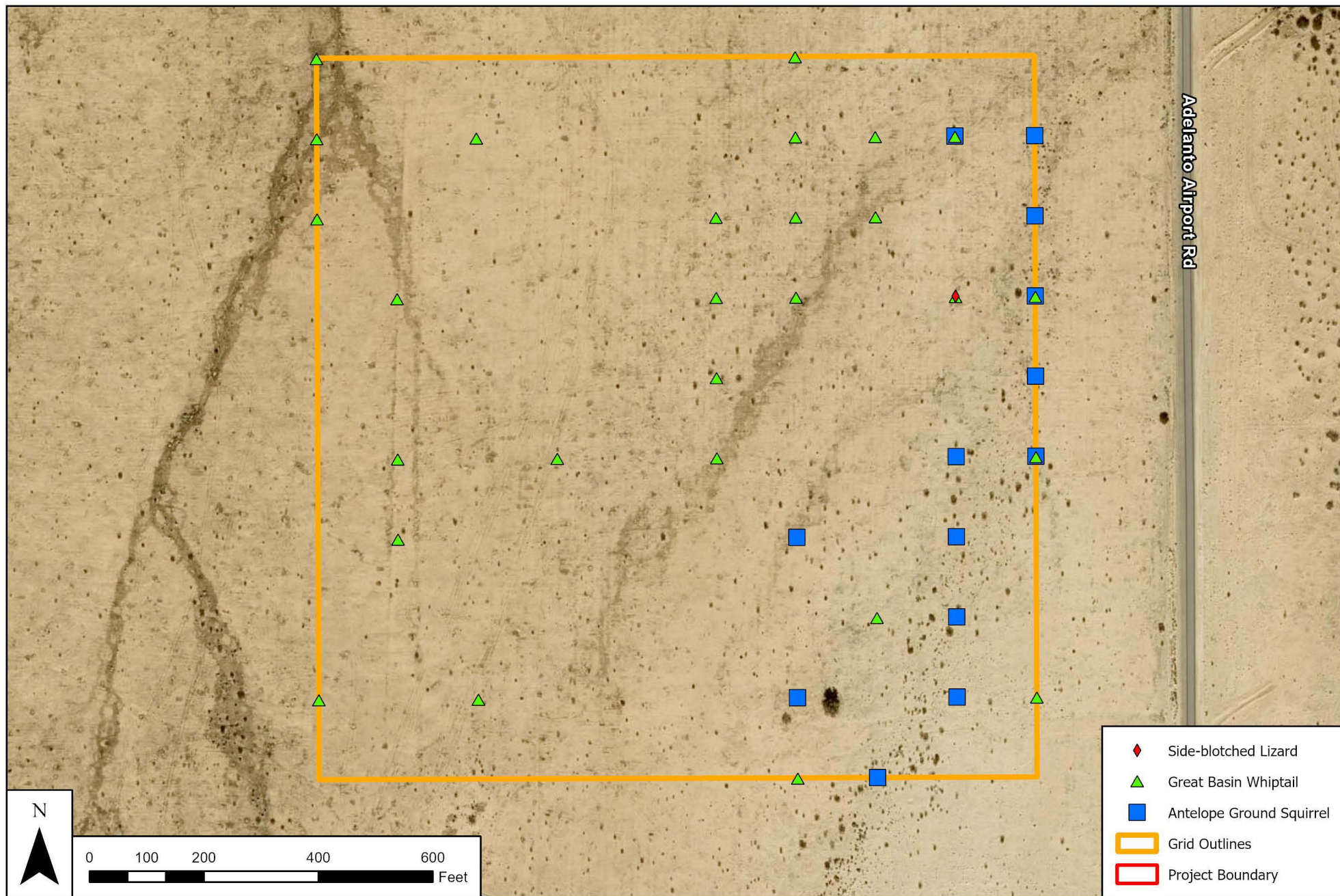


SOURCE: ESRI

Adelanto Industrial Park Project

Figure 4b

Trapping Results: Grid 2

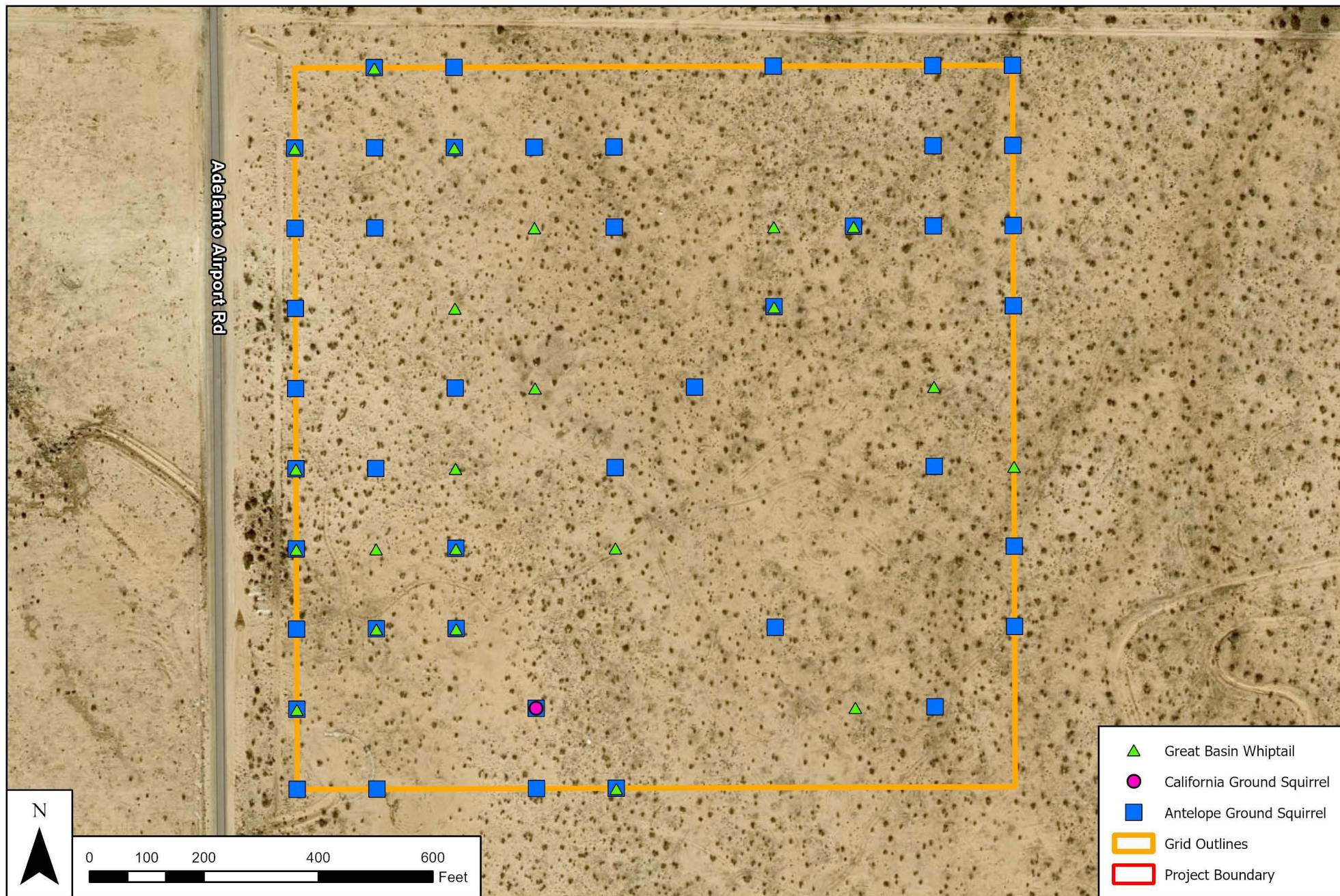


SOURCE: ESRI

Adelanto Industrial Park Project

Figure 4c

Trapping Results: Grid 3

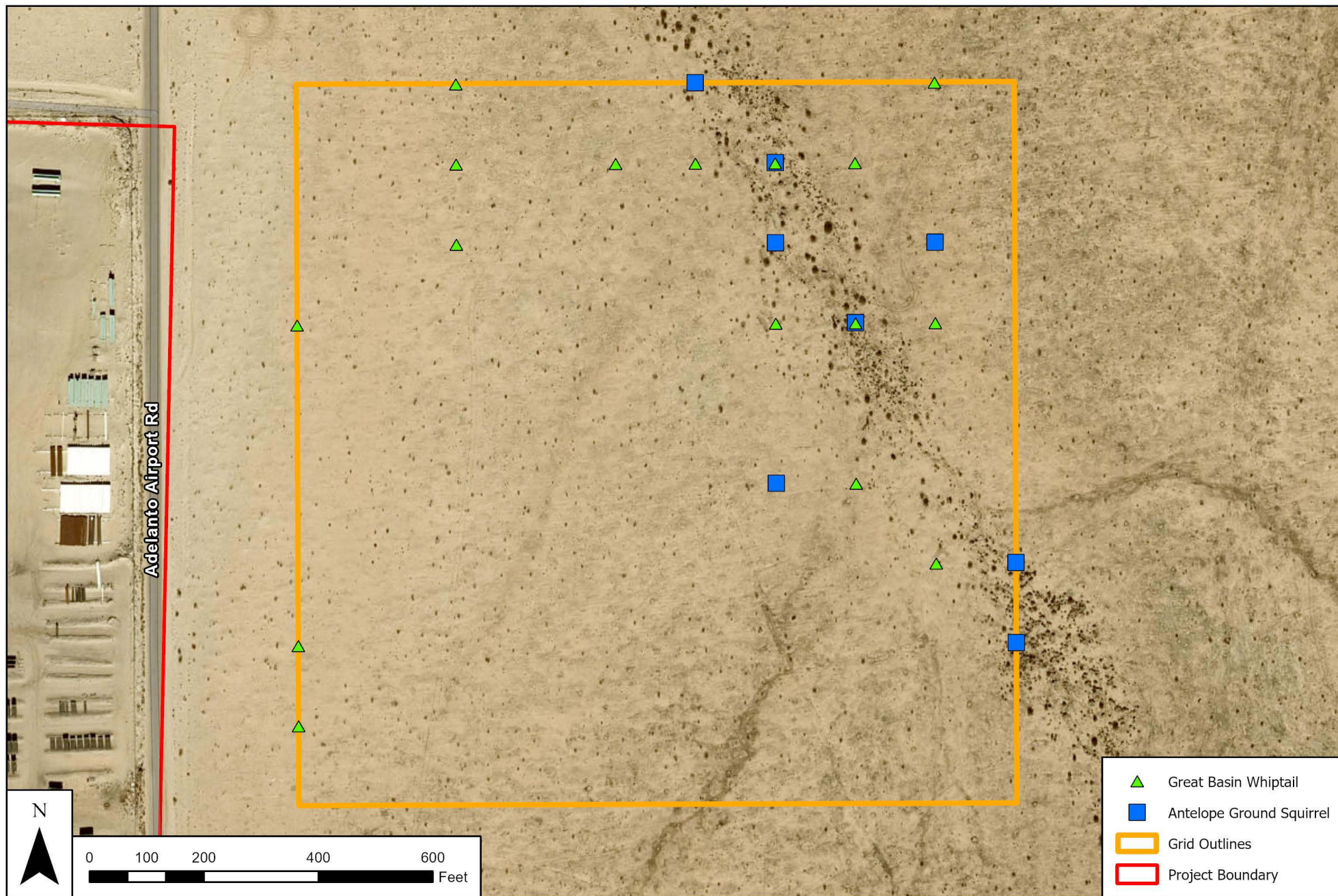


SOURCE: ESRI

Adelanto Industrial Park Project

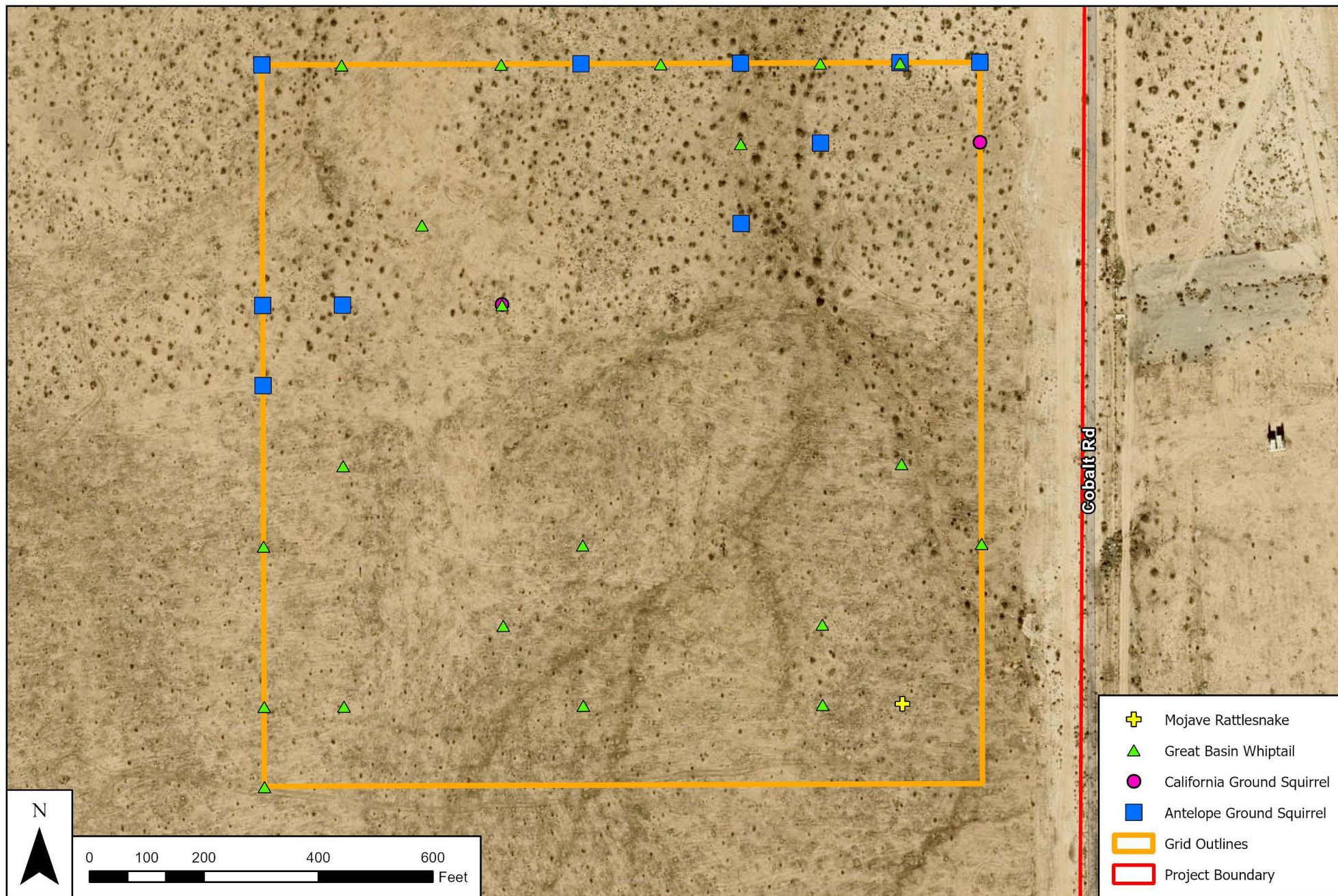
Figure 4d

Trapping Results: Grid 4



SOURCE: ESRI

Adelanto Industrial Park Project



SOURCE: ESRI

Adelanto Industrial Park Project

Attachment A

MOHAVE GROUND SQUIRREL SURVEYS - Site Characteristics Form

PI or Reporting Biologist: Karla Flores and Karl Fairchild

Affiliation: Dipodomys Ecological Consulting, LLC

PROJECT INFORMATION

Project Name: Adelanto Industrial Park

Topo Quad Name(s): Adelanto

County: San Bernardino County

Project Site Area (acres): 460

Area of Potential MGS Habitat (acres): 460

Habitat Assessment Date(s): 4/12/2024

TRAP GRID INFORMATION	<i>Trap Grid 1</i>	<i>Trap Grid 2</i>	<i>Trap Grid 3</i>	<i>Trap Grid 4</i>	<i>Trap Grid 5</i>	<i>Trap Grid 6</i>
Trap Grid Name (if applicable):	1	2	3	4	5	6
Trap Grid Configuration	10x10	10x10	10x10	10x10	10x10	10x10
