
**SAN DIEGO GAS & ELECTRIC COMPANY
EAST COUNTY SUBSTATION PROJECT
COMPENSATORY MITIGATION PLAN**

DECEMBER 2012

SUBMITTED TO:

California Department of Fish and Game

PREPARED BY:



PREPARED FOR:



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1 – INTRODUCTION

This Compensatory Mitigation Plan (CMP) provides detailed information related to San Diego Gas & Electric Company's (SDG&E's) plan to mitigate for impacts to resources resulting from construction of the East County (ECO) Substation Project (Project). SDG&E met with the California Department of Fish and Game (CDFG) in early 2012 and presented this compensatory mitigation proposal. The CDFG provided preliminary approval of the proposed compensatory mitigation following the meeting. This CMP provides additional details regarding the proposed compensatory mitigation proposal presented during the meeting.

The CMP was developed with the following conservation principles in mind:

- Conserve larger contiguous habitat areas
- Conserve and maintain habitat connectivity corridors
- Conserve and maintain associated ecological systems

Construction of the Project will result in permanent and temporary impacts to CDFG-jurisdictional drainages, native vegetation communities, and rare plant species. Three Mitigation Measures (MM) of the Mitigation Monitoring, Compliance and Reporting Program (MMCRP) in the Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Project require compensatory mitigation for impacts. MM BIO-1e requires habitat compensation for permanent impacts to native vegetation communities. MM-BIO-2b requires habitat creation, enhancement, preservation, and/or restoration to ensure no net loss of jurisdictional waters and wetlands. Lastly, MM-BIO-5b requires compensatory mitigation for impacts to special-status plants. As the trustee agency for these resources, the CDFG takes the lead in reviewing and approving the compensatory mitigation plan.

SDG&E has identified two properties (Recht and Seifker) to fulfill its compensatory mitigation requirements. Both properties contain CDFG-jurisdictional drainages, and together the properties satisfy the CDFG-jurisdictional drainages mitigation requirements. In addition, the approximately 446-acre Recht property fulfills the mitigation requirements for impacts to vegetation communities and rare plants. An overview of the proposed mitigation properties is provided in Figure 1: Mitigation Properties Overview Map provided in Attachment A: Figures.

The two properties were chosen based upon several criteria, including the following:

- Proximity to the Project, which is depicted in Figure 2: Project Overview Map in Attachment A: Figures
- Comparable resources and habitat to those impacted by the Project
- Location within the same watershed (Salton Sea) as the Project
- Adjacency to lands already preserved
- Threat of development

Preservation of resources will be accomplished through purchase of the Recht and Seifker properties, enhancement of some of the aquatic resources within the Recht property, establishment of conservation easements, development of a long-term adaptive management

plan, deeding of the properties to a land-management entity(ies), and providing an endowment for management in perpetuity.¹

The mitigation properties support several of the same sensitive species and associated habitats as will be impacted by the Project. The majority of impacts to native vegetation communities resulting from construction of the Project will occur to either mixed desert scrub or juniper woodland, and both of these vegetation communities occur in sufficient quantity within the properties to mitigate for the amount of impacts. Although the Project will also result in impacts to chamise-redshank chaparral, shadscale, riparian scrub, oak woodland, and big sagebrush, which do not occur within the mitigation properties, the Recht property does contain similar plant species that are likely to support similar wildlife species as the impacted vegetation communities. Detailed maps of the resources located within both properties are provided in Attachment A: Figures.

The preservation of these properties provides the opportunity to compensate for biological impacts resulting from the Project on a comprehensive, ecological level by contributing to the broader objective of preserving and protecting California's natural resources and protecting and enhancing waters of the state. These preservation efforts will protect native vegetation communities and sensitive plant and wildlife species, as well as provide connectivity to over 1,000 acres of land currently managed by The Nature Conservancy and Anza Borrego Desert State Park (ABDSP). In addition, the preservation of these properties will also contribute an overall net benefit to the watershed by preventing future loss of intermittent and ephemeral drainages.

This CMP provides specific information regarding the Project and associated mitigation required to compensate for the resulting impacts, which is described in further detail in the following sections:

- Section 2 – Project Overview provides a brief description of the Project.
- Section 3 – Project Baseline Resources and Impacts describes the specific resources identified within the Project, including CDFG-jurisdictional drainages, rare plant species, and vegetation communities, as well as quantifies the impacts to these resources.
- Section 4 – Mitigation Proposal provides the applicable mitigation requirements of the CDFG, by resource where appropriate, and a detailed description of SDG&E's proposal to compensate for each of these impacts.
- Section 5 – Long-Term Management Vision describes SDG&E's vision regarding how the mitigation properties will be managed in perpetuity through their conveyance to a responsible land management entity(ies) and funding provided by SDG&E through an endowment.
- Section 6 – Implementation describes the concepts to be included in SDG&E's Management Plan for the mitigation properties that will be executed by the land

¹ The Seifker Property is currently owned by SDG&E.

management entity(ies), as well as the endowment provided by SDG&E, which is based on the Property Analysis Record (PAR) or similar estimation method, to be prepared for the properties.²

Once the CMP is approved in writing by the CDFG, SDG&E will proceed with the transfer of the compensatory mitigation land to a land management agency, as described in Section 5 – Long-Term Management Vision and Section 6 – Implementation of this document. In addition, SDG&E will prepare a Habitat Management Plan (HMP) for the compensatory mitigation properties, as described in Section 6 – Implementation of this document.

2 – PROJECT OVERVIEW

SDG&E is proposing to construct the Project in the southeastern portion of San Diego County, California, near the Imperial County and Mexico borders, as shown in Figure 2: Project Overview Map in Attachment A: Figures. Construction of the Project will require a permanent footprint of approximately 112.61 acres. The Project involves the following components, which are described in more detail in Attachment B: Project Component Summary:

- Construction of a new 500/230/138 kilovolt (kV) electric substation (ECO Substation)
- Loop-in of the existing 500 kV Southwest Powerlink (SWPL) transmission line into the new substation (SWPL Loop-in)
- Construction of an approximately 14-mile-long 138 kV transmission line from the ECO Substation to the rebuilt Boulevard Substation (transmission line)
- Rebuild of the Boulevard Substation on a new parcel (Boulevard Substation rebuild)

SDG&E is building the new ECO Substation and rebuilding the Boulevard Substation to provide an interconnection hub for renewable generation. The ECO substation will be located next to the SWPL transmission line and near several proposed large renewable energy projects, allowing SDG&E to transmit renewable energy to much of San Diego County. In addition, the construction of the 138 kV transmission line between the ECO Substation and the Boulevard Substation rebuild will increase the reliability of electrical service for Boulevard, Jacumba, and other surrounding communities.

3 – PROJECT BASELINE RESOURCES AND IMPACTS

The Project is located in the far southeastern portion of San Diego County, within a desert transition region of Southern California. The Project area is situated from approximately 2,600 feet to over 3,500 feet above mean sea level. The eight native plant communities that occur within the Project area include mixed desert scrub, juniper woodland, chamise-redshank chaparral, shadscale scrub, riparian scrub, oak woodland, big sagebrush, and freshwater emergent wetland.

² The PAR is a program provided by the Center for Natural Lands Management, which is a detailed cost analysis used to determine the amount of perpetual endowment necessary for the long-term management of a specific site.

The Project is located within the Salton Sea Watershed, the Anza Borrego hydrologic unit, and the Jacumba hydrologic area of the Colorado River Basin. Average annual rainfall in the area, as measured in the community of Boulevard, is 12.67 inches per year, with the majority of all precipitation falling between November and May.³ Rainfall between June and October averages 0.40 inch per month. Precipitation decreases to the east, with average annual rainfall measuring 2.42 inches per year in Coyote Wells, which is located approximately 16 miles northeast of the Project area.

The following subsections describe the specific jurisdictional resources that were identified within the Project area during the biological, botanical, and drainage surveys that were conducted in 2008 through 2011. The following subsections also detail the Project's impacts to jurisdictional resources, including CDFG-jurisdictional waters, native vegetation communities, and rare plants. The methodologies utilized during the biological, botanical, and drainage surveys and impact calculations are provided in Attachment C: Survey and Impact Assessment Methodologies.

3.0 ENVIRONMENTAL SETTING

The Project is located within the desert transitional area in eastern San Diego County and spans several vegetation communities. The vegetation communities found within the Project survey area includes mixed desert scrub, juniper woodland, chamise-redshank chaparral, shadscale scrub, riparian scrub, oak woodland, big sagebrush, and freshwater emergent wetland. The survey area included 377 acres on which the ECO Substation will be located, the transmission line steel poles (SP) and associated maintenance pads, the underground duct banks, pull sites, access roads, fly yards, and lay-down yards, and the Boulevard Substation rebuild site. Some of the most common plant species observed within the Project area include Mormon tea (*Ephedra californica*), California buckwheat (*Eriogonum fasciculatum*), California juniper (*Juniperus californica*), redshank (*Adenostoma sparsifolium*), chamise (*Adenostoma fasciculatum*), and big sagebrush (*Artemisia tridentata* ssp. *tridentata*). Wildlife species commonly observed during the surveys of the Project area included granite spiny lizard (*Sceloporus orcutti*), common raven (*Corvus corax*), California quail (*Callipepla californica*), northern mockingbird (*Mimus polyglottos*), and black-tailed jackrabbit (*Lepus californicus*). Complete lists of all plant and wildlife species observed during the biological and botanical surveys are provided in Attachment D: Observed Plant and Wildlife Species Lists.

3.1 JURISDICTIONAL DRAINAGES

During the drainage surveys and mapping fieldwork, one wetland (approximately 0.30 acre) and 730 ephemeral and intermittent CDFG-jurisdictional drainages (approximately 20.78 acres) were identified and mapped within the Project survey area. The wetland was classified as a freshwater emergent wetland, 17 of the drainages were classified as intermittent streams with associated riparian scrub or oak woodland, and the remaining 713 drainages were classified as unvegetated or sparsely vegetated ephemeral channels with associated upland vegetation communities (mixed desert scrub, juniper woodland, chamise-redshank chaparral, or big sagebrush scrub). Of the 730

³ Western Regional Climate Center, 2012

drainages identified within the Project area, SDG&E will entirely avoid approximately 419 CDFG-jurisdictional drainages—totaling approximately 17.70 acres avoided.

Construction of the Project will permanently impact approximately 2.03 acres of CDFG-jurisdictional streambed. No permanent impacts to wetlands will occur. Permanent impacts will include the permanent filling of CDFG-jurisdictional drainages for the following Project components:

- ECO Substation
- Transmission line, which includes:
 - pole maintenance pads
 - new access roads
 - vault pads
 - low-water crossings located within the two underground 138 kV alignments
 - drainages that will be crossed by the trenches, but are too small to restore
- Boulevard Substation Rebuild

All of the permanently impacted CDFG-jurisdictional drainages are classified as unvegetated or sparsely vegetated ephemeral channels with associated upland vegetation communities. No permanent impacts to wetlands or intermittent drainages will occur.

In addition, construction of the Project will temporarily impact approximately 1.05 acres of CDFG-jurisdictional drainages. Temporary impacts will result from direct trenching of the two underground 138 kV alignments within existing roadways, vehicles driving through the drainages to access the work areas, grading of temporary work areas, and the temporary placement of stockpile materials within the drainages. No temporary impacts to wetlands will occur. The ECO Substation will primarily impact drainages associated with mixed desert scrub and juniper woodland vegetation communities. The transmission line and Boulevard Substation Rebuild will impact mixed desert scrub and juniper woodland associated drainages, as well as chamise-redshank chaparral, shadscale, riparian scrub, oak woodland, and big sagebrush associated drainages. Table 1: Project Impacts to Native Vegetation Communities details the amount of each native vegetation community within the Project area (by component) and the amount of impacts to each community. All temporarily impacted drainages will be restored per the Project's Habitat Restoration Plan, which is provided as Attachment E: Habitat Restoration Plan.

3.2 VEGETATION COMMUNITIES

A total of approximately 112.61 acres of permanent impacts will occur to native vegetation communities as a result of the Project. Six of the eight native vegetation communities that occur within the Project area, including mixed desert scrub, juniper woodland, chamise-redshank chaparral, shadscale, oak woodland, and big sagebrush, will be impacted by the Project. Permanent impacts to vegetation communities will result from construction of the substations, pole maintenance pads, culvert installations, and new access roads, as well as concrete vault pads and low-water crossings that extend into vegetated areas along the two underground 138 kV alignments. Table 1: Project Impacts to Native Vegetation Communities details the amount of

each native vegetation community within the Project area (by component) and the amount of impacts to each community.

