Topock Project Executive Abstract

Document Title:

Assessment of Biological Resources for a 35-acre area on the West Side of Moabi Regional Park: Final Groundwater Remedy, Topock Compressor Station, California

Final Document? ☒ Yes ☐ No

Date of Document: September 8, 2015

Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other)

PG&E

Priority Status: ☒ **HIGH** ☐ **MED** ☐ **LOW**
Is this time critical? ☒ Yes ☐ No

Type of Document:
☐ Draft ☐ Report ☐ Letter ☐ Memo
☒ Other / Explain: Technical memorandum

Action Required:
☒ Information Only ☐ Review & Comment
Return to:_____
By Date: _____

☐ Other / Explain:

What does this information pertain to?
☐ Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA)
☐ RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment)
☐ Corrective Measures Study (CMS)/Feasibility Study (FS)
☐ Corrective Measures Implementation (CMI)/Remedial Action
☐ California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR)
☐ Interim Measures
☒ Other / Explain: Biological Reports

Is this a Regulatory Requirement?
☒ Yes
☐ No
If no, why is the document needed?

What is the consequence of NOT doing this item? What is the consequence of DOING this item?

This report was requested by DTSC to support the Final Groundwater Design and EIR. Not performing the survey and preparing this report would impeded analysis associated with the Groundwater Remedy design and EIR.

Other Justification/s:
☐ Permit ☒ Other / Explain: Requested by DTSC

Brief Summary of attached document:

This technical memorandum was prepared to characterize the biological resources within a 35-acre parcel of land that was added by request of DTSC to the western side of the Moabi Regional Park. This area had not been fully characterized in previous biological reports. This memorandum updates the project-wide information with respect to mature vegetation (aesthetic and visual resources), ethnobotanical plants, special-status plants, and wetlands and waters of the United States. Updated maps and acreage tallies are provided in the memorandum. The technical memorandum also provides information from a non-protocol survey by a qualified biologist for desert tortoise, birds, and other wildlife that was developed from systematic walking transects through the additional area within Moabi Regional Park. No individual desert tortoise or their sign was observed in the 35-acre area. A list of observed bird and reptile species was also provided in the memorandum.

Written by: PG&E

Recommendations:

This report is for information only.

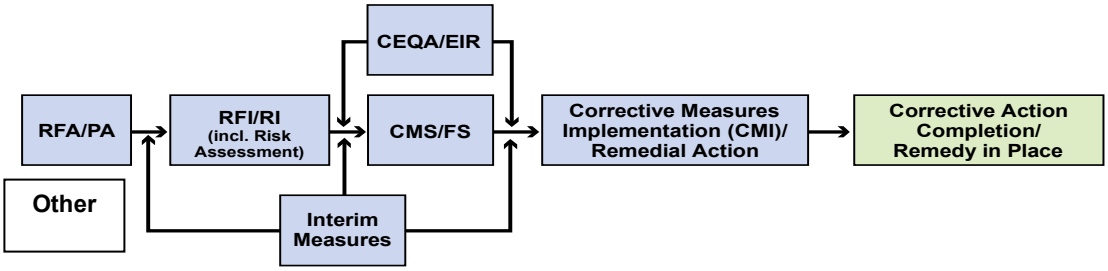
How is this information related to the Final Remedy or Regulatory Requirements:

The survey and this report provides information to support the Final Groundwater Remedy design and EIR analysis.

Other requirements of this information?
None.

Related Reports and Documents:

Click any boxes in the Regulatory Road Map (below) to be linked to the Documents Library on the DTSC Topock Web Site (www.dtsc-topock.com).



Legend
RFA/PA – RCRA Facility Assessment/Preliminary Assessment
RFI/RI – RCRA Facility Investigation/CERCLA Remedial Investigation (including Risk Assessment)
CMS/FS – RCRA Corrective Measure Study/CERCLA Feasibility Study
CEQA/EIR – California Environmental Quality Act/Environmental Impact Report

Version 10

Pacific Gas and Electric Company

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Chromium Remediation

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September 8, 2015

Mr. Aaron Yue
Project Manager
California Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630

Subject: Assessment of Biological Resources for a 35-acre area on the West Side of Moabi Regional Park: Final Groundwater Remedy

Dear Mr. Yue,

This letter transmits the technical memorandum entitled: *Assessment of Biological Resources for a 35-acre area on the West Side of Moabi Regional Park: Final Groundwater Remedy, Topock Compressor Station, California.* This memorandum was prepared in response to a request by DTSC to evaluate additional area adjacent to the original Groundwater Remedy EIR project area. The non-protocol surveys were conducted by project botanist, Russell Huddleston of CH2M HILL and wildlife biologist, William Lee of Transcon Environmental on June 24 and 25, 2015.

This memorandum updates maps and acreages for mature plants, ethnobotanical plants, special-status plants, and wetlands and waters of the United States. No individual desert tortoise or their sign was observed. A list of birds and reptiles observed during the survey is also included in the memorandum.

Please contact me at (805) 546-5243 or Virginia Strohl at (559) 263-7417 if you have any questions on the memorandum.

Sincerely,

Yvonne Meeks
Topock Remediation Project Manager

Enclosure:
Assessment of Biological Resources for a 35-acre area on the West Side of Moabi Regional Park: Final Groundwater Remedy

Assessment of Biological Resources for a 35-acre Area on the West Side of Moabi Regional Park: Final Groundwater Remedy, Topock Compressor Station, California

PREPARED FOR:	Virginia Strohl/PG&E	
COPY TO:	Marjorie Eisert/CH2M HILL	
PREPARED BY:	Russell Huddleston/CH2M HILL	William Lee/TRANSCON
DATE:	September 8, 2015	
PROJECT NUMBER:	657421.TM.10	

Introduction

In conformance with direction from the Department of Toxic Substances Control (DTSC), this technical memorandum presents additional details on biological resources associated with an additional 35-acre area on the west side of Moabi Regional Park located outside of the original Environmental Impact Report (EIR) Study Area (Figure 1). Biological surveys were initially conducted on November 19, 2014, for a 6.74-acre area west of the EIR Project Area that had been identified for construction headquarters and soil management area; however, it was subsequently determined that a larger 35-acre area west of Moabi Regional Park should be included as part of the additional surveys. A small section of the original EIR survey area on the south side of National Trails Highway was also included in the current surveys as conditions in this area have been altered (by others) since the original EIR surveys (Figure 1).

The survey results and assessment for the 6.74-acre construction headquarters and soil management area were addressed in the January 19, 2015, memorandum titled *Assessment of Biological Resources for the Proposed Soil Management Area: Final Groundwater Remedy, Topock Compressor Station, California* (CH2M HILL, 2015).

This memorandum provides updates to the January 2015 memorandum as well as information on the natural resources observed within the larger 35-acre area. Information included in this memorandum also provides supplemental information on the following biological resources and documents:

- **Mature vegetation (aesthetics and visual resources):**
  - *Topock Compressor Station Groundwater Remediation Project Mature Plants Survey Report*, January 17, 2012
  - *Addendum to the January 2012 Mature Plant Report for the Topock Compressor Station Final Groundwater Remedy*, May 19, 2014
- **Ethnobotanical plants:**
  - Revised Final *Topock Groundwater Remediation Project Ethnobotany Survey Report*, January 15, 2014
  - *Supplemental Ethnobotanical Plant Surveys for the Pacific Gas and Electric Company's Topock Compressor Station, San Bernardino County, California*, February 28, 2014
- **Special-status plants:**
  - *Revised Final Topock Groundwater Remediation Project Floristic Survey Report*, December 2013

- **Wetlands and waters:**
  - *Wetlands and Waters of the United States, Final Delineation for the Topock Compressor Station Groundwater Remediation Project, San Bernardino County, California*, April 18, 2014
  - *Riparian Vegetation and California Department of Fish and Wildlife Jurisdiction for the Topock Compressor Station Groundwater Remediation Project San Bernardino County, California*, May 9, 2014

The additional survey area is located entirely on federal lands managed by the Bureau of Land Management that are currently leased to San Bernardino County. Therefore, the proposed construction headquarters, soil staging, and storage areas would not result in any additional impacts to the Havasu National Wildlife Refuge.