Latitude:	34.571663	34.568843	34.565321	34.568914	34.561914	34.566314
Longitude:	-117.395582	-117.39159	-117.383726	-117.379173	-117.382287	-117.375614
Datum:	WGS 84	WGS 84	WGS 84	WGS 84	WGS 84	WGS 84
Elevation (feet):	2,799	2,822	2,815	2,812	2,844	2,825
Slope (%):	1%-2%	1%-2%	1%-2%	1%-2%	1%-2%	1%-2%
Aspect (degrees):	0	0	0	0	0	0
Landforms:	desert plain	desert plain	desert plain	desert plain	desert plain	desert plain
Substrate Types:	coarse sand	coarse sand	coarse sand	coarse sand	coarse sand	coarse sand
Vegetation Alliance:	creosote bush-white bursage scrub; non-native herbaceous	creosote bush-white bursage scrub; non-native herbaceous	creosote bush-white bursage scrub; non-native herbaceous	creosote bush-white bursage scrub; non-native herbaceous	creosote bush-white bursage scrub; non-native herbaceous	creosote bush-white bursage scrub; non-native herbaceous
Associated Perennial 1	creosote bush	creosote bush	creosote bush	creosote bush	creosote bush	creosote bush
Associated Perennial 2	white bursage	Joshua tree	rubber rabbitbrush	white bursage	white bursage	white bursage
Associated Perennial 3	cheesebush	rubber rabbitbrush	tamarisk	winterfat	Joshua tree	cheesebush