Table 1: Project Impacts to Native Vegetation Communities

| Project Component | Vegetation Community | Vegetation Acreage Surveyed | Acreage Impacted | |
|------------------------------|----------------------------|-----------------------------|------------------|--------------|
| | | | Permanent | Temporary |
| ECO Substation/SWPL Loop-In | Mixed desert scrub | 257.74 | 42.69 | 12.03 |
| | Juniper woodland | 115.38 | 53.30 | 12.76 |
| Transmission Line | Mixed desert scrub | 292.41 | 9.14 | 0.37 |
| | Juniper woodland | 83.70 | 1.55 | 1.12 |
| | Chamise-redshank chaparral | 325.96 | 5.45 | 2.65 |
| | Shadscale | 16.45 | 0.31 | 2.46 |
| | Riparian scrub | 1.20 | 0.00 | 0.00 |
| | Oak woodland | 8.38 | <0.01 | 0.87 |
| | Big sagebrush | 1.31 | 0.1 | 1.15 |
| Boulevard Substation Rebuild | Oak woodland | 0.39 | 0.12 | 0.22 |
| Total | - - | 1,102.92 | 112.61 | 33.63 |

A total of 33.63 acres of temporary impacts will occur to native vegetation communities as a result of the Project. Temporary impacts will result from the removal of vegetation from temporary work areas that will be revegetated following completion of the Project, in accordance with the Project’s Habitat Restoration Plan, which is provided as Attachment E: Habitat Restoration Plan,. Table 1: Project Impacts to Native Vegetation Communities details the amount of each native vegetation community within the Project area (by component) and the amount of impacts to each community.

3.3 RARE PLANT SPECIES

A total of 10 rare plant species—desert beauty (*Linanthus bellus*), Jacumba monkeyflower (*Mimulus aridus*), oceanblue larkspur (*Delphinium parishii* ssp. *subglobosum*), sticky geraea (*Geraea viscida*), Palmer’s grappling hook (*Harpagonella palmeri*), Jacumba milk-vetch (*Astragalus douglasii* var. *perstrictus*), long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*), Campo pea (*Lathyrus splendens*), slender-leaf ipomopsis (*Ipomopsis tenuifolia*), and Tecate tarplant (*Deinandra floribunda*)—have been identified within the Project survey area. Construction of the Project will permanently impact nine of the 10 rare plant species observed within the Project survey. Impacts to rare plants will result from the construction of the Project

and associated new access roads and during grading of existing access roads. Though they were observed during the surveys conducted for the Project area, no permanent impacts are anticipated to occur to slender-leaf ipomopsis.

4 – MITIGATION PROPOSAL

This section describes the applicable mitigation requirements for each impacted resource as required by the CDFG. In addition, the section details SDG&E's proposal to compensate for impacts to sensitive resources that were described in Section 3 – Project Baseline Resources and Impacts. SDG&E's approach during the development of this mitigation proposal was to take a comprehensive, ecological level approach to mitigation by contributing to the broader objective of preserving and protecting California's natural resources. Three primary objectives—preserve large contiguous habitat areas for multiple species, preserve and maintain habitat connectivity corridors, and preserve and maintain associated ecological systems—provided the basis for SDG&E's mitigation proposal.

SDG&E has identified two properties (Recht and Seifker) to fulfill its mitigation requirements. Both properties contain CDFG-jurisdictional drainages and together the properties satisfy the CDFG-jurisdictional drainages mitigation requirements. In addition, the Recht property fulfills the mitigation requirements for impacts to vegetation communities and rare plants. An overview of the proposed mitigation properties is provided in Figure 1: Mitigation Properties Overview Map provided in Attachment A: Figures. The two mitigation properties, based on location, habitat types, species present, drainages, and proximity to land owned by The Nature Conservancy and ABDSP, were chosen to meet the objectives outlined in the previous paragraph. Both properties are located within the same watershed (Salton Sea) as the Project. The Recht property contains many of the same or similar vegetation communities impacted by the Project and has populations of several of the rare plants impacted by the Project. In addition, the parcels are adjacent to land currently owned and managed by The Nature Conservancy or ABDSP. Also, the Recht property is under imminent threat of development.⁴ The Seifker property is currently not permanently protected and is therefore vulnerable to development or degradation that would compromise the ecological functions and values of the aquatic resources and the surrounding upland habitats.

4.0 REQUIREMENTS

By state law (Fish and Game Code Section 1802), the CDFG has jurisdiction over the conservation; protection; and management of wildlife, native plants, and habitat. The CDFG requires compensatory mitigation for permanent impacts to intermittent and ephemeral drainages that exhibit bed and bank and would affect existing fish and wildlife resources through Section 1600 of the Fish and Game Code. In addition, mitigation for impacts to rare plant species and vegetation communities falls within the general purview of the CDFG. Under the Fish and Game Code Sections 1900 through 1913 and Sections 2050 through 2069, Native Plant Protection Act and the California Endangered Species Act, respectively, the CDFG protects rare

⁴ A pre-application meeting regarding a solar facility was completed with the County of San Diego for the Recht property in 2011.

and sensitive plants, including state-listed plants and plants listed by the California Native Plant Society (CNPS) as Rank 1A, Rank 1B, and Rank 2 plant species. However, the Project Draft EIR/EIS prepared by the California Public Utilities Commission (CPUC) and the Bureau of Land Management (BLM) requires compensatory mitigation for CNPS Rank 3 and 4 plants as well. The Final EIR/EIS for the Project requires compensatory mitigation at a minimum ratio of one-to-one or as determined by the CDFG for impacts to CDFG-jurisdictional drainages, native vegetation communities, and rare plants. However, the CDFG has requested that SDG&E provide a comprehensive biological solution for impacts to all CDFG resources, including a three-to-one compensation ratio for permanent impacts to CDFG-jurisdictional waters.

Temporary impacts to jurisdictional drainages will be compensated by on-site revegetation of all temporarily impacted CDFG-jurisdictional streams per the Project's Habitat Restoration Plan, which is provided as Attachment E: Habitat Restoration Plan. If restoration of the vegetation communities is not successful, the impacts will be considered permanent and off-site mitigation will be required.

4.1 PROPOSAL

SDG&E proposes to acquire and preserve two mitigation properties (Recht and Seifker) to compensate for permanent impacts to CDFG-jurisdictional aquatic resources, vegetation communities, and rare plant species resulting from construction of the Project. All CDFG-jurisdictional aquatic resources that will be impacted are unvegetated or sparsely vegetated ephemeral drainages, some of which, due to the small size of the channel, cannot be restored. Therefore, SDG&E has designed the Project to avoid ephemeral drainages to the maximum extent possible and have proposed preservation of similar drainages as compensatory mitigation to prevent future losses of these types of aquatic resources.

As shown in Figure 1: Mitigation Properties Overview Map provided in Attachment A: Figures, the Recht property is located along the proposed transmission line, northwest of the unincorporated community of Jacumba, and the Seifker property is located northeast of the Project area, within ABDSP. Both properties are located within the same watershed (Salton Sea) as the Project. The following sections of the CMP describe the resources present on each of the two mitigation properties and the justification for why these properties are appropriate to mitigate for Project impacts to CDFG-jurisdictional resources. Representative photographs of the two mitigation properties are provided in Attachment F: Mitigation Parcels Representative Photographs.

Figure 3: Recht Property Resource Overview Map and Figure 4: Seifker Property Resource Overview Map in Attachment A: Figures depict the available resources for mitigation within the two properties that will be used to fulfill SDG&E's mitigation requirements for the Project. Figure 3: Recht Property Resource Overview Map in Attachment A: Figures also depicts the following portions of the parcels that are excluded from mitigation use:

- 200-foot Sunrise Powerlink right-of-way (ROW)
- 200-foot SWPL ROW
- 100-foot Project transmission line ROW

- 50-foot buffer to the south of the Project transmission line ROW⁵

Roads that are located within the parcels were also removed from the available resource totals.

4.1.0 Property Descriptions

Recht Property

The Recht property is approximately 446 acres in size and is relatively undisturbed. There are few existing roads throughout the property and much of the land is accessible only by foot. The overall health of the observed vegetation communities was good, with little natural die-off or human disturbance. Although, the property does contain a few disturbed areas, old cars, and trash piles, the majority of the property remains undisturbed. Three of the drainages on the Recht property will be enhanced by the removal of this litter and debris. This property is bound by Old Highway 80 to the south, bordered by land managed by The Nature Conservancy to the east, and undeveloped private land to the north and west.

The Recht property contains CDFG-jurisdictional intermittent and ephemeral drainages with associated upland habitats (juniper woodland, mixed desert scrub, and chamise-manzanita-oak chaparral), three vegetation communities (juniper woodland, mixed desert scrub, and chamise-manzanita-oak chaparral), and populations of six rare plant species (desert beauty, Jacumba milk-vetch, Jacumba monkeyflower, oceanblue larkspur, Palmer's grappling hook, and sticky gerea). Table 2: Recht Property Biological and Aquatic Resources provides details on the aquatic and biological resources that occur within the Recht property that are available for Project mitigation and that are similar to the resources impacted by the Project. All CDFG-jurisdictional drainages eventually flow into Carrizo Wash/Creek and then into the Salton Sea.

Figure 3: Recht Property Resource Overview Map in Attachment A: Figures provides a depiction of the available drainages, rare plants, and vegetation communities found within the Recht property that are proposed to be used to compensate for impacts to CDFG-jurisdictional resources resulting from construction of the Project.

Seifker Property

The Seifker property is approximately 27 acres in size and is bordered by ABDSP to the west and north, and by undeveloped private property to the south and east. The property is undisturbed by human activities, and no trash piles, debris, or sign of off-road vehicle use was observed. One vegetation community—Sonoran creosote bush scrub—was found to occur within the property boundaries. There are no known rare plant occurrences on the Seifker property. The Seifker property is located within the same watershed (Salton Sea) as the Project, and contains approximately 2.86 acres of CDFG-jurisdictional drainages that are very similar to the unvegetated ephemeral drainages that will be impacted by the Project. Table 3: Seifker Property Biological and Aquatic Resources provides details on the aquatic and biological resources that occur within the Seifker property.

Figure 4: Seifker Property Resource Overview Map in Attachment A: Figures provides a depiction of the available drainages on the Seifker property that are proposed to be used to

⁵ This area was excluded so that it is available for future SDG&E transmission infrastructure.

compensate for impacts to CDFG-jurisdictional drainages resulting from construction of the Project.

Table 2: Recht Property Biological and Aquatic Resources

| Resource Type | Specific Resource | Resources Available |
|------------------------|---------------------------------|---------------------|
| Aquatic Resources | CDFG-jurisdictional drainages | 3.23 acre |
| Vegetation Communities | Mixed desert scrub | 89.38 acres |
| | Juniper woodland | 300.22 acres |
| | Chamise-manzanita-oak chaparral | 20.31 acres |
| Rare Plant Species | Desert beauty | 324 individuals |
| | Jacumba milk-vetch | 4 individuals |
| | Jacumba monkeyflower | 7 individuals |
| | Oceanblue larkspur | 19 individuals |
| | Palmer's grappling hook | 1,605 individuals |
| | Sticky geraea | 65 individuals |

Table 3: Seifker Property Biological and Aquatic Resources

| Resource Type | Specific Resource | Resources Available |
|-------------------|-------------------------------|---------------------|
| Aquatic Resources | CDFG-jurisdictional drainages | 2.86 acres |

4.1.1 Proposal Summary

Based on a total of 2.03 acres of permanent impact to CDFG-jurisdictional drainages and the 6.09 acres of CDFG-jurisdictional drainages present on the Recht and Seifker properties, SDG&E will be providing mitigation for Project impacts to CDFG-jurisdictional drainages at an approximately three-to-one ratio. The mitigation properties also provide a substantial number of rare plant individuals, including the majority of the species impacted by the Project. Although not every vegetation community that will be impacted by the Project is present within the mitigation parcels, a sizable amount of additional vegetation compared to the total amount impacted will be provided for mitigation. Permanent impacts to mixed desert scrub will be compensated at a ratio of approximately 1.4 to 1, while permanent impacts to juniper woodland habitat will be compensated at a ratio of approximately 4.4 to 1. Although not all impacted species were identified during the rare plant surveys of the mitigation parcels, the Recht mitigation property contains similar soil characteristics, drainage systems and patterns, climate, and topography as the Project. The Recht property is also adjacent to preserved lands to the north and east; therefore, the habitat is suitable for supporting the natural colonization of various types of rare plant species that will be impacted by the Project.

The Project will permanently impact approximately 2.03 acres of CDFG-jurisdictional drainages; six native vegetation communities; and nine CNPS-listed plant species. A summary of the Project impacts to CDFG-jurisdictional aquatic resources, native vegetation communities, and rare plants, and the proposed mitigation is provided in Table 4: CDFG Impacts and Mitigation Summary. While the mitigation parcels do not contain every biological resource that will be impacted by the Project, the purchase and conservation of these potential mitigation parcels will fulfill a greater overall objective of compensating for Project impacts as a whole and contributing to the broader objective of the CDFG to preserve and protect California's natural resources.