Methods

Focused biological surveys of the additional 35-acre area were completed by CH2M HILL botanist Russell Huddleston and TRANSCON wildlife biologist William Lee on June 24 and 25, 2015. The primary objective of the focused survey was to systematically walk the 35-acre area to identify significant biological resources not documented in previous environmental reports and documents. Methodology specific to each of these focused surveys is provided in the following sections.

Mature Plants

For the purpose of the survey, mature vegetation is defined as living trees, large or prominent shrubs, and tall, predominantly herbaceous plants that were considered important to the aesthetic value of the area. Small seedlings, saplings, and low-to-moderate shrubs (generally less than 3 feet tall) were not considered mature plants in terms of their aesthetic value because of their small stature. Surveys followed the protocols developed for Environmental Impact Report (EIR) Mitigation Measures AES-1a and AES-2b as well as stakeholder comments (AECOM, 2011).

For each mature plant, the height of the plant was recorded based on the following four height categories:

- Short (< 6 feet)
- Medium (≥ 6 and < 12 feet)
- Tall (≥ 12 and < 20 feet)
- Very tall (≥ 20 feet)

Plant health was also assessed using three categories as follows:

- Good (plants with no dead or damaged branches or other signs of branch senescence)
- Fair (plants with a few dead or senescent branches)
- Poor (plants with more than half of the branches dead or damaged)

Mature plants in the additional survey area were identified to species and mapped using a Trimble® Geo XT Global Positioning System (GPS).

Ethnobotanical Plants

A plant species was considered culturally significant if it occurred on the list of Colorado River Indian Ethnobotany in the Appendix PLA in the EIR (AECOM, 2011). In addition, arrowweed (*Pluchea sericea*) and *Lycium* spp. were also considered species with cultural importance, based on comments from the Department of Interior (DOI) during the 60% Constructability Review. Any species included in Appendix PLA as well as any arrowweed and *Lycium* spp. observed in the 35-acre area were mapped with the GPS, regardless of size and health.

Special-status Plants

Because of the seasonal timing of the surveys, a comprehensive survey of flora in the 35-acre area was not possible; however, any perennial species (e.g., trees, shrubs, and cacti) included as a special-status plant in the EIR that were identified in the 35-acre area were mapped using the GPS.

Wetlands and Waters

No wetlands were identified in the 35-acre area. The limits of two ephemeral washes were delineated in the 35-acre area based on guidance and procedures provided in *A Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Lichvar and McColley, 2008) and the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Curtis and Lichvar, 2010). Field indicators included defined vertical banks, drift deposits, and soil cracks. The limits of the ordinary high water were mapped in the field using the GPS.

Desert Tortoise

Presence/absence desert tortoise surveys were performed over 100 percent of the 35-acre area. Transects spaced at 10-meter intervals were walked to search for any sign of desert tortoise including live observations, carcasses and bones, burrows, and/or scat. Surveys were conducted during the summer inactive season of the desert tortoise, but were initiated early in the morning and concluded by early afternoon to complete the surveys before excessive air temperatures were reached. When no sign is observed along narrowly spaced transects, a progressively wider transect spacing is used to better characterize the "zone of influence" around the study area; however, transects at the next wider recommended interval spacing (200 meters) were not performed due to access restrictions within Moabi Regional Park and the BNSF Railway property, and due to steep, unstable slopes bordering the survey area.

Birds and Other Wildlife

Numerous special-status and protected wildlife species have the possibility of occurring in the project area, including Southwestern willow flycatcher (*Empidonax traillii extimus*), Arizona Bell's vireo (*Vireo bellii arizonae*), Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), California black rail (*Laterallus jamaicensis coturniculus*), Yuma clapper rail (*Rallus longirostris yumanensis*), Western least bittern (*Ixobrychus exilis hesperis*), Crissal thrasher (*Toxostoma crissale*), and Sonoran yellow warbler (*Dendroica petechial sonorana*) (CH2M HILL, 2014).

Protocol-level surveys were not performed for these species because of the lack of species-specific habitat within the study area, but a general wildlife survey was conducted concurrently with the desert tortoise surveys. In addition to walking transects at 10-meter intervals, trees and dense vegetation were carefully scanned from strategic viewpoints with binoculars to identify avian species.

Disturbance Areas

In addition to biological resources, existing areas with ground surface disturbance including roads, gravel and rock piles, and a former borrow pit that is currently used for off-road vehicle loading and unloading, as well as an area that was recently cleared and graded sometime in early 2013 for a paintball game sponsored by the Pirate Cove Resort, were also mapped using GPS during the field survey.

Results

The following sections provide a general description of the area as well as the results of the field surveys. Representative site photographs are provided in Attachment A.

General Site Description and Vegetation

Vegetation throughout the 35-acre area is characterized by creosote bush scrub. Shrubs and scattered trees are generally widely spaced with minimal herbaceous cover between. Common species include creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), white rhatany (*Krameria bicolor*), brittlebush (*Encelia farinosa*), cheese bush (*Ambrosia salsola*), beavertail cactus (*Opuntia basilaris* var. *basilaris*), and silver cholla (*Cylindropuntia echinocarpa*). Scattered trees include blue palo verde (*Parkinsonia florida*) and smoke tree (*Psorothamnus spinosus*). A list of plant species observed in the 35-acre area is provided in Attachment B.

Several areas are largely devoid of vegetation including existing roads and a large area north of the National Trails Highway that was previously used as a borrow pit by the Burlington Northern Santa Fe (BNSF) railroad and is currently used as a parking and staging area for off-road recreational vehicles (Figure 6). Vegetation within this area is sparse, consisting primarily of scattered, common annuals observed elsewhere in the EIR project area, as well as with a few small re-sprouting creosote bush shrubs and blue palo verde seedlings. The area to the south of the National Trails Highway largely consists of open sandy soil where vegetation was cleared by the Pirate Cove Resort in early 2013 for a paintball game. At the time of the surveys, numerous small re-sprouting creosote shrubs were noted in this area as well as many small blue palo verde, desert smoke tree, and honey mesquite (*Prosopis glandulosa*) seedlings.

Mature Plants

Mature plants identified in the survey area included blue palo verde, desert smoke tree, athel tamarix (*Tamarix aphylla*), and cat-claw acacia (*Senegalia greggii*) (Figure 2). Most of the plants were considered to be in good to fair condition (Table C-1, Appendix C).

Ethnobotanical Plants

Culturally sensitive plant species observed in the 35-acre area included blue palo verde, honey mesquite, and chia (*Salvia columbariae*). Many of the palo verde and all of the honey mesquite trees consisted of small seedlings or saplings found in previously disturbed areas with larger trees generally found in the north and northeast part of the survey area (Figure 3). More small palo verde and honey mesquite seedlings were observed during the June 2015 survey than the during the November 2014 surveys. This may be the result of new germination and growth, and because small (less than 1 foot tall) seedlings with no foliage were not as apparent during the November 2014 survey. In other areas, small seedlings that were mapped during the November 2014 surveys were not found during the June 2015 surveys. Scattered dry stalks of chia were found only in the northern part of the 35-acre area (Figure 3).

Special-Status Plants

A plant species was considered to be special-status if it met one or more of the following criteria:

- Listed, proposed, or candidate for listing as rare, threatened or endangered under the Federal or State Endangered Species Acts
- Listed under the California Desert Native Plants Act
- California Rare Plant Ranked (CRPR) 1, 2, 3, or 4 by the California Native Plant Society (CNPS) in its Online Inventory of Rare and Endangered Plants of California (CNPS, 2015)
- Listed by the BLM as a Sensitive Plant (BLM, 2015)

The California Deserts Native Plants Act (CDNPA) is included in Division 23 of the California Food and Agriculture Code. In general, the CDNPA prohibits the harvest, transport, and sale of certain desert plants without a valid permit from the county in which the collecting will occur. This regulation also prohibits the destruction, excavation, damage, and removal of certain plants without a valid permit. Under Section 80117, activities such as land clearing for surveys, building sites, roads, or other rights-of-way by the

landowner or by his or her agent are not prohibited as long as the native plants are not transported from the land or offered for sale, and as long as the county is given 10 days' notice prior to any such activity.