Associated Perennial 4	rubber rabbitbrush	cheesebush	cheesebush	spiny hopsage	rubber rabbitbrush	rubber rabbitbrush
Associated Perennial 5	Joshua tree	Nevada jointfir	Cooper's boxthorn	cheesebush	Cooper's boxthorn	Joshua tree
Annual 1	red-stemmed filaree	red-stemmed filaree	red-stemmed filaree	red-stemmed filaree	red-stemmed filaree	red-stemmed filaree
Annual 2	Mediterranean grass	Mediterranean grass	Mediterranean grass	Mediterranean grass	Mediterranean grass	Mediterranean grass
Annual 3	fiddleneck	fiddleneck	fiddleneck	fiddleneck	fiddleneck	fiddleneck
Annual 4	desert dandelion	desert dandelion	desert dandelion	blue dicks	milkvetch	desert dandelion
Annual 5	deset mallow	desert pincushion	Mohave wild parsley	milkvetch	Mojave lupine	milkvetch
Disturbance Impacts (Severe, Moderate, Minimal)	Severe	Severe	Severe	Severe	Severe	Severe
Humans Present	Yes	Yes	Yes	Yes	Yes	Yes
Trash	Yes	Yes	Yes	Yes	Yes	Yes
Roads/OHV Use	Yes	Yes	Yes	Yes	Yes	Yes
Livestock Present	No	No	No	No	No	No
Livestock Sign	No	No	No	No	No	No
Ravens	Yes	Yes	Yes	Yes	Yes	Yes
Other	NA	NA	NA	NA	NA	NA

MOHAVE GROUND SQUIRREL SURVEYS - Weather Summary Form

PI or Reporting Biologist:

Karla Flores and Karl Fairchild

Project Name:

Adelanto Industrial Park

TRAP GRID INFORMATION	Trap Grid 1	Trap Grid 2	Trap Grid 3	Trap Grid 4	Trap Grid 5	Trap Grid 6
Trap Grid Name (if applicable):	1	2	3	4	5	6
Session 1 - Day 1						
Date, Time	4/13/2024	4/13/2024	4/19/2024	4/19/2024	4/24/2024	4/24/2024
Shade Temp (C)	17.8	17.8	23.1	23.1	15.9	15.9
Percent Cloud Cover	5	5	5	5	0	0
Wind Speed	5	5	3	3	2	2
Day 2						
Date, Time	4/14/2024	4/14/2024	4/20/2024	4/20/2024	4/25/2024	4/25/2024
Shade Temp (C)	11.2	11.2	21.2	21.2	15.2	15.2
Percent Cloud Cover	10	10	0	0	10	10
Wind Speed	4	4	2	2	4	4
Day 3						
Date, Time	4/15/2024	4/15/2024	4/21/2024	4/21/2024	4/26/2024	4/26/2024
Shade Temp (C)	12.6	12.6	18.7	18.7	15.8	15.8
Percent Cloud Cover	1	1	0	0	30	30
Wind Speed	4	4	2	2	5	5
Day 4						
Date, Time	4/16/2024	4/16/2024	4/22/2024	4/22/2024	4/27/2024	4/27/2024
Shade Temp (C)	20	20	16.7	16.7	19.7	19.7
Percent Cloud Cover	0	0	0	0	1	1
Wind Speed	2	2	2	2	4	4
Day 5						
Date, Time	4/17/2024	4/17/2024	4/23/2024	4/23/2024	4/28/2024	4/28/2024
Shade Temp (C)	18.9	18.9	15.8	15.8	20.4	20.4
Percent Cloud Cover	5	5	5	5	0	0
Wind Speed	0	0	2	2	1	1
Session 2 - Day 1						
Date, Time	5/15/2024	5/15/2024	5/21/2024	5/21/2024	5/26/2024	5/26/2024
Shade Temp (C)	24.8	24.8	16.9	16.9	20.4	20.4
Percent Cloud Cover	90	90	0	0	1	1
Wind Speed	1	1	1	1	1	1
Day 2						
Date, Time	5/16/2024	5/16/2024	5/22/2024	5/22/2024	5/27/2024	5/27/2024
Shade Temp (C)	16.8	16.8	16.6	16.6	21.4	21.4
Percent Cloud Cover	0	0	0	0	0	0
Wind Speed	2	2	1	1	1	1
Day 3						
Date, Time	5/17/2024	5/17/2024	5/23/2024	5/23/2024	5/28/2024	5/28/2024
Shade Temp (C)	20.3	20.3	20.1	20.1	24.7	24.7
Percent Cloud Cover	0	0	0	0	0	0
Wind Speed	1	1	3	3	1	1
Day 4						
Date, Time	5/18/2024	5/18/2024	5/24/2024	5/24/2024	5/29/2024	5/29/2024
Shade Temp (C)	18.3	18.3	15.7	15.7	23.9	23.9
Percent Cloud Cover	30	30	5	5	0	0
Wind Speed	2	2	2	2	4	4
Day 5						
Date, Time	5/19/2024	5/19/2024	5/25/2024	5/25/2024	5/30/2024	5/30/2024
Shade Temp (C)	19.7	19.7	15.9	15.9	21.2	21.2
Percent Cloud Cover	0	0	2	2	0	0
Wind Speed	2	2	4	4	1	1
Session 3 - Day 1						
Date, Time	6/16/2024	6/16/2024	6/21/2024	6/21/2024	6/26/2024	6/26/2024
Shade Temp (C)	22.8	22.8	19.1	19.1	22.3	22.3
Percent Cloud Cover	0	0	0	0	0	0
Wind Speed	1	1	1	1	1	1
Day 2						
Date, Time	6/17/2024	6/17/2024	6/22/2024	6/22/2024	6/27/2024	6/27/2024
Shade Temp (C)	20.8	20.8	18.4	18.4	23	23
Percent Cloud Cover	0	0	0	0	0	0
Wind Speed	4	4	1	1	1	1
Day 3						
Date, Time	6/18/2024	6/18/2024	6/23/2024	6/23/2024	6/28/2024	6/28/2024
Shade Temp (C)	16.3	16.3	23.1	23.1	19.9	19.9
Percent Cloud Cover	0	0	0	0	0	0
Wind Speed	1	1	1	1	3	3
Day 4						
Date, Time	6/19/2024	6/19/2024	6/24/2024	6/24/2024	6/29/2024	6/29/2024
Shade Temp (C)	21.2	21.2	24.8	24.8	22.2	22.2
Percent Cloud Cover	0	0	10	10	0	0
Wind Speed	2	2	1	1	1	1
Day 5						
Date, Time	6/20/2024	6/20/2024	6/25/2024	6/25/2024	6/30/2024	6/30/2024
Shade Temp (C)	18.1	18.1	21.6	21.6	19.7	19.7
Percent Cloud Cover	0	0	20	20	0	0
Wind Speed	1	1	1	1	1	1

MOHAVE GROUND SQUIRREL SURVEYS - Live trapping Results Form

PI or Reporting Biologist: Karla Flores and Karl Fairchild

Project Name: Adelanto Industrial Park

Grid Name or Number	Trap Session	Start Date	End Date	Trap-days	Number of MGS	Number of AGS	Notes/Comments
1	1	4/13/2024	4/17/2024	5	0	0	Trapped by Karl Fairchild
1	2	5/15/2024	5/19/2024	5	0	1	Trapped by Karl Fairchild
1	3	6/16/2024	6/20/2024	5	0	0	Trapped by Karl Fairchild
2	1	4/13/2024	4/17/2024	5	0	12	Trapped by Karla Flores
2	2	5/15/2024	5/19/2024	5	0	30	Trapped by Karla Flores
2	3	6/16/2024	6/20/2024	5	0	21	Trapped by Karla Flores
3	1	4/19/2024	4/23/2024	5	0	13	Trapped by Karla Flores
3	2	5/21/2024	5/25/2024	5	0	13	Trapped by Karla Flores
3	3	6/21/2024	6/25/2024	5	0	11	Trapped by Karla Flores
4	1	4/19/2024	4/23/2024	5	0	28	Trapped by Karl Fairchild
4	2	5/21/2024	5/25/2024	5	0	65	Trapped by Karl Fairchild
4	3	6/21/2024	6/25/2024	5	0	16	Trapped by Karl Fairchild
5	1	4/24/2024	4/28/2024	5	0	2	Trapped by Karla Flores
5	2	5/26/2024	5/30/2024	5	0	6	Trapped by Karla Flores
5	3	6/26/2024	6/30/2024	5	0	6	Trapped by Karla Flores
6	1	4/24/2024	4/28/2024	5	0	0	Trapped by Karl Fairchild
6	2	5/26/2024	5/30/2024	5	0	9	Trapped by Karl Fairchild
6	3	6/26/2024	6/30/2024	5	0	3	Trapped by Karl Fairchild

MOHAVE GROUND SQUIRREL SURVEYS - Camera trapping Results Form

PI or Reporting Biologist: Karla Flores and Karl Fairchild
Project Name: Adelanto Industrial Park