SDG&E chose these mitigation parcels because of the opportunity to increase habitat connectivity to other protected spaces (i.e., land managed by The Nature Conservancy and ABDSP). Moreover, the acquisition of these two properties will:

- maintain unfragmented mitigation with high biological value by purchasing parcels that are adjacent to each other;
- allow associated ecological systems to be maintained;
- conserve population structure and genetics;
- prevent development of the property; and
- contribute to the regional environmental objectives by purchasing mitigation parcels within the same region, watershed (Salton Sea), and hydrologic area (Jacumba) as the Project.

The following subsections describe how these objectives will be fulfilled by protecting and enhancing the waters that are located within the proposed mitigation parcels, and by protecting the sensitive plant populations and vegetation communities that are found within these parcels.

Protection and Enhancement of Waters

The Project will result in an estimated 2.03 acres of permanent impacts and 1.05 acres of temporary impacts (a total of 3.08 acres of impacts) to CDFG-jurisdictional drainages. The proposed mitigation properties contain a total of approximately 6.09 acres of CDFG-jurisdictional drainages available for mitigation, as summarized in Table 4: CDFG Impacts and Mitigation Summary. The drainages that will be impacted by the Project include complex system of small ephemeral, unvegetated or sparsely vegetated drainages. The mitigation properties contain both larger intermittent drainages and numerous small ephemeral drainages that are similar to those impacted by the Project.

Preserving the drainage system of intermittent and ephemeral drainages that exist on the mitigation properties, will allow continued use of the habitat for sensitive plant and wildlife species; provide sediment transport; and maintain flood flow, similar to or greater than the impacted drainages within the Project area. Thus, the mitigation parcel drainages will meet or exceed the CDFG's requirement to replace the function of the drainages that are being impacted.

Table 4: CDFG Impacts and Mitigation Summary

| Resource | | Project Permanent Impacts ⁶ | Resources Available for Mitigation | |
|-------------------------------|----------------------------|--|------------------------------------|------------------|
| | | | Recht Property | Seifker Property |
| CDFG-Jurisdictional Drainages | | 2.03 acres | 3.23 | 2.86 |
| Vegetation Communities | Mixed desert scrub | 51.83 acres | 89.38 | -- |
| | Juniper woodland | 54.85 acres | 300.22 | -- |
| | Chamise-redshank chaparral | 5.45 acres | 20.31 | -- |
| | Shadscale | 0.31 acres | -- | -- |
| | Oak woodland | 0.12 acres | -- | -- |
| | Big sagebrush | 0.05 acres | -- | -- |
| Rare Plant Species | Desert beauty | 1,317 individuals | 324 individuals | -- |
| | Sticky geraea | 129 individuals | 65 individuals | -- |
| | Palmer’s grappling hook | 140,991 individuals | 1,605 individuals | -- |
| | Jacumba milk-vetch | 278 individuals | 4 individuals | -- |
| | Jacumba monkeyflower | 38 individuals | 7 individuals | -- |
| | Long-spined spineflower | 21,880 individuals | -- | -- |
| | Oceanblue larkspur | 78 individuals | 19 individuals | -- |
| | Campo pea | 11 individuals | -- | -- |
| | Tecate tarplant | 1,790 individuals | -- | -- |

⁶ Impact calculations are based on worst-case scenario that reflects the greatest amount of impacts to rare plant species based on four years of surveys.

Furthermore, the mitigation properties are located within the same region and watershed (Salton Sea) as the Project, which will further the broader conservation objectives of increasing habitat connectivity and maintaining associated ecological systems. For example, preserving the mitigation properties and implementing a long-term plan will improve overall watershed and water quality by limiting access to the parcels, which will help prevent off-road vehicles and illegal trash dumping on the Recht property from affecting the drainages. Additionally, preserving the surrounding vegetation communities, which act as a sediment filter for the drainages and provide erosion control, will contribute to regional conservation objectives. Finally, preserving the mitigation parcels and implementing management strategies will protect drainages from future development, thereby contributing an overall benefit by improving water quality within this portion of the watershed.

Protection of Native Vegetation Communities

Project activities will result in permanent and/or temporary impacts to six native vegetation communities. As shown in Table 1: Project Impacts to Native Vegetation Communities, the majority of the impacts to vegetation communities will occur to mixed desert scrub and juniper woodland. The Project impacts 64.23 acres of mixed desert scrub and 68.73 acres of juniper woodland. These impacts represent approximately 95 percent of the total impacts to native vegetation communities. MM BIO-1e of the MMCRP requires that permanent impacts to native vegetation communities be mitigated at a minimum ratio of one-to-one. The proposed mitigation properties provide compensatory mitigation of 89.38 acres of mixed desert scrub and 300.22 acres of juniper woodland habitat, which is substantially in excess of the minimum requirement of 64.23 acres of mixed desert scrub and 68.73 acres of juniper woodland.

The mitigation parcels do not support four native vegetation communities that were identified in Table 1: Project Impacts to Native Vegetation Communities, but do support many of the plant species found within these vegetation communities. This includes temporary and permanent impacts to chamise-redshank chaparral, shadscale, big sagebrush, and oak woodland. The permanent impacts to these four vegetation communities make up only five percent of the total permanent impacts to native vegetation communities. In addition, many of the plant species that are found within these plant communities are present within the mitigation parcels. For example, although no areas within the mitigation parcels support either chamise-redshank chaparral, these plant species are present on the mitigation parcels, as are other plant species associated with the chamise-redshank vegetation community, such as yucca (*Yucca* spp.) and cholla (*Opuntia* spp.). Additionally, similar sensitive plant and wildlife species associated with the vegetation communities that will be impacted by the Project are present on the mitigation parcels because the habitats are suitable for similar species.

The proposed mitigation parcels will also provide unfragmented vegetation communities due to their proximate locations to each other and to other preserved areas (i.e., land managed by The Nature Conservancy and ABDSP). By preserving native vegetation communities that are adjacently located, SDG&E will preserve biological diversity; thus, a healthier ecosystem for plant and wildlife species will be preserved. This Compensatory Mitigation Plan is consistent with the conceptual mitigation approach presented to the CDFG and agreed upon earlier in 2012.

Protection of Sensitive Plant Populations

The Project has the potential to impact a total of approximately 166,989 individual rare plants, including the following:

- 278 Jacumba milk-vetch
- 129 sticky geraea
- 1,794 desert beauty
- 140,991 Palmer's grappling hook
- 11 Campo pea
- 38 Jacumba monkey flower
- 78 oceanblue larkspur
- 21,880 long-spined spineflower
- 1,790 Tecate tarplant

Since rare plant individuals will not be removed and transplanted, all impacts to rare plant species are considered permanent. Because the rare plant surveys conducted within the overall Project area documented a much higher number of individual plants than what is being impacted by the Project, the permanent impacts are not likely to result in a significant impact to the local populations of these plant species within the Project area.

Results of the 2011 rare plant surveys conducted on the Recht property indicate that the property will provide suitable habitat for many of the sensitive plant species that will be impacted by the Project. The Recht mitigation property contains six of the nine impacted sensitive plant species—sticky geraea, Palmer's grappling-hook, desert beauty, Jacumba milk-vetch, oceanblue larkspur, and Jacumba monkeyflower, as summarized in Table 4: CDFG Impacts and Mitigation Summary.

By preserving the Recht property, SDG&E will preserve populations of six sensitive plant species, which will help preserve the overall biodiversity of the region. Furthermore, by preserving mitigation property that is adjacent to preserved land (i.e., land managed by The Nature Conservancy and ABDSP), SDG&E will help establish a safeguard that will contribute to the conservation of population structures and genetics by preventing fragmentation of species in the Project's region.

5 – LONG-TERM MANAGEMENT VISION

The two mitigation properties are located in an area of diverse natural habitat communities in eastern San Diego County. Given the location of the properties, they also provide a unique opportunity for providing a link between local and international wildlife. Specifically, the Recht property is situated between ABDSP and northern Baja, and is adjacent to over 1,000 acres of preserved lands that are managed by The Nature Conservancy, while the Seifker property is adjacent to ABDSP. The purchase of the Recht property contributes to linking all three together, and the Seifker property will potentially supplement the conservation efforts of ABDSP along its northeastern boundary.

The benefits provided by the use of these properties for mitigation will contribute to the long-term bio-diversity of eastern San Diego County. The vision is to accommodate this unique relationship in perpetuity. To accomplish this vision, SDG&E will focus on the following goals:

- To preserve the identified properties in a natural state
- To manage the properties to prevent trespassing, hunting, and other consumptive uses
- To secure a land manager to provide consistent management over the properties
- To provide funding to ensure long-term management of the properties

6 – IMPLEMENTATION

6.0 LONG-TERM MANAGEMENT PLAN

The Recht property will be purchased from its current owner, after which a conservation easement will be established over the property. SDG&E has purchased the Seifker property and will either establish a conservation easement or a restrictive covenant over this property. A land-management entity, such as the Riverside Land Conservancy or another comparable agency-approved conservation land manager, will be secured to manage the properties in perpetuity in accordance with the HMP that will be developed for the properties. The HMP will be developed by SDG&E in coordination with the jurisdictional agencies and the land-management entity. The goals and objectives of the HMP will include, but not be limited, to the following:

- Restoring drainage features located within the Recht property through the removal of trash and debris and limiting access to off-road vehicles
- Preserving the vegetation communities and rare plants found on the properties
- Developing guidelines and standards for management activities that can be easily implemented and repeated
- Developing monitoring protocols to assess the effects of the management actions and species invasions, and modifying the approach based on the results, as needed

SDG&E will provide funding for the long-term management of this land through an endowment in an amount to be specified through the PAR or similar estimation method, which is described in the following section. Factors used in this endowment analysis can include site-specific information about the property, such as its location and associated taxes and fees; a biological assessment of the habitat and species found on the property; and the types, areas, and duration of specific management activities that will be conducted on the site, such as installing and maintaining fencing and gates to prevent trespassing or habitat degrading activities, including off-road vehicle activity.

6.1 FINANCIAL ASSURANCES

In order to ensure successful implementation of the CMP and HMP, a letter of credit will be established prior to the commencement of construction within CDFG-jurisdictional areas in the amount estimated to cover the endowment and the first year of management costs. Once the amount of funding needed for the long-term management of the mitigation parcels is determined,

Compensatory Mitigation Plan

SDG&E will provide the HMP, a copy of the endowment check, and the properties will be transferred to the land-management entity.

ATTACHMENT A: FIGURES

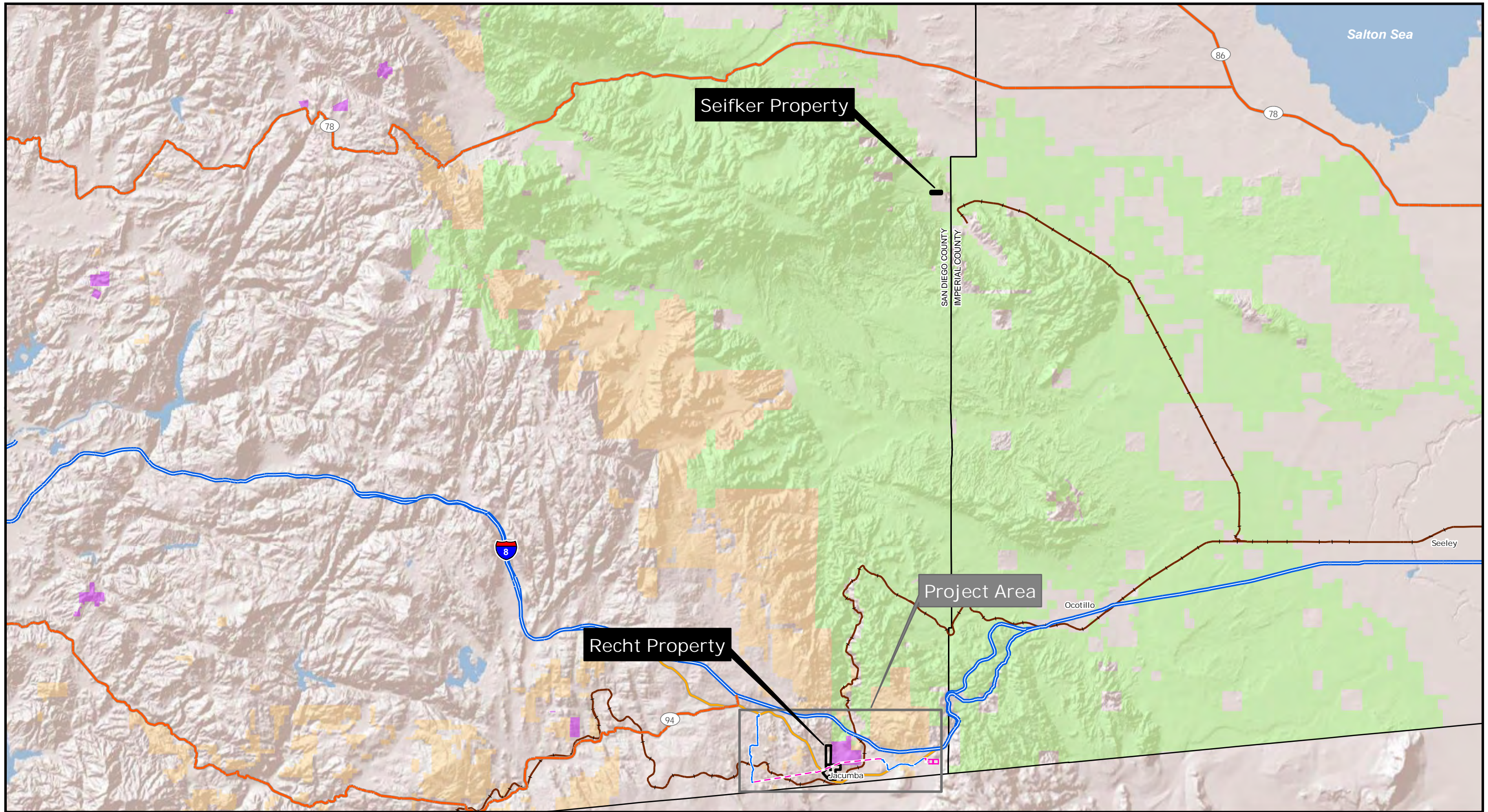


Figure 1: Mitigation Properties Overview Map

East County Substation Project

- | | | | |
|----------------------------------|--------------------------------|------------|------------|
| Proposed 138 kV Overhead Line | Anza-Borrego Desert State Park | Interstate | Local Road |
| Proposed 138 kV Underground Line | Bureau of Land Management | Highway | Railroad |
| ECO Substation | The Nature Conservancy Lands | Major Road | |
| Mitigation Parcel | | | |

