Appendix D-3

Segment 1 Botanical Resources Survey Report

Environmental Intelligence, LLC

BOTANICAL SURVEY REPORT

GALE TO PISGAH PROJECT

SAN BERNARDINO COUNTY, CALIFORNIA

Prepared For:

Biological Resources Group
Southern California Edison
2244 Walnut Grove Avenue
Rosemead, CA 91770
Contact: Lori Charpentier

Prepared By:

Environmental Intelligence
1590 South Coast Highway, Suite 17
Laguna Beach, CA 92651
Contact: Travis Kegel

Date: August 1, 2017

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1.0 INTRODUCTION

Environmental Intelligence, LLC (EI) was retained by Southern California Edison (SCE) to conduct surveys for special-status plant species on the Gale to Pisgah Project (Proposed Project). The Proposed Project would require installation of new telecommunication lines to connect the Gale Substation to the Pisgah Substation. This report presents the findings of focused surveys for rare plants in suitable habitat within the Proposed Project area.

1.1 Project Location and Description

The Proposed Project is located in San Bernardino County, California, extending east-southeast from Gale Substation (approximately 1 mile ESE of Daggett and 9 miles ESE of Barstow) for approximately 29 miles to Pisgah Substation (Exhibit 1). The Proposed Project alignment passes through the following United States Geological Survey (USGS) 7.5-minute quadrangles: Minneola, Newberry Springs, Troy Lake, and Hector. Land surrounding the Proposed Project includes agricultural areas, off-highway vehicle recreation areas, and undisturbed desert scrub habitats. The Proposed Project alignment crosses lands owned by BLM and private landowners (Exhibit 1).

The Proposed Project would involve installation of telecommunication all-dielectric self-supporting (ADSS) cable line from Gale Substation to Pisgah Substation along an existing SCE distribution line right-of-way. The Gale to Pisgah fiber optic interconnection will support the SCE communication system for the addition of renewable energy generation. This communication system is part of the larger SCE system that provides safe and reliable electrical service consistent with the North American Electric Reliability Corporation, Federal Energy Regulatory Commission, the California Independent System Operators, and SCE's planning design guidelines and criteria. The ADSS is necessary to ensure adequate communication facilities are in place for the Calcite Substation Project, Eldorado-Lugo-Mojave Project, and Lugo-Victorville 500kV Transmission Line Special Protection Scheme (SPS, also referred to herein as Remedial Action Scheme or "RAS") Project.

Overhead ADSS stringing includes all activities associated with the installation of cables onto cross arms on existing wood pole structures. This activity includes the installation of vibration dampeners and suspension and dead-end hardware assemblies. If the existing pole does not meet wind load or ground clearance requirements with the addition of the fiber cable, distribution line poles will be modified or interset poles will be installed.

Existing access roads will be used to the extent feasible for construction of the Proposed Project; where needed, these roads will be improved within the existing road prism. Existing access roads will be maintained to allow the use of construction equipment. Some road modifications to existing access roads may be required to allow safe use of heavy equipment. At the conclusion of Project construction, all roads utilized for construction purposes will be left in a condition similar to the condition that existed prior to the start of construction. Loose rock and slide material will be removed, if possible, from existing roads and used to construct road dikes, fill washouts, or flatten fill slopes. All washouts, ruts, and irregularities within the construction area will be filled or removed.

The Proposed Project Survey Area includes 488 existing distribution pole sites, two material laydown yards, and two existing substations (Exhibit 2).

2.0 METHODS

2.1 Literature Review

Prior to the initiation of the field surveys described in this report, several sources of available data were used to identify known and potential biological resources within the Project region, including published literature, field guides, previous site surveys, and public data sets. The information presented in this analysis was obtained from the following sources:

- The California Natural Diversity Database (CNDDB), maintained by the California Department of Fish and Wildlife (CDFW), quad-level species occurrence information (CDFW 2017);
- The California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants of California (CNPS 2017);
- Consortium of California Herbaria (CCH 2017);
- U.S. Department of Agriculture (USDA) Soil Survey Geographic (SSURGO) data (Natural Resources Conservation Service [NRCS] 2017);
- U.S. Fish and Wildlife Service (USFWS 2017) county-level species occurrence information;
- USGS topographic maps;
- USFWS Critical Habitat designations;
- BRC Equals 3, Inc. 2016 Habitat Assessment: Calcite Substation Project (BRC 2016a); and
- BRC Equals 3, Inc. 2016 Botanical Report: Calcite Substation Project (BRC 2016b).

All plant species, as described by the CNDDB, within eight USGS 7.5-minute quadrangles and centered on the Proposed Project location (i.e., Nebo, Yermo, Daggett, Minneola, Newberry Springs, Troy Lake, Hector, and Sleeping Beauty Quadrangles) were selected as potential focal survey species (Exhibit 3). A list of the special-status plant species identified by the literature search is provided as Appendix A. Special-status plants include those with federal, state, or local designations or California Rare Plant Rank (CRPR). The botanical surveys were comprehensive and floristic in nature and were not restricted to, or focused only on, this list.

2.2 Regulated Species

The database search and literature review identified 10 special-status plant species occurring or having the potential to occur in the vicinity of the Proposed Project (Appendix A). Of these, none were federal and/or state-regulated species (i.e., Endangered or Threatened).

2.3 Taxonomy and Vegetation Classification

Plant taxonomy follows The Jepson Manual (Baldwin et al. 2012). Common plant names, where not available from Baldwin et al. 2012, are taken from Abrams (1923, 1944, 1951), Abrams and Ferris (1960), Beauchamp (1986), Munz (1974), CNPS (2017), or Simpson and Hasenstab (2009). Vegetation classification follows the system described in a Manual of California Vegetation, 2nd Edition (Sawyer et al. 2009). Scientific names are mentioned once in the text and common names are used thereafter.

This vegetation classification system is the preferred system of the California Native Plant Society and the California Department of Fish and Wildlife's Vegetation Classification and Mapping Program, and allows for direct comparisons with other classification systems (e.g., Holland 1986). For species unidentifiable in the field, biologists took reference specimens for later identification.

2.4 Existing Vegetation

Eleven vegetation communities/land cover types, including three sensitive vegetation communities, one sensitive land cover type, and seven non-sensitive vegetation communities/land cover types were previously documented and mapped during habitat assessment studies (BRC 2016a; Exhibit 2). Desert saltbush (*Atriplex polycarpa*) scrub is dense along the middle portion of the Proposed Project alignment, mesquite thicket (*Prosopis glandulosa*) woodland is scattered across desert riparian areas within the alignment, and bush seepweed (*Suaeda moquinii*) scrub is present along the eastern portion of the alignment. Alkali playa is a sensitive land cover type that occurs in dry lake beds along the eastern portion of the alignment. Descriptions of the communities can be found in the Manual of California Vegetation, 2nd Edition (Sawyer et al. 2009). A description of the land cover types is provided below.

TABLE 1. VEGETATION COMMUNITY / LAND COVER TYPE AND RARITY

Vegetation Community / Land Cover Type and Rarity[1]
Sensitive Vegetation Communities
Atriplex polycarpa (Allscale scrub) Shrubland Alliance – Desert Saltbush Scrub (36.340.00) G2 S2
Prosopis glandulosa (Mesquite thicket) Woodland Alliance (61.512.00) G5 S3
Suaeda moquinii (Bush seepweed scrub) Shrubland Alliance (36.200.00) G5 S3
Non-sensitive Vegetation Communities
Atriplex canescens (Fourwing saltbush scrub) Shrubland Alliance (36.310.00) G5 S4
Atriplex confertifolia (Shadscale scrub) Shrubland Alliance (36.320.00) G5 S4
Larrea tridentata (Creosote bush scrub) Shrubland Alliance (33.010.00) G5 S5
Larrea tridentata-Ambrosia dumosa (Creosote bush-white bursage scrub) Shrubland Alliance (33.140.00) G5 S5
Tamarix ssp. (Tamarisk thicket) Shrubland Semi-Natural Alliance (63.810.00)
Land Cover Types
Agriculture
Alkali Playa Community G4 S3
Developed

[1]Rarity and Global/State Ranks: One purpose of the vegetation classification is to assist in determining the level of rarity and imperilment of vegetation types. Ranking of alliances according to their degree of imperilment (as measured by rarity, trends, and threats) follows NatureServe's Heritage Methodology, in which all alliances are listed with a G (global) and S (state) rank. Alliances with State ranks of S1-S3 are considered to be highly imperiled.

Agriculture

Agricultural lands are used primarily for production of food and fiber. Such areas include croplands, pastures, orchards, groves, vineyards, nurseries, ornamental horticultural areas, confined feeding operations, and other agricultural land.

Alkali Playa Community

Alkali playa is a rare community of habitats that are intermittently flooded or saturated. Examples include dry lake beds and margins, hummocks, lagoon bars, old lake beds perched above current drainages, and seeps (Holland 1986).

Developed

Developed lands include urban or built-up areas with much of the land covered by structures. Such areas include cities, transportation, power and communications facilities, mills, shopping centers, and other buildings that may, in some cases, be separate from urban areas. Urban or built-up land may contain a wide variety of native and non-native, ruderal and ornamental plant species.

2.5 Special-Status Plant Surveys

Timing of the surveys took into consideration documented phenology for the target species, reference populations, and weather data. The closest weather data center (Station #042257) was located approximately 0.5 miles north of the Proposed Project area at Daggett Airport, California. Weather data were obtained from the Western Regional Climate Center (WRCC) and the National Oceanic and Atmospheric Administration's (NOAA) National Climate Data Center (NCDC). Thirty-Year Climate Normals for Daggett Airport averaged 3.13 inches of precipitation during October through June (WRCC 1981-2010). For the 2016-2017 hydrological year, total precipitation was 58 percent above average (4.95 inches) in Mojave Valley from October through June (NCDC 2017). Due to increased precipitation levels during the current hydrological year, plant species were expected to be robust and have a longer than usual blooming period.

Prior to onsite surveys, botanists visited reference populations for target special-status species to ensure that these species: i) emerged (if annuals), ii) showed phenological traits (e.g., fruits, flowers, etc.) necessary for identification, and/or iii) were readily identifiable with all botanists who may have less familiarity with a given species. A list of all reference population locations and results is provided below in Table 2.

TABLE 2: REFERENCE POPULATIONS SUMMARY TABLE

Species	General Location	Date Visited	Status
Small-flowered androstephium (*Androstephium breviflorum*)	Ivanpah Dry Lake Playa, 2 miles SW Primm, NV	4/17/2017	Blooming, readily identifiable
Clokey's cryptantha (*Cryptantha clokeyi*)	Powerline Road, Lucerne Valley, CA	4/26/2017	Blooming, fruiting, readily identifiable
Mojave menodora (*Menodora spinescens* var. *mohavensis*)	North of Ord Mt. along Camp Rock Rd.	4/26/2017	Blooming, readily identifiable
Mojave monkeyflower (*Mimulus mohavensis*)	Ord Mountain Road/Daggett Wash, Barstow, CA	4/26/2017	None identified
White margined beardtongue (*Penstemon albomarginatus*)	Needles Fwy, Pisgah, CA	4/26/2017	None identified

Following verification at these reference populations, pedestrian surveys for special-status plant species were conducted from April 25 to May 1 and May 30 to June 1, 2017 by qualified botanists Doug Gordon-Blackwood, Ron Clark, Kevin Thomas, Nicole Nesball, Ben Madden, Kristofer Robison and Renee Robison. This botanical survey was conducted following the CDFW Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities (CDFW 2009) and the CNPS Botanical Survey Guidelines (CNPS 2001). The survey area was defined by a 20-foot buffer around the Proposed Project pole sites and on either side of the centerline for underground work (Exhibit 2). Surveys were conducted by walking transects over the survey areas to ensure thorough coverage, noting all observed plant taxa. Focused attention, including the use of denser transect lines, was given to areas with higher potential habitat for special-status plant species. Care was taken to thoroughly search all unique features, soils (Exhibit 4), and habitats encountered that could have a higher probability for occurrence of sensitive species. Within private property along the survey area where no access was available, surveyors used binoculars to visually assess the area for rare plants. Plants were counted individually whenever possible. When the population size, density, or other factors rendered a census impractical, counting plants in one or more representative square meter areas, and multiplying by the estimated area of the population was used to estimate the number of individuals. Photographs of special-status taxa and habitat conditions are included in Appendix C. The locations of all special-status species were mapped in the field using a Garmin recreational Global Positioning System (GPS) hand-held unit and on aerial photograph field maps.

3.0 RESULTS

Early and late growing season botanical surveys were conducted within the Proposed Project survey area on multiple days. Performing multiple surveys over the course of the growing season is critical for the detection of special-status plants. Reference populations and regional rainfall amounts were monitored to ensure the scientific adequacy of these focused surveys, however there is always a potential for a false negative survey result as species may be present on-site but not be detectable, or populations may be limited in extent due to climate conditions. New occurrences were documented for special-status plant species during each survey visit. Survey dates and times are summarized below in Table 3.

TABLE 3: SURVEY DATES AND TIME

Date (2017)	Survey (Survey Type)	Survey Hours	Biologist[1]
April 25	Early Growing Season	07:00-17:00	RC, BM, KT, NN
April 26	Early Growing Season	07:00-17:00	RC, BM, KT, NN
April 27	Early Growing Season	07:00-17:00	RC, BM, KT, NN
April 28	Early Growing Season	07:00-17:00	DGB, BM, KT, NN
May 1	Early Growing Season	07:00-17:00	DGB, RC, KT, NN
May 30	Late Growing Season	07:00-17:00	KR, RR
May 31	Late Growing Season	07:00-17:00	KR, RR
June 1	Late Growing Season	07:00-17:00	KR, RR

[1] DGB – Doug Gordon Blackwood, RC – Ron Clark, BM – Ben Madden, KT – Kevin Thomas, NN-Nicole Nesball KR – Kristofer Robison, RR – Renee Robison

The botanical surveys resulted in the detection of 94 plant species, of which 11 are non-native (Appendix B). Two special-status plant species, Crucifixion thorn (*Castela emoryi*, CRPR 2B.2) and Utah vine milkweed (*Funastrum utahense*, CRPR 4.2), were incidentally observed outside the survey area. Descriptions of the observed special-status plant species are provided below.

3.1 Crucifixion Thorn (*Castela emoryi,* CRPR 2B.2)

Crucifixion thorn is a perennial shrub that typically blooms between June and July. This species is typically associated with gravelly soils in creosote bush scrub at elevations between 295 to 2495 feet. One individual was documented on Halloran sandy loam soil 100 feet outside the Proposed Project survey area north of U.S. Route 66 (Exhibit 5, Page 1). Associated plant species included creosote bush.