Trees and shrubs protected under the CDNPA identified in the 35-acre survey area include blue palo verde, catclaw acacia, desert smoke tree, honey mesquite, beavertail, corkseed mammillaria (*Mammillaria tetrancistra*), teddy-bear cholla (*Opuntia bigelovii*), and silver cholla (Figure 4).

Wetlands and Waters

Two channelized, ephemeral washes were identified in or immediately adjacent to the 35-acre area (Figure 5). The first is a 0.29-acre wash located south of the National Trails Highway that originates at three 8.5-foot-diameter corrugated metal pipe culverts installed under the BNSF railroad track. There is an existing access road just east of the culvert outfall and west of the clearly defined wash channel. The access road is in functioning condition, but exhibits some evidence of erosion resulting from high flow events. Most of this water feature is characterized by a relatively uniform bed with steep side slopes. The substrate consists of coarse sand with scattered pebbles and cobbles and boulders. Vegetation within the channel includes several small blue palo verde saplings along the edges with scattered creosote bush, brittlebush, honeysweet (*Tidestromia oblongifolia*), small-seeded spurge (*Chamaesyce polycarpa*), and Spanish needle (*Palafoxia arida*) within and along the sides of the channel.

The second is a large, 7.17-acre ephemeral wash located immediately adjacent to the north side and within the northeastern portion of the 35-acre area (Figure 5). The BNSF Railroad spans this feature along an elevated bridge structure. The channel below the bridge has been armored with shotcrete. A tall concrete embankment is present along approximately 1,600 feet along the north side of the channel as well as approximately 1,000 feet along the south side near Moabi Regional Park. The western side of the wash is contained within a defined bed and bank channel that ranges from approximately 25 to 100 feet wide, broadening into a larger floodplain area to the southwest of a roadway bridge within Moabi Regional Park. Vegetation, including smoke tree, cheesebush, sweet bush, creosote bush, brittlebush, honeysweet, small-seeded spurge and Spanish needle, are scattered throughout the channel. Numerous palo verde seedlings are also present in the northeast section. Three large gravel/rock piles are present within the channel in the northeastern part of the 35-acre area.

Consistent with the existing wetland delineation report, both the 0.29-acre wash south of the National Trails Highway and the larger 7.17-acre wash along the northern edge of the 35-acre area were classified as a Riverine Intermittent Stream Bed Cobble-Gravel Temporarily Flooded (R4SB3A).

The additional 0.29 and 7.17 acres results in a total of 63.82 acres of R2SB3A waters, and increased the grand total of Waters of the United States that occur in the project area to 206.72 acres. Table 1 provides an updated summary of wetland acreages for the entire project area.

TABLE 1
Updated Summary of Wetland and Other Waters of the United States Identified in the Survey Area
Assessment of Biological Resources for a 35-acre Area on the West Side of Moabi Regional Park: Final Groundwater Remedy, Topock Compressor Station, California

Feature ID	Acreage	Wetlands or Other Waters of the United States
Riverine Wetlands		
R2UB2 – Colorado River	88.79	Waters of the United States
R2UB2x – Park Moabi Slough	29.52	Waters of the United States
R4SB3A – Ephemeral Washes / Drainages	63.82	Waters of the United States
R4SB4A – Sacramento Wash	10.63	Waters of the United States

TABLE 1
Updated Summary of Wetland and Other Waters of the United States Identified in the Survey Area
Assessment of Biological Resources for a 35-acre Area on the West Side of Moabi Regional Park: Final Groundwater Remedy, Topock Compressor Station, California

Palustrine Wetlands		
PEMH – Shore Zone Wetlands; Topock Marsh; Pond	2.19	Wetlands
PEMC – Adjacent Wetlands	2.39	Wetlands
PSSB – Adjacent Wetlands	0.12	Wetlands
PSSA – Scrub-Shrub Wetlands (Washes)	9.15	Wetlands
PUBHx – Park Moabi Pond: P-1	0.11	Waters of the United States
Updated Total	**206.72**	

Wildlife

No desert tortoise or their sign (e.g., scat, burrows, or remains) was detected during the survey. The survey area consisted of poor quality habitat dominated by mixed creosote bush scrub with a rocky substrate that is not conducive for the construction of burrows. Much of the survey area has been previously disturbed from BNSF railway activities, numerous off-highway vehicle trails, and the area cleared for the paintball tournament. Furthermore, the area is fragmented from surrounding tortoise habitat by the BNSF railway, National Trails Highway, Interstate 40, and developments in Moabi Regional Park.

A list of wildlife species observed during the survey is provided in Table 2. The majority of these observations occurred in the northeastern section of the survey area along washes dominated by blue palo verde, desert smoke tree, salt cedar, cat-claw acacia, and honey mesquite.

TABLE 2
Wildlife Species Observed in the 35-acre Area
Assessment of Biological Resources for a 35-acre Area on the West Side of Moabi Regional Park: Final Groundwater Remedy, Topock Compressor Station, California

Common Name	Scientific Name	Common Name	Scientific Name
Gambel's quail	*Callipepla gambelii*	Loggerhead shrike	*Lanius ludovicianus*
Rock pigeon	*Columba livia*	Unidentified hummingbird	Trochilidae (family)
Mourning dove	*Zenaida macroura*	Turkey vulture	*Cathartes aura*
Unidentified vireo species	*Vireo* sp.	Greater roadrunner	*Geococcyx californianus*
Great-tailed grackle	*Quiscalus mexicanus*	Western whiptail	*Aspidoscelis tigris*
Common raven	*Corvus corax*	Side-blotched lizard	*Uta stansburiana*
Lesser night hawk	*Chordeiles acutipennis*	Desert iguana	*Dipsosaurus dorsalis*

Disturbed Areas

In addition to the National Trails Highway, existing areas with ground surface disturbance in the 35-acre area include numerous roads and trails, a large open area that was formerly used as a borrow pit by the BNSF railroad that is now used as an off-road vehicle parking and staging area, and an area that was cleared and graded by the Pirate Cove Resort in 2013 for a paintball game (Figure 6). Three large gravel piles and one small gravel pile are present in the northeastern part of the area, and four wooden poles supporting an electric distribution line are present near the National Trails Highway.

As noted above, numerous small seedlings including palo verde and honey mesquite were observed in the relatively recently disturbed paintball area. It appears that the loose, open soils in this area along with

favorable rainfall conditions have promoted germination and growth of these plants. While this area is showing early signs of natural recovery, this area is still highly disturbed relative to the surrounding habitat; prior to construction, any surviving seedlings of culturally significant plants, including palo verde and honey mesquite, will be transplanted to one of the designated revegetation locations within the project area.

References

AECOM. 2011. *Topock Compressor Station Final Remedy*. FEIR, Vol. 1. Mitigation Monitoring and Reporting Program, California Department of Toxic Substances Control.

Baldwin, Bruce G., Douglas H. Goldman, David J. Keil, and Robert Patterson (eds.). 2012. *The Jepson Manual: Vascular Plants of California*. Berkeley: University of California Press.

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CH2M HILL. 2015. *Assessment of Biological Resources for the Proposed Construction Headquarters and Soil Management Areas: Final Groundwater Remedy, Topock Compressor Station, California*. January.