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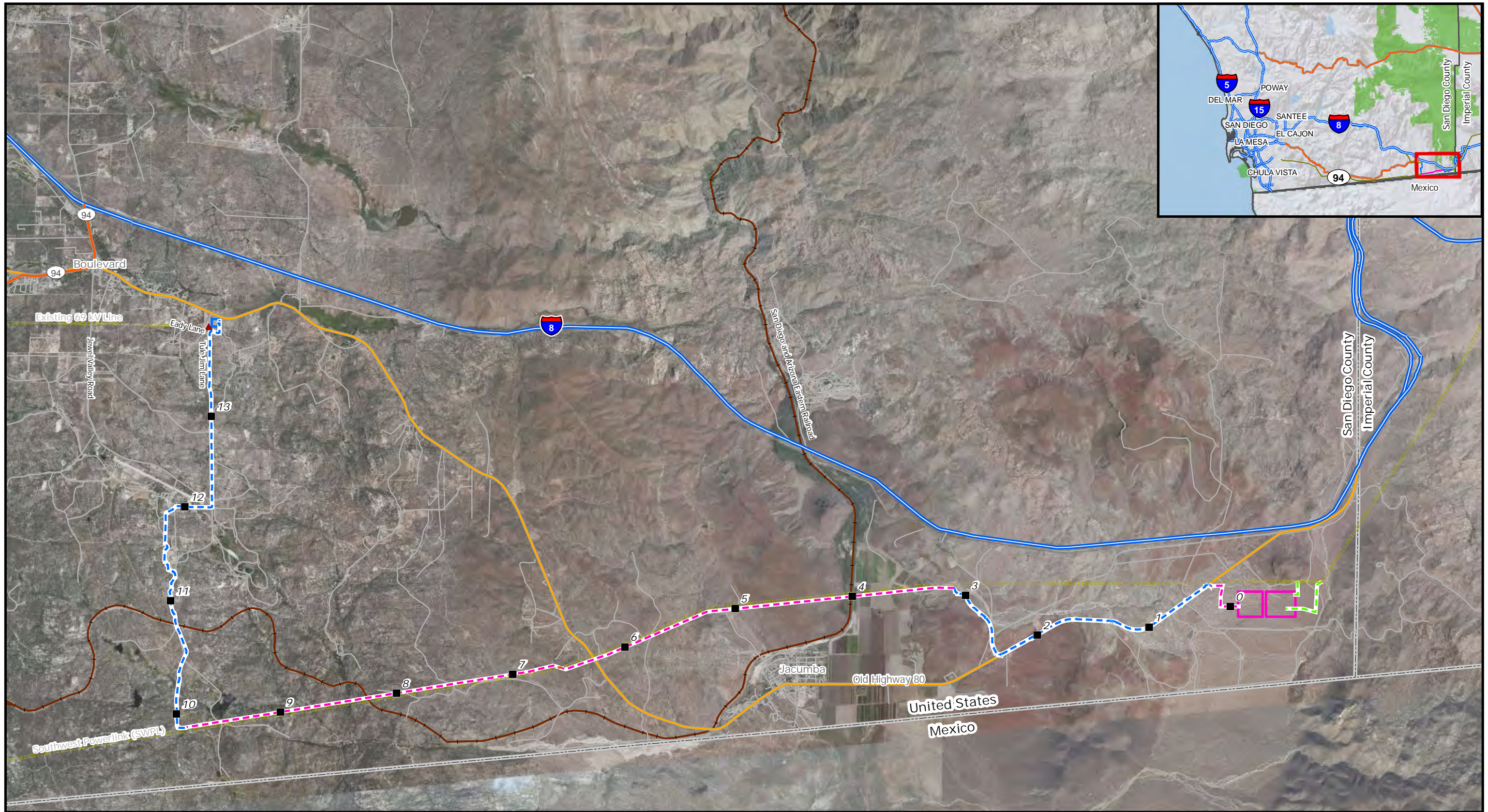


Figure 2: Project Overview Map

East County Substation Project

- | | | |
|-------------------------------|----------------------------------|------------|
| Existing Boulevard Substation | Proposed 138 kV Overhead Line | Interstate |
| Proposed 138 kV Line Milepost | Proposed 138 kV Underground Line | Highway |
| ECO Substation | Proposed SWPL Loop-In | Major Road |
| Boulevard Substation Rebuild | Existing Transmission Line | Railroad |



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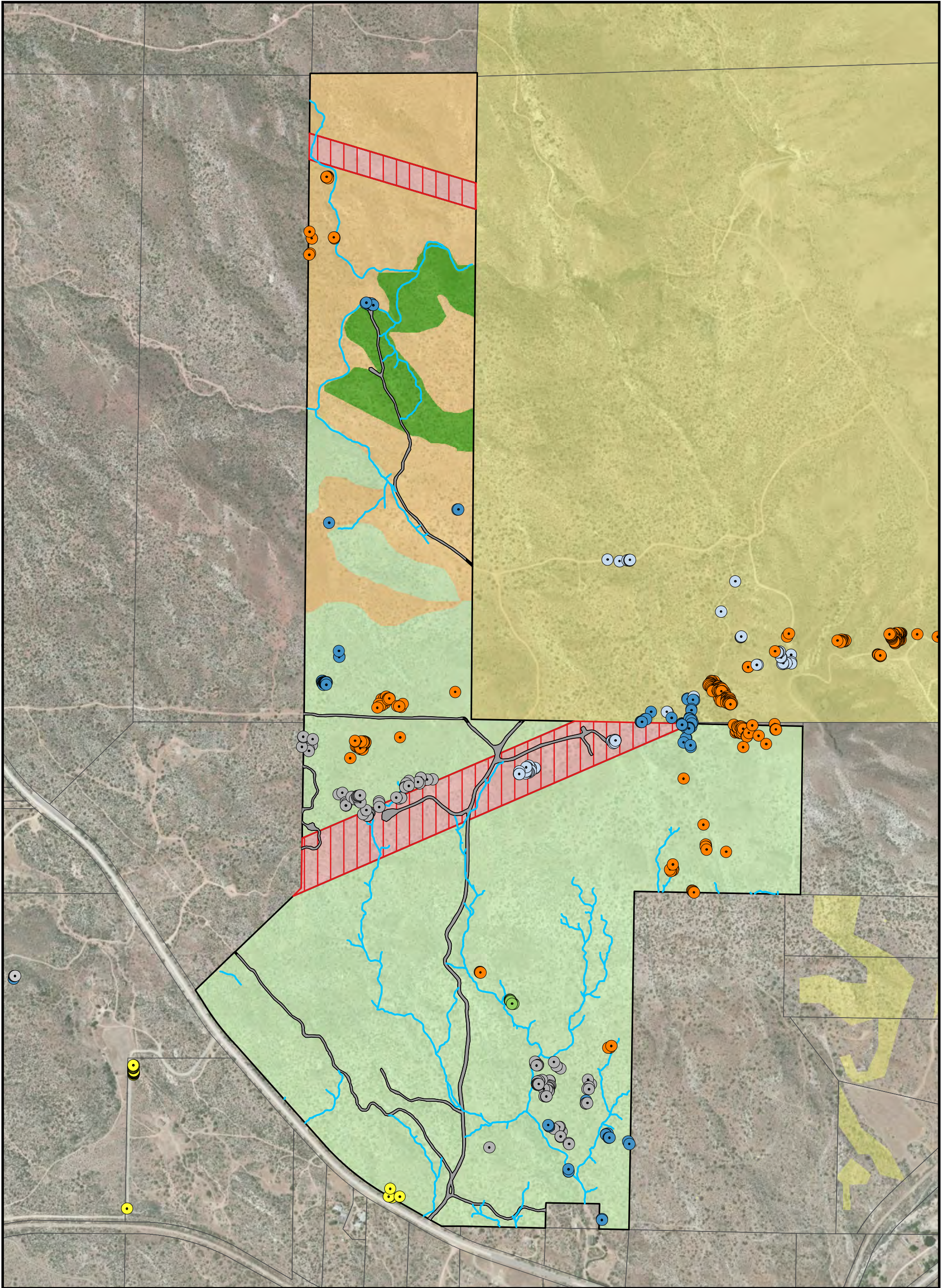
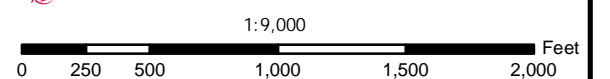


Figure 3: Recht Property Resource Overview Map

East County Substation Project

- | | | |
|--|---|--|
| Mitigation Parcel Boundary | Insignia Vegetation Survey, 2011 | Rare Plant Surveys, 2011 & 2012 |
| Excluded Areas include Sunrise Powerlink right-of-way (ROW), SWPL ROW, and the Proposed Project transmission line ROW. | Chamise/Manzanita/Oak Chaparral | Desert beauty |
| Road | Juniper Woodland | Jacumba milk-vetch |
| Parcel Boundary | Mixed Desert Scrub | Jacumba monkeyflower |
| Conserved Lands | | Oceanblue larkspur |
| Insignia Drainage Survey, 2011 | | Palmer's grapplinghook |
| | | Sticky geraea |