3.2 Utah Vine Milkweed (*Funastrum utahense,* CRPR 4.2)

Utah vine milkweed is a perennial herb that typically blooms between April and June. This species is typically associated with creosote bush scrub at elevations between 490 to 4,365 feet. Twenty-five individuals were documented on desert sand-dune soil at one discrete location approximately 50 feet outside the survey area north of U.S. Route 66 and Interstate 40 (Exhibit 5, Page 2; Appendix C, Photo 4). Associated plant species included native creosote bush and white bursage, and non-native Saharan mustard (*Brassica tournefortii*).

3.3 White-Margined Beardtongue (*Penstemon albomarginatus,* CRPR 1B.1)

White-margined beardtongue is a perennial herb that typically blooms between March and May. This species is typically associated with desert sand, generally on stabilized dunes with creosote bush scrub at elevations between 2300 – 3000 feet. CNDDB records for this species (2005-2010) occur within 500 feet of the southern Project survey area near I-40 and Pisgah. The species was not detected during the reference site visit at record locations. While surveys were conducted during the appropriate blooming season, the lack of observations at the reference population suggests that there is a possibility that the species may be present but not detectable at the time of survey.

4.0 SUMMARY

EI conducted systematic searches for special-status plant species within the survey area. No special-status plant species were identified within the survey area. One rare plant species (White-Margined Beardtongue) was absent from reference population locations and may not have been visible during surveys. Nevertheless, based on the phenological characteristics of other species with similar blooming periods and observed during surveys and the identification of new and expanded special-status plant populations, the targeted plant species were expected to be evident and observable during this year's survey periods.

ENVIRONMENTAL INTELLIGENCE

Travis Kegel – Project Manager

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Legend

- Project Alignment
- Material Laydown Yard

N
W E
S

0 1.5 3 Miles

1:200,000 1 in = 3 miles

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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Exhibit 1. Project Vicinity

Gale To Pisgah Project | San Bernardino County, CA

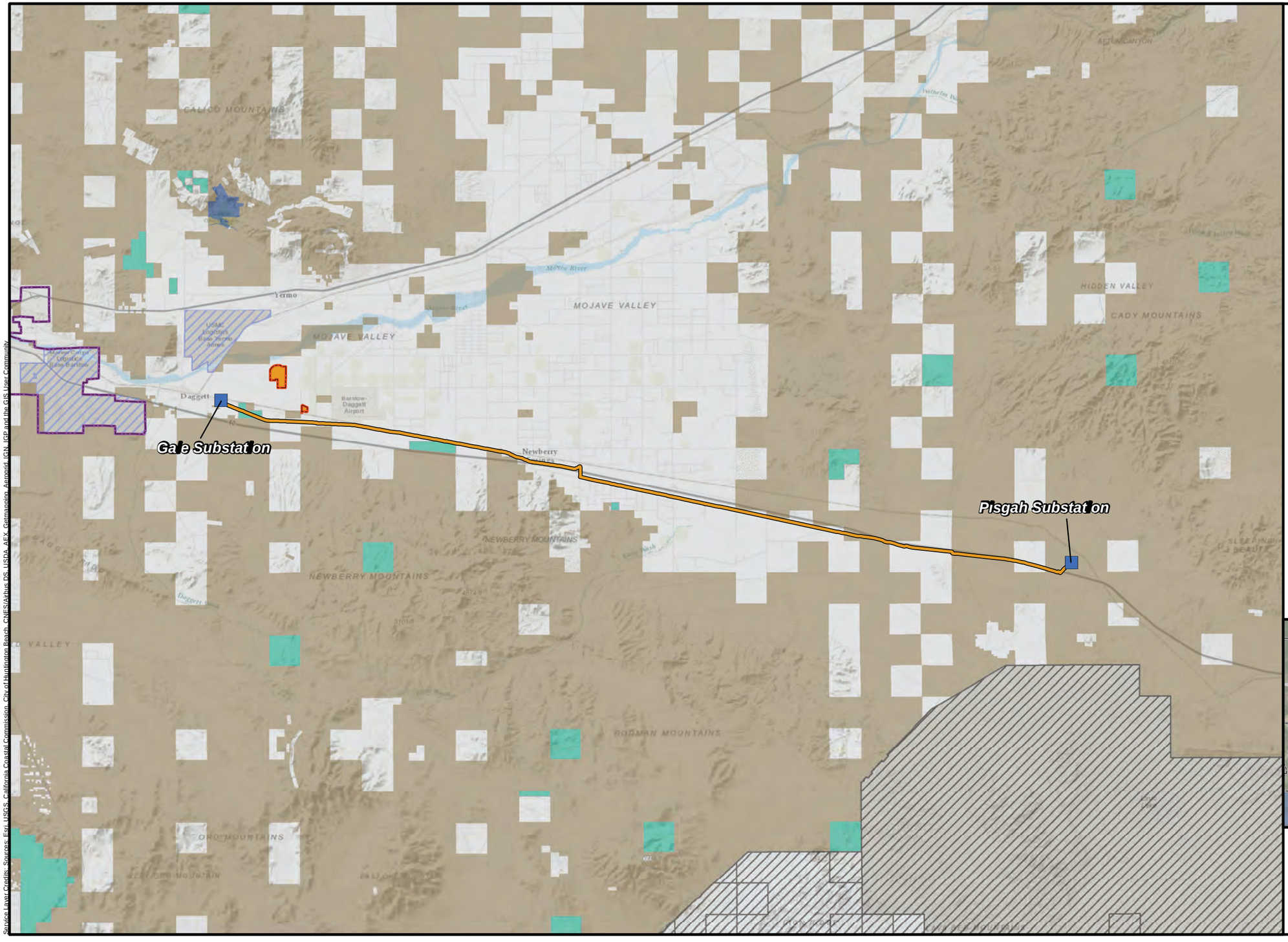

Exhibit 2. Land Use
Gale To Pisgah Project | San Bernardino County, CA

Legend

- Rare Plant Survey Area

Project Components

- Pole Work Areas
- Pull Sites
- Underground Work Area

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1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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Exhibit 3. Project Description Page 1 of 25

Gale To Pisgah Project | San Bernardino County, CA

Legend

Rare Plant Survey Area

Project Components

Pole Work Areas

Pull Sites

Underground Work Area

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1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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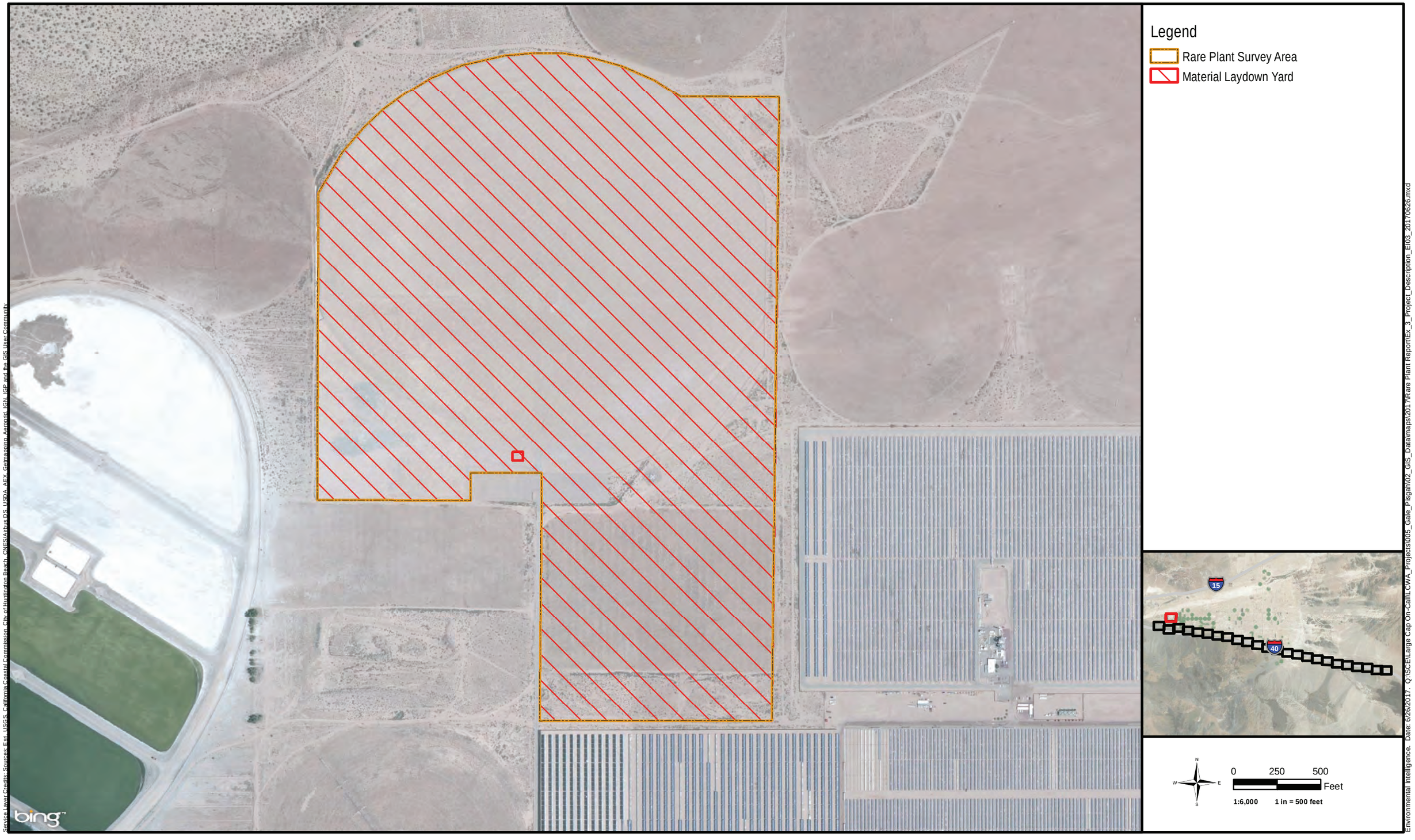
Legend
Rare Plant Survey Area
Material Laydown Yard
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Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
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Legend
Rare Plant Survey Area
Project Components
Pole Work Areas
Pull Sites
Material Laydown Yard
Powerline Rd
Santa Fe St
National Trails Hwy
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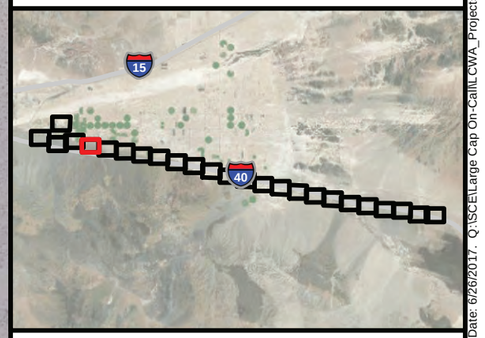
Legend

Rare Plant Survey Area

Project Components

Pole Work Areas



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Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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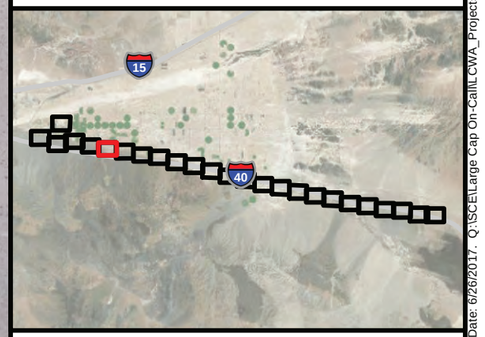
Rare Plant Survey Area

Project Components

Pole Work Areas



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Rare Plant Survey Area

Project Components

Pole Work Areas

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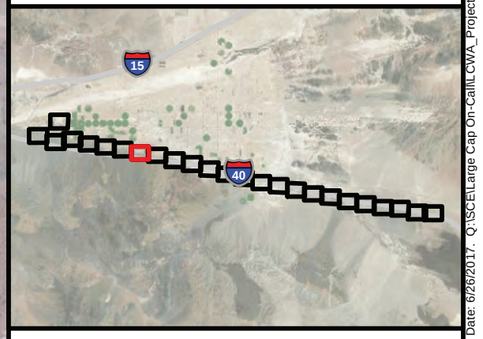
Rare Plant Survey Area

Project Components

Pole Work Areas



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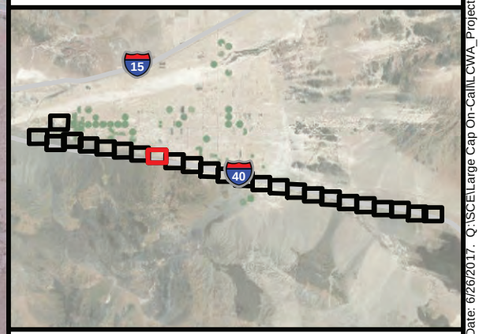
Legend

Rare Plant Survey Area

Project Components

Pole Work Areas



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Rare Plant Survey Area

Project Components

Pole Work Areas

Pull Sites

N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Source: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNEIS/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd


Mountain View Rd
Mountain View Rd
Mountain View Rd
I-40 W
I-40 E
Pioneer Rd
I-40 W
I-40 E
Pioneer Rd
I-40 W
I-40 E
Pioneer Rd
I-40 W
I-40 E
I-40 W
National Trails Hwy
National Trails Hwy
National Trails Hwy
National Trails Hwy
bing
Legend
Rare Plant Survey Area
Project Components
Pole Work Areas
15
40
N
W
E
S
0
250
500
Feet
1:6,000
1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\ELarge Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd

Legend

- Rare Plant Survey Area

Project Components

- Pole Work Areas
- Pull Sites

N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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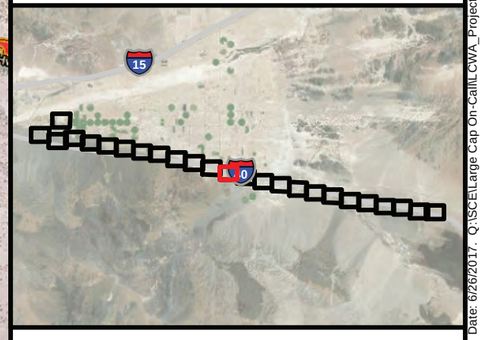
Legend

Rare Plant Survey Area

Project Components

Pole Work Areas



N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\mapsl\2017\Rare Plant Report\Ex_3_Project_Description_EI03_20170626.mxd


Legend
Rare Plant Survey Area
Project Components
Pole Work Areas
I-40 W
I-40 E
Lake Irene Dr
Memorial Dr
Calico St
Fort Cady Rd
Trails Hwy
National Trails Hwy
Ord St
Horner St
Pisgah St
0
250
500
Feet
1:6,000
1 in = 500 feet
bing
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\mapsi\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd

Legend

- Rare Plant Survey Area

Project Components

- Pole Work Areas
- Pull Sites
- Underground Work Area

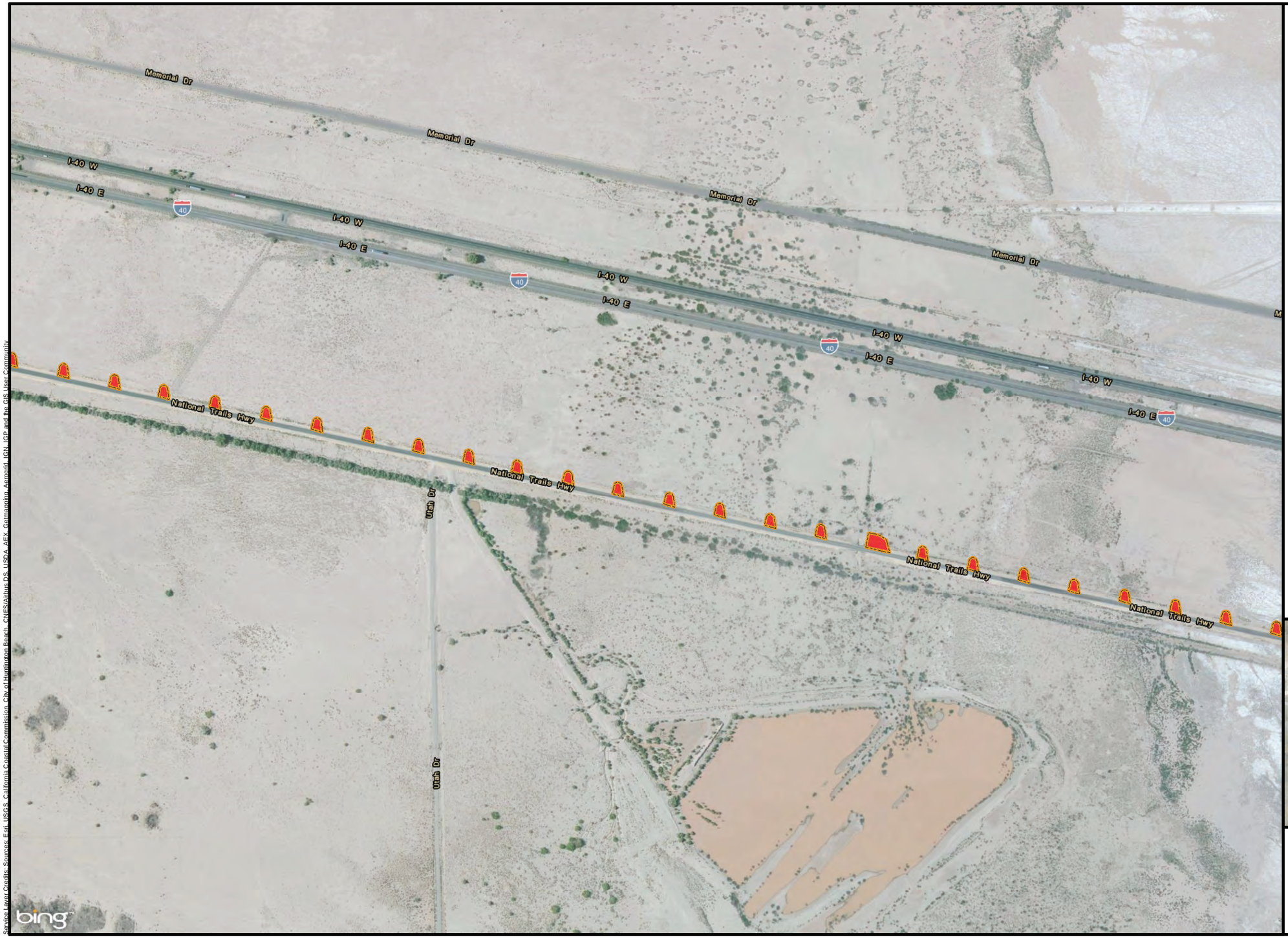
N
W E
S

0 250 500
Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\CWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd



Legend

Rare Plant Survey Area

Project Components

Pole Work Areas

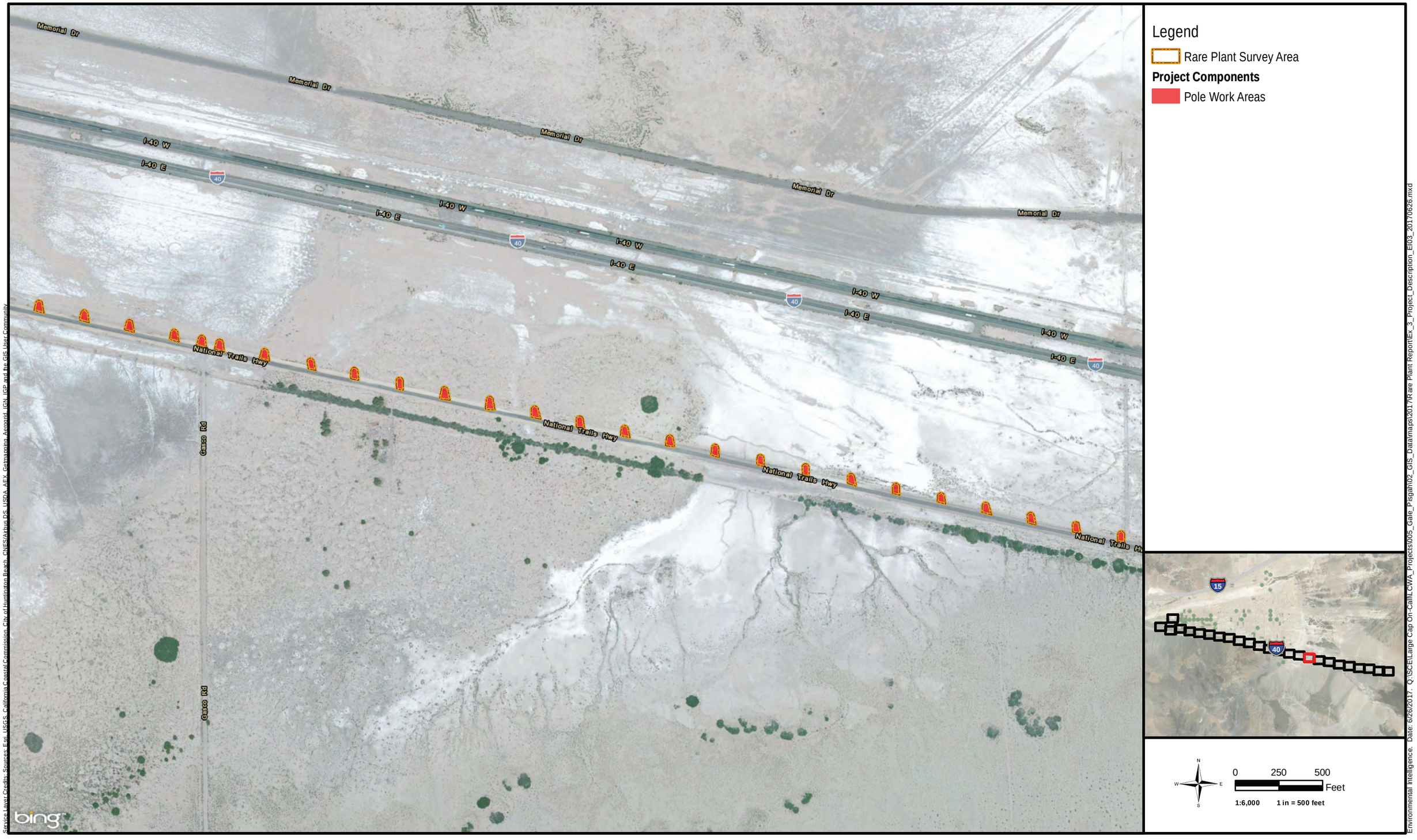
N
W
E
S

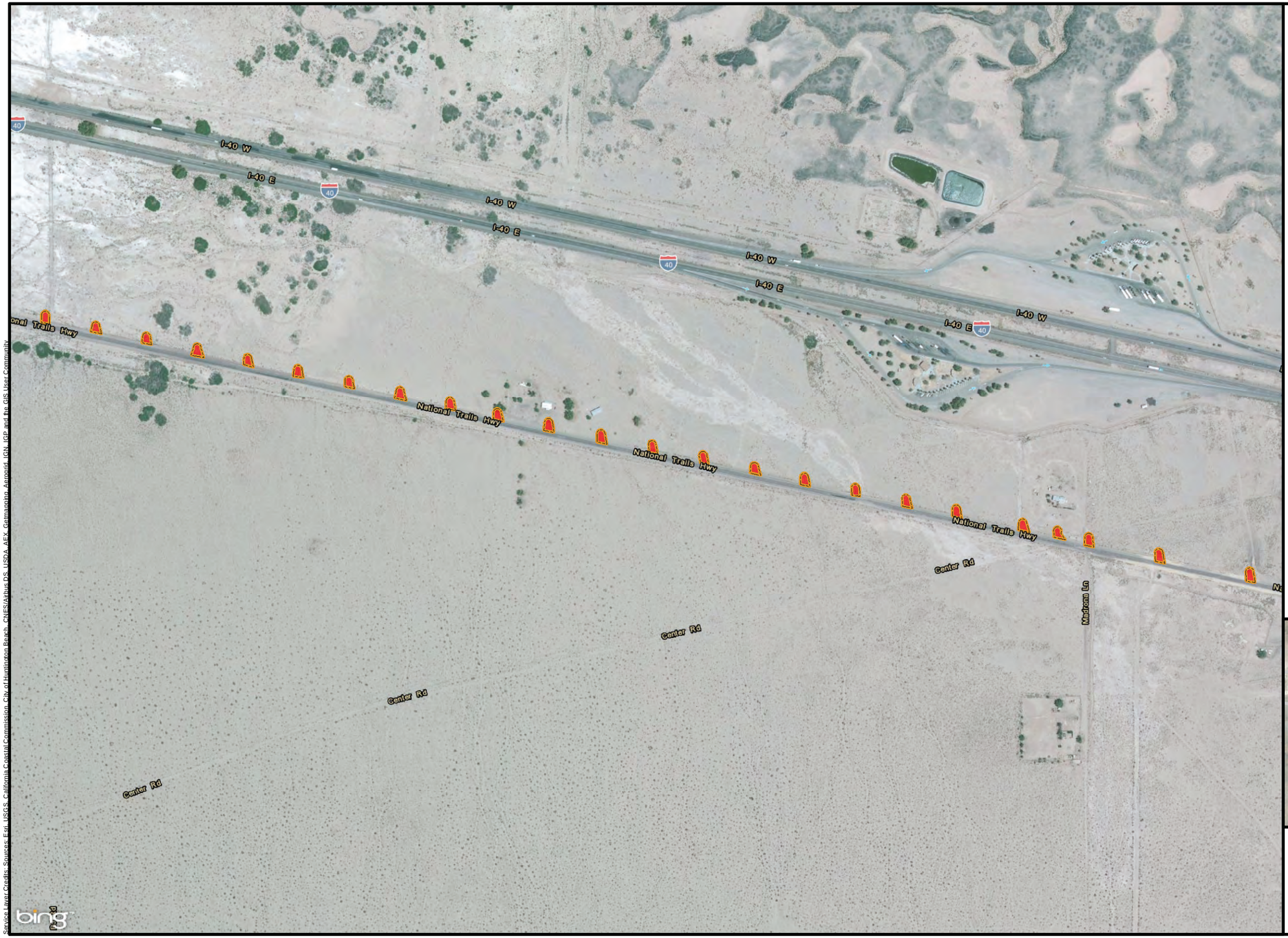
0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd


Memorial Dr
I-40 W
I-40 E
National Trails Hwy
Cisco Rd
Legend
Rare Plant Survey Area
Project Components
Pole Work Areas
0
250
500
Feet
1:6,000
1 in = 500 feet
bing

