

Rare Plant Survey

45101 Afton Canyon Road, Baker, CA 92309

APN 0542-131-54

P201600525/CUP-CF

SAN BERNARDINO COUNTY, CA

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Executive Summary

This report includes field survey findings and recommendations for a rare plant previously located on a project site at 45101 Afton Canyon Road, Baker, CA 92309. Small-flowered androstephium (*Androstephium breviflorum*) has a CNPS rank of 2.B2 and meets the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380. Therefore, a focused survey for this species was conducted on April 4, 2018. No small-flowered androstephium were found or are likely to occur on site.

Checking a nearby reference site for the presence or absence of this plant could help ascertain if it is generally visible above ground this year. Such information would be helpful in ruling out below ground presence on the project site. *However, the reference site check would need to be conducted by early May before the blooming season ends.*

Introduction

The project applicant is proposing to develop seven acres of a lot south of the I-15 Afton Road off-ramp, located in San Bernardino County, CA (Township 11 N, Range 5 E, Section 1) (Figure 1). Plans are to develop a truck stop, including a 7,000 sq ft convenience store and 2,950 sq ft automotive repair and towing facility (Figure 2).

Small-flowered androstephium was previously observed on the property (Figure 4); therefore focused surveys for androstephium were recommended in a 2016 general biological assessment (DRG, 2016).

Regulatory Status

Rarity Status:

Small-flowered androstephium
(*Androstephium breviflorum*)

California Rare Plant Rank: 2B.2
Rare or Endangered in California

Federal Listing Status:

Not Listed

State Listing Status:

Not Listed

State Rank:

S2: Imperiled.

Small-flowered androstephium (*Androstephium breviflorum*) has a CNPS rank of 2.B2. It rare within California, but common elsewhere. From the federal perspective, plants common in other states or countries are not eligible for consideration under the provisions of the Federal Endangered Species Act. However, all California Rare Plant Rank 2B plants meet the definitions of the California Endangered Species Act of the California Department of Fish and Game Code, and are eligible for state listing.

Impacts to these species or their habitat must be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380.

Property and Project Description

The property is located at 45101 Afton Canyon Road, Baker, CA 92309 in San Bernardino County, CA (Township 11 N, Range 5 E, Section 1) (Figure 1). The proposed project site is adjacent to the I-15 north Afton Road off-ramp, at the intersection of Afton Road and 20866 County Road (Figure 2). The property supports a native plant community primarily composed of creosote bush, white bursage, desert holly, and flowering annuals (Appendix B, C). The USGS Dunn, CA Quadrangle does not show any blueline channels on the property (Figure 3; USGS 2011); however two branches of an unnamed tributary to the Mojave River begin within property boundaries (Images 2-3).

The area surrounding the property is composed of mostly open space. However, Desert Star Ranch and Jimbo's Bar and Grill are just north of the proposed project site, on the other side of I-15. Afton Canyon Campground is approximately two and a half miles southeast of the property. The province of Dunn, CA is approximately two miles southwest of the property.

The proposed project includes development of approximately seven acres on the southeast quadrant of the lot (APN: 0542-131-54) (Figure 2). Development plans include a truck stop, automotive repair shop, a towing business, and parking spaces. Two buildings are planned for development; a 7,000 sq ft convenience store and restaurant with a dining area, as well as a 2,950 sq ft automotive repair and towing facility.

Literature Review

Prior to the June 2016 biological field surveys, CDFW and USFWS data sources were reviewed to determine which species of special concern may occur on or near the property. Davey Resources Group (2016) documents the results of that database review and field surveys. Using the California Natural Diversity Database (CNDDDB 2016a) two special status plant species were identified as having the potential to occur within 5 miles of the property (Table 1; CNDDDB 2016a); Emory's crucifixion thorn *Castela emoryi* and small-flowered androstephium *Androstephium breviflorum*. Species and life history accounts were reviewed for each of the listed species in order to gather the required information (physical descriptions, range, habitat requirements etc.) to determine their potential presence/absence on the proposed project site.

Using the CNDDDB BIOS mapping system, it was determined that small-flowered androstephium was observed on the property in 2008; (Figure 4; 2016b). *Androstephium breviflorum* is listed as 2B.2 by the California Native Plant Society, Rare Plant Program (CNDDDB 2016b).

A General Biological Resources Assessment was prepared for the project proponent July 1, 2016 (DRG 2016). The Assessment recommended focused surveys for small-flowered androstephium during its blooming period (March-April; Sanders n.d.(b)). It was determined that there is no suitable habitat for Emory's crucifixion thorn on the project site (Sanders n.d.(a), Table 1).