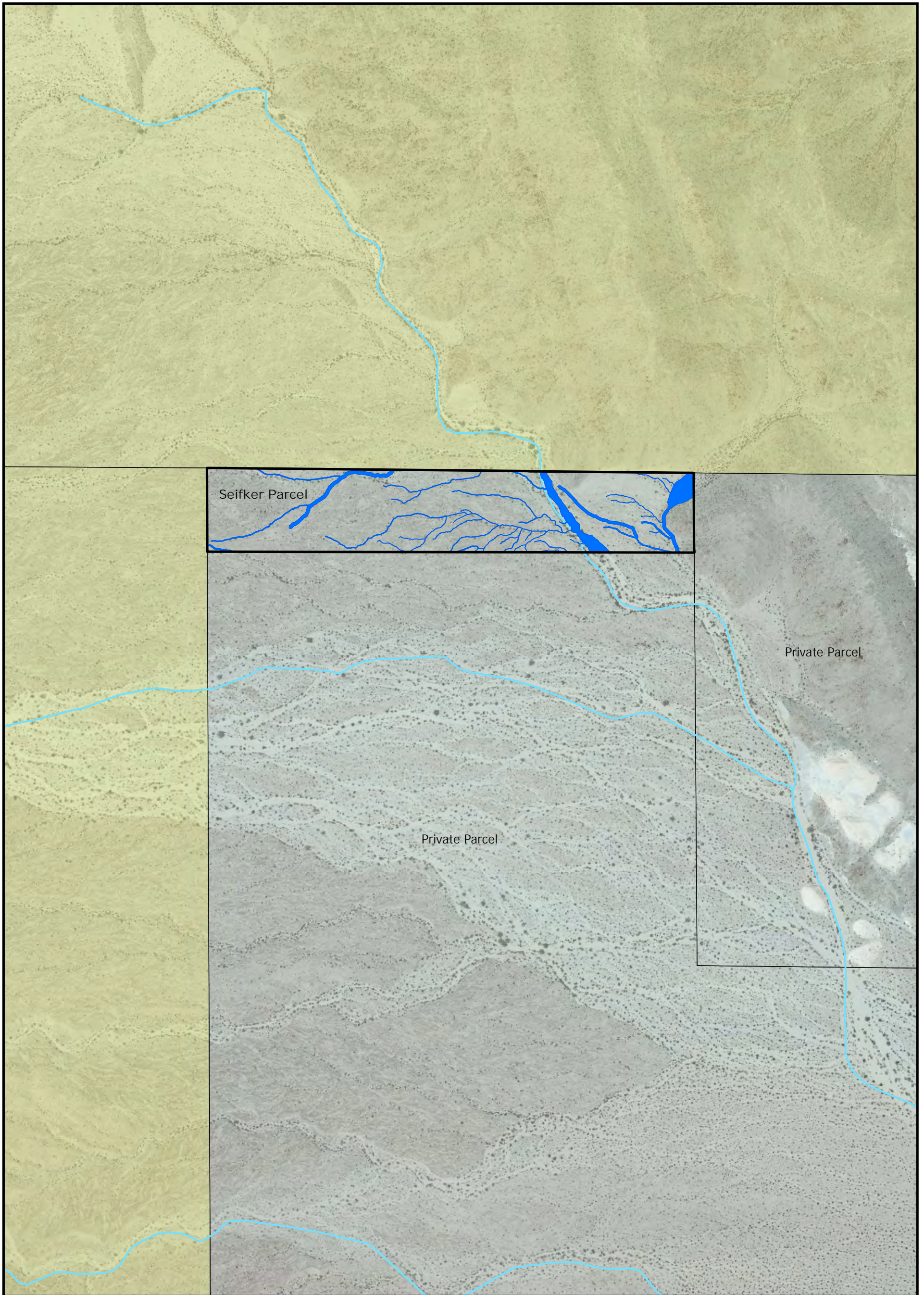





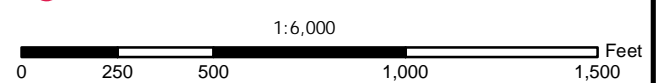


Figure 4: Seifker Property Resource Overview Map

East County Substation Project

-  Insignia Drainage Survey, 2012
-  USGS Blueline
-  Mitigation Parcel
-  Parcel Boundary
-  Anza-Borrego Desert State Park



ATTACHMENT B: PROJECT COMPONENT SUMMARY

ATTACHMENT B: PROJECT COMPONENT SUMMARY

1.0 INTRODUCTION

The Project involves the following components:

- Construction of a new 500/230/138 kilovolt (kV) electric substation (ECO Substation)
- Loop-in of the existing 500 kV Southwest Powerlink (SWPL) transmission line into the new substation (SWPL Loop-in)
- Construction of an approximately 14-mile-long, 138 kV transmission line from the ECO Substation to the rebuilt Boulevard Substation (transmission line)
- Rebuild of the Boulevard Substation on a new parcel (Boulevard Substation rebuild)

Construction of the Project will require a footprint of approximately 116.36 acres. Further information regarding the construction required for each of the Project components is provided in the following sections.

1.1 ECO SUBSTATION

The ECO Substation component will have a permanent footprint of approximately 91.03 acres, including access roads. Of this total footprint, the substation pads will compose approximately 61.66 acres. In addition, a 20-foot area around the perimeter of the substation pads will be required for maintenance purposes. The substation pads will be enclosed by chain-link fencing. Construction will require permanent cut-and-fill slopes that will occupy up to an additional approximately 25 acres in the area surrounding the substation. A temporary area of approximately 100 feet around the perimeter of the substation will also be required to maneuver construction equipment and supplies during construction. In addition, two temporary staging areas, one to the north of the ECO Substation component measuring approximately 0.36 acre, and one to the south measuring approximately 0.54 acre, will be used to stage construction equipment and supplies.

1.2 SWPL LOOP-IN

The existing SWPL 500 kV transmission line will be looped in and out of the ECO Substation component. This installation will require the removal of one existing 125-foot-tall tower and the installation of five three-pole dead-end structures and one H-frame tangent structure east of the ECO Substation component fence. New permanent dirt access roads (approximately 20 feet wide and totaling approximately 1,950 feet long) will be constructed from the SWPL right-of-way (ROW) to the six new SWPL loop-in structures. Seven temporary pull sites will be required to accommodate the installation of the SWPL loop-in, each measuring approximately 150 feet by 100 feet. A permanent maintenance pad measuring a maximum of 150 feet by 150 feet will be cleared around each of the six structure locations to accommodate installation and maintenance. The SWPL loop-in will have a permanent footprint of approximately 5.01 acres.

1.3 138 KV TRANSMISSION LINE

A new 138 kV transmission line will be constructed from the ECO Substation to the rebuilt Boulevard Substation. The new transmission line will be approximately 13.88 miles long and will be composed of approximately 57 SPs, including riser poles, and 6.84 miles of underground conduit. In addition, nine wooden distribution poles will be installed to replace the existing distribution Circuit 445 poles; this distribution line will be collocated on the new 138 kV transmission line structures near the intersection of Jewel Valley Road and Tule Jim Lane in Boulevard. Each SP will require a permanent maintenance pad, generally measuring 80 feet by 60 feet. In addition, 33 approximately 100-foot by 150-foot pull sites, two approximately 500-foot by 500-foot fly yards, and one approximately 170-foot by 100-foot staging area will be required. Unpaved spur roads will be constructed off of existing dirt roads to the new SP sites; these roads will generally measure 15 feet wide in the straight sections and up to 20 feet wide at curves.

Traveling west from the ECO Substation site, the proposed 138 kV transmission line will be constructed in an overhead configuration for approximately 0.36 mile before transitioning to an underground configuration at two new riser poles to be located between MP 0.3 and MP 0.4. Two parallel duct banks separated by up to 20 feet will be installed within the existing ROWs of Old Highway 80 and Carrizo Gorge Road. The duct banks will be installed using the direct-trenching method of construction in all but three locations, where the jack-and-bore method will be used to avoid impacts to jurisdictional waters. Each duct bank will measure approximately 2.73 miles long and pass through approximately eight vaults before transitioning back to an overhead line near MP 3.1, where two riser poles will be installed. From these riser poles, the proposed 138 kV transmission line will parallel the SWPL to a location just west of SP-39—near MP 9.8—where two additional riser poles will be installed and the line will again transition from an overhead to an underground configuration. Two parallel duct banks separated by up to 20 feet will be installed typically within or directly adjacent to existing roads in the area. Each duct bank will measure approximately 4.11 miles long and will pass through approximately 11 vaults before terminating at the Boulevard Substation. The duct banks will be installed using the direct-trenching method of construction in all but two locations. An approximately 690-foot-long segment will be installed using the horizontal directional drilling method to cross under a large jurisdictional water feature and an approximately 280-foot-long segment will be installed using the jack-and-bore method to cross under an existing San Diego & Arizona Eastern railroad. The entire 138 kV transmission line will have a permanent footprint of approximately 15.85 acres.

1.4 BOULEVARD SUBSTATION REBUILD

Currently, the fenced area of the existing Boulevard Substation measures approximately 70 feet by 100 feet. The Boulevard Substation will be rebuilt directly east of the existing substation on an approximately 8.5-acre parcel. The Boulevard Substation rebuild will include a 138/69/12 kV fenced yard measuring approximately 296 feet by 338 feet, and a 10-foot area around the perimeter of the fenced area will be used for maintenance purposes. The fenced area of the new substation will require approximately two acres. Additionally, an approximately 636-foot-long swale along the west side of the rebuilt Boulevard Substation will be modified to prevent flooding of the Boulevard Substation site. The existing Boulevard Substation will be removed from service and demolished once the new substation is energized. One approximately two-acre,

temporary staging area located north of the rebuilt substation will be required to store substation materials and construction equipment. The Boulevard Substation rebuild will have a footprint of approximately 3.46 acres.

ATTACHMENT C: SURVEY AND IMPACT ASSESSMENT METHODOLOGIES

ATTACHMENT C: SURVEY AND IMPACT ASSESSMENT METHODOLOGIES

The following sections describe the survey and impact assessment methodologies utilized to determine the resources present within the Project area, as well as to quantify the impacts to these resources. Section 1.0 Surveys provides the methodologies used during the reconnaissance-level and targeted field surveys that were conducted for the Project and the two mitigation properties for vegetation, species habitat, rare plants, Quino checkerspot butterfly (QCB) suitable and occupied habitat, and jurisdictional drainages. Section 1.1 Impact Assessment describes the methodologies used to assess impacts to California Department of Fish and Game (CDFG)-, United States (U.S.) Army Corps of Engineers (USACE)-, and U.S. Fish and Wildlife Service (USFWS)-jurisdictional resources that will result from the Project.

1.0 SURVEYS

1.0.0 Preliminary Reconnaissance-Level Surveys

Reconnaissance-level biological surveys of the entire Project area and the two mitigation properties were conducted using the following methodology. Insignia biologists conducted walking transects, spaced 100 to 200 feet apart, and documented the dominant vegetation communities and potential habitat for wildlife species, focusing on burrows, nests, rocky outcrops, swales, and cavities. They also documented plant and animal species observed, including any signs of wildlife species, such as scat, tracks, and remains. The potential for sensitive plant and animal species, determined by the presence of diagnostic habitat elements, was also assessed.

During the biological field surveys, the biologists conducted a preliminary assessment of the wetlands or drainages that may fall under the jurisdiction of the CDFG, USACE, or Regional Water Quality Control Board. This preliminary assessment was based on the presence of hydrophytic vegetation, ordinary high water mark (OHWM), evidence of flow, bed and bank features, connectivity to blue-line drainages, and hydrology. The biologists mapped the linear footage and area (from bank to bank) of all potentially jurisdictional drainages and washes with a sub-meter Geo-TX Trimble global positioning system (GPS) unit. In addition, the biologists documented the range of the width and depth, flow direction, bed substrate composition, and vegetation type of each drainage feature.

1.0.1 Detailed Drainages Surveys

Detailed drainage surveys of the entire Project area and the two mitigation properties were conducted using the following methodology. All intermittent and ephemeral desert washes within the survey area that exhibited bed and bank (a concave depression that appears to carry water at some point), were connected to a traditional navigable water, and exhibited OHWM, were documented and mapped with a sub-meter Geo-TX Trimble GPS unit. Drainages collected in the initial field effort were mapped again using the updated data collection protocol. Data collected for each drainage feature was based on the 2007 Jurisdictional Determination Form Instructional Guidebook; the December 2, 2008 USACE and Environmental Protection Agency memorandum; and the 2008 Field Guide to the Identification of the OHWM in the Arid West

Region of the Western U.S. Drainage width was measured from one side of the top of bank (TOB) to the other side of the TOB to determine the area of CDFG jurisdiction, as well as from OHWM to OHWM to determine the area of USACE jurisdiction. Once the fieldwork was completed, the GPS data was processed and maps of the survey area were created, displaying all drainage features identified in the field.

1.0.2 QCB Surveys

Rock's Biological Consulting conducted USFWS protocol-level QCB surveys of the Project area in 2008, 2009, 2010, and 2011; as well as of the southern portion of the Recht property in March through May of 2010 and the northern portion of the Recht property in March through May of 2011. Host plants and other environmental variables associated with the known habitat of QCB, such as nectar sources, openings in scrub, grassland and other habitats, and in-tact soil crusts were also documented. Butterfly surveys were conducted by walking slowly through all suitable QCB habitat and identifying butterflies with the aid of close-focus binoculars and use of a butterfly net for capturing and identifying specimens. Whenever possible, a photograph of each butterfly was taken with the intent to photo document all observed butterflies in the survey area.

1.0.3 Rare Plant Surveys

Rocks Biological Consulting conducted rare plant surveys of the Project area in 2009. Insignia Environmental biologists conducted rare plant surveys of the entire Project area in 2010 and 2011, and of the Recht property 2011. A summer rare plant survey of the Project area and the Recht property was also conducted for late blooming species, such as Tecate tarplant (*Hemizonia floribunda*), in July of 2011. The biologists conducted walking transects, spaced 50 feet apart, and identified all sensitive plant species.¹ Once the fieldwork was completed, the GPS data was processed and maps of the survey area were created, displaying all rare plants identified in the field.