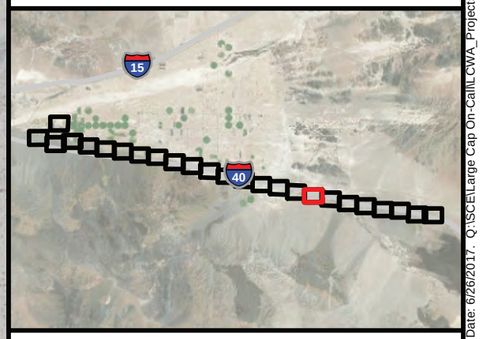


Legend

Rare Plant Survey Area

Project Components

Pole Work Areas



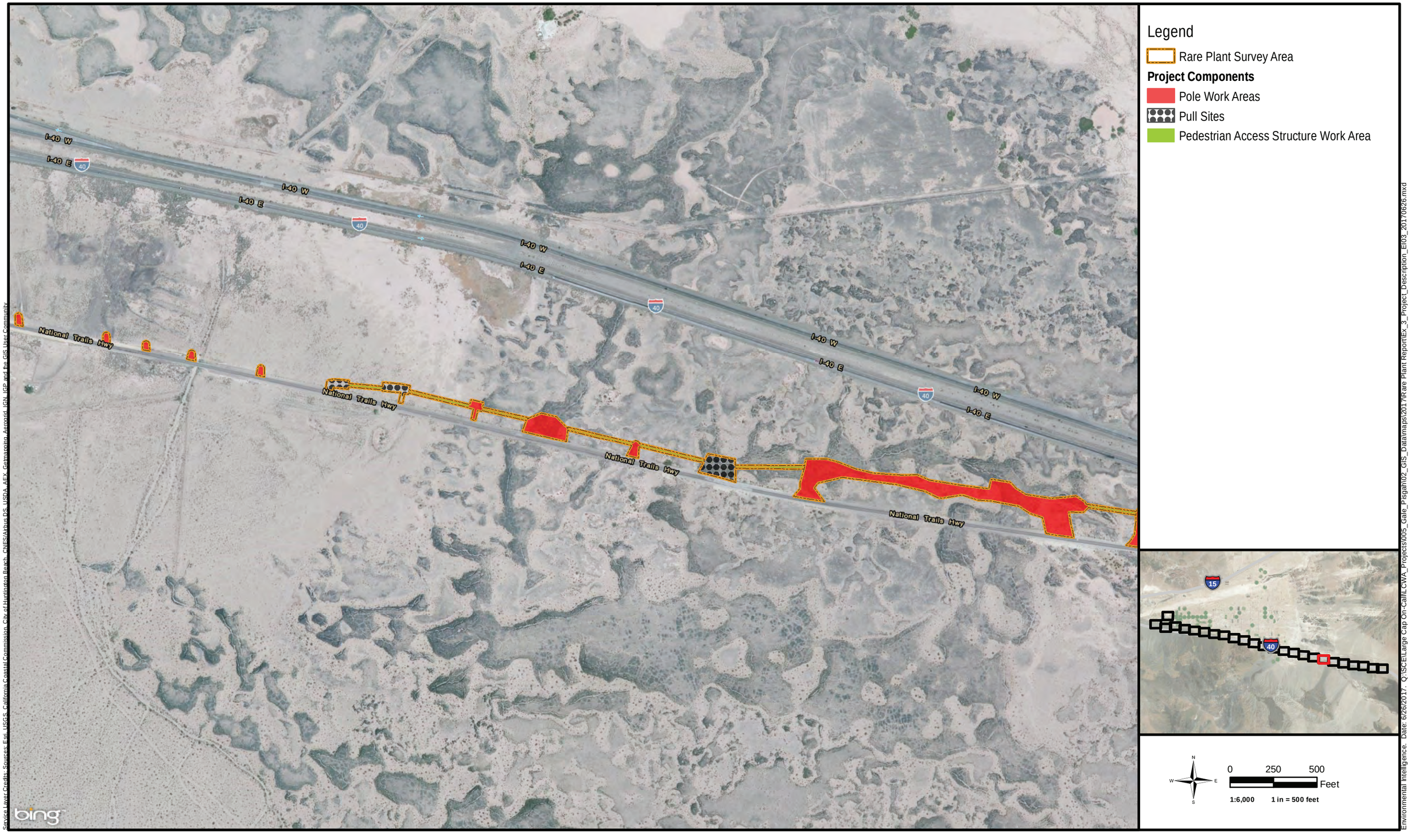
N
W
E
S

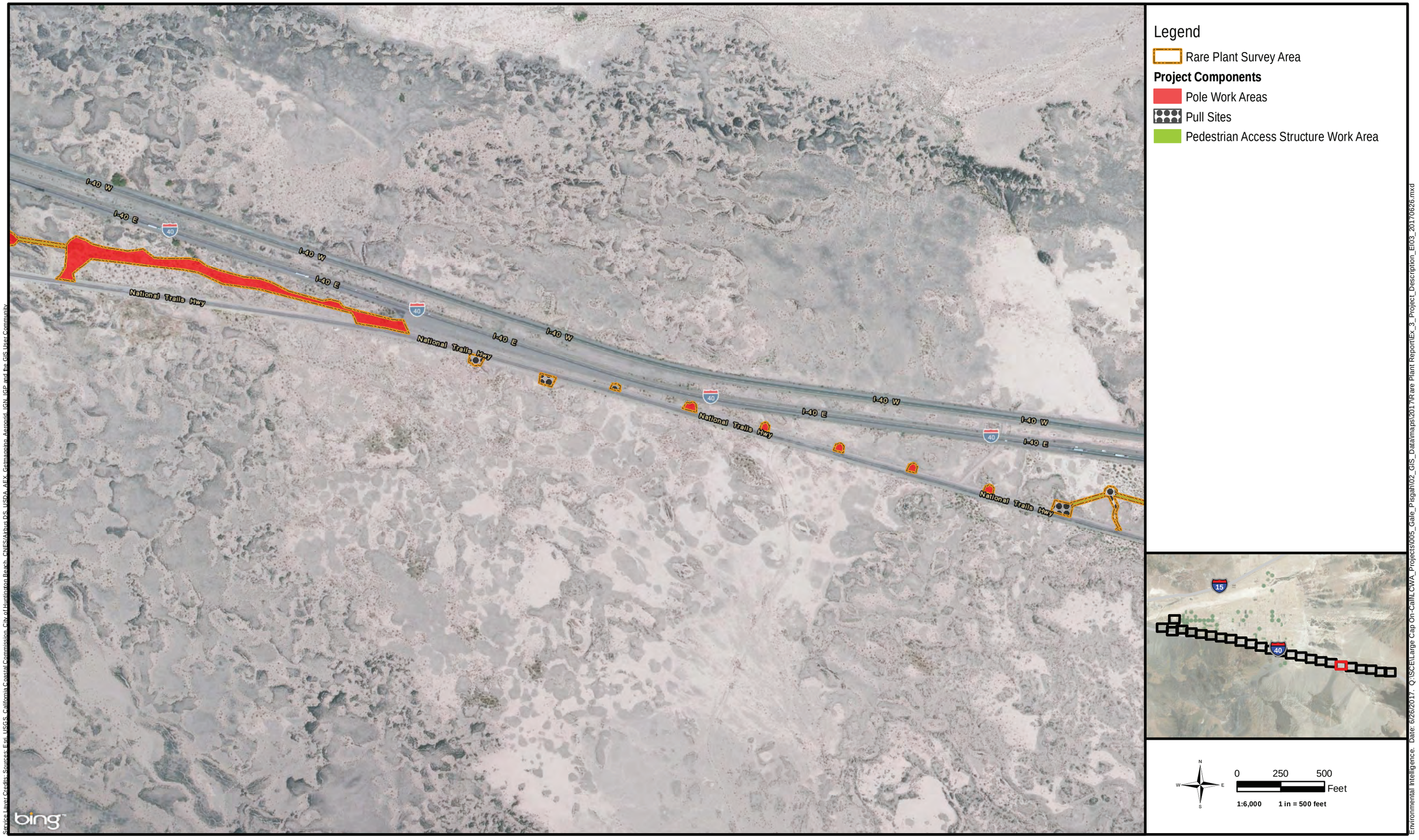
0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence; Date: 6/26/2017; Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd


I-40 W
I-40 E
National Trails Hwy
Legend
Rare Plant Survey Area
Project Components
Pole Work Areas
Pull Sites
Pedestrian Access Structure Work Area
0
250
500
Feet
1:6,000
1 in = 500 feet
bing

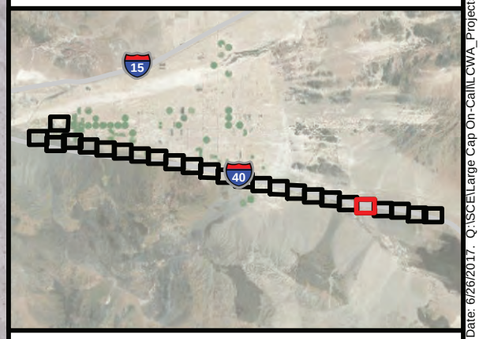

I-40 W
I-40 E
National Trails Hwy
Legend
Rare Plant Survey Area
Project Components
Pole Work Areas
Pull Sites
Pedestrian Access Structure Work Area
15
40
N
W
E
S
0
250
500
Feet
1:6,000
1 in = 500 feet
bing
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd

Legend

- Rare Plant Survey Area

Project Components

- Pole Work Areas
- Pull Sites
- Pedestrian Access Structure Work Area



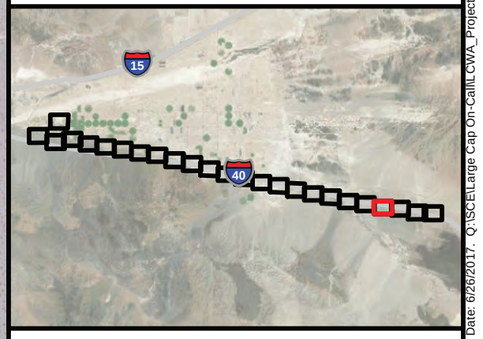
N
W E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\mapsi\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd



Legend

- Rare Plant Survey Area

Project Components

- Pole Work Areas
- Pull Sites
- Pedestrian Access Structure Work Area

N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd

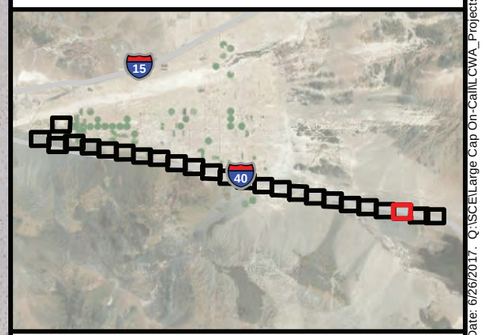
Legend

Rare Plant Survey Area

Project Components

Pole Work Areas

Pedestrian Access Structure Work Area



0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Source: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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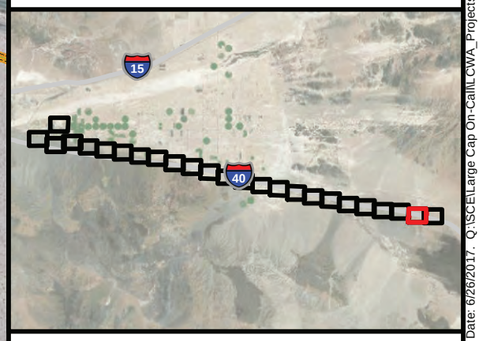
Legend

Rare Plant Survey Area

Project Components

Pole Work Areas

Pedestrian Access Structure Work Area



N
W
E
S

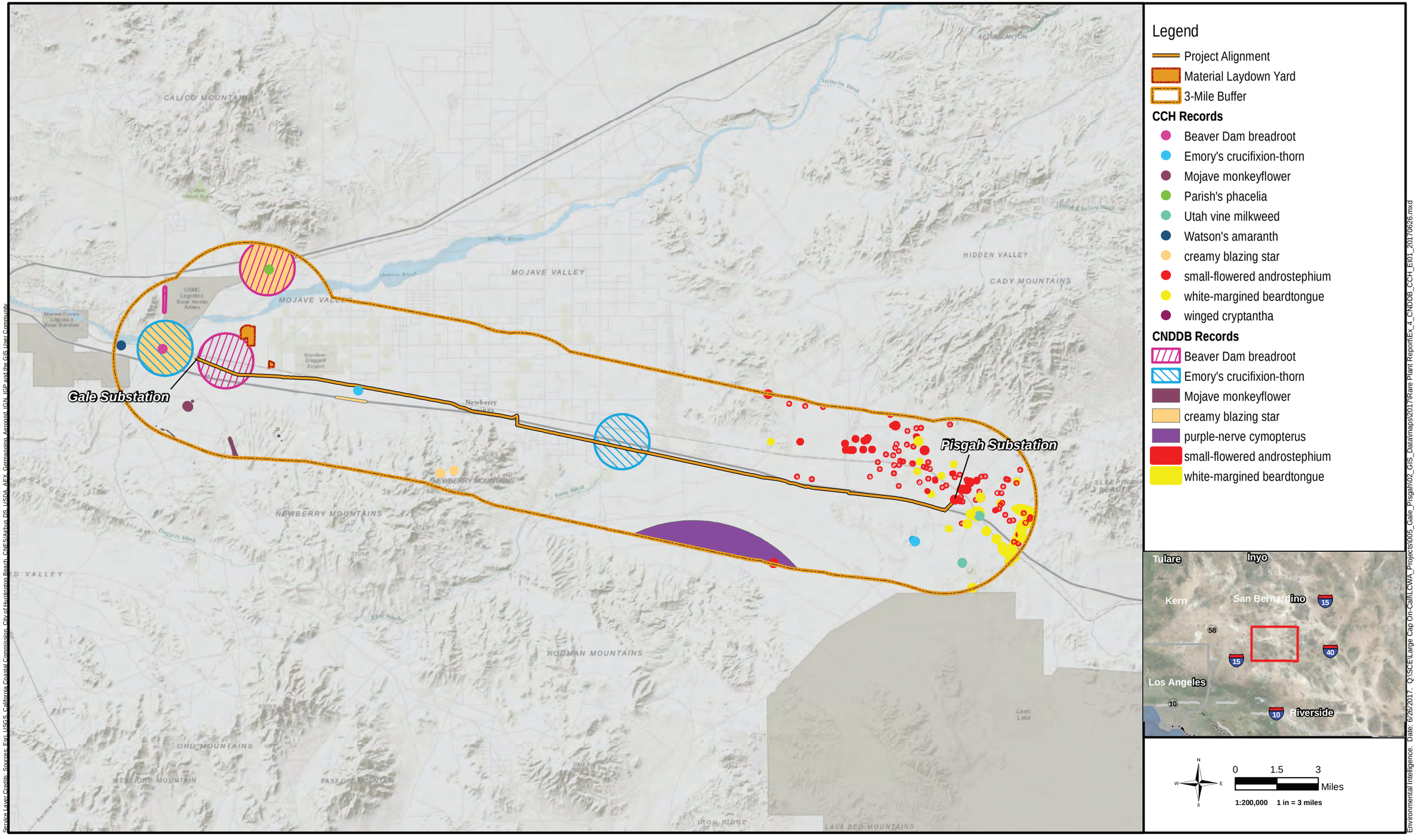
0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd