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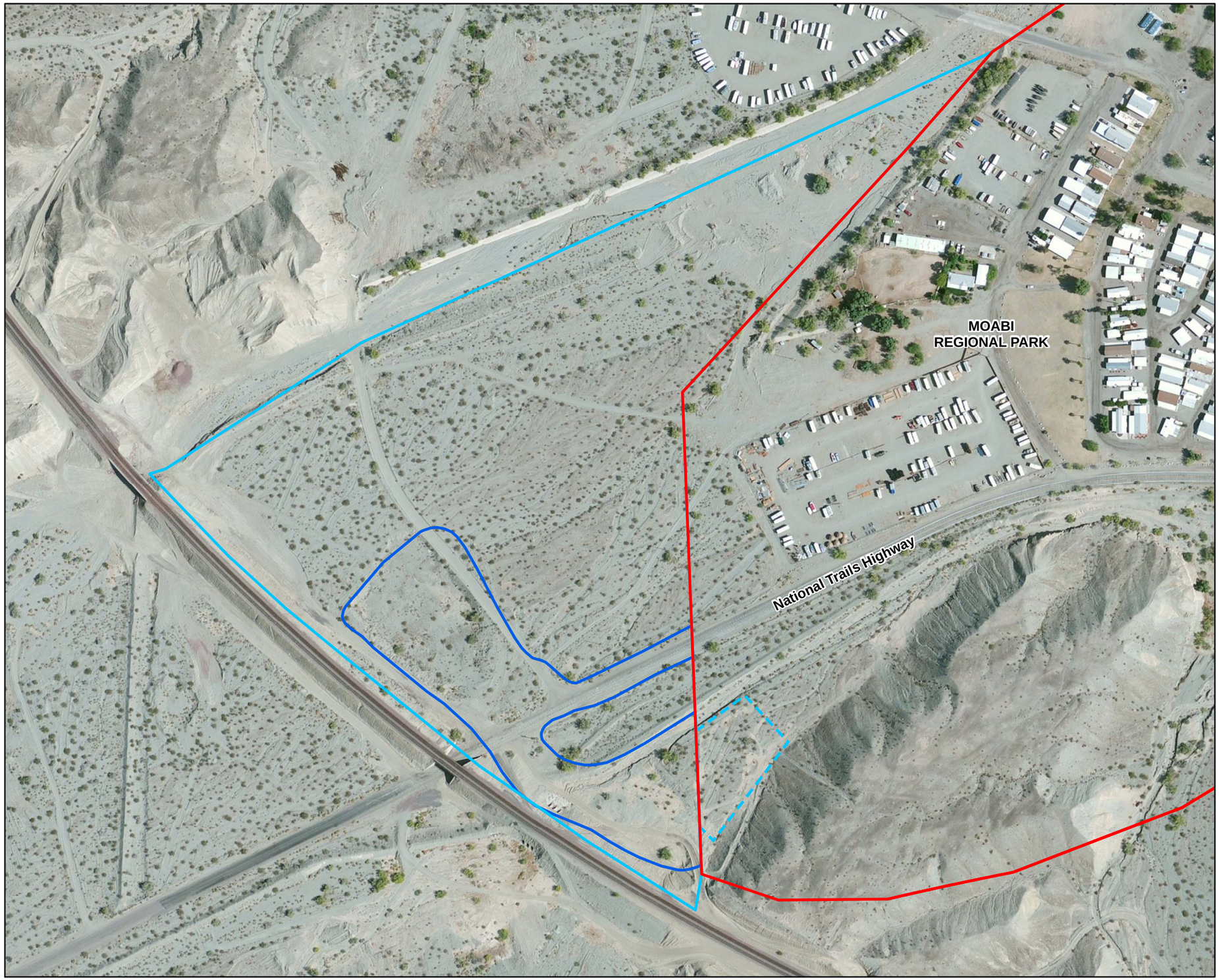
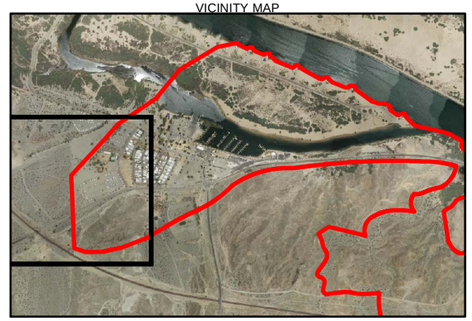
Lichvar, R. W., and S. M. McColley. 2008. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*. ERDC/CRREL TR-08-12. U. S. Army Corps of Engineers Research and Development Center, Cold Regions Research and Engineering Laboratory.

Figures



VICINITY MAP



LEGEND

- EIR Project Area
- Additional Survey Area - June 2015
- Additional Survey Area - Paintball Area
- Additional Work Area - November 2014

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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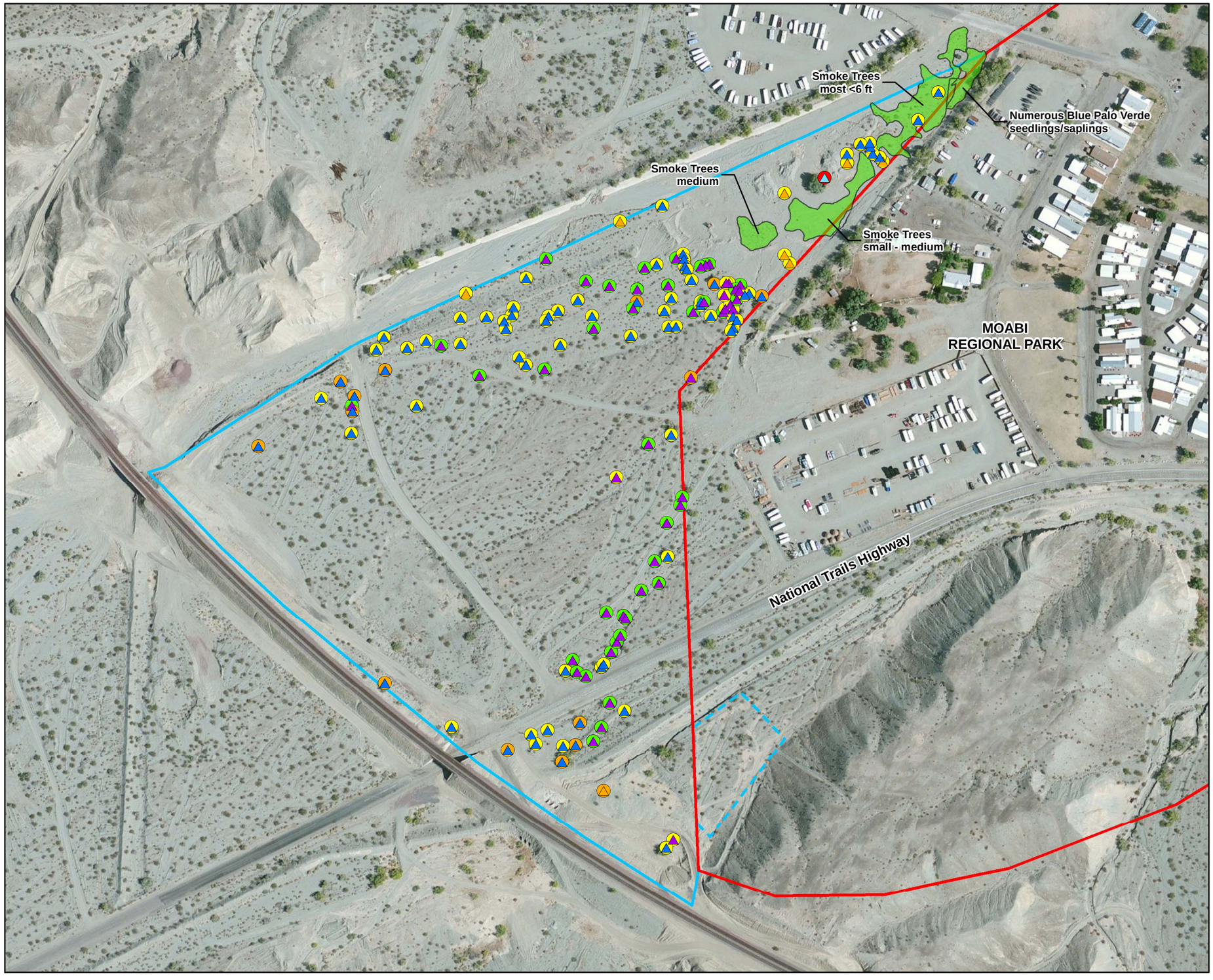
Feet

FIGURE 1
ADDITIONAL SURVEY AREA
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