Methodologies

Biologist Tanessa Hartwig reviewed nearby records in the Calflora database to determine an appropriate date for a focused survey (Calflora 2018). The property was surveyed on April 3, 2018 by Tanessa Hartwig. Observations took place between 0830 and 0430 hours. Skies were mostly clear. A light breeze persisted from the east. Temperatures ranged from 66 to 86 degrees Fahrenheit. All vascular plant species observed were recorded in a field notebook. Plants were identified to species on-site or collected and/or photographed for further determination off site. Although wildlife was not the focus of this survey, incidental observations of wildlife or wildlife sign (tracks, scat, etcetera) were noted.

The footprint of the project, plus an approximate 20-foot buffer, was traversed in 4-meter parallel but meandering southwest-northeast transects. Meandering 4-meter transects were chosen due to the inconspicuous nature of the focus plant, to ensure that the entire surface area of the site was observed. Sandy areas were given particular attention because small-flowered androstephium is known to prefer such habitats (Sanders n.d.(b); see also Calflora 2018). At this site, sandy areas were primarily found surrounding mature shrubs or within the unnamed washes.

Survey Results

The property contained colorful native annuals amid fairly widely spaced shrubs at the time the survey was conducted. The entire site consisted of one vegetation community; Mojave creosote bush scrub (Images 1-3; Holland 1986). Common shrubs included creosote bush *Larrea tridentata*, white bursage *Ambrosia dumosa*, and desert holly *Atriplex hymenelytra*. Common annuals included desert dandelion *Malacothrix glabrata*, desert poppy *Eschscholzia glyptosperma*, and desert chicory *Rafinesquia californica* (Image 4). No signs of small-flowered androstephium were identified on site at the time of the surveys. Table 2 lists all vascular plant species observed on the project site during the survey and identified afterwards.

Conclusion

No small-flowered androstephium was observed on the project site at the time the survey was conducted (April 3, 2018). The last known observation of small-flowered androstephium on the property was in 2008 (CNDDDB 2016b). Small-flowered androstephium is a geophyte (a plant that grows from an underground bulb or corm). As such, it may not bloom every year and may bloom only when conditions are suitable, often after wet years or after a fire (Lulow and Young 2011).

However, both 2008 and 2018 winters were dry compared to normal (Table 4; NOAA 2018). Since weather conditions were comparable between the years, and no androstephium was observed this year versus observed in 2008, it is possible that the androstephium population at the project site expired. Therefore, the potential for small-flowered androstephium to occur on the project site or be impacted by the project is low.

Checking a nearby reference site for the presence or absence of this plant could help ascertain if it generally visible above ground this year. Such information would be helpful in ruling out below ground presence on the project site. *However, the reference site check would need to be conducted by early May before the blooming season ends.*

Literature Cited

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Sanders AC. n.d.(b) Small-flowered androstephium *Androstephium breviflorum*. Department of Botany and Plant Sciences, University of California, Riverside (CA). U.S. Department of the Interior, Bureau of Land Management (BLM).