1.1 IMPACT ASSESSMENT

1.1.0 Drainages

CDFG

A geographic information system (GIS) analysis of the drainage surveys conducted for the Project was utilized to determine the amount of permanent and temporary impacts to CDFG-jurisdictional waters that will result from construction of the Project. Impacts to CDFG-jurisdictional waters were assessed by overlaying the Project components, including substations, steel poles (SPs), new access roads, pull sites, fly yards, maintenance pads, and the underground 138 kilovolt (kV) underground duct bank trenching areas, on the mapped drainage data. Permanent impacts will include the permanent filling of CDFG-jurisdictional drainages for the two substations, pole maintenance pads, and new access roads, as well as concrete vault pads and low-water crossings located within the two underground 138 kV alignments and drainages that

¹ Special-status species include those plants that are:

- Listed or proposed for listing as endangered, threatened, or candidate species under the federal Endangered Species Act or the California Endangered Species Act
- Categorized as a California Rare Plant Rank 1, 2, 3, or 4 plant species

will be crossed by the trenches, but are too small to restore. Temporary impacts will result from direct trenching of the two underground alignments within existing roadways, vehicles driving through the drainages to access the work areas, grading of temporary work areas, and the temporary placement of stockpile materials within the drainages.

USACE

A GIS analysis of the results from the drainage surveys conducted for the Project was utilized to determine the amount of permanent and temporary impacts to USACE-jurisdictional waters that will result from construction of the Project. Permanent impacts will include the permanent filling of USACE-jurisdictional drainages for the two substations, pole maintenance pads, and new access roads, permanently graded areas, as well as concrete vault pads and low-water crossings located within the two underground 138 kV alignments and drainages crossed by the trenches that are too small to restore. Temporary impacts will result from direct trenching of the two underground alignments within existing roadways, vehicles driving through the drainages to access the work areas, and from the temporary placement of stockpile materials within the drainages.

1.1.1 Rare Plants

Due to the fact that rare plant individuals are found in different numbers per year depending on weather conditions and because they are often found in different locations from year to year due to seed dispersal, impacts to rare plant individuals were calculated based upon the highest number of plants identified per component area per year that will be impacted per species, providing the worst-case scenario for impacts resulting from construction of the Project. A GIS analysis was utilized to determine the amount of permanent impacts to rare plant species. These impacts were assessed by overlaying the Project components, including substations, SPs, new access roads, pull sites, fly yards, maintenance pads, and the underground 138 kV underground duct bank trenching areas, onto the rare plant data collected during the surveys conducted for the Project. Permanent impacts to rare plants will result from construction of the substations, pole maintenance pads, and new access roads; associated grading; temporary establishment of work areas; and trenching of the underground portions of the 138 kV transmission line. For the purposes of the analysis, all impacts to rare plants were considered permanent.

1.1.2 QCB

USFWS-designated critical habitat is defined as a specific geographic area that is essential for the conservation of the species and that may require special management and protection. This may include an area that is not currently occupied by the species, but that will be needed for its recovery. Suitable habitat for QCB is identified by the percentage of canopy cover and availability of proper food source that is adequate to support the species, but on which no QCB sightings have been recorded within a one-kilometer buffer. Occupied QCB habitat is defined as suitable QCB habitat located within a one-kilometer buffer of a QCB sighting based on surveys conducted for the Project from 2008 through 2011, and can occur within or outside of a designated critical habitat area. Similarly, historically occupied habitat is considered to be an area within a one-kilometer buffer of a historic QCB sighting that took place either prior to the Project surveys or was observed in conjunction with a separate project.

A GIS analysis was utilized to determine the amount of permanent and temporary impacts to occupied and historically occupied QCB habitat that will result from construction of the Project. Potential effects to QCB and its habitat were determined by overlaying the Project components, including substations, SPs, new access roads, pull sites, fly yards, and maintenance pads on QCB habitat critical, suitable, and occupied habitat. In addition, construction methods that will be utilized during the Project were examined for their potential to impact QCB and its habitat.

ATTACHMENT D: OBSERVED PLANT AND WILDLIFE SPECIES LISTS

ATTACHMENT D: OBSERVED PLANT AND WILDLIFE SPECIES LISTS

| Plant Species (Recht Property) | |
|---|--------------------------|
| Scientific Name | Common Name |
| Ferns and Fern Allies | |
| Pteridaceae Family | |
| <i>Cheilanthes covillei</i> | Coville's lipfern |
| <i>Pellaea mucronata</i> var. <i>mucronata</i> | bird's foot fern |
| <i>Pentagramma triangularis</i> | gold back fern |
| Cone-Bearing Plants (Gymnospermae) | |
| Cupressaceae Family | |
| <i>Juniperus californica</i> | California juniper |
| Ephedraceae Family | |
| <i>Ephedra californica</i> | California jointfir |
| <i>Ephedra nevadensis</i> | Nevada jointfir |
| <i>Ephedra viridis</i> | mormon tea |
| Pinaceae Family | |
| <i>Pinus quadrifolia</i> | four-leaf pinyon pine |
| Flowering Plants (Angiospermae Dicotyledoneae) | |
| Adoxaceae Family | |
| <i>Sambucus mexicana</i> | blue elderberry |
| Anacardiaceae Family | |
| <i>Rhus ovata</i> | sugar bush |
| <i>Rhus trilobata</i> | skunkbrush |
| Apiaceae Family | |
| <i>Bowlesia incana</i> | hoary bowlesia |
| <i>Lomatium mohavense</i> | Mojave wild parsely |
| <i>Tauschia arguta</i> | southern umbrellawort |
| <i>Lomatium</i> sp. | lomatium |
| <i>Yabea microcarpa</i> | California hedge parsley |
| Asteraceae Family | |
| <i>Acourtia microcephala</i> | sacapellote |
| <i>Adenophyllum porophylloides</i> | San Felipe dogweed |

| Plant Species (Recht Property) | |
|--|--------------------------|
| Scientific Name | Common Name |
| <i>Ambrosia acanthicarpa</i> | annual bursage |
| <i>Ambrosia dumosa</i> | burro weed |
| <i>Ambrosia salsola</i> | burrobrush |
| <i>Anisocoma acaulis</i> | scale bud |
| <i>Artemisia dracunculus</i> | wild tarragon |
| <i>Artemisia tridentata</i> ssp. <i>tridentata</i> | big sagebrush |
| <i>Baccharis salicifolia</i> | mule fat |
| <i>Baccharis sergiloides</i> | waterweed |
| <i>Bahiopsis parishii</i> | parish goldeneye |
| <i>Chaenactis fremontii</i> | Fremont pincushion |
| <i>Chaenactis glabriuscula</i> var. <i>glabriuscula</i> | common yellow pincushion |
| <i>Cirsium</i> cf. <i>occidentale</i> var. <i>californicum</i> | California thistle |
| <i>Coreopsis californica</i> var. <i>californica</i> | California tickseed |
| <i>Corethrogyne filaginifolia</i> var. <i>filaginifolia</i> | common sandaster |
| <i>Deinandra floribunda</i> | Tecate tarplant |
| <i>Encelia actoni</i> | Acton's encelia |
| <i>Encelia farinosa</i> | brittlebush |
| <i>Ericameria brachylepis</i> | boundary goldenbush |
| <i>Ericameria cuneata</i> var. <i>spathulata</i> | cliff goldenbush |
| <i>Ericameria linearifolia</i> | linear leaved goldenbush |
| <i>Erigeron</i> sp. | fleabane |
| <i>Eriophyllum confertiflorum</i> var. <i>confertiflorum</i> | golden yarrow |
| <i>Eriophyllum wallacei</i> | Wallace's woolly daisy |
| <i>Filago californica</i> | California cottonrose |
| <i>Geraea viscida</i> | sticky geraea |
| <i>Gnaphalium stramineum</i> | everlasting cudweed |
| <i>Gutierrezia californica</i> | California matchweed |
| <i>Lasthenia gracilis</i> | needle goldfields |
| <i>Hymenoclea monogyra</i> | singlewhorl burrobrush |
| <i>Layia glandulosa</i> | yellow rayed layia |
| <i>Layia platyglossa</i> | common tidy tips |

| Plant Species (Recht Property) | |
|---|-----------------------------|
| Scientific Name | Common Name |
| <i>Malacothrix californica</i> | California dandelion |
| <i>Malacothrix sp.</i> | California dandelion |
| <i>Porophyllum gracile</i> | odora |
| <i>Senecio californicus</i> | California ragwort |
| <i>Sonchus asper</i> | spiny sowthistle |
| <i>Stebbinsoseris heterocarpa</i> | grassland stebbinsoseris |
| <i>Stylocline cf. psilocarphoides</i> | baretwig neststraw |
| <i>Uropappus lindleyi</i> | silver puffs |
| <i>Xanthium strumarium</i> | cocklebur |
| Bignoniaceae Family | |
| <i>Chilopsis linearis</i> | desert willow |
| Boraginaceae Family | |
| <i>Amsinckia menziesii</i> var. <i>intermedia</i> | common fiddleneck |
| <i>Amsinckia tessellata</i> | bristly fiddleneck |
| <i>Cryptantha angustifolia</i> | Narrow-leaved forget me not |
| <i>Cryptantha decipiens</i> | gravel cryptantha |
| <i>Cryptantha intermedia</i> | clearwater cryptantha |
| <i>Cryptantha microstachys</i> | popcorn flower |
| <i>Cryptantha nevadensis</i> | Nevada cryptantha |
| <i>Cryptantha pterocarya</i> | wing nut forget me not |
| <i>Cryptantha simulans</i> | pine cryptantha |
| <i>Harpagonella palmeri</i> | Palmer's grapplinghook |
| <i>Pectocarya penicillata</i> | sleeping combseed |
| <i>Pectocarya recurvata</i> | curvenut combseed |
| <i>Pectocarya setosa</i> | moth combseed |
| <i>Plagiobothrys arizonicus</i> | Arizona popcorn flower |
| <i>Plagiobothrys</i> spp. | popcorn flower |
| Brassicaceae Family | |
| <i>Arabis</i> sp. | Rock cress |
| <i>Athysanus pusillus</i> | common sandweed |
| <i>Brassica tournefortii</i> | Asian mustard |

| Plant Species (Recht Property) | |
|--|-----------------------------|
| Scientific Name | Common Name |
| <i>Descurainia pinnata</i> | western tansymustard |
| <i>Descurainia sophia</i> | flix weed |
| <i>Guillenia lasiophylla</i> | California mustard |
| <i>Hirschfeldia incana</i> | Mediterranean hoary mustard |
| <i>Lepidium nitidum var nitidum</i> | shining peppergrass |
| <i>Nasturtium officinale</i> | watercress |
| <i>Sisymbrium altissimum</i> | tall tumbledustard |
| <i>Sisymbrium irio</i> | London rocket |
| <i>Sisymbrium orientale</i> | Indian hedge mustard |
| <i>Thysanocarpus curvipes</i> | hairy lacepod |
| Cactaceae Family | |
| <i>Cylindropuntia californica var. parkeri</i> | brownsided pricklypear |
| <i>Cylindropuntia ganderi var. ganderi</i> | Gander's buckhorn cholla |
| <i>Echinocereus engelmannii</i> | Engelmann's hedgehog cactus |
| <i>Ferocactus cylindraceus var. lecontei</i> | barrel cactus |
| <i>Mammillaria dioica</i> | fish hook cactus |
| <i>Mammillaria tetrancistra</i> | Yaqui mammillaria |
| <i>Opuntia chlorotica</i> | pancake prickly pear |
| <i>Opuntia phaeacantha</i> | tulip pricklypear |
| Chenopodiaceae Family | |
| <i>Atriplex canescens var. canescens</i> | desert four-winged saltbush |
| <i>Chenopodium californicum</i> | California goosefoot |
| <i>Salsola sp.</i> | Russian thistle |
| Crassulaceae Family | |
| <i>Crassula connata</i> | pygmy weed |
| <i>Dudleya pulverulenta</i> | chalk dudleya |
| <i>Dudleya sp.</i> | liveforever |
| Cucurbitaceae Family | |
| <i>Marah macrocarpus var. macrocarpus</i> | southern wild cucumber |
| Cuscutaceae Family | |
| <i>Cuscuta sp.</i> | dodder |