CH2MHILL



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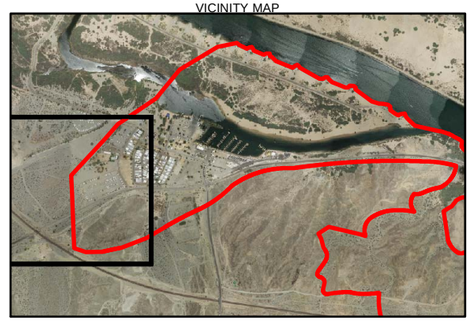

LEGEND

- EIR Project Area
- Additional Survey Area - June 2015
- Additional Survey Area - Paintball Area

Plant Species

- Athel Tamarix
- Blue Palo Verde
- Catclaw Acacia
- Smoke Tree

Height Designation

- Short <6
- Medium (6-12)
- Tall (12-20)
- Very Tall >20
- Mature Plant Groups

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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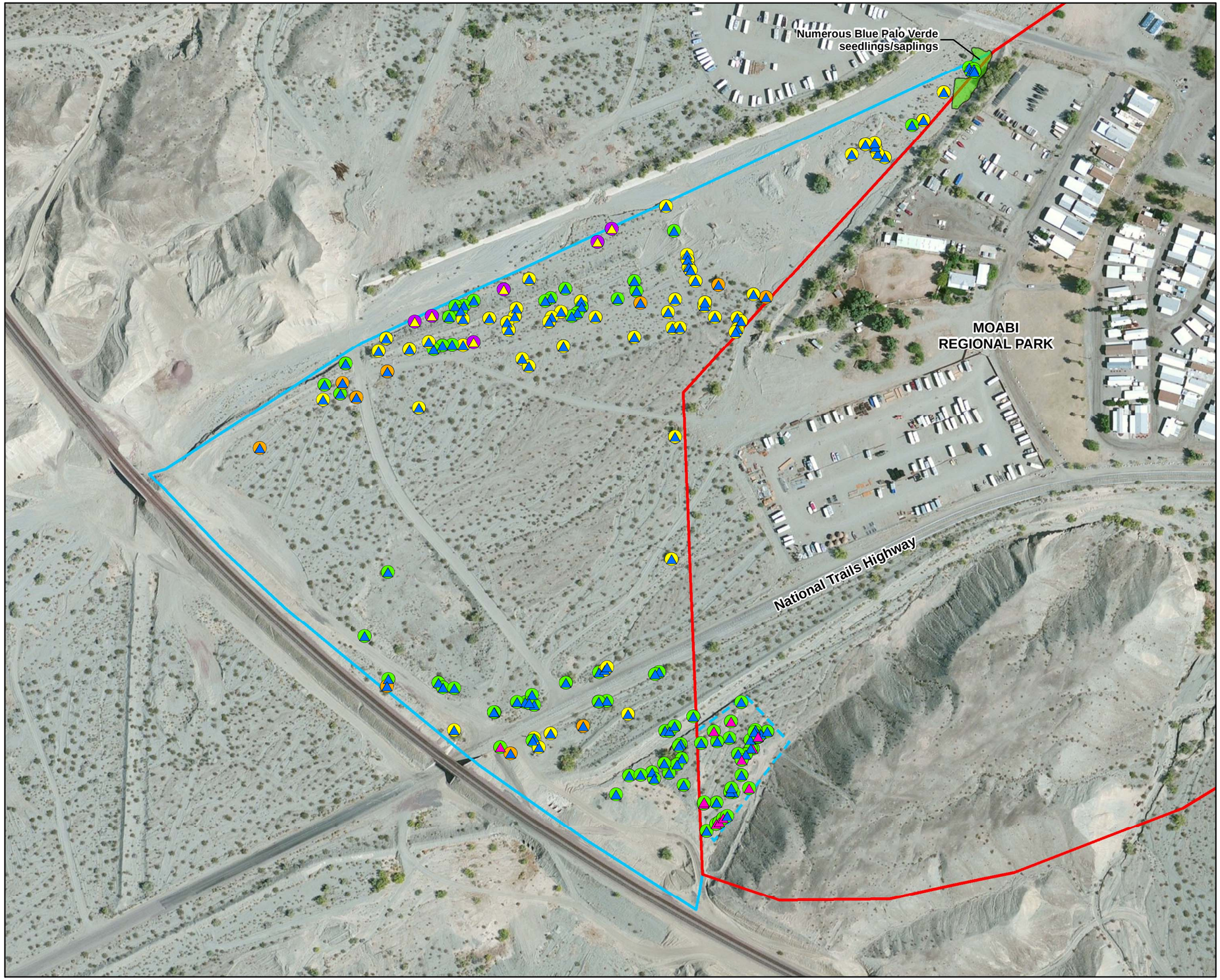
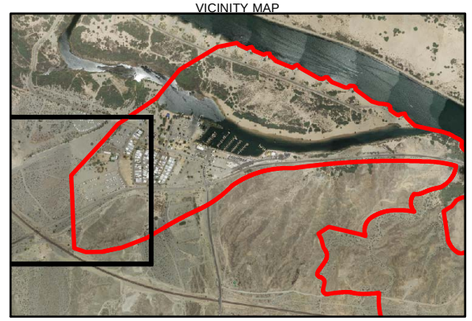
Feet

FIGURE 2
LOCATIONS OF MATURE PLANTS
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

CH2MHILL



VICINITY MAP



LEGEND

EIR Project Area

Additional Survey Area - June 2015

Additional Survey Area - Paintball Area

Plant Species

- Blue Palo Verde
- Chia
- Honey Mesquite

Height Designation

- Annual
- Short <6
- Medium (6-12)
- Tall (12-20)