			Camera Location (dec. deg.)		Date and Time in Operation				Adult MGS Detected			Juvenile MGS Detected			MGS Detection Dates			
Grid Name or Number	Camera #	Session Num.	Latitude	Longitude	Start	End	Number of Photos	Total Num. MGS Photos	Male	Female	Unknown	Male	Female	Unknown	First	Last	Num. Days MGS Detected	Other Species Recorded
1	1	1	34.56941	-117.39978	04/15/2024 15:37	04/20/2024 12:05	12032	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Great Basin whiptail, kangaroo rat, California ground squirrel, deer mouse, desert kit fox
1	2	1	34.57123	-117.39758	04/15/2024 15:52	04/20/2024 12:13	7884	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Coyote
1	3	1	34.56958	-117.39733	04/15/2024 16:05	04/20/2024 12:18	8120	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Horned lark, black-tailed jackrabbit
1	4	1	34.57083	-117.39468	04/15/2024 16:28	04/20/2024 12:26	10021	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, horned lark, California ground squirrel, desert kit fox
1	5	1	34.57035	-117.39347	04/15/2024 16:44	04/20/2024 12:31	9051	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, horned lark
1	1	2	34.56941	-117.39978	05/16/2024 14:03	05/21/2024 15:43	4530	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Great Basin whiptail, black-tailed jackrabbit, California ground squirrel, deer mouse
1	2	2	34.57123	-117.39758	05/16/2024 14:16	05/21/2024 15:58	884	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Silky pocket mouse
1	3	2	34.56958	-117.39733	05/16/2024 14:25	05/21/2024 15:54	383	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Silky pocket mouse
1	4	2	34.57083	-117.39468	05/16/2024 13:41	05/21/2024 16:06	2698	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Kangaroo rat, black-tailed jackrabbit, California ground squirrel, silky pocket mouse
1	5	2	34.57035	-117.39347	05/16/2024 13:47	05/21/2024 16:14	1982	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Horned lark, black-tailed jackrabbit, mourning dove
1	1	3	34.56941	-117.39978	06/17/2024 11:04	06/22/2024 08:53	3630	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Great Basin whiptail, black-tailed jackrabbit, California ground squirrel, deer mouse
1	2	3	34.57123	-117.39758	06/17/2024 11:18	06/22/2024 09:06	910	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Black-tailed jackrabbit, silky pocket mouse
1	3	3	34.56958	-117.39733	06/17/2024 11:26	06/22/2024 09:02	761	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, kangaroo rat, black-tailed jackrabbit, silky pocket mouse
1	4	3	34.57083	-117.39468	06/17/2024 11:35	06/22/2024 09:18	3138	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Kangaroo rat, California ground squirrel, silky pocket mouse
1	5	3	34.57035	-117.39347	06/17/2024 11:48	06/22/2024 09:14	395	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, California ground squirrel, silky pocket mouse, mourning dove
2	6	1	34.57090	-117.39074	04/15/2024 12:36	04/18/2024 15:43	12246	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven
2	7	1	34.56989	-117.38904	04/15/2024 12:51	04/20/2024 12:56	24870	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, common raven, silky pocket mouse, side-blotched lizard
2	8	1	34.57127	-117.38541	04/15/2024 13:46	04/20/2024 13:14	10843	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White tailed antelope ground squirrel, common raven, kangaroo rat, black-tailed jackrabbit, silky pocket mouse, deer mouse, desert kit ox
2	9	1	34.57051	-117.38473	04/15/2024 13:25	04/20/2024 13:10	15431	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, horned lark, black-tailed jackrabbit, side blotched lizard, desert kit fox
2	10	1	34.56879	-117.38725	04/15/2024 13:09	04/17/2024 15:35	12888	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, black-tailed jackrabbit
2	6	2	34.57090	-117.39074	05/16/2024 10:17	05/21/2024 18:04	2653	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, horned lark, mourning dove
2	7	2	34.56989	-117.38904	05/16/2024 10:31	05/21/2024 18:18	14301	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, Great Basin whiptail, common raven, mourning dove
2	8	2	34.57127	-117.38541	05/16/2024 11:06	05/21/2024 18:39	13011	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, Great Basin whiptail, black-tailed jackrabbit, deer mouse, mourning dove
2	9	2	34.57051	-117.38473	05/16/2024 10:55	05/21/2024 18:36	15521	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, black-tailed jackrabbit, mourning dove
2	10	2	34.56879	-117.38725	05/16/2024 10:42	05/21/2024 18:23	8436	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, mourning dove
2	6	3	34.57090	-117.39074	06/17/2024 09:52	06/22/2024 12:29	2622	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Spiny pocket mouse, common raven, black-tailed jackrabbit, California ground squirrel, deer mouse, mourning dove
2	7	3	34.56989	-117.38904	06/17/2024 10:06	06/22/2024 12:44	11901	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, coyote, spiny pocket mouse, common raven, black-tailed jackrabbit, mourning dove
2	8	3	34.57127	-117.38541	06/17/2024 10:42	06/22/2024 13:07	12990	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, Great Basin whiptail, horned lark, black-tailed jackrabbit, deer mouse, mourning dove
2	9	3	34.57051	-117.38473	06/17/2024 10:49	06/22/2024 13:03	15957	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, horned lark, black-tailed jackrabbit, deer mouse, mourning dove
2	10	3	34.56879	-117.38725	06/17/2024 10:19	06/22/2024 12:49	5562	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, spiny pocket mouse, common raven, horned lark, mourning dove
3	11	1	34.56770	-117.38925	04/21/2024 17:57	04/27/2024 17:18	7875	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, domestic dog, common raven, black-tailed jackrabbit, side-blotched lizard, mourning dove
3	12	1	34.56659	-117.38771	04/21/2024 18:09	04/27/2024 17:11	14718	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, black-tailed jackrabbit, mourning dove
3	13	1	34.56558	-117.38970	04/21/2024 18:19	04/27/2024 17:09	14328	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, black-tailed jackrabbit
3	14	1	34.56717	-117.38576	04/21/2024 18:44	04/27/2024 17:00	10207	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, silky pocket mouse
3	15	1	34.56570	-117.38475	04/21/2024 18:31	04/27/2024 16:54	2946	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, black-tailed jackrabbit, side-blotched lizard
3	11	2	34.56770	-117.38925	05/22/2024 11:06	05/27/2024 15:09	15166	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, black-tailed jackrabbit, silky pocket mouse, mourning dove
3	12	2	34.56659	-117.38771	05/22/2024 10:52	05/27/2024 15:13	4675	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, kangaroo rat, black-tailed jackrabbit, silky pocket mouse
3	13	2	34.56558	-117.38970	05/22/2024 11:19	05/27/2024 15:04	21909	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, Great Basin whiptail, black-tailed jackrabbit, house sparrow, mourning dove
3	14	2	34.56717	-117.38576	05/22/2024 10:40	05/27/2024 15:17	9726	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Horned lark, black-tailed jackrabbit, house sparrow, mourning dove
3	15	2	34.56570	-117.38475	05/22/2024 10:27	05/27/2024 15:24	9685	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Great Basin whiptail, horned lark, black-tailed jackrabbit, mourning dove
3	11	3	34.56770	-117.38925	06/22/2024 11:46	06/28/2024 12:42	17204	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, Great Basin whiptail, common raven, black-tailed jackrabbit, silky pocket mouse, mourning dove
3	12	3	34.56659	-117.38771	06/22/2024 11:55	06/28/2024 12:37	3977	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, horned lark, black-tailed jackrabbit, silky pocket mouse, mourning dove
3	13	3	34.56558	-117.38970	06/22/2024 11:37	06/28/2024 12:48	12285	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, black-tailed jackrabbit, silky pocket mouse, mourning dove
3	14	3	34.56717	-117.38576	06/22/2024 12:04	06/28/2024 12:31	7773	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, black-tailed jackrabbit, mourning dove
3	15	3	34.56570	-117.38475	06/22/2024 11:25	06/28/2024 13:42	7138	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, common raven, black-tailed jackrabbit, California ground squirrel, mourning dove
4	16	1	34.57109	-117.38161	04/21/2024 12:04	04/27/2024 17:05	9306	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, common raven, horned lark, black-tailed jackrabbit, silky pocket mouse