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Appendix A- Figures

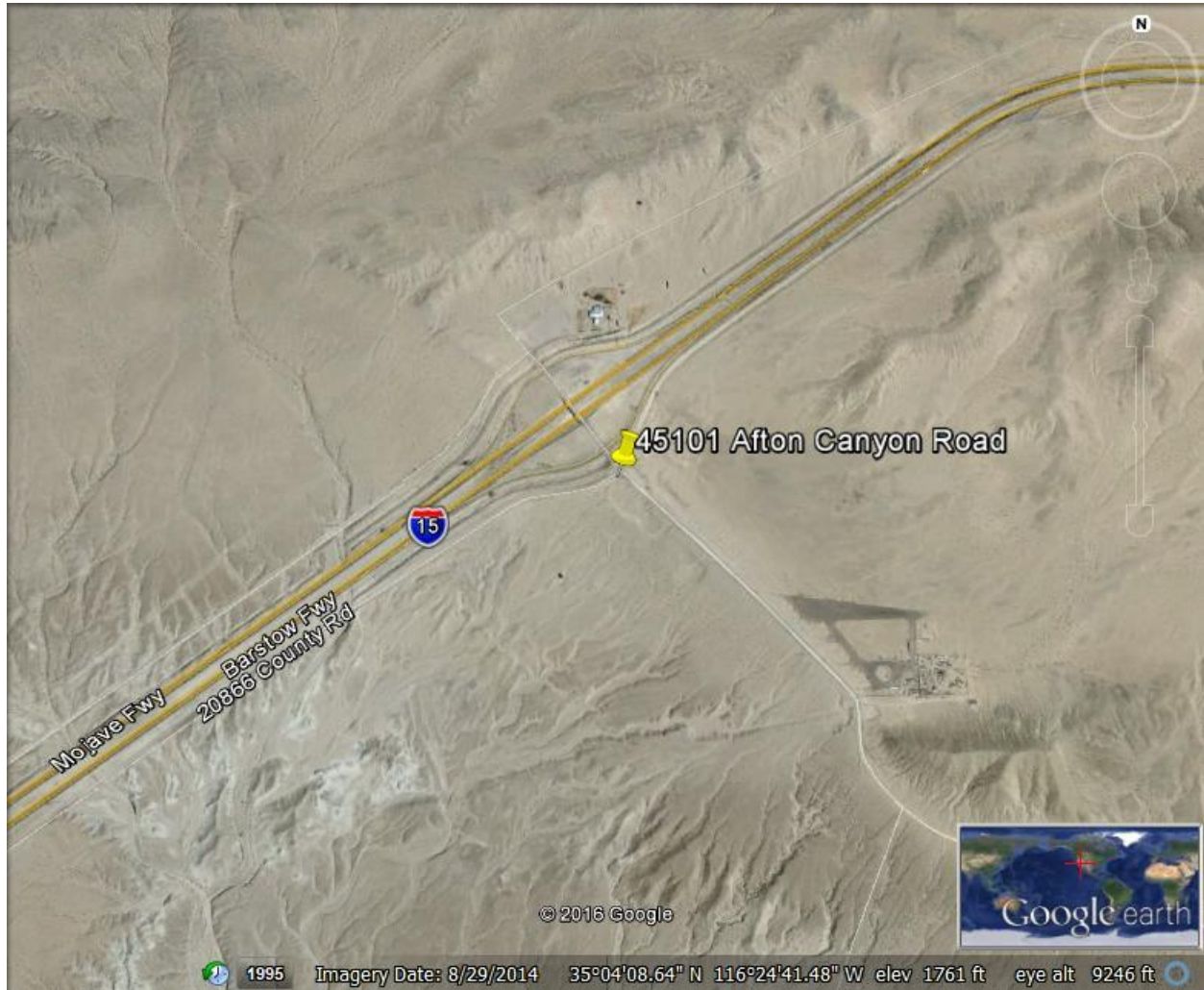


Figure 1. Property location- 45101 Afton Canyon Road., Baker, CA 92309. Satellite Image.