| Plant Species (Recht Property) | |
|--|----------------------------------|
| Scientific Name | Common Name |
| Ericaceae Family | |
| <i>Arctostaphylos parryana</i> ssp. <i>desertica</i> | Parry manzanita |
| Euphorbiaceae Family | |
| <i>Chamaesyce albomarginata</i> | rattlesnake weed |
| <i>Chamaesyce melanadenia</i> | sandmat |
| <i>Stillingia linearifolia</i> | Narrow leaved stillingia |
| Fabaceae Family | |
| <i>Acacia greggii</i> | catclaw acacia |
| <i>Astragalus coccineus</i> | scarlet milk-vetch |
| <i>Astragalus didymocarpus</i> var. <i>dispermus</i> | dwarf white milk-vetch |
| <i>Astragalus didymocarpus</i> var. <i>obispoensis</i> | San Luis Obispo milkvetch |
| <i>Astragalus douglasii</i> var. <i>perstrictus</i> | Jacumba milk-vetch |
| <i>Astragalus nuttallianus</i> var. <i>imperfectus</i> | turkey peas |
| <i>Astragalus palmeri</i> | Palmer's milk-vetch |
| <i>Lathyrus splendens</i> | Campo pea |
| <i>Lotus argophyllus</i> var. <i>argophyllus</i> | southern California silver lotus |
| <i>Lotus strigosus</i> | hairy lotus |
| <i>Lotus procumbens</i> var. <i>procumbens</i> | silky California broom |
| <i>Lotus scoparius</i> var. <i>brevialatus</i> | western bird's foot trefoil |
| <i>Lotus wrangelianus</i> | Chilean bird's foot trefoil |
| <i>Lupinus bicolor</i> | miniature lupine |
| <i>Lupinus concinnus</i> | scarlet lupine |
| <i>Lupinus formosus</i> var. <i>formosus</i> | summer lupine |
| <i>Pediomelum californicum</i> | California Indian breadroot |
| <i>Prosopis glandulosa</i> var. <i>torreyana</i> | honey mesquite |
| <i>Trifolium albopurpureum</i> var. <i>albopurpureum</i> | rancheria clover |
| <i>Trifolium gracilentum</i> var. <i>gracilentum</i> | pinpoint clover |
| Fagaceae Family | |
| <i>Quercus agrifolia</i> var. <i>oxyadenia</i> | coast live oak |
| <i>Quercus cornelius-mulleri</i> | desert scrub oak |
| Garryaceae Family | |

| Plant Species (Recht Property) | |
|---|-------------------------|
| Scientific Name | Common Name |
| <i>Garrya veatchii</i> | canyon silktassel |
| Geraniaceae Family | |
| <i>Erodium cicutarium</i> | redstem filaree |
| Grossulariaceae Family | |
| <i>Ribes quercetorum</i> | rock gooseberry |
| Hydrophyllaceae Family | |
| <i>Emmenanthe penduliflora</i> var. <i>penduliflora</i> | whispering bells |
| <i>Eriodictyon trichocalyx</i> var. <i>lanatum</i> | hairy yerba santa |
| <i>Nama</i> sp. | purplemat |
| <i>Nemophila spatulata</i> | Sierra nemophila |
| <i>Phacelia cicutaria</i> var. <i>hispida</i> | caterpillar phacelia |
| <i>Phacelia distans</i> | wild heliotrope |
| <i>Phacelia minor</i> | California bluebell |
| <i>Phacelia vallis-mortae</i> | Death Valley phacelia |
| <i>Pholistoma membranaceum</i> | white fiesta flower |
| Lamiaceae Family | |
| <i>Salvia apiana</i> | white sage |
| <i>Salvia carduacea</i> | thistle sage |
| <i>Salvia columbariae</i> | chia sage |
| <i>Trichostema parishii</i> | Parish's bluecurls |
| Loasaceae Family | |
| <i>Mentzelia</i> sp. | blazing star |
| Malvaceae Family | |
| <i>Sphaeralcea ambigua</i> var. <i>ambigua</i> | mountain apricot mallow |
| <i>Sphaeralcea ambigua</i> var. <i>rugosa</i> | apricot mallow |
| Nyctaginaceae Family | |
| <i>Mirabilis laevis</i> var. <i>retrorsa</i> | wishbone bush |
| Onagraceae Family | |
| <i>Camissonia californica</i> | California primrose |
| <i>Camissonia pallida</i> ssp. <i>pallida</i> | pale sun cup |
| <i>Camissonia strigulosa</i> | strigose sun cup |

| Plant Species (Recht Property) | |
|---|-----------------------------|
| Scientific Name | Common Name |
| <i>Epilobium</i> sp. | fireweed/willowherb |
| <i>Oenothera californica</i> ssp. <i>californica</i> | California evening primrose |
| Orobanchaceae Family | |
| <i>Castilleja exserta</i> ssp. <i>exserta</i> | purple owl's clover |
| <i>Castilleja foliolosa</i> | Texas paintbrush |
| <i>Castilleja subinclusa</i> ssp. <i>subinclusa</i> | longleaf Indian paintbrush |
| Papaveraceae | |
| <i>Dendromecon rigida</i> | bush poppy |
| <i>Eschscholzia californica</i> | California poppy |
| <i>Platystemon californicus</i> | cream cups |
| Paeoniaceae Family | |
| <i>Paeonia californica</i> | California peony |
| Phrymaceae Family | |
| <i>Mimulus aridus</i> | Jacumba monkeyflower |
| Plantaginaceae Family | |
| <i>Antirrhinum nuttallianum</i> ssp. <i>nuttallianum</i> | Nuttall's snapdragon |
| <i>Keckiella antirrhinoides</i> var. <i>antirrhinoides</i> | chaparral beard tongue |
| <i>Penstemon centranthifolius</i> | scarlet bugler |
| <i>Penstemon</i> cf. <i>spectabilis</i> var. <i>spectabilis</i> | showy penstemon |
| <i>Plantago erecta</i> | dotseed plantain |
| Polemoniaceae Family | |
| <i>Eriastrum densifolium</i> ssp. <i>elongatum</i> | giant eriastrum |
| <i>Eriastrum eremicum</i> | desert woolly star |
| <i>Gilia angelensis</i> | chaparral gilia |
| <i>Gilia breccarium</i> | small gilia |
| <i>Ipomopsis tenuifolia</i> | slender-leaved ipomopsis |
| <i>Linanthus bellus</i> | desert beauty |
| <i>Navarretia capillaris</i> | miniature gilia |
| Polygonaceae Family | |
| <i>Chorizanthe polygonoides</i> var. <i>longispina</i> | long-spined spineflower |
| <i>Eriogonum elongatum</i> var. <i>elongatum</i> | long stemmed buckwheat |

| Plant Species (Recht Property) | |
|--|------------------------------|
| Scientific Name | Common Name |
| <i>Eriogonum fasciculatum</i> var. <i>foliolsum</i> | California buckwheat |
| <i>Eriogonum fasciculatum</i> var. <i>polifolium</i> | California buckwheat |
| <i>Eriogonum</i> cf. <i>gracile</i> | slender woolly buckwheat |
| <i>Eriogonum inflatum</i> | desert trumpet |
| <i>Eriogonum wrightii</i> var. <i>membranaceum</i> | Wright's buckwheat |
| <i>Pterostegia drymarioides</i> | fairy mist |
| Portulacaceae Family | |
| <i>Calandrinia ciliata</i> | red maids |
| <i>Calyptridium monandrum</i> | pussy paws |
| Ranunculaceae Family | |
| <i>Anemone tuberosa</i> | tuber anemone |
| <i>Clematis pauciflora</i> | small leaved clematis |
| <i>Delphinium parishii</i> ssp. <i>subglobosum</i> | oceanblue larkspur |
| Rhamnaceae Family | |
| <i>Ceanothus greggii</i> var. <i>perplexans</i> | desert ceanothus |
| <i>Ceanothus leucodermis</i> | chaparral whitethorn |
| <i>Ziziphus parryi</i> var. <i>parryi</i> | Parry's jujube |
| Rosaceae Family | |
| <i>Adenostoma fasciculatum</i> | chamise |
| <i>Adenostoma sparsifolium</i> | red shank |
| <i>Cercocarpus betuloides</i> var. <i>betuloides</i> | birch leaf mountain mahogany |
| <i>Prunus fremontii</i> | desert apricot |
| <i>Prunus ilicifolia</i> ssp. <i>ilicifolia</i> | hollyleaf cherry |
| <i>Purshia tridentata</i> var. <i>glandulosa</i> | desert bitterbrush |
| Rubiaceae Family | |
| <i>Galium</i> sp. | bedstraw |
| Rutaceae Family | |
| <i>Thamnosma montana</i> | turpentine broom |
| Salicaceae Family | |
| <i>Salix</i> cf. <i>laevigata</i> | red willow |

| Plant Species (Recht Property) | |
|---|-------------------------|
| Scientific Name | Common Name |
| <i>Salix lasiolepis</i> | arroyo willow |
| Simmondsiaceae | |
| <i>Simmondsia chinensis</i> | jojoba |
| Solanaceae | |
| <i>Datura cf. wrightii</i> | jimsonweed |
| <i>Lycium andersonii</i> | Anderson's desert thorn |
| <i>Nicotiana obtusifolia</i> | desert tobacco |
| <i>Solanum parishii</i> | Parish's nightshade |
| <i>Solanum xanti</i> | purple nightshade |
| Tamaricaceae Family | |
| <i>Tamarix ramosissima</i> | tamarisk |
| Urticaceae Family | |
| <i>Urtica dioica</i> ssp. <i>holosericea</i> | giant creek nettle |
| Violaceae Family | |
| <i>Viola purpurea</i> ssp. <i>quercetorum</i> | goosefoot yellow violet |
| Viscaceae Family | |
| <i>Phoradendron californicum</i> | desert mistletoe |
| <i>Phoradendron densum</i> | dense mistletoe |
| <i>Phoradendron villosum</i> | Pacific mistletoe |
| Zygophyllaceae Family | |
| <i>Larrea tridentata</i> | creosote bush |
| Flowering Plants (Angiospermae Monocotyledoneae) | |
| Agavaceae Family | |
| <i>Agave deserti</i> | desert agave |
| <i>Yucca schidigera</i> | Mojave yucca |
| <i>Hesperoyucca whipplei</i> | chaparral yucca |
| Juncaceae Family | |
| <i>Juncus balticus</i> | wire rush |
| <i>Juncus bufonius</i> | toad rush |
| Liliaceae Family | |
| <i>Allium</i> sp. | onion |

| Plant Species (Recht Property) | |
|---|----------------------------|
| Scientific Name | Common Name |
| Poaceae Family | |
| <i>Achnatherum speciosum</i> | desert needlegrass |
| <i>Avena barbata</i> | slender wild oats |
| <i>Avena fatua</i> | wild oats |
| <i>Bromus diandrus</i> | ripgut brome |
| <i>Bromus hordeaceus</i> | soft chess |
| <i>Bromus madritensis ssp. rubens</i> | foxtail grass |
| <i>Bromus tectorum</i> | downy brome |
| <i>Distichlis spicata</i> | salt grass |
| <i>Hordeum murinum ssp. leporinum</i> | foxtail barley |
| <i>Melica imperfecta</i> | small flowered melica |
| <i>Poa pratensis</i> | Kentucky bluegrass |
| <i>Poa secunda ssp. secunda</i> | Sandberg's bluegrass |
| <i>Schismus barbatus</i> | common Mediterranean grass |
| <i>Vulpia bromoides</i> | European foxtail fescue |
| <i>Vulpia microstachys var. pauciflora</i> | Pacific fescue |
| <i>Vulpia myuros var. myuros</i> | rattail fescue |
| Themidaceae Family | |
| <i>Dichelostemma capitatum ssp. capitatum</i> | wild hyacinth |
| <i>Dichelostemma capitatum ssp. pauciflorum</i> | few flowered blue dicks |

| Plant Species (Seifker Property) | |
|---|---------------------------|
| Scientific Name | Common Name |
| Acanthaceae Family | |
| <i>Justicia californica</i> | chuparosa |
| Agavaceae Family | |
| <i>Agave deserti</i> | desert agave |
| Asteraceae Family | |
| <i>Ambrosia dumosa</i> | burro bush |
| <i>Ambrosia salsola</i> | cheese bush |
| <i>Encelia farinosa</i> | brittlebush |
| Bignoniaceae Family | |
| <i>Chilopsis linearis</i> | desert willow |
| Boraginaceae Family | |
| <i>Cryptantha</i> spp. | cryptantha |
| Burseraceae Family | |
| <i>Bursera microphylla</i> | little leaf elephant tree |
| Brassicaceae Family | |
| <i>Brassica tournefortii</i> | Asian mustard |
| Cactaceae Family | |
| <i>Cylindropuntia bigelovii</i> | teddy-bear cholla |
| <i>Cylindropuntia echinocarpa</i> | silver cholla |
| <i>Cylindropuntia ramosissima</i> | diamond cholla |
| <i>Ferocactus cylindraceus</i> var. <i>lecontei</i> | barrel cactus |
| <i>Mammillaria dioica</i> | fish hook cactus |
| <i>Opuntia basilaris</i> | beavertail cactus |
| Fabaceae Family | |
| <i>Acacia greggii</i> | catclaw acacia |
| <i>Psoralea argophylla</i> | smoke tree |
| <i>Senna armata</i> | senna |
| Fouquieriaceae Family | |
| <i>Fouquieria splendens</i> | ocotillo |
| Lamiaceae Family | |
| <i>Salvia columbariae</i> | chia sage |

| Plant Species (Seifker Property) | |
|----------------------------------|------------------|
| Scientific Name | Common Name |
| Plantaginaceae Family | |
| <i>Plantago</i> sp. | plantain |
| Polygonaceae Family | |
| <i>Eriogonum inflatum</i> | desert trumpet |
| Viscaceae Family | |
| <i>Phoradendron californicum</i> | desert mistletoe |
| Zygophyllaceae Family | |
| <i>Larrea tridentata</i> | creosote bush |