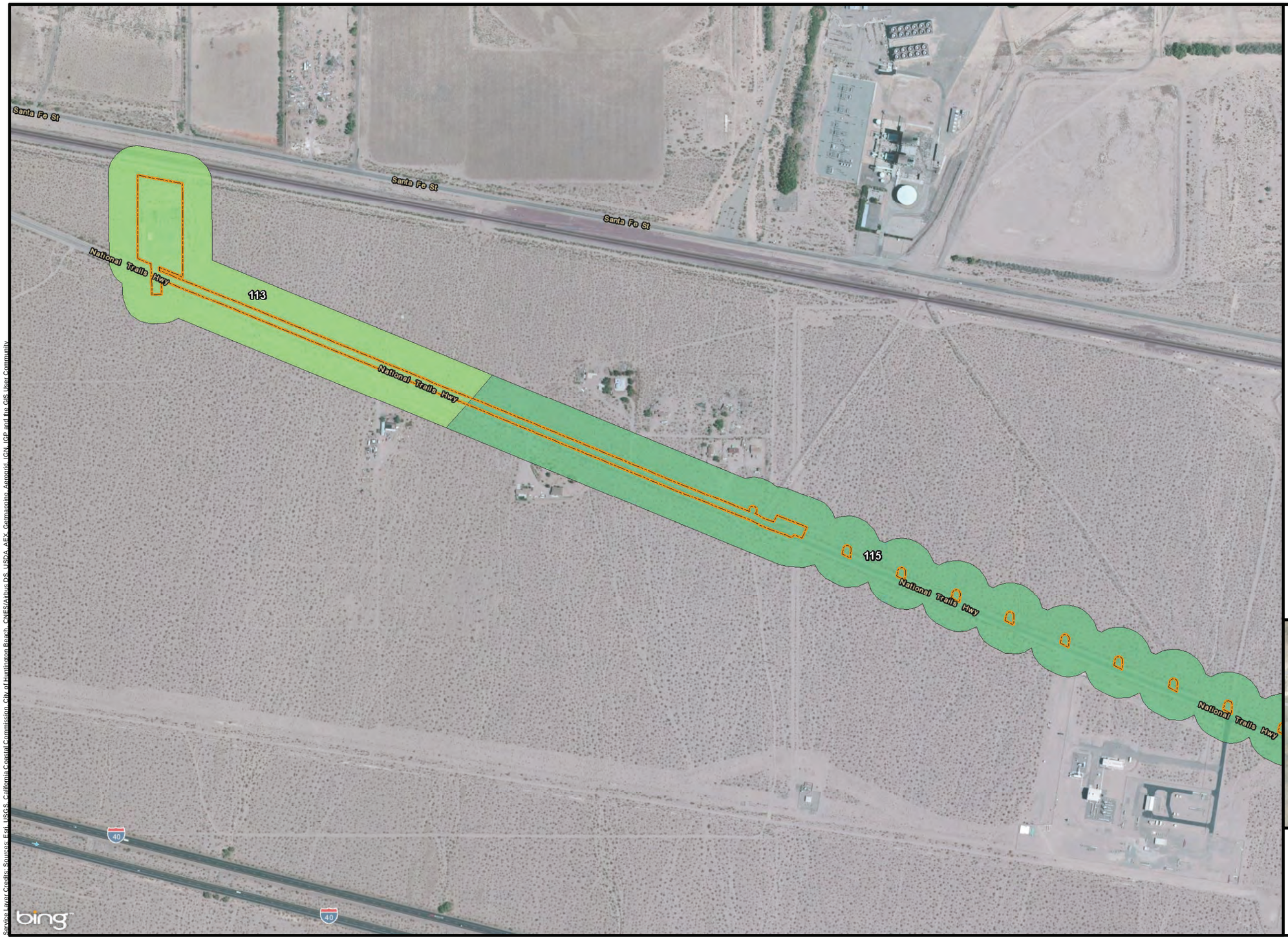

Legend
Rare Plant Survey Area
Project Components
Helicopter Landing Zone
Pole Work Areas
Pull Sites
Underground Work Area
Pedestrian Access Structure Work Area
I-40 W
I-40 E
National Trails Hwy
Pisgah Crater Rd
0
250
500
Feet
1:6,000
1 in = 500 feet
bing
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\CWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\Rare Plant Report\EX_3_Project_Description_EI03_20170626.mxd



Service Layer Credits: Source: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\Rare Plant Report\EX_4_CNDDB_CCH_EI01_20170626.mxd

Exhibit 4. CNDDB And CCH Records
Gale To Pisgah Project | San Bernardino County, CA



Legend

Rare Plant Survey Area

Soils (Label, Description)

113 ; CAJON SAND, 2 TO 9 PERCENT SLOPES

115 ; CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES

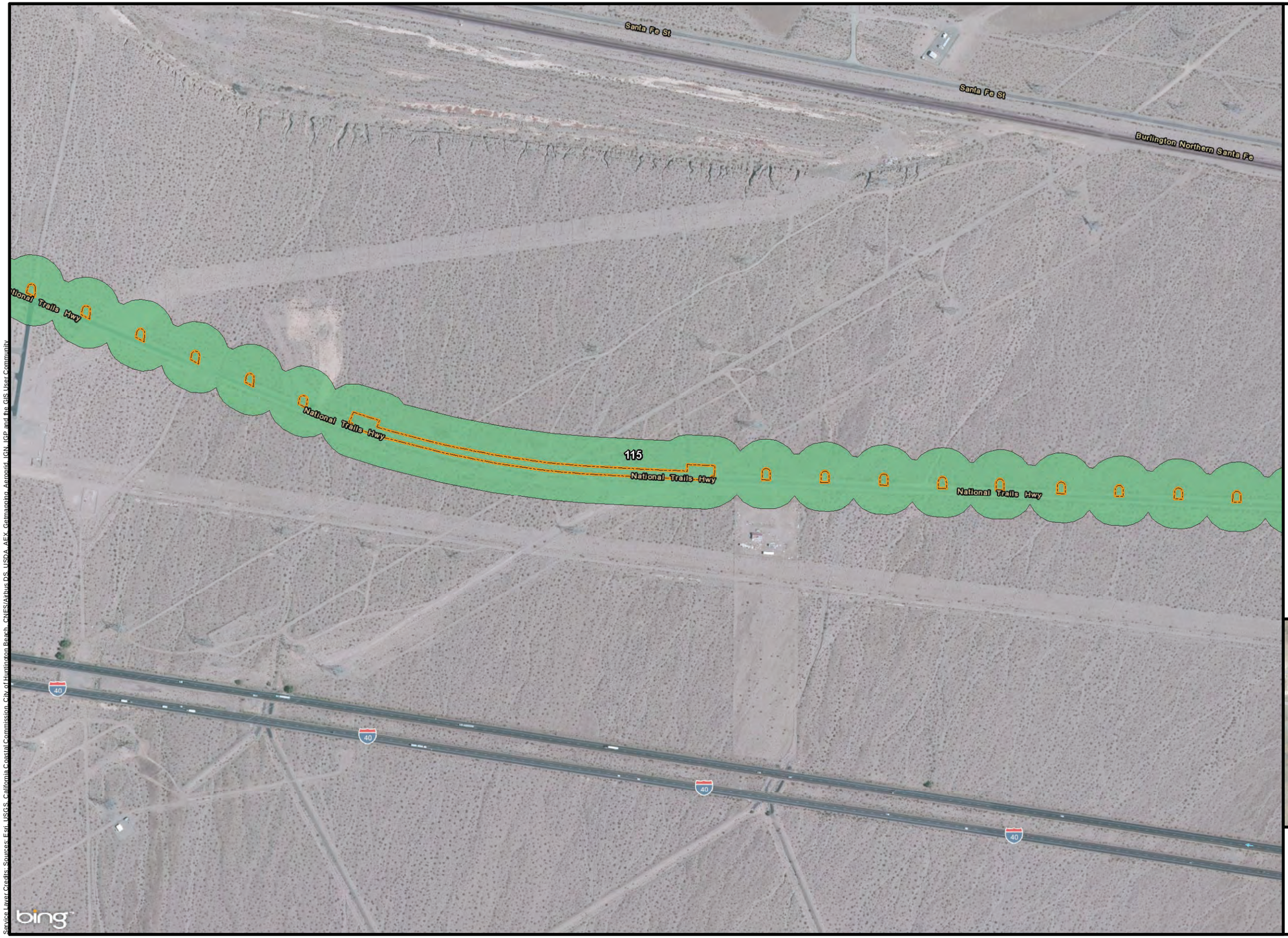
N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\mapsi\2017\Rare Plant Report\EX_5_Soils_E\02_20170626.mxd



Legend

Rare Plant Survey Area

Soils (Label, Description)

115 ; CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES

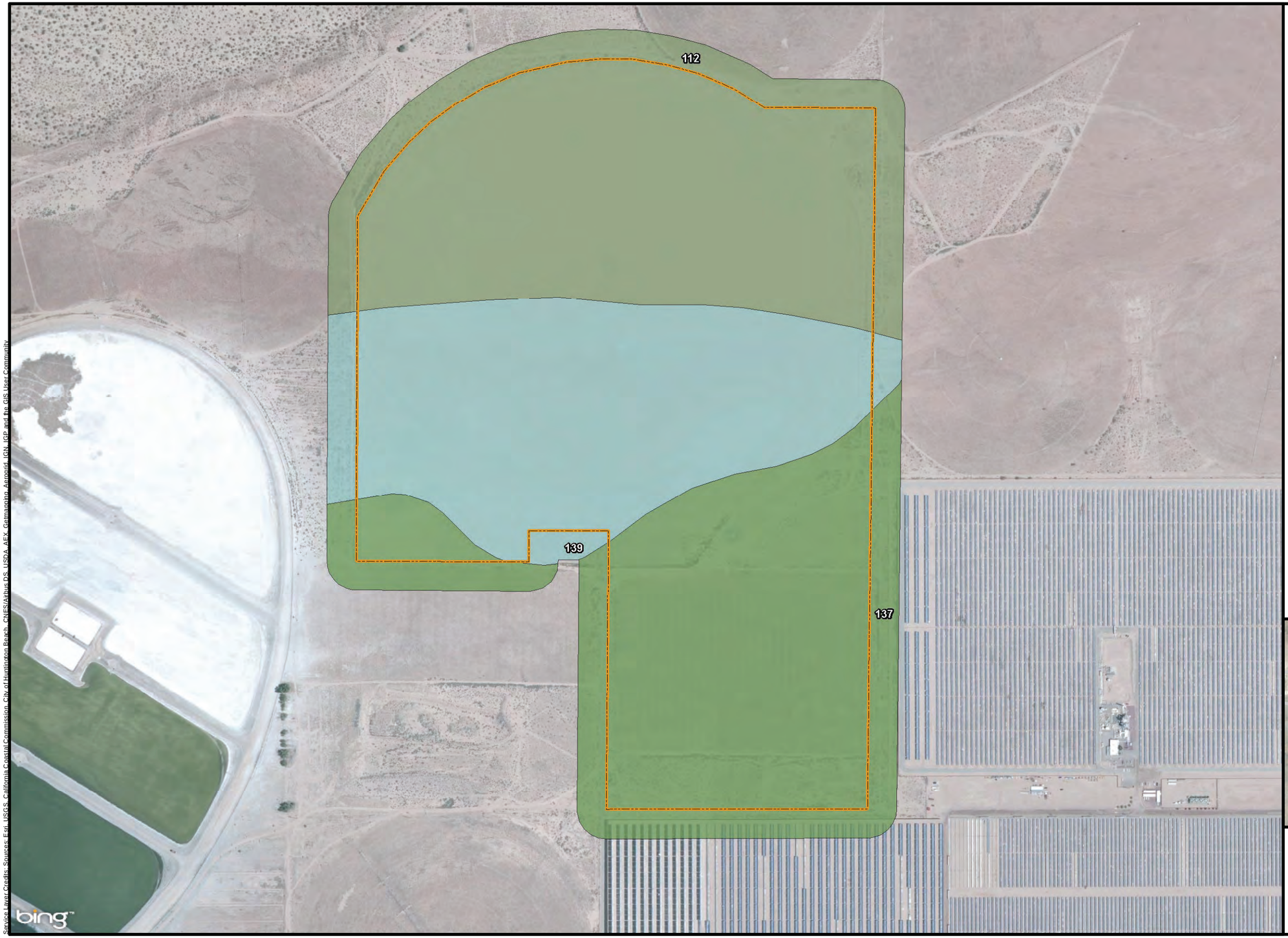
N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_EI02_20170626.mxd



Legend

Rare Plant Survey Area

Soils (Label, Description)

112 ; CAJON SAND, 0 TO 2 PERCENT SLOPES

137 ; KIMBERLINA LOAMY FINE SAND, COOL, 0 TO 2 PERCENT SLOPES

139 ; KIMBERLINA GRAVELLY SANDY LOAM, COOL, 2 TO 5 PERCENT SLOPES

N
W E
S

0 250 500
Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\Rare Plant Report\EX_5_Soils_Ef02_20170626.mxd


Legend
Rare Plant Survey Area
Soils (Label, Description)
112 ; CAJON SAND, 0 TO 2 PERCENT SLOPES
115 ; CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES
112
115
Powerline Rd
Santa Fe St
National Trails Hwy
0
250
500
Feet
1:6,000
1 in = 500 feet
bing
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\mxds\2017\Rare Plant Report\EX_5_Soils_Ei02_20170626.mxd

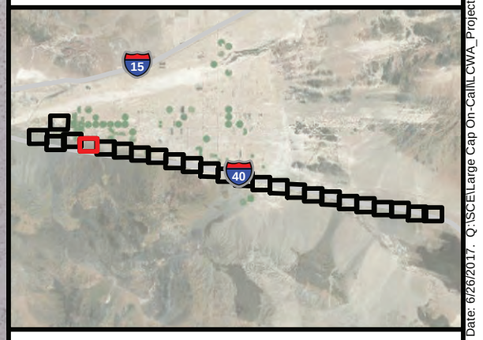
Legend

Rare Plant Survey Area

Soils (Label, Description)

115 ; CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES

137 ; KIMBERLINA LOAMY FINE SAND, COOL, 0 TO 2 PERCENT SLOPES



N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

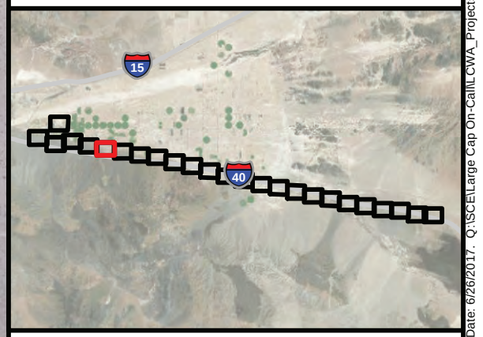
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_EI02_20170626.mxd

Legend

Rare Plant Survey Area

Soils (Label, Description)

137 ; KIMBERLINA LOAMY FINE SAND, COOL, 0 TO 2 PERCENT SLOPES



N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_Ei02_20170626.mxd

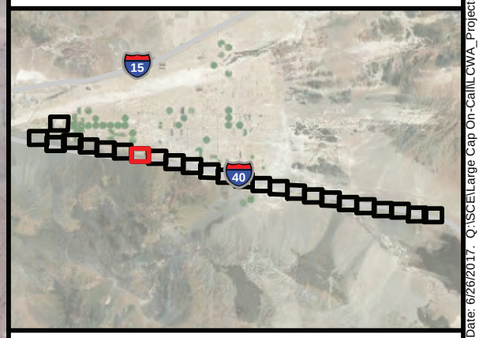

Legend
Rare Plant Survey Area
Soils (Label, Description)
113 ; CAJON SAND, 2 TO 9 PERCENT SLOPES
137 ; KIMBERLINA LOAMY FINE SAND, COOL, 0 TO 2 PERCENT SLOPES
Dogwood St
Elkhorn St
Minneola Rd
Spyrock Ave
Wildhorse Rd
National Trails Hwy
137
113
40
15
0 250 500
Feet
1:6,000 1 in = 500 feet
bing
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_EI02_20170626.mxd

Legend

Rare Plant Survey Area

Soils (Label, Description)