4	17	1	34.56971	-117.38010	04/21/2024 11:26	04/27/2024 17:01	3196	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, kangaroo rat, black-tailed jackrabbit, silky pocket mouse, deer mouse
4	18	1	34.56965	-117.37824	04/21/2024 11:50	04/26/2024 14:54	20734	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, Great Basin whiptail, black-tailed jackrabbit, silky pocket mouse
4	19	1	34.57091	-117.37581	04/21/2024 11:09	04/27/2024 16:58	4660	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, mourning dove
4	20	1	34.56935	-117.37565	04/21/2024 10:43	04/27/2024 16:48	8847	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, common raven, kangaroo rat, black-tailed jackrabbit
4	16	2	34.57109	-117.38161	05/22/2024 14:30	05/27/2024 14:44	5589	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, spiny pocket mouse, common raven, horned lark, black-tailed jackrabbit
4	17	2	34.56971	-117.38010	05/22/2024 14:51	05/27/2024 14:33	2951	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, common raven, horned lark, black-tailed jackrabbit, mourning dove
4	18	2	34.56965	-117.37824	05/22/2024 15:03	05/27/2024 14:33	8021	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, spiny pocket mouse, common raven, horned lark, black-tailed jackrabbit
4	19	2	34.57091	-117.37581	05/22/2024 15:22	05/27/2024 14:19	7659	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, common raven, horned lark, black-tailed jackrabbit, silky pocket mouse
4	20	2	34.56935	-117.37565	05/22/2024 15:15	05/27/2024 14:06	5772	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, Great Basin whiptail, common raven, kangaroo rat, horned lark, black-tailed jackrabbit
4	16	3	34.57109	-117.38161	06/21/2024 19:18	06/28/2024 13:50	6773	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, spiny pocket mouse, horned lark, mourning dove
4	17	3	34.56971	-117.38010	06/21/2024 19:27	06/28/2024 13:56	1993	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, spiny pocket mouse, horned lark, black-tailed jackrabbit, mourning dove
4	18	3	34.56965	-117.37824	06/21/2024 19:40	06/28/2024 14:04	8538	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, coyote, spiny pocket mouse, common raven, black-tailed jackrabbit, mourning dove
4	19	3	34.57091	-117.37581	06/21/2024 19:55	06/28/2024 14:11	7194	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, Great Basin whiptail, spiny pocket mouse, common raven, kangaroo rat, black-tailed jackrabbit, mourning dove
4	20	3	34.56935	-117.37565	06/21/2024 20:09	06/28/2024 14:23	2877	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, coyote, spiny pocket mouse, common raven, kangaroo rat
5	26	1	34.56264	-117.38195	04/25/2024 11:22	04/28/2024 15:55	4662	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, black-tailed jackrabbit
5	27	1	34.56368	-117.37973	04/25/2024 11:40	04/28/2024 15:10	4712	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven
5	28	1	34.56325	-117.37818	04/25/2024 11:52	04/28/2024 15:05	2004	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, kangaroo rat
5	29	1	34.56425	-117.37551	04/25/2024 12:11	04/28/2024 17:52	3699	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven
5	30	1	34.56236	-117.37608	04/25/2024 12:26	04/28/2024 18:01	1650	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, black-tailed jackrabbit
5	26	2	34.56264	-117.38195	05/26/2024 10:18	05/30/2024 15:21	192	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Spiny pocket mouse, common raven, kangaroo rat, horned lark, silky pocket mouse, desert kit fox
5	27	2	34.56368	-117.37973	05/26/2024 10:30	05/30/2024 15:17	1656	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, Great Basin whiptail, horned lark, black-tailed jackrabbit, silky pocket mouse, side-blotched lizard
5	28	2	34.56325	-117.37818	05/26/2024 10:39	05/30/2024 15:13	258	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, kangaroo rat, horned lark, silky pocket mouse
5	29	2	34.56425	-117.37551	05/26/2024 11:00	05/30/2024 18:25	1420	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, kangaroo rat, silky pocket mouse, side-blotched lizard
5	30	2	34.56236	-117.37608	05/26/2024 10:50	05/30/2024 18:30	304	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Horned lark
5	26	3	34.56264	-117.38195	06/26/2024 18:12	06/30/2024 11:10	1157	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Spiny pocket mouse, horned lark, black-tailed jackrabbit
5	27	3	34.56368	-117.37973	06/26/2024 18:22	06/30/2024 10:37	1571	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, horned lark, black-tailed jackrabbit, mourning dove
5	28	3	34.56325	-117.37818	06/26/2024 18:31	06/30/2024 10:49	813	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Kangaroo rat, horned lark, black-tailed jackrabbit, mourning dove
5	29	3	34.56425	-117.37551	06/26/2024 19:32	06/30/2024 11:33	1706	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Spiny pocket mouse, common raven, black-tailed jackrabbit, silky pocket mouse, mourning dove
5	30	3	34.56236	-117.37608	06/26/2024 19:45	06/30/2024 11:35	301	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, black-tailed jackrabbit, silky pocket mouse
6	21	1	34.56768	-117.38124	04/25/2024 13:15	04/28/2024 18:22	2745	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, desert kit fox
6	22	1	34.56648	-117.37994	04/25/2024 13:03	04/28/2024 18:25	711	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, mourning dove
6	23	1	34.56579	-117.38115	04/25/2024 12:53	04/28/2024 18:31	6957	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, common raven, horned lark
6	24	1	34.56756	-117.37747	04/25/2024 15:12	04/28/2024 17:16	1068	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, black-tailed jackrabbit
6	25	1	34.56631	-117.37560	04/25/2024 14:56	04/28/2024 16:45	1878	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven
6	21	2	34.56768	-117.38124	05/26/2024 15:12	05/30/2024 14:45	3135	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, common raven, horned lark, black-tailed jackrabbit, silky pocket mouse, mourning dove
6	22	2	34.56648	-117.37994	05/26/2024 15:04	05/30/2024 14:50	4887	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Great Basin whiptail, common raven, horned lark
6	23	2	34.56579	-117.38115	05/26/2024 14:54	05/30/2024 14:53	7959	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, Great Basin whiptail, spiny pocket mouse, horned lark, black-tailed jackrabbit
6	24	2	34.56756	-117.37747	05/26/2024 17:29	05/30/2024 18:01	2835	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, horned lark, black-tailed jackrabbit, silky pocket mouse
6	25	2	34.56631	-117.37560	05/26/2024 15:33	05/30/2024 17:25	4654	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, black-tailed jackrabbit
6	21	3	34.56768	-117.38124	06/26/2024 19:19	06/30/2024 09:40	1118	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, spiny pocket mouse, horned lark, black-tailed jackrabbit, Say's phoebe, mourning dove
6	22	3	34.56648	-117.37994	06/26/2024 19:11	06/30/2024 09:34	2623	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Common raven, horned lark, black-tailed jackrabbit, mourning dove
6	23	3	34.56579	-117.38115	06/26/2024 19:02	06/30/2024 09:30	5157	0	NA	NA	NA	NA	NA	NA	NA	NA	0	White-tailed antelope ground squirrel, coyote, spiny pocket mouse, horned lark, black-tailed jackrabbit, side-blotched lizard, desert kit fox
6	24	3	34.56756	-117.37747	06/26/2024 20:23	06/30/2024 10:52	4787	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Coyote, common raven, black-tailed jack rabbit, mourning dove, silky pocket mouse
6	25	3	34.56631	-117.37560	06/26/2024 20:14	06/30/2024 11:19	4007	0	NA	NA	NA	NA	NA	NA	NA	NA	0	Coyote, common raven, black-tailed jackrabbit, mourning dove