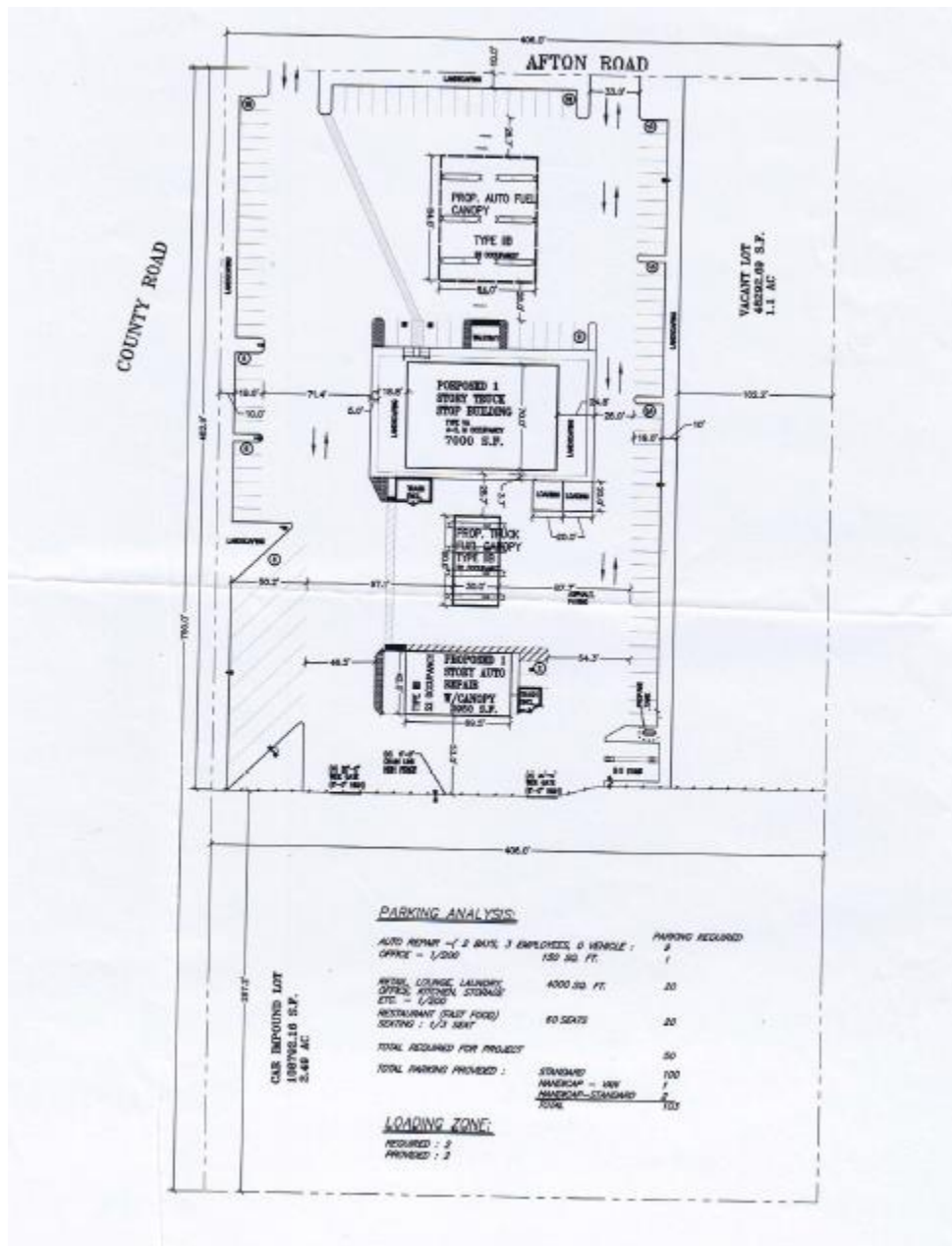


Figure 2. Proposed project plans- 45101 Afton Canyon Road., Baker, CA 92309.