113 ; CAJON SAND, 2 TO 9 PERCENT SLOPES



N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_EI02_20170626.mxd

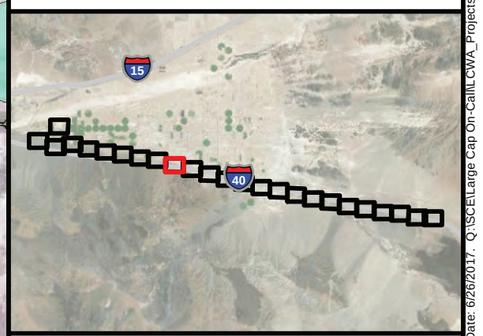

Legend
Rare Plant Survey Area
Soils (Label, Description)
113 ; CAJON SAND, 2 TO 9 PERCENT SLOPES
115 ; CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES
128 ; HALLORAN-DUNELAND COMPLEX, 0 TO 15 PERCENT SLOPES*
National Trails Hwy
113
128
115
Mariino Rd
I-40 W
I-40 E
Quarry Rd
15
40
N
S
E
W
0
250
500
Feet
1:6,000
1 in = 500 feet
bing
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence; Date: 6/26/2017; Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_Ei02_20170626.mxd

Legend

- Rare Plant Survey Area

Soils (Label, Description)

- 100 ; ARIZO GRAVELLY LOAMY SAND, 2 TO 9 PERCENT SLOPES
- 115 ; CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES
- 128 ; HALLORAN-DUNELAND COMPLEX, 0 TO 15 PERCENT SLOPES*
- 137 ; KIMBERLINA LOAMY FINE SAND, COOL, 0 TO 2 PERCENT SLOPES
- 160 ; ROSAMOND LOAM, STRONGLY SALINE-ALKALI



N
W E
S

0 250 500
Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_Et02_20170626.mxd


Legend
Rare Plant Survey Area
Soils (Label, Description)
127 ; HALLORAN SANDY LOAM
151 ; NEBONA-CUDDEBACK COMPLEX, 2 TO 9 PERCENT SLOPES*
160 ; ROSAMOND LOAM, STRONGLY SALINE-ALKALI
Mountain View Rd
I-40 W
I-40 E
Pioneer Rd
National Trails Hwy
160
127
151
bing
0 250 500 Feet
1:6,000 1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_EI02_20170626.mxd

Legend

Rare Plant Survey Area

Soils (Label, Description)

- 113 ; CAJON SAND, 2 TO 9 PERCENT SLOPES
- 127 ; HALLORAN SANDY LOAM
- 151 ; NEBONA-CUDDEBACK COMPLEX, 2 TO 9 PERCENT SLOPES*
- 160 ; ROSAMOND LOAM, STRONGLY SALINE-ALKALI

N
W E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

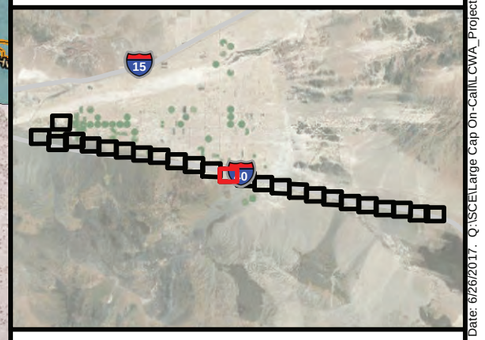
Legend

Rare Plant Survey Area

Soils (Label, Description)

113 ; CAJON SAND, 2 TO 9 PERCENT SLOPES

127 ; HALLORAN SANDY LOAM



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0 250 500 Feet
1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence; Date: 6/26/2017; Q:\SCE\Large Cap On-Call\CWA_Projects\005_Gale_Pisgah\02_GIS_Dataimaps\2017\Rare Plant Report\EX_5_Soils_Et02_20170626.mxd

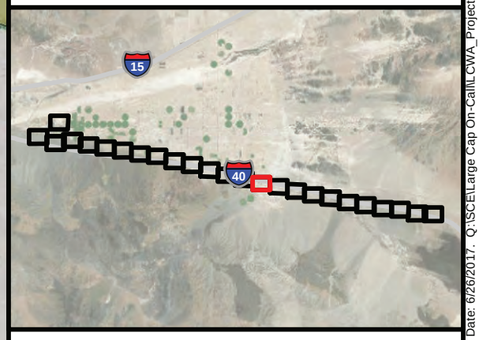

Legend
Rare Plant Survey Area
Soils (Label, Description)
127 ; HALLORAN SANDY LOAM
I-40 W
I-40 E
Lake Irene Dr
Fort Cady Rd
Memorial Dr
Calico St
Old Rte 66
Trails Hwy
National Trails Hwy
127
Ord St
Horner St
Pisgah St
bing
0
250
500
Feet
1:6,000
1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_El02_20170626.mxd

Legend

Rare Plant Survey Area

Soils (Label, Description)

- 127 ; HALLORAN SANDY LOAM
- 159 ; ROSAMOND LOAM, SALINE-ALKALI
- 178 ; WATER



N
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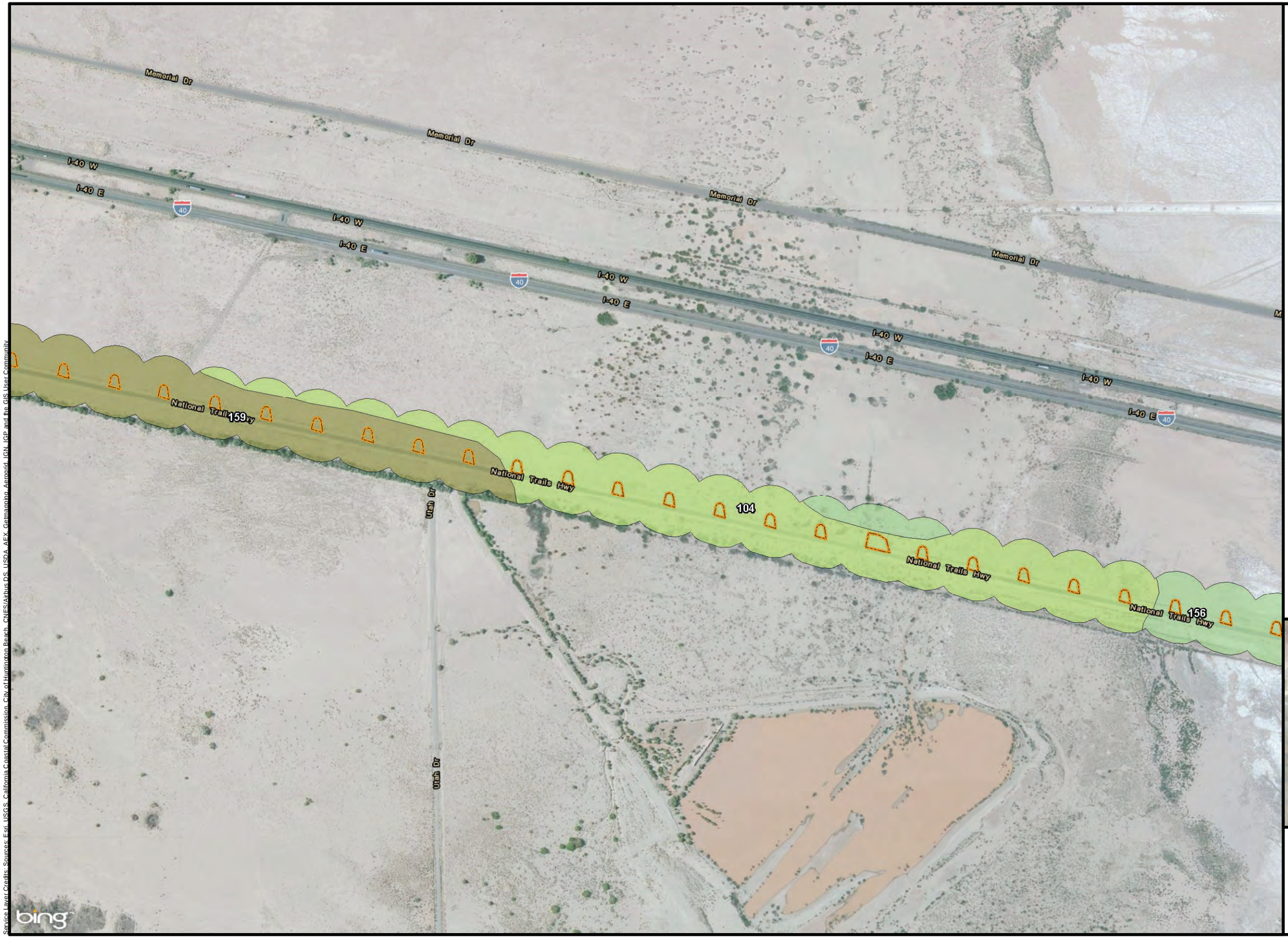
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence; Date: 6/26/2017; Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\Rare Plant Report\EX_5_Soils_Et02_20170626.mxd



Legend

Rare Plant Survey Area

Soils (Label, Description)

104 ; BOUSIC CLAY

156 ; PLAYAS

159 ; ROSAMOND LOAM, SALINE-ALKALI

0 250 500 Feet

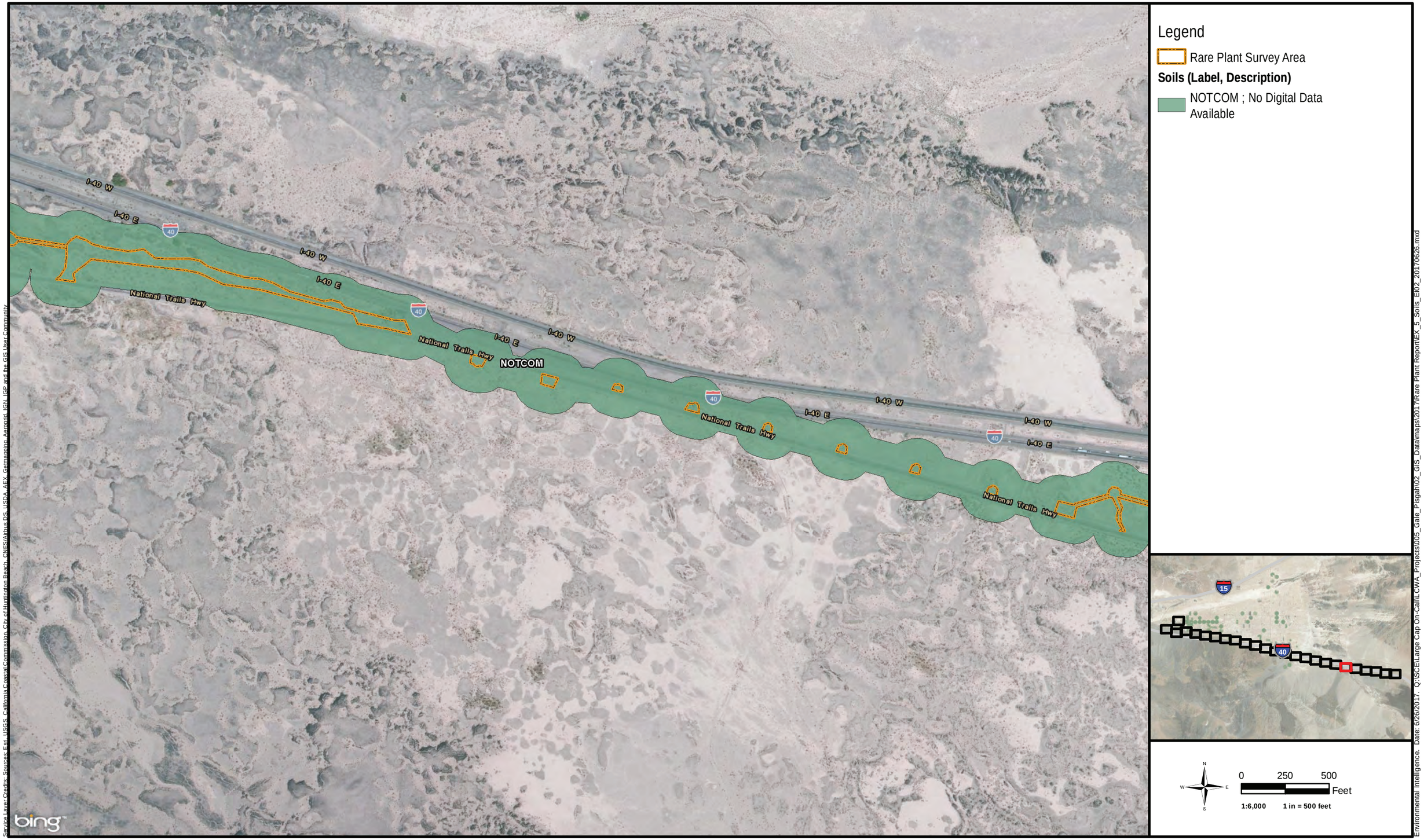
1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_Ef02_20170626.mxd


Memorial Dr
I-40 W
I-40 E
156
National Trails Hwy
Cajon Blvd
Gasco Rd
NOTCOM
Legend
Rare Plant Survey Area
Soils (Label, Description)
156 ; PLAYAS
NOTCOM ; No Digital Data Available
0
250
500
Feet
1:6,000
1 in = 500 feet
Service Layer Credits: Source: Esri, USGS, California Coastal Commission, City of Hunington Beach, GNEIS/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_Ef02_20170626.mxd


Legend
Rare Plant Survey Area
Soils (Label, Description)
NOTCOM ; No Digital Data Available
I-40 W
I-40 E
National Trails Hwy
NOTCOM
Center Rd
Madrona Ln
0
250
500
Feet
1:6,000
1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence; Date: 6/26/2017; Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\mxds\2017\Rare Plant Report\EX_5_Soils_Et02_20170626.mxd

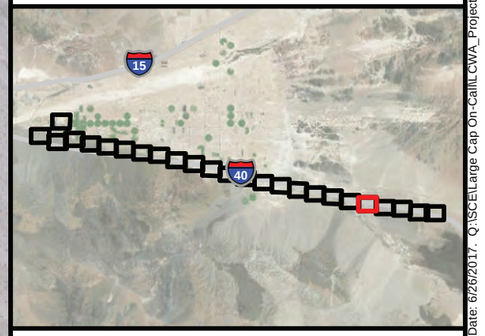

I-40 W
I-40 E
National Trails Hwy
NOTCOM
bing
Legend
Rare Plant Survey Area
Soils (Label, Description)
NOTCOM ; No Digital Data Available
0 250 500
Feet
1:6,000 1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_Et02_20170626.mxd

Legend

Rare Plant Survey Area

Soils (Label, Description)

NOTCOM ; No Digital Data Available



N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

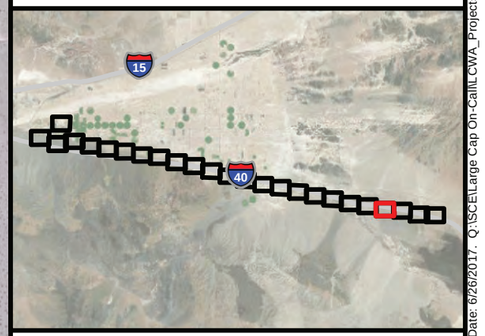
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\mxdps\2017\Rare Plant Report\EX_5_Soils_Et02_20170626.mxd