Attachment B

Common name	Scientific name	Special Status
Plants: Trees and Shrubs		
white bursage	<i>Ambrosia dumosa</i>	
cheesebush	<i>Ambrosia salsola</i>	
four-wing saltbush	<i>Atriplex canescens</i>	
silver cholla	<i>Cylindropuntia echinocarpa</i>	
Nevada jointfir	<i>Ephedra nevadensis</i>	
Cooper's goldenbush	<i>Ericameria cooperi</i>	
rubber rabbitbrush	<i>Ericameria nauseosa</i>	
spiny hopsage	<i>Grayia spinosa</i>	
winterfat	<i>Krascheninnikovia lanata</i>	
creosote	<i>Larrea tridentata</i>	
Cooper's boxthorn	<i>Lycium cooperi</i>	
Anderson's thornbush	<i>Lycium andersonii</i>	
salt cedar	<i>Tamarix ramosissima</i>	
cottonthorn	<i>Tetradymia stenolepis</i>	
Joshua tree	<i>Yucca brevifolia</i>	
Plants: Forbs and Grasses		
Indian rice grass	<i>Achnatherum hymenoides</i>	
Wild onion	<i>Allium fimbriatum</i>	
fiddleneck	<i>Amsinckia tessellata</i>	
freckled milkvetch	<i>Astragalus lentiginosus</i>	
fox tail brome	<i>Bromus madritensis</i>	
cheatgrass	<i>Bromus tectorum</i>	
desert mariposa lily	<i>Calochortus kennedyi</i>	
California mustard	<i>Caulanthus lasiophyllus</i>	
desert pincushion	<i>Chaenactis fremontii</i>	
brown eyes	<i>Chylismia claviformis</i>	
cryptantha	<i>Cryptantha sp.</i>	
blue dicks	<i>Dipterostemon capitatus</i>	
Sapphire woolly star	<i>Eriastrum sapphirinum</i>	
rose and white buckwheat	<i>Eriogonum gracillimum</i>	
red-stemmed filaree	<i>Erodium cicutarium</i>	
rattlesnake sandmat	<i>Euphorbia albomarginata</i>	
little gilia	<i>Gilia minor</i>	
short-podded mustard	<i>Hirschfeldia incana</i>	
wall barley	<i>Hordeum murinum</i>	
California goldfields	<i>Lasthenia californica</i>	
desert pepperweed	<i>Lepidium fremontii</i>	
Mojave parsley	<i>Lomantium mohavense</i>	
Mojave lupine	<i>Lupinus odoratus</i>	
desert dandelion	<i>Malacothrix glabrata</i>	
Russian thistle	<i>Salsola tragus</i>	

Common name	Scientific name	Special Status
Mediterranean grass	<i>Schismus barbatus</i>	
London rocket	<i>Sisymbrium irio</i>	
desert mallow	<i>Sphaeralcea ambigua</i>	
Birds		
white-throated swift	<i>Aeronautes saxatalis</i>	
black-throated sparrow	<i>Amphispiza bilineata</i>	
American pipit	<i>Anthus rubescens</i>	
burrowing owl	<i>Athene cunicularia</i>	SSC
red-tailed hawk	<i>Buteo jamaicensis</i>	
turkey vulture	<i>Cathartes aura</i>	
killdeer	<i>Charadrius vociferus</i>	
lark sparrow	<i>Chondestes grammacus</i>	
rock pigeon	<i>Columba livia</i>	
common raven	<i>Corvus corax</i>	
horned lark	<i>Eremophila alpestris</i>	
American kestrel	<i>Falco sparverius</i>	
house finch	<i>Haemorhous mexicanus</i>	
barn swallow	<i>Hirundo rustica</i>	
loggerhead shrike	<i>Lanius ludovicianus</i>	SSC
northern mockingbird	<i>Mimus polyglottos</i>	
ash-throated flycatcher	<i>Myiarchus cinerascens</i>	
house sparrow	<i>Passer domesticus</i>	
Savannah sparrow	<i>Passerculus sandwichensis</i>	
cliff swallow	<i>Petrochelidon pyrrhonota</i>	
rock wren	<i>Salpinctes obsoletus</i>	
Say's phoebe	<i>Sayornis saya</i>	
pine siskin	<i>Spinus pinus</i>	
European starling	<i>Sturnus vulgaris</i>	
violet-green swallow	<i>Tachycineta thalassina</i>	
western kingbird	<i>Tyrannus verticalis</i>	
mourning dove	<i>Zenaida macroura</i>	
Mammals		
white-tailed antelope ground squirrel	<i>Ammospermophilus leucurus</i>	
domestic dog	<i>Canis familiaris</i>	
coyote	<i>Canis latrans</i>	
kangaroo rat	<i>Dipodomys sp.</i>	
black-tailed jackrabbit	<i>Lepus californicus</i>	
California ground squirrel	<i>Otospermophilus beecheyi</i>	
Silky pocket mouse	<i>Perognathus sp.</i>	
deer mouse	<i>Peromyscus maniculatus</i>	
desert kit fox	<i>Vulpes macrotis</i>	

Common name	Scientific name	Special Status
Reptiles		
Great Basin whiptail	<i>Aspidoscelis tigris</i>	
Mojave rattlesnake	<i>Crotalus scutulatus</i>	
long-nosed leopard lizard	<i>Gambelia wislizenii</i>	
side-blotched lizard	<i>Uta stansburiana</i>	
SSC: Species of Special Concern		

Attachment C



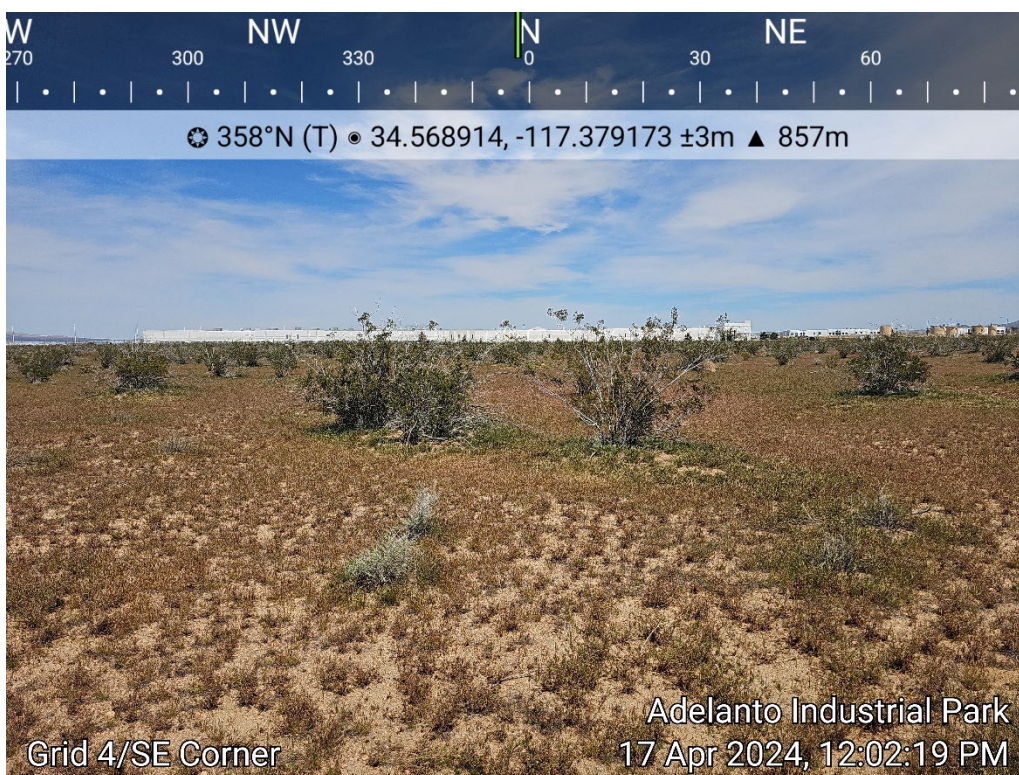
Photograph 1: Grid 1 overview, facing south.