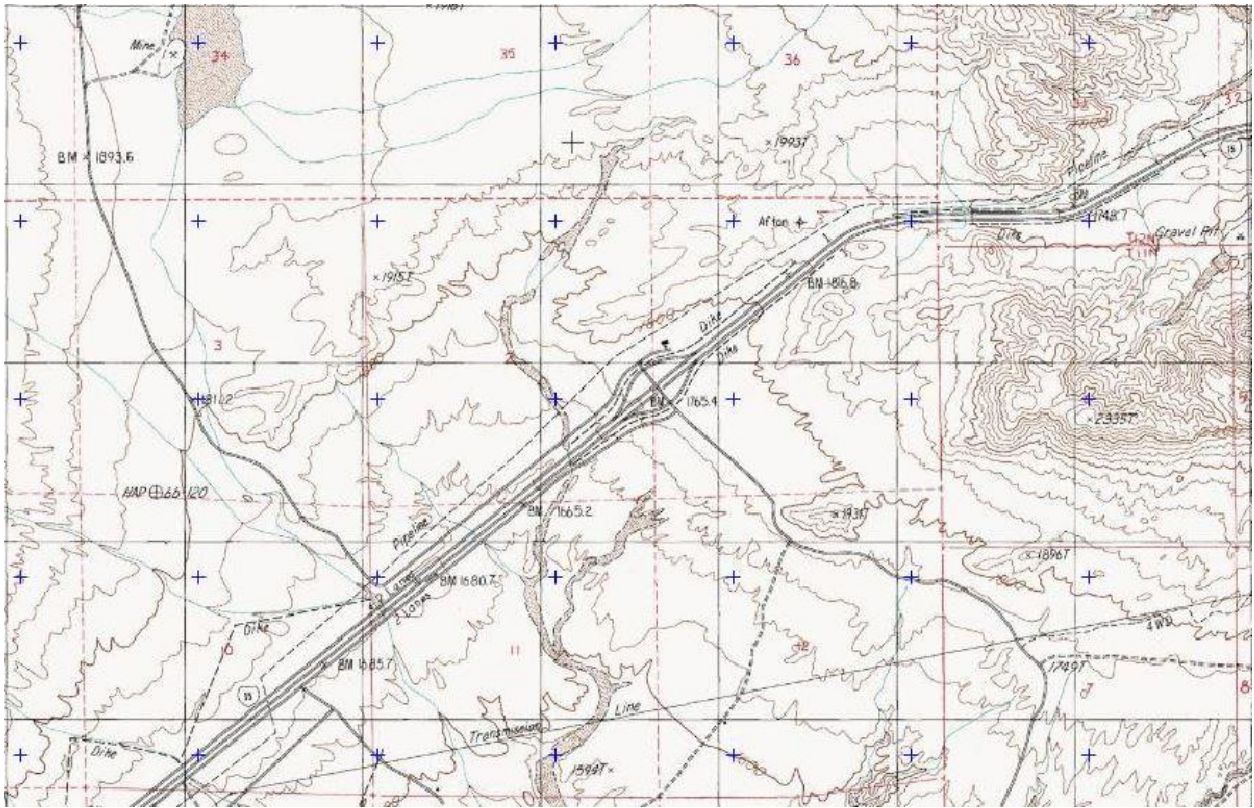


Figure 3. USGS Dunn CA, Quad., close-up map for proposed project location. (USGS 2011).

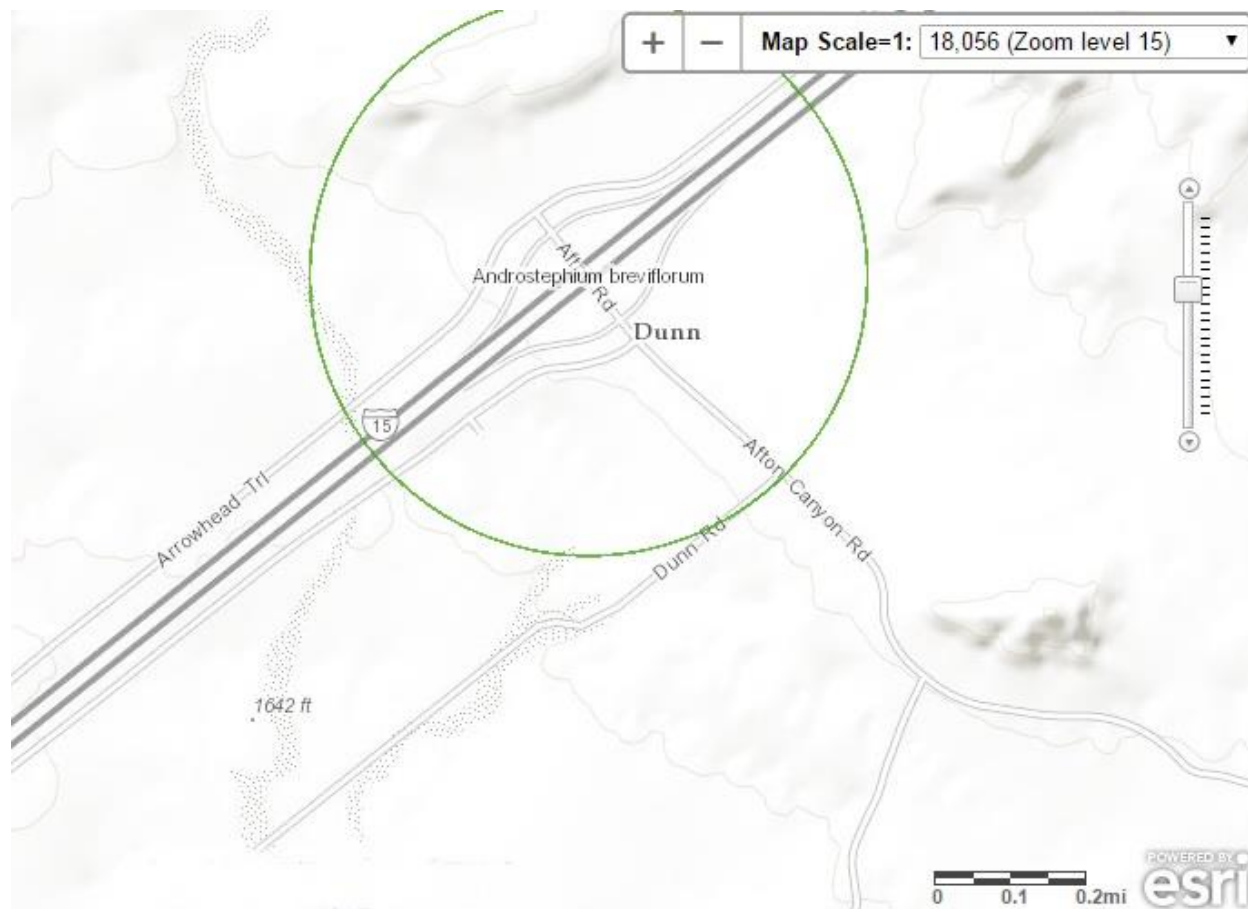


Figure 4. CNDDDB database map showing small-flowered androstephium *Androstephium breviflorum* occurring on the proposed project site occ. 79 (2016b).