Legend

Rare Plant Survey Area

Soils (Label, Description)

NOTCOM ; No Digital Data Available



N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

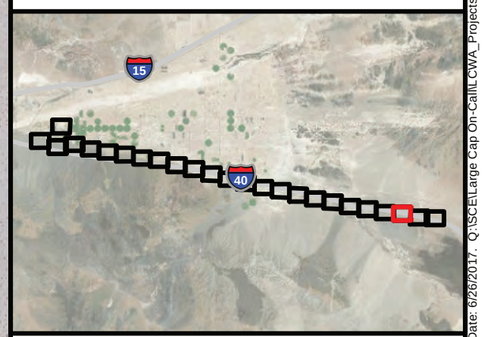
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_Et02_20170626.mxd

Legend

Rare Plant Survey Area

Soils (Label, Description)

NOTCOM ; No Digital Data Available



N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

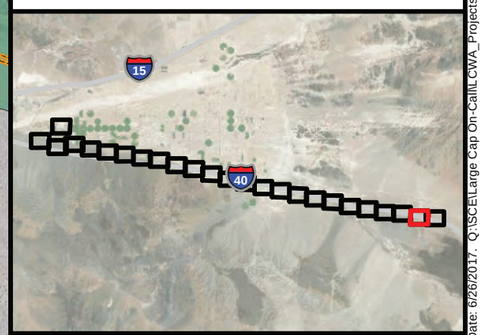
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_Ef02_20170626.mxd

Legend

Rare Plant Survey Area

Soils (Label, Description)

NOTCOM ; No Digital Data Available



N
W
E
S

0 250 500 Feet

1:6,000 1 in = 500 feet

Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, GNIES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_5_Soils_E\02_20170626.mxd


Legend
Rare Plant Survey Area
Soils (Label, Description)
NOTCOM ; No Digital Data Available
NOTCOM
I-40 W
National Trails Hwy
I-40 E
Pisgah Crater Rd
0
250
500
Feet
1:6,000
1 in = 500 feet
Service Layer Credits: Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\CWA_Projects\005_Gale_Pisgah\02_GIS_Datamaps\2017\Rare Plant Report\EX_5_Soils_Ef02_20170626.mxd

Legend

Rare Plant Survey Area

Rare Plants

Crucifixion thorn

Project Components

Pole Work Areas

Distribution Poles

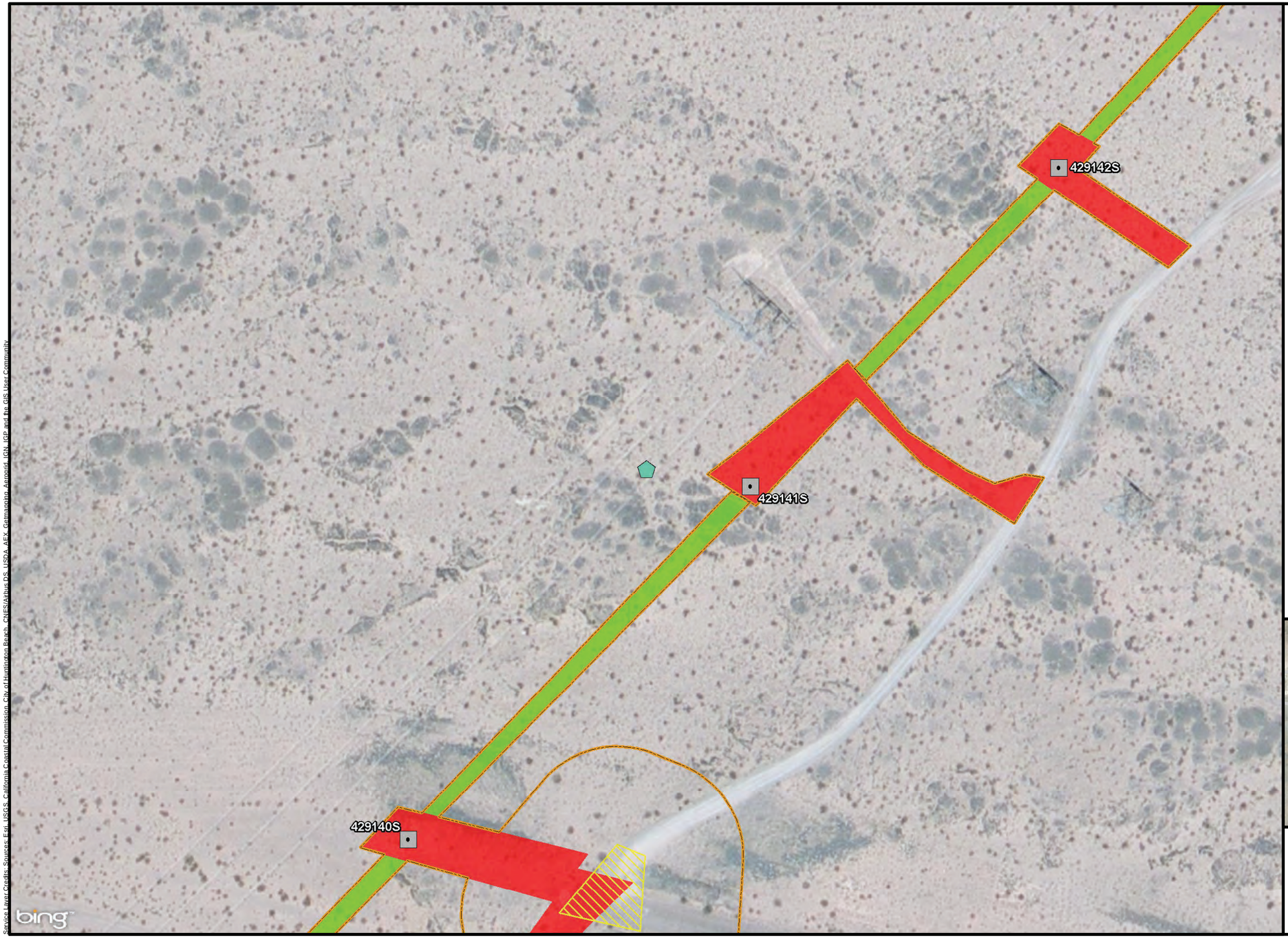
N
W
E
S

0 50 100 Feet

1:1,200 1 in = 100 feet

Exhibit 6. Rare Plant Survey Results Page 1 of 2

Gale To Pisgah Project | San Bernardino County, CA



Legend

Rare Plant Survey Area

Rare Plants

Utah vine milkweed

Project Components

Helicopter Landing Zone

Pole Work Areas

Pedestrian Access Structure Work Area

Distribution Poles

N
W
E
S

0 50 100 Feet

1:1,200 1 in = 100 feet

Environmental Intelligence. Date: 6/26/2017. Q:\SCE\Large Cap On-Call\CWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\Rare Plant Report\EX_6_Results_Map_E\04_20170626.mxd

Exhibit 6. Rare Plant Survey Results Page 2 of 2

Gale To Pisgah Project | San Bernardino County, CA

APPENDIX A:

SPECIAL-STATUS PLANTS OCCURRING OR POTENTIALLY OCCURRING ON OR IN THE VICINITY (WITHIN 3 MILES) OF THE GALE TO PISGAH PROJECT

Species Name	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
SENSITIVE VEGETATION COMMUNITIES / LAND COVER					
Alkali Playa Community	-	S3	-	Alkali playa is a rare vegetation community type usually composed of low, grayish, microphyllous and succulent shrubs that reach a height of one meter (Holland 1986). Total cover is typically low and the understory is minimal. Characteristic plant species may include sea-blite/bush seepweed, pickleweed (*Sarcocornia pacifica*), alkali heath (*Frankenia salina*), and salt grass (*Distichlis spicata*). **Occurs.** Present in the dry lake bed near the middle portion of the Project alignment.	-
Atriplex polycarpa (Allscale scrub) Shrubland Alliance – Desert Saltbush Scrub	-	S2	-	*Atriplex polycarpa* is dominant in the shrub canopy with *Ambrosia dumosa*, *Ambrosia salsola*, *Atriplex canescens*, *Bromus rubens*, *Chamaesyce polycarpa*, *Cleome isomeris*, *Isocoma acradenia* and *Larrea tr identata*. Emergent trees may be present at low cover, including *Prosopis glandulosa*. *Atriplex polycarpa* > 2% absolute cover in the shrub canopy; > 50% relative cover in the shrub canopy. Habitats include washes, playa lake beds and shores, dissected alluvial fans, rolling hills, terraces, and edges of large, low gradient washes. Soils may be carbonate rich, alkaline, sandy, or sandy clay loams. **Occurs.** Present in the middle portion of the Project alignment.	Jul-Aug

Species Name	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Prosopis glandulos (Mesquite thicket) Woodland alliance	–	S3	–	*Prosopis glandulosa* is dominant or co-dominant in the small tree canopy with *Salix exigua, Salix lasiolepis* and *Sambucus nigra*. Shrubs may include *Allenrolfea occidentalis, Ambrosia dumosa, Atriplex canescens, Atriplex polycarpa, Bebbia juncea, Petalonyx thurberi, Pluchea sericea, Rhus ovata* or *Suaeda moquinii*. Trees <10 m; canopy is open or continuous. Shrub and herbaceous layers are open to intermittent. Habitats include fringes of playa lakes, river terraces, stream banks, floodplains, rarely flooded margins of arroyos and washes, sand dunes. Elevation ranges from 75-1,100m. **Occurs**. Scattered across desert riparian areas within the Project survey area.	May-Jun
Suaeda moquinii (Bush seepweed scrub) Shrubland Alliance	–	S3	–	*Suaeda moquinii* is dominant or co-dominant in the shrub and herbaceous layers with *Allenrolfea occidentalis, Atriplex canescens, Atriplex polycarpa, Frankenia salina, Kochia californica, Sarcobatus vermiculatus* and *Sporobolus airoides.* Shrubs < 1.5 m; canopy is open to continuous. Herbaceous layer is sparse to intermittent. Habitats include flat to gently sloping valley bottoms, playas, toe slopes adjacent to alluvial fans, and bajadas. Soils are deep; saline or alkaline. Elevation ranges from sea level-1,300m. **Occurs**. Present along the eastern portion of the alignment near alkali playas.	Jun-Dec

Species Name	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
PLANTS					
Amaranthus watsonii Watson's amaranth	-	-	4.3	An annual herb that occurs in creosote bush scrub and wetland-riparian communities. Sea level – 960 meters. **Unlikely.** Species preferred habitat is found on-site within creosote bush communities. Species recorded in CCH (1958) 2.5 miles west of Project alignment. Unlikely to occur due to age and distance of records.	Apr-Sep
Androstephium breviflorum Small-flowered androstephium	-	-	2B.2	A perennial herb that occurs in creosote bush scrub. 150 – 840 meters. **Absent.** Species preferred habitat is found on-site within creosote bush communities. Species recorded in CNDDB (2010) within 500 feet of Project alignment. Plant observed at reference site but absent within Project survey area during 2017 botanical surveys.	Mar-Apr
Castela emoryi Crucifixion thorn	-	-	2B.2	A shrub that occurs in creosote bush scrub. 90 – 760 meters. **Occurs.** Species preferred habitat is found on-site within creosote bush communities. Species observed during 2017 botanical surveys in Halloran sandy loam soil 100 feet outside Project survey area and associated with creosote bush.	Jun-Jul

Species Name	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Cryptantha clokeyi Clokey's cryptantha	-	-	1B.2	An annual herb that occurs in creosote bush scrub. 890 – 1560 meters. **Absent.** Species preferred habitat is found on-site within creosote bush communities. Plant observed at reference site but absent within Project survey area during 2017 botanical surveys.	April
Cryptantha holoptera Winged cryptantha	-	-	4.3	An annual herb that occurs in creosote bush scrub and Joshua tree woodland. 19 – 1900 meters. **Unlikely.** Species preferred habitat is found on-site within creosote bush communities. Species recorded in CCH (1995) 3 miles east of Project alignment. Unlikely to occur due to distance of historic records.	Mar-Apr
Cymopterus multinervatus Purplenerve cymopterus	-	-	2B.2	A perennial herb that occurs in Joshua tree woodland and pinyon-juniper woodland communities. 670 – 1420 meters. **Does not occur.** Species preferred habitat is not found on-site. Species recorded in CNDDB 1.9 miles south of Project alignment. Does not occur based on unknown date and inaccurate location of historic record.	Mar-Apr
Funastrum utahense Utah vine milkweed	-	-	4.2	A perennial herb that occurs in creosote bush scrub. 150 – 1330 meters. **Absent.** Species preferred habitat is found on-site within creosote bush communities. Plant observed on desert sand-dune soil 50 feet outside Project survey area, but absent within survey area. Associated with creosote bush, white bursage, and non-native Saharan mustard.	Apr-Jun

Species Name	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Mentzelia tridentata Creamy blazing star	-	-	1B.3	An annual herb that occurs in creosote bush scrub along rocky and sandy slopes. 580 – 1300 meters. **Unlikely.** Species preferred habitat is found on-site within creosote bush communities. Species recorded in CCH (2010) 1.5 miles west of Project alignment. One CNDDB occurrence < 500 feet west of Project, but record indicates the location and date are inaccurate.	Mar-May
Mimulus mohavensis Mojave monkeyflower	-	-	1B.2	An annual herb that occurs in creosote bush scrub and Joshua tree woodland communities. 620 – 1750 meters. **Unlikely.** Species preferred habitat is found on-site within creosote bush communities. Species recorded in CNDDB (1998 and 2010) 1.3 and 2.0 miles south of Project alignment. Unlikely to occur due to distance of historic records.	Apr-Jun
Menodora spinescens var. *mohavensis* Mojave menodora	-	-	1B.2	A perennial shrub that occurs in Mojavean desert scrub on Andesite gravel, rocky hillsides, and canyons. 760 – 1420 meters. **Absent.** Species preferred habitat is found on-site within shadscale scrub communities. Species recorded in CCH (2011) 5.8 miles south of Project alignment. Plant observed at reference site but absent within Project survey area during 2017 botanical surveys.	Apr-May

Species Name	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Pediomelum castoreum Beaver indian breadroot	-	-	1B.2	A perennial herb that occurs in creosote bush scrub and Joshua tree woodland communities. 600 – 950 meters. **Unlikely.** Species preferred habitat is found on-site within creosote bush communities. Species recorded in CNDDB (1943) and may have occurred within Project alignment, but location is inaccurate. Unlikely to occur based on age and inaccuracy of historic records.	Apr-May
Penstemon albomarginatus White-margined beardtongue	-	-	1B.1	A perennial herb that occurs in creosote bush scrub and dune habitat. 630 – 760 meters. **Unlikely.** Species preferred habitat is found on-site within creosote bush communities. Species recorded in CNDDB (2008 and 2010) 2000 feet north of Project alignment. However, the species was not detected during reference site visit. Unlikely to occur due to distance of historic records.	Mar-May
Phacelia parishii Parish's phacelia	-	-	1B.1	An annual herb that occurs in creosote bush scrub, alkali sink, and playas. 560 – 1070 meters. **Unlikely.** Species preferred habitat is found on-site within creosote bush communities. Species recorded in CCH (1992) 2 miles north of Project material laydown yard. Unlikely to occur due to distance of historic records.	Apr-May

Species Name	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		
Plagiobothrys parishii Parish's popcornflower	-	-	1B.1	An annual herb that occurs in Joshua tree woodland and wetland-riparian communities. **Does not occur.** Species preferred habitat is not found on-site. Species recorded in CCH (2011) 4 miles south of Project alignment. Does not occur due to distance of historic record and species' preferred habitat is not found on-site.	Mar-Jun

Species Name	Status[1]			Distribution, Habitat, and Occurrence Potential[2]	Activity / Bloom Period
	Federal	State	CNPS		

[1]Status

Federal

FE: Federally Endangered

FT: Federally Threatened

DL: Delisted

State

SE: State Endangered

ST: State Threatened

SR: State Rare

CT: State Candidate Threatened

SSC: California Species of Special Concern

FP: Fully Protected

WL: Watch List

DL: Delisted

Vegetation Communities: Ranks are based on a one to five scale, ranging from critically imperiled (S1) to demonstrably secure (S5). S1-S3 communities considered rare.