Photograph 2: Grid 2 overview, facing north.



Photograph 3: Grid 3 overview, facing north.



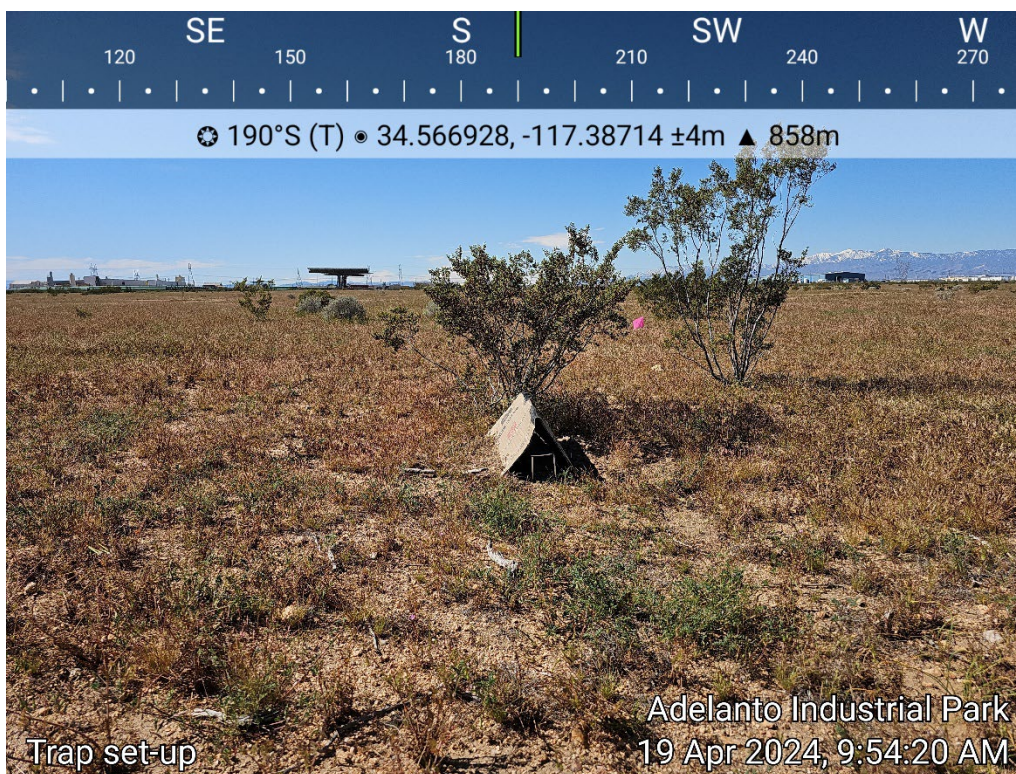
Photograph 4: Grid 4 overview, facing north.



Photograph 5: Grid 5 overview, facing south.



Photograph 6: Grid 6 overview and camera trap set up, facing southeast.



Photograph 7: Representative trap station, facing south



Photograph 8: Representative camera trap station, facing east.



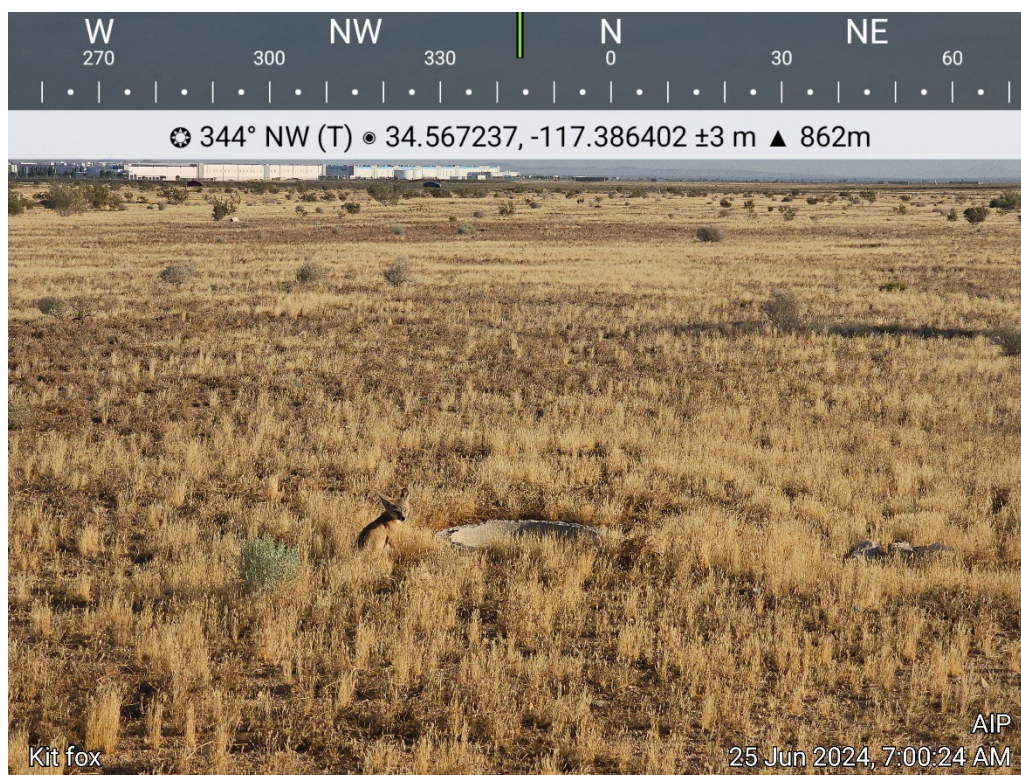
Photograph 9: Winterfat (*Krascheninnikovia lanata*), MGS food plant.



Photograph 10: Antelope ground squirrel (*Ammospermophilus leucurus*; AGS), facing northeast.



Photograph 11: California ground squirrel (*Otospermophilus beecheyi*), captured in trap.



Photograph 12: Desert kit fox (*Vulpes macrotis*), facing north.



Photograph 13: Burrowing owl (*Athene cunicularia*) in Grid 6.



Photograph 14: Mojave green rattlesnake (*Crotalus scutulatus*) captured at trap station.