Appendix B- Tables

Table 1. Special status plant species occurring within 5 miles of the proposed project site, CNDDDB (2016a).

Name (common/ <i>scientific</i>)	Listing Status	Habitat Requirements	Presence/ Absence	Comments
Emory's crucifixion-thorn <i>Castela emoryi</i>	CNPS: 2B.2	Gravelly washes, playas, drainage ways	No suitable habitat on site.	
Small-flowered androstephium <i>Androstephium breviflorum</i>	CNPS:2B.2	Desert dunes Mojavean desert scrub (bajadas)	Potential to occur on site.	Known to occur within the proposed project site.

(F: federal, S: state, SSC: species of special concern, FP: fully protected, WL: watch list, G: global)

Table 2. Vascular vegetation observed on the proposed project site April 3, 2018.

Scientific Name	Common Name
<u>Shrubs</u>	
<i>Ambrosia dumosa</i>	White bursage, burrobrush
<i>Atriplex hymenelytra</i>	Desert holly
<i>Cylindropuntia</i> sp.	Cholla
<i>Larrea tridentata</i>	Creosote bush
<u>Annuals</u>	
<i>Chorizanthe rigida</i>	Devil's spineflower
<i>Cleomella obtusifolia</i>	Mojave cleomella
<i>Cryptantha angustifolia</i>	Narrow leaved cryptantha
<i>Eremothera boothii</i> ssp. <i>desertorum</i>	Woody bottle-washer
<i>Erodium cicutarium</i> [^]	Redstem stork's bill
<i>Eschscholzia glyptosperma</i>	Desert poppy
<i>Geraea canescens</i>	Desert gold
<i>Lepidium densiflorum</i>	Common peppergrass
<i>Malacothrix glabrata</i>	Desert dandelion
<i>Monoptilon belliodes</i>	Mojave desert star
<i>Nama demissa</i> var. <i>demissa</i>	Purple mat
<i>Plantago ovata</i>	Wooly plantain
<i>Rafinesquia neomexicana</i>	Desert chicory
<i>Mentzelia albicaulis</i>	Whitestem blazingstar
<i>Amsinkia tessellata</i>	Bristly fiddleneck
<i>Chaenactis fremontii</i>	Fremont pincushion
<i>Croton setiger</i>	Doveweed

[^]non-native

Table 3. Wildlife observed on the proposed project site April 3, 2018.

Common Name	Scientific Name
<u>Insects</u>	
Inflated desert spider beetle	<i>Cysteodemus armatus</i>
<u>Reptiles</u>	
Desert iguana	<i>Dipsosaurus dorsalis dorsalis</i>
Side-blotched lizard	<i>Uta stansburiana elegans</i>
Western zebra-tailed lizard	<i>Callisaurus draconoides rhodostictus</i>
Several unidentified lizard spp.	Suborder Sauria
<u>Birds</u>	
Common raven	<i>Corvus corax</i>
<u>Mammals</u>	
Round-tailed ground squirrel	<i>Xerospermophilus tereticaudus</i>
Kangaroo rat (possible burrows)	<i>Dipodomys</i> sp.

Table 4. Weather data at Daggett Airport weather station winter 2008 and 2018, 25 miles from project site.

Month	Precipitation 2007/2008 (inches)*	Departure from Normal (inches)^	Precipitation 2017/2018 (inches)	Departure from Normal (inches)
Dec	.05	-.52	Trace	-.57
Jan	.77	.17	.40	-.20
Feb	.03	-.63	.01	-.65
Mar	Trace	-.50	.62	.12
Total	.85	-1.48	1.03	-1.30

*Total liquid content

^1981-2010 data used as the standard for normal

Appendix C- Images



Image 1. Proposed project site, view from Afton Canyon Road looking southeast



Image 2. Proposed project site, view from southwest end of project site looking north-northeast.



Image 3. View from Afton Canyon Rd, looking southwest.



Image 4. Some common annuals on project site: desert dandelion, desert chicory, and Fremont pincushion