CNPS

1A: Plants presumed extirpated in California and either rare or extinct elsewhere

1B: Plants rare, threatened, or endangered in California and elsewhere

2A: Plants presumed extirpated in California, but common elsewhere

2B: Plants rare, threatened, or endangered in California, but more common elsewhere

3: Plants about which more information is needed - a review list

4: Plants of limited distribution - a watch list

0.1: Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

0.2: Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

0.3: Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

CBR: Considered But Rejected

[2]Occurrence Potential

Special-status species with the potential to occur within the Survey Area were evaluated based on SCE's Species Presence/Absence Determination flow-chart:

Occurs: the species and/or positive sign was observed on-site during site visit or field survey.

Absent: the species and/or positive sign was not observed on-site during focused survey(s) during the appropriate blooming/activity period (and, for plants, observed at a reference population).

Likely: all site features indicate this species is very likely present and should be expected. Criteria include:

- Project site within geographic range;
- Suitable habitat present (e.g., soils, vegetation communities, elevation, roost sites, leaf litter/debris, water, host plants, etc.); and
- Distance to historical record(s) less than 25 years old are less than 500 feet (plants/fish), 1,000 feet (riparian wildlife), 1 mile (birds/bats), 2 miles (large mammals), or 3 miles (small mammals/herps).

Unlikely: species could occur, but records of the species are not locally known. Criteria include:

- Project site within geographic range;
- Suitable habitat present (e.g., soils, vegetation communities, elevation, roost sites, leaf litter/debris, water, host plants, etc.); and
- Distance to historical record(s) less than 25 years old are more than 500 feet (plants/fish), 1,000 feet (riparian wildlife), 1 mile (birds/bats), 2 miles (large mammals), or 3 miles (small mammals/herps).

Does Not Occur: species would not occur because the Project site is outside known or current geographic/elevation range, lacks habitat or suitable conditions, and/or there is reasonable certainty to assume absent based on historical records.

APPENDIX B:

FLORAL COMPENDIUM

SCIENTIFIC NAME (* introduced/non-native species)	**COMMON NAME**
AGAVACEAE – AGAVE FAMILY	
Hesperocallis undulata	Desert lily
AIZOACEAE – ICE PLANT FAMILY	
**Mesembryanthemum sp.*	*Iceplant
APOCYNACEAE – DOGBANE FAMILY	
Asclepias erosa	Desert milkweed
Funastrum sp.	Milkweed
Funastrum utahense	**Utah vine milkweed (CNPS 4.2)**
ASTERACEAE – SUNFLOWER FAMILY	
Ambrosia dumosa	White bursage
Ambrosia salsola	Burrobush
Bebbia juncea	Sweetbush
Chaenactis carphoclinia	Pebble pincushion
Chaenactis fremontii	Fremont pincushion
Encelia frutescens	Button brittlebush
Encelia sp.	Common brittlebush
Geraeae canescens	Desert sunflower
Isocoma acradenia	Alkali goldenbush
Malacothrix californica	California dandelion
Malacothrix coulteri	Snake's head
Monoptilon bellidiforme	Small desert star
Perityle emoryi	Emory's rockdaisy
Porophyllum gracile	Slender poreleaf
Rafinesquia neomexicana	Desert chicory
Stephanomeria exigua	Small wirelettuce
Stephanomeria pauciflora	Desert straw
BORAGINACEAE – BORAGE FAMILY	
Amsinckia tessellata	Devil's lettuce
Cryptantha angustifolia	Narrow leaved forget-me-not
Cryptantha decipiens	Gravel cryptantha
Cryptantha micrantha	Purple root cryptantha
Nama demissum	Purplemat
Pectocarya platycarpa	Broadfruit combseed
Pectocarya recurvata	Curvenut combseed
Phacelia crenulata	Heliotrope phacelia
Phacelia sp.	Common phacelia
Tiquilia plicata	Fanleaf crinklemat
BRASSICACEAE – MUSTARD FAMILY	
**Brassica tournefortii*	*Saharan mustard
Descurainia spp.	Tansy mustard
Lepidium densiflorum	Common pepperweed
**Sisymbrium irio*	*London rocket

CACTACEAE – CACTUS FAMILY	
Cylindropuntia echinocarpa	Wiggins' cholla
Cylindropuntia ramosissima	Branched pencil cholla
CARYOPHYLLACEAE – CARNATION FAMILY	
Achyronychia cooperi	Frost mat
CHENOPODIACEAE – GOOSEFOOT FAMILY	
Atriplex canescens var. *canescens*	Fourwing saltbush
Atriplex elegans	Wheelscale
Atriplex elegans var. *fasciculate*	Wheelscale saltbush
Atriplex hymenelytra	Desert holly
Atriplex polycarpa	Allscale saltbush
Atriplex spinifera	Mojave saltbush
**Salsola tragus*	*Russian thistle
Stutzia covillei	Coville's orach
Suaeda nigra	Bush seepweed
CLEOMACEAE – BEEPLANT FAMILY	
Cleomella obtusifolia	Bluntleaf stinkweed
EPHEDRACEAE – JOINTFIR FAMILY	
Ephedra funerea	Death valley ephedra
EUPHORBIACEAE – SPURGE FAMILY	
Euphorbia albomarginata	Rattlesnake sandmat
FABACEAE – PEA FAMILY	
Dalea mollissima	Soft prairie clover
Prosopis glandulosa var. *torreyana*	Western honey mesquite
Prosopis pubescens	Screwbean mequite
Senegalia greggii	Devil's claw
Senna armata	Desert senna
GERANIACEAE – GERANIUM FAMILY	
**Erodium cicutarium*	Red-stemmed filaree
KRAMERIACEAE – RHATANY FAMILY	
Krameria erecta	Littleleaf ratany
LAMIACEAE – MINT FAMILY	
Salvia columbariae	Chia sage
Scutellaria mexicana	Mexican bladdersage
LOASACEAE – LOASA FAMILY	
Mentzelia albicaulis	White-stemmed blazingstar
Petalonyx thurberi ssp. *thurberi*	Thurer's sandpaper plant
MALVACEAE – MALLOW FAMILY	
Eremalche exilis	White mallow
Eremalche rotundifolia	Desert fivespot

Sphaeralcea ambigua	Desert mallow
NYCTAGINACEAE – FOUR O'CLOCK FAMILY	
Abronia villosa var. *villosa*	Desert sand verbena
Mirabilis laevis var. *retrorsa*	Wishbone bush
ONAGRACEAE – EVENING PRIMROSE FAMILY	
Chylismia claviformis	Clavate fruited primrose
Chylismia claviformis ssp. *claviformis*	Browneyes
Eremothera boothii	Booth's suncup
PAPAVERACEAE – POPPY FAMILY	
Eschscholzia glyptosperma	Desert golden poppy
Eschscholzia minutiflora	Pygmy poppy
PLANTAGINACEAE – PLANTAGO FAMILY	
Plantago erecta	California plantain
Plantago ovata	Desert plantain
POACEAE – GRASS FAMILY	
**Bromus madritensis*	*Foxtail brome
**Bromus madritensis* ssp. *rubens*	*Red brome
**Cynodon dactylon*	*Bermuda grass
Hilaria rigida	Big galleta
**Schismus barbatus*	*Common mediterranean grass
Sporobolus airoides	Alkali sacaton
Stipa hymenoides	Indian rice grass
POLEMONIACEAE – PHLOX FAMILY	
Langloisia setosissima	Lilac sunbonnet
POLYGONACEAE – BUCKWHEAT FAMILY	
Chorizanthe brevicornu var. brevicornu	Brittle spineflower
Chorizanthe rigida	Devil's spineflower
Eriogonum deflexum var. *deflexum*	Flat topped buckwheat
Eriogonum inflatum	Desert trumpet
Eriogonum reniforme	Kidney leaf buckwheat
Eriogonum thomasii	Thomas' buckwheat
RESEDACEAE – MIGNONETTE FAMILY	
Oligomeris linifolia	Leaved cambess
SIMAROUBACEAE – QUASSIA FAMILY	
Castela emoryi	**Crucifixion thorn (CNPS 2B.2)**
SOLANACEAE – NIGHTSHADE FAMILY	
Lycium andersonii	Water jacket
TAMARICACEAE – TAMARISK FAMILY	
**Tamarix aphylla*	*Athel tamarisk
**Tamarix ramosissima*	*****Saltcedar

ZYGOPHYLLACEAE – CALTROP FAMILY

Larrea tridentata South American creosote bush

LEGEND:

Federal (USFWS)	**State (CDFW)**
FE Endangered	SE Endangered
FT Threatened	ST Threatened
FC Candidate	SR Rare
	SC Candidate

California Native Plant Society (CNPS) List Categories

List 1A	Plants Presumed Extinct in California
List 1B	Plants Rare, Threatened, or Endangered in California and Elsewhere
List 2	Plants Rare, Threatened, or Endangered in California but More Common Elsewhere
List 3	Plants about Which We Need More Information — A Review List
List 4	Plants of Limited Distribution − A Watch List

California Native Plant Society (CNPS) Threat Rank Extensions

.1	Seriously threatened in California (high degree/immediacy of threat)
.2	Fairly threatened in California (moderate degree/immediacy of threat)
.3	Not very threatened in California (low degree/immediacy of threat or no current threats known

APPENDIX C:

SITE PHOTOGRAPHS

Photo 1:
Photo of Project alignment within survey area.

Photo 2:
Photo of Creosote Bush (*Larrea tridentata*) Alliance within Project survey area.

Photo 3:
Photo of general material laydown yard site conditions. Looking south near northwest survey area boundary.

Photo 4:
Close-up photo of Utah Vine Milkweed (*Funastrum utahense*). Photo taken on April 26, 2017.

Photo 5:
Photo of Creosote Bush and Volcanic Scree within Project survey area.

Photo 6:
Photo of *Atriplex sp.* within Project survey area.

Photo 7:
Photo of material laydown yard border.

APPENDIX D:

DATA SHEETS

RARE PLANT SURVEY FORM

Date: April 26 Site Name: Pisgah Substation UID:
Lead Botanist: Ron Clark Supporting Botanist(s): Ben Madden
Target Species: Eunastrum utahense
Reference Population Name: none Target observed at reference? ☐ Yes ☐ No ☐ Unsure
Target species present on Site? X Yes ☐ No Area Covered: 50 Units: Acres ft² (m²)

GPS Make and Model: Garmin GPS Accuracy: _____ Units: Feet or Meters
Coordinate System: Lat/Long (UTM) Other: _____ Datum: NAD27 NAD83 WGS84
Y Coordinate (Latitude): 11N 555987 X Coordinate (Longitude): 3848808

Plant Data

Count unit: stem (clump) rosette Size determined by: Census Sample Visual Estimate
Plant count: 25 Estimated area: _____ Units: Acres ft² m²
OR Estimate: 251-500 501-1000 >1000 OR % Cover: 0 1-5 6-25 26-50 51-100
% Vegetative: 0 1-5 6-25 26-50 (51-100) % Flowering: 0 (1-5) 6-25 26-50 51-100
% Fruiting: (0) 1-5 6-25 26-50 51-100 % Senescent: (0) 1-5 6-25 26-50 51-100
Seedlings or Immature present? (Yes) No Unsure Count time: 10 minutes
What is the condition of this rare plant occurrence? Excellent (Average) Poor Unsure
Please note the characteristic(s) considered: _____

Conditions which might have prevented surveyors from locating target species? Mature Plant growing inside krameria
Voucher specimen obtained? ☐ Yes X No Stored where? _____
Permit Number(s): _____

Habitat

Slope/topographical position: 0°
Elevation range: 2000 Ft.
Aspect: none/flat
Hydrology: desert sand dune
Soils: sand
Vegetation Alliance: creosote scrub
Associated species: Larrea tridentata, Ambrosia dumosa

Invasive Species

Brassica tournefortii

Rare	Uncommon	(Common)	Abundant
Rare	Uncommon	Common	Abundant
Rare	Uncommon	Common	Abundant
Rare	Uncommon	Common	Abundant
Rare	Uncommon	Common	Abundant

Abundant: >100 observations Common: 50-100 observations Uncommon: 10-50 observations Rare: <10 observations

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Disturbance

Development:	None	Trace	(Some)	Most	Trampling	(None)	Trace	Some	Most
Browsing	(None)	Trace	Some	Most	Drought	(None)	Trace	Some	Most
Insect damage or disease:	None	(Trace)	Some	Most	Fire	(None)	Trace	Some	Most
Competition / succession:	(None)	Trace	Some	Most	Drought/Hydro	(None)	Trace	Some	Most
Adjacent land management:	None	Trace	(Some)	Most					

Other disturbance (please describe) and specific comments: adjacent to utility lines & substation

Management Recommendations:

Photo Log

Photo Number	File Name	Feature Photographed (e.g., flower, juvenile, unknown, insect)	Location and Direction of Photo (e.g., center of colony looking North)
01			
02			
03			
04			
05			
06			
07			
08			
09			
10			

Notes

1 mature Plant growing inside a krameria difficult to spot. lots of seedings around

OFFICE USE ONLY

Purpose	Date	Initials
Entered into Spreadsheet		
100% Check		
10% Check		
Validation		