Cultural Plant Groups

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

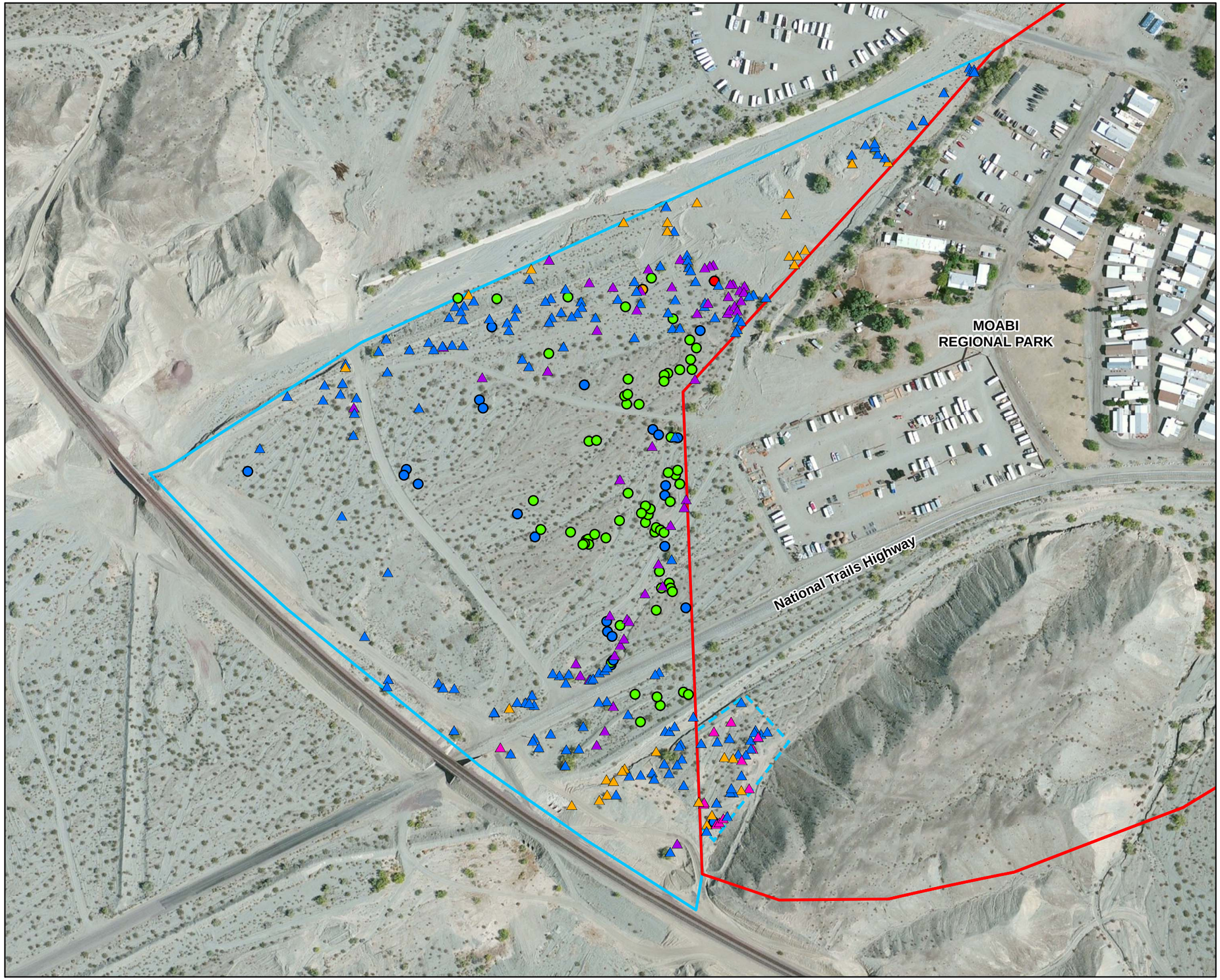
N

0 50 100 200 300 400 500

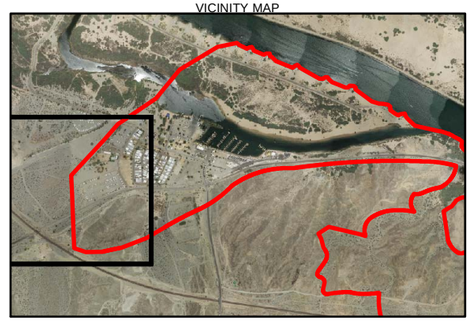
Feet

FIGURE 3
LOCATIONS OF CULTURALLY SENSITIVE PLANTS
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL



VICINITY MAP



LEGEND

EIR Project Area

Additional Survey Area - June 2015

Additional Survey Area - Paintball Area

Plant Species

- Blue Palo Verde
- Catclaw Acacia
- Honey Mesquite
- Smoke Tree

Cactus Species

- Beavertail
- Corkseed Mammillaria
- Silver Cholla
- Teddy Bear Cholla

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

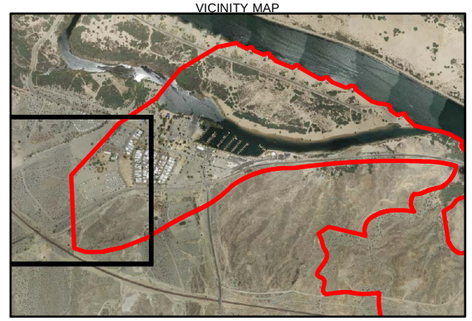
N

0 50 100 200 300 400 500
Feet

FIGURE 4
LOCATIONS OF SPECIAL-STATUS PLANTS
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL

VICINITY MAP



LEGEND

- EIR Project Area
- Additional Survey Area - June 2015
- Additional Survey Area - Paintball Area
- Riverine Intermittent Stream Bed Cobble-Gravel Temporarily Flooded

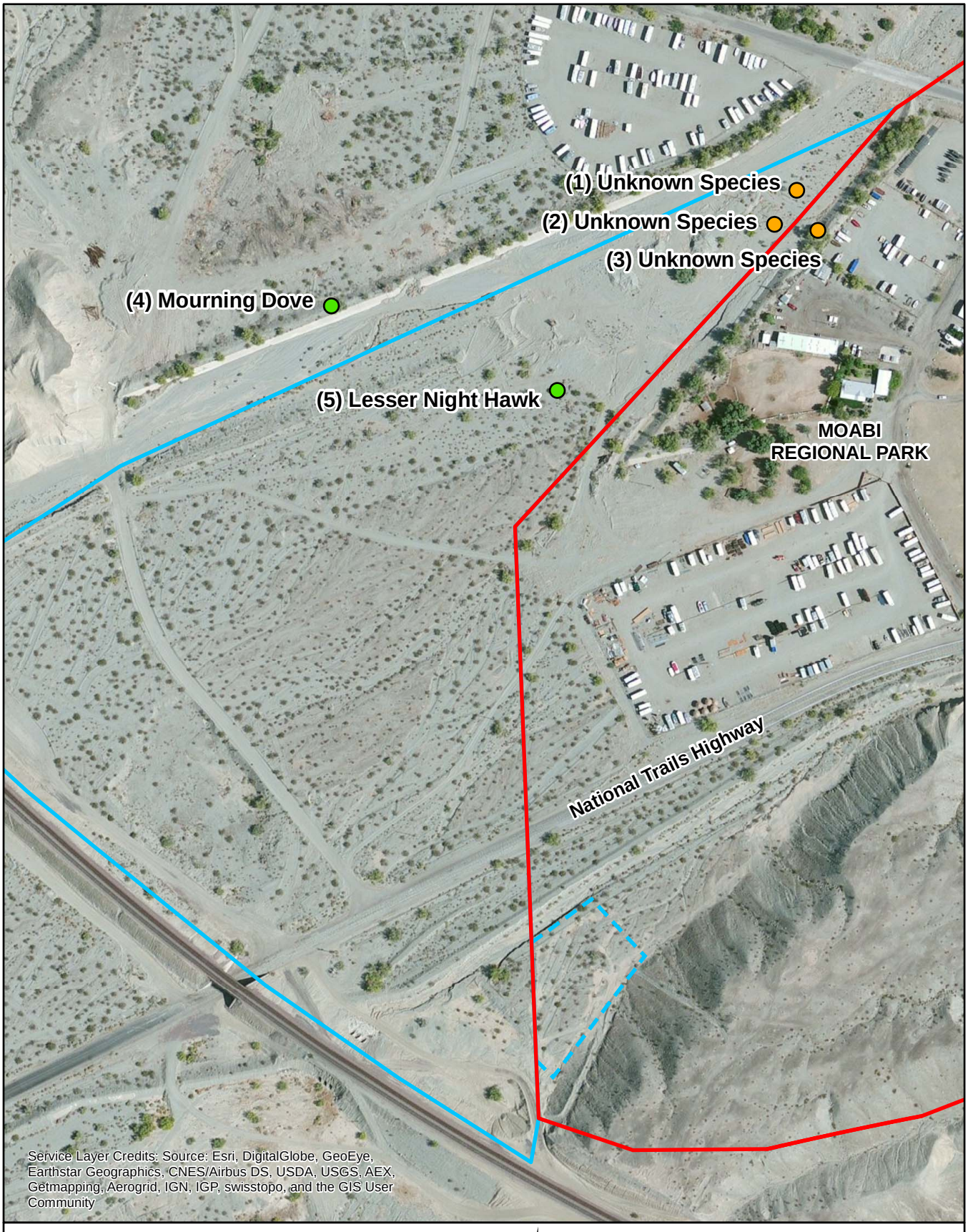
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

N

0 50 100 200 300 400 500
Feet

FIGURE 5
LOCATIONS OF WETLANDS AND WATERS
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL



LEGEND

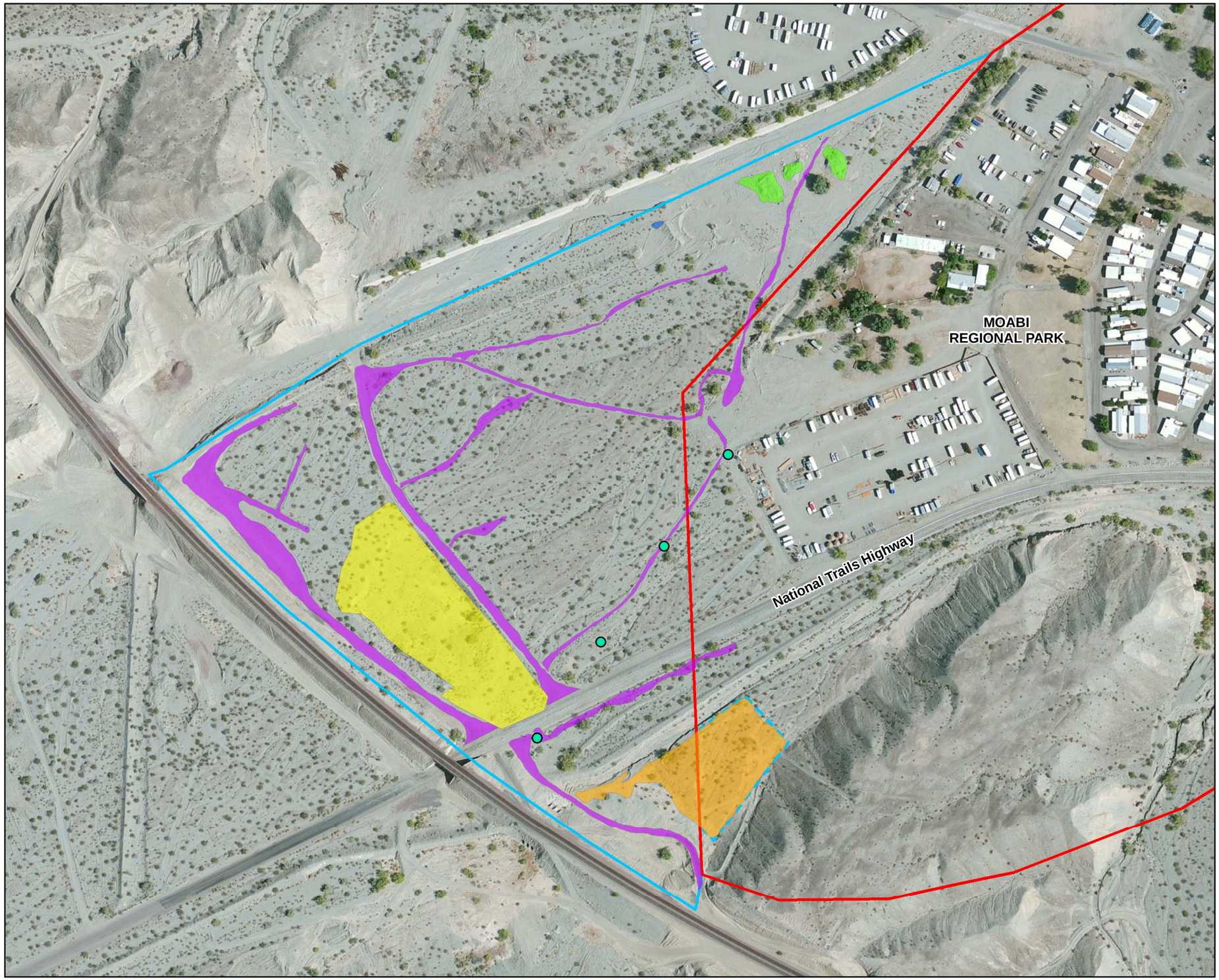
- EIR Project Area
- Additional Survey Area - June 2015
- Additional Survey Area - Paintball Area
- Active Nest
- Inactive Nest

N

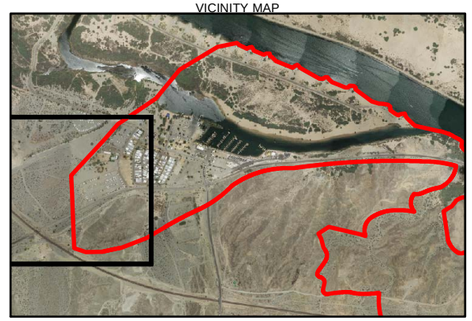
0 100 200

Feet

FIGURE 6
NEST LOCATIONS
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA



VICINITY MAP



LEGEND

EIR Project Area

Additional Survey Area - June 2015

Additional Survey Area - Paintball Area

Disturbance

Former Borrow Pit, OHV Parking and Unloading

Road

Small Gravel Pile

Gravel Pile

Paint Ball Area

Power Pole

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

N

0 50 100 200 300 400 500

Feet

FIGURE 7
LOCATIONS OF DISTURBANCE
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

Attachment A
Representative Site Photographs

PHOTO 1

Typical open creosote bush scrub habitat and rocky substrate found in the additional survey area

PHOTO 2

Overview of paintball area to the south of the National Trails Highway

PHOTO 3

Overview of paintball area to the south of the National Trails Highway (photo November 18, 2014)

PHOTO 4

Overview of paintball area to the south of the National Trails Highway (photo June 26, 2015)

PHOTO 5
Blue palo verde seedling observed in the paintball area on June 26, 2015

PHOTO 6
Honey mesquite seedling observed in the paintball area on June 26, 2015

PHOTO 7

BNSF Railroad Bridge at west end of large wash north of additional survey area

PHOTO 8

Wash located on the south side of the National Trails Highway

PHOTO 9

Active mourning dove nest in palo verde tree located approximately 82 inches off the ground

PHOTO 10

Disturbed area north of the National Trails Highway

PHOTO 11

One of many roads/trails that exist within the additional survey area, facing west

Attachment B
Plants Species Identified in the Additional Survey Area

TABLE B-1

Vascular Plant Species Observed in the Additional Project Area

Assessment of Biological Resources for a 35-acre Area on the West Side of Moabi Regional Park: Final Groundwater Remedy, Topock Compressor Station, California

Scientific Name	Common Name
Amaranthaceae	**Amaranth family**
Tidestromia oblongifolia	Honeysweet
Asteraceae	**Sunflower family**
Ambrosia dumosa	White bursage
Ambrosia salsola	Cheesebush
Bebbia juncea var. *aspera*	Sweetbush
Chaenactis carphoclinia	Pebble pincushion
Encelia farinosa	Brittlebush
Geraea canescens	Desert sunflower
Palafoxia arida	Spanish needle
Boraginaceae	**Borage family**
Cryptantha angustifolia	Narrow-leaved cryptantha
Phacelia crenulata ssp. *ambigua*	Notch-leaved phacelia
Cactaceae	**Cactus family**
Cylindropuntia echinocarpa	Silver cholla
Mammillaria tetrancistra	Corkseed mammillaria
Opuntia basilaris var. *basilaris*	Beavertail
Opuntia bigelovii	Teddy bear cholla
Euphorbiaceae	**Spurge family**
Chamaesyce polycarpa	Small-seeded spurge
Fabaceae	**Legume family**
Dalea mollis	Hairy indigo-pea
Lupinus arizonicus	Arizona lupine
Marina parryi	Parry's marina
Parkinsonia florida	Blue palo verde
Prosopis glandulosa var. *torreyana*	Honey mesquite
Psorothamnus spinosus	Smoke tree
Senegalia greggii	Catclaw acacia
Geraniaceae	**Geranium family**
Erodium cicutarium	Red-stemmed filaree
Krameriaceae	**Rhatany family**
Krameria bicolor	White rhatany
Lamiaceae	**Mint family**
Hyptis emoryi	Desert lavender
Salvia columbariae	Chia
Malvaceae	**Mallow family**
Sphaeralcea ambigua var. *ambigua*	Apricot mallow

TABLE B-1

Vascular Plant Species Observed in the Additional Project Area

Assessment of Biological Resources for a 35-acre Area on the West Side of Moabi Regional Park: Final Groundwater Remedy, Topock Compressor Station, California

Scientific Name	Common Name
Plantaginaceae	**Plantain family**
Plantago ovata	Ovate plantain
Polygonaceae	**Buckwheat family**
Eriogonum deflexum var. *deflexum*	Flat-crown buckwheat
Eriogonum inflatum var. *inflatum*	Inflated desert trumpet
Solanaceae	**Nightshade family**
Physalis crassifolia	Thick-leaf ground cherry
Tamaricaceae	**Tamarisk family**
Tamarix aphylla	Athel tamarisk
Zygophyllaceae	**Caltrop family**
Larrea tridentata	Creosote bush
Poaceae	**Grass family**
Aristida adscensionis	Six-weeks three awn
Bouteloua aristidoides	Needle grama
Bouteloua barbata ssp. *barbata*	Six-weeks grama
Schismus barbatus	Mediterranean grass

Note:

Taxonomy follows *The Jepson Manual 2nd Edition* (Baldwin et al., 2012).

Attachment C
Mature Plants Identified in the Additional Survey Area

TABLE C-1

Mature Plants Observed in the Additional Survey Area

Assessment of Biological Resources for a 35-acre Area on the West Side of Moabi Regional Park: Final Groundwater Remedy, Topock Compressor Station, California

Common Name	Scientific Name	Size	Condition	UTM X	UTM Y
Athel tamarix	*Tamarix aphylla*	Very tall	Good	727365.99	3845673.96
Blue palo verde	*Parkinsonia florida*	Medium	Good	727453.91	3845738.51
		Medium	Good	727438.02	3845717.22
		Medium	Good	727408.33	3845689.22
		Medium	Good	727402.98	3845691.93
		Medium	Good	727401.16	3845697.37
		Medium	Good	727400.88	3845700.25
		Medium	Good	727393.58	3845699.22
		Medium	Good	727383.22	3845691.69
		Medium	Good	727241.10	3845653.54
		Medium	Good	727136.09	3845598.99
		Medium	Good	727085.33	3845568.99
		Medium	Good	727026.50	3845554.69
		Medium	Good	727020.55	3845545.38
		Medium	Good	726977.91	3845508.62
		Medium	Good	727000.65	3845481.55
		Medium	Good	727075.30	3845255.46
		Medium	Good	727277.57	3845568.48
		Medium	Good	727307.13	3845585.68
		Medium	Good	727256.71	3845616.41
		Medium	Good	727257.13	3845612.43
		Medium	Good	727257.87	3845607.06
		Medium	Good	727259.26	3845604.52
		Medium	Good	727262.98	3845596.22
		Medium	Good	727247.33	3845582.36
		Medium	Good	727236.21	3845608.42
		Medium	Good	727175.42	3845581.74
		Medium	Good	727160.29	3845573.85
		Medium	Good	727152.90	3845569.73
		Medium	Good	727151.02	3845566.30
		Medium	Good	727126.15	3845576.72
		Medium	Good	727124.89	3845570.72
		Medium	Good	727118.90	3845566.20
		Medium	Good	727120.17	3845560.43
		Medium	Good	727105.33	3845569.34
		Medium	Good	727085.18	3845549.18
		Medium	Good	727058.96	3845551.83
		Medium	Good	727044.05	3845546.32
		Medium	Good	727051.02	3845501.80

TABLE C-1

Mature Plants Observed in the Additional Survey Area

Assessment of Biological Resources for a 35-acre Area on the West Side of Moabi Regional Park: Final Groundwater Remedy, Topock Compressor Station, California

Common Name	Scientific Name	Size	Condition	UTM X	UTM Y
Blue palo verde (continued)	*Parkinsonia florida*	Medium	Good	727130.15	3845538.26
		Medium	Fair	727135.08	3845532.54
		Medium	Good	727161.69	3845547.44
		Medium	Good	727186.37	3845569.46
		Medium	Fair	727215.85	3845553.91
		Medium	Good	727241.74	3845572.65
		Medium	Good	727245.07	3845560.66
		Medium	Good	727250.70	3845560.83
		Medium	Good	727269.55	3845577.12
		Medium	Good	727270.08	3845579.83
		Medium	Good	727303.72	3845584.61
		Medium	Good	727294.70	3845568.12
		Medium	Good	727297.32	3845565.23
		Medium	Good	727294.57	3845559.31
		Medium	Good	727293.14	3845557.07
		Medium	Good	727246.12	3845477.64
		Medium	Good	727242.61	3845384.24
		Medium	Good	727163.25	3845297.62
		Medium	Good	727190.82	3845300.19
		Medium	Good	727192.57	3845302.26
		Medium	Poor	727136.36	3845248.95
		Medium	Good	727139.86	3845241.76
		Medium	Good	727148.96	3845252.18
		Medium	Fair	727160.80	3845239.98
		Medium	Good	727239.16	3845160.98
		Medium	Good	727208.28	3845266.26
		Tall	Good	727316.79	3845583.46
		Tall	Good	726929.18	3845472.19
		Tall	Good	726992.74	3845521.28
		Tall	Good	727003.33	3845510.02
		Tall	Good	727001.70	3845498.27
		Tall	Good	727024.53	3845289.56
		Tall	Good	727220.87	3845579.94
		Tall	Good	727027.18	3845529.51
		Tall	Good	727280.43	3845593.25
		Tall	Good	727118.39	3845237.14
		Tall	Poor	727173.83	3845257.55
		Tall	Good	727170.54	3845240.49
		Tall	Fair	727159.80	3845227.84

TABLE C-1

Mature Plants Observed in the Additional Survey Area

Assessment of Biological Resources for a 35-acre Area on the West Side of Moabi Regional Park: Final Groundwater Remedy, Topock Compressor Station, California

Common Name	Scientific Name	Size	Condition	UTM X	UTM Y
Catclaw acacia	*Senegalia greggii*	Medium	Good	727288.80	3845574.21
		Medium	Good	727292.73	3845577.37
		Medium	Good	727294.72	3845573.50
		Medium	Good	727291.53	3845593.89
		Medium	Good	727288.01	3845584.58
		Medium	Good	727289.61	3845593.84
		Medium	Good	727299.74	3845587.71
		Medium	Good	727203.74	3845445.62
		Medium	Good	727244.83	3845167.15
		Short	Good	727151.54	3845613.76
		Short	Good	727001.37	3845502.57
		Short	Good	727287.06	3845571.82
		Short	Fair	727297.54	3845581.09
		Short	Good	727300.37	3845592.48
		Short	Good	727276.67	3845608.62
		Short	Good	727274.00	3845607.88
		Short	Good	727270.14	3845606.58
		Short	Good	727251.50	3845613.18
		Short	Poor	727244.88	3845592.27
		Short	Good	727226.96	3845606.02
		Short	Good	727221.27	3845589.58
		Short	Good	727218.06	3845574.90
		Short	Good	727199.86	3845592.46
		Short	Fair	727182.01	3845596.21
		Short	Poor	727070.22	3845547.99
		Short	Poor	727099.49	3845524.66
		Short	Fair	727187.39	3845559.80
		Short	Poor	727264.07	3845571.91
		Short	Good	727272.35	3845579.53
		Short	Good	727296.61	3845588.96
		Short	Poor	727149.45	3845529.03
		Short	Good	727228.65	3845470.91
		Short	Good	727254.23	3845429.97
		Short	Good	727252.64	3845423.75
		Short	Poor	727242.17	3845410.41
		Short	Good	727232.56	3845380.82
		Short	Good	727235.59	3845364.11
		Short	Good	727222.15	3845358.47
		Short	Good	727208.26	3845339.14
		Short	Good	727209.80	3845337.28

TABLE C-1

Mature Plants Observed in the Additional Survey Area

Assessment of Biological Resources for a 35-acre Area on the West Side of Moabi Regional Park: Final Groundwater Remedy, Topock Compressor Station, California

Common Name	Scientific Name	Size	Condition	UTM X	UTM Y
Catclaw acacia (continued)	*Senegalia greggii*	Short	Fair	727195.01	3845341.98
		Short	Good	727168.80	3845305.60
		Short	Good	727171.97	3845296.44
		Short	Good	727178.83	3845293.17
		Short	Good	727198.34	3845311.54
		Short	Good	727202.82	3845319.32
		Short	Good	727205.63	3845324.16
		Short	Good	727190.24	3845253.86
		Short	Good	727184.12	3845243.23
		Short	Good	727197.04	3845272.77
		Tall	Good	727261.82	3845521.65
Desert smoke tree	*Psorothamnus spinosus*	Medium	Good	727410.74	3845685.98
		Medium	Good	727383.46	3845684.99
		Medium	Good	727335.00	3845662.29
		Medium	Good	727334.59	3845614.94
		Medium	Good	727338.56	3845608.49
		Medium	Good	727208.43	3845641.89
		Medium	Good	727089.57	3845587.72
		Tall	Good	727191.60	3845205.17

Note:

Coordinates are in UTM NAD 83 Zone 11N meters.