| Wildlife Species (Recht Property) | |
|--|------------------------------|
| Scientific Name | Common Name |
| Reptiles | |
| <i>Anniella pulchra</i> | California legless lizard |
| <i>Aspidoscelis tigris stejnegeri</i> | coastal whiptail |
| <i>Coluber lateralis lateralis</i> | California striped racer |
| <i>Crotalus helleri</i> | southern Pacific rattlesnake |
| <i>Lichanura trivirgata</i> | rosy boa |
| <i>Masticophis flagellum piceus</i> | red coachwhip |
| <i>Pituophis catenifer</i> | gopher snake |
| <i>Sceloporus occidentalis</i> | western fence lizard |
| <i>Sceloporus orcutti</i> | granite spiny lizard |
| <i>Salvadora hexalepis hexalepis</i> | Desert patchnose snake |
| <i>Uta stansburiana elegans</i> | western side-blotched lizard |
| Invertebrates | |
| <i>Apodemia virgulti complex</i> | Behr's metalmark |
| <i>Callophrys perplexa perplexa</i> | perplexing hairstreak |
| <i>Euchloe hyantis</i> | California pearly marble |
| <i>Euphydras editha quino</i> | Quino checkerspot butterfly |
| <i>Plebejus acmon acmon</i> | Acmon blue |
| <i>Pontia protodice</i> | checkered white |
| <i>Vanessa cardui</i> | painted lady butterfly |
| Birds | |
| <i>Accipiter cooperii</i> | Cooper's hawk |

| Wildlife Species (Recht Property) | |
|--|--------------------------|
| Scientific Name | Common Name |
| <i>Amphispiza bilineata</i> | black-throated sparrow |
| <i>Aphelocoma californica</i> | western scrub-jay |
| <i>Buteo jamaicensis</i> | red-tailed hawk |
| <i>Calypte anna</i> | Anna's hummingbird |
| <i>Campylorhynchus brunneicapillus</i> | cactus wren |
| <i>Cathartes aura</i> | turkey vulture |
| <i>Eremophila alpestris</i> | horned lark |
| <i>Icterus parisorum</i> | Scott's oriole |
| <i>Phainopepla nitens</i> | phainopepla |
| <i>Pipilo crissalis</i> | California towhee |
| <i>Quiscalus quiscula</i> | common grackle |
| <i>Sayornis nigricans</i> | black phoebe |
| <i>Thryomanes bewickii</i> | Bewick's wren |
| <i>Toxostoma redivivum</i> | California thrasher |
| <i>Tyrannus verticalis</i> | western kingbird |
| <i>Zenaida macroura</i> | mourning dove |
| Mammals | |
| <i>Ammospermophilus</i> sp. | antelope ground squirrel |
| <i>Canis latrans</i> | coyote |
| <i>Lepus californicus</i> | black-tailed jackrabbit |
| <i>Neotoma</i> sp. | woodrat |
| <i>Sylvilagus audubonii</i> | desert cottontail |

ATTACHMENT E: HABITAT RESTORATION PLAN

**SAN DIEGO GAS & ELECTRIC COMPANY
EAST COUNTY SUBSTATION PROJECT
HABITAT RESTORATION PLAN**

**PREPARED
NOVEMBER 21, 2012**

PREPARED BY:



PREPARED FOR:



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- Attachment A: 2012 Rare Plant Survey Species Occurrence Maps
- Attachment B: Seed Mixes

1 – INTRODUCTION

This Habitat Restoration Plan (Plan) describes the measures that will be taken by San Diego Gas & Electric Company (SDG&E) and its contractors to ensure that temporary work areas used during construction of the East County (ECO) Substation Project (Project) are restored to near pre-construction conditions to promote long-term stabilization of the right-of-way (ROW). The Project involves the construction of a new 500/230/138 kilovolt (kV) ECO Substation; rebuild of the existing Boulevard Substation in a new location; and construction of an approximately 14-mile-long 138 kV transmission line, consisting of overhead and underground segments, to connect the two substations. A Project overview map is provided in Figure 1: Project Overview Map. Habitat restoration will take place on all areas temporarily disturbed by construction activities, including temporary staging and fly yards, pull sites, and work areas. Native vegetation communities that will be temporarily impacted include mixed desert scrub, juniper woodland, chamise-red shank chaparral, shadscale scrub, riparian scrub, and big sage brush scrub. The majority of the temporary impacts will occur to mixed desert scrub, juniper woodland, and chamise-red shank chaparral. This Plan was prepared in accordance with Mitigation Measure (MM) BIO-1d of the Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) for the Project and the California Department of Fish and Game (CDFG) Streambed Alteration Agreement (#1600-2011-03280-R5).

2 – MITIGATION MEASURES

MM BIO-1d of the MMCRP states “All temporary work areas not subject to long-term use or ongoing vegetation maintenance shall be revegetated with native species characteristic of the adjacent native vegetation communities in accordance with a Habitat Restoration Plan. A habitat restoration specialist will be designated and approved by the California Public Utilities Commission (CPUC) and Bureau of Land Management (BLM) and will determine the most appropriate method of restoration. Restoration techniques may include hydroseeding, hand-seeding, imprinting, and soil and plant salvage. Any salvage and relocation of species considered desert native plants shall be conducted in compliance with the California Desert Native Plant Act. The Habitat Restoration Plan shall include success criteria and monitoring specifications, and shall be approved by the permitting agencies prior to construction of the project. At the completion of project construction, all construction materials shall be completely removed from the site. All temporary construction access roads shall be permanently closed and restored. Topsoil located in areas to be restored would be conserved and stockpiled during the excavation process for use in the restoration. Wherever possible, vegetation would be left in place to avoid excessive root damage to allow for natural recruitment following construction. Temporary impacts shall be restored sufficient to compensate for the impact to the satisfaction of the CPUC or BLM (depending on the location of the impact). If restoration of temporary impact areas is not possible to the satisfaction of the CPUC or BLM, the temporary impact shall be considered a permanent impact and compensated accordingly.”

3 – OBJECTIVES

The purpose of this Plan is to prescribe restoration techniques for temporary work areas and identify SDG&E's responsibilities in the restoration process. The Plan provides specific information for implementing the MM, as well as the means of monitoring the effectiveness of restoration through established success criteria. The management practices and activities in this Plan are intended to accomplish the following objectives:

- Describe restoration techniques for temporarily disturbed areas
- Establish success criteria and monitoring specifications for revegetation of temporarily disturbed areas
- Ensure that MM BIO-1d stipulated in the Project's MMCRP and other resource protection permits are implemented through a comprehensive restoration approach
- Allow the Habitat Restoration Specialist (HRS) flexibility in prescribing long-term stabilization measures based on site-specific conditions at the time of construction

4 – PLAN IMPLEMENTATION

SDG&E and its contractors will take all reasonable measures to ensure that temporary work areas are restored to near pre-construction conditions. This plan has been prepared to incorporate performance-based best management practices and assigns an HRS, approved by the CPUC and BLM, to oversee the restoration effort. The HRS has the ability to modify procedures within the context of this Plan if changes provide better protection of natural resources in the Project area; are consistent with the requirements of the MMCRP; and facilitate successful restoration and long-term stabilization.

SDG&E has designated an HRS to prepare and administer this Plan and evaluate the proposed methods for restoration. The HRS has been approved by the CPUC and BLM and can be contacted at the following:

Jeffrey Coward, Certified Professional in Erosion and Sediment Control (#6625)
Insignia Environmental
904 Second Street
Encinitas, CA 92024
Office: (760) 635-1587
Cell: (650) 380-8809

The HRS will be on-call and available to assist SDG&E and its contractors at all times during construction. SDG&E will review and authorize any modifications to the implementation methods as long as the changes comply with this Plan and are made by the HRS.

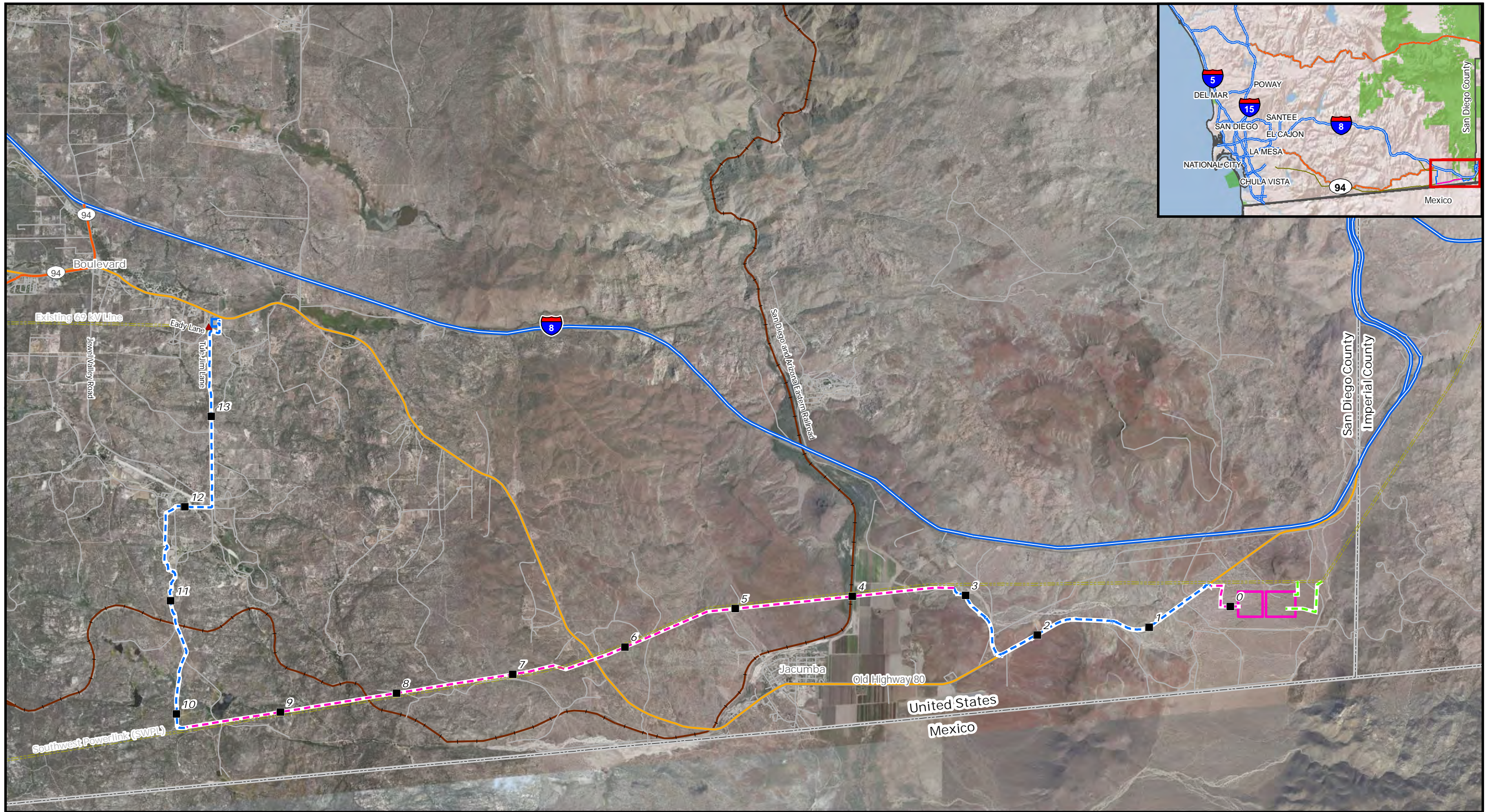


Figure 1: Project Overview Map

East County Substation Project

- | | | |
|---------------------------------|------------------------------------|--------------|
| ▲ Existing Boulevard Substation | — Proposed 138 kV Overhead Line | — Interstate |
| ■ Proposed 138 kV Line Milepost | — Proposed 138 kV Underground Line | — Highway |
| ▭ ECO Substation | — Proposed SWPL Loop-In | — Major Road |
| ▭ Boulevard Substation Rebuild | — Existing Transmission Line | — Railroad |



1:50,000



4.0 PRE-CONSTRUCTION DOCUMENTATION

Any temporary work areas not subject to long-term use or ongoing vegetation management will be restored to near pre-construction conditions. Prior to ground-disturbing activities, SDG&E will compile photographic documentation of temporary work areas, and determine the acreage that will be impacted, document the vegetation communities that will be impacted, and document the presence/absence of non-native species. Topsoil depth and other pertinent information, unusual features—such as culverts, rock outcrops, rock walls, artificial fill, or compaction—will also be documented by SDG&E. In addition, SDG&E will identify reference sites that will be used during the post-construction monitoring and reporting described in Section 6 – Restoration Monitoring. The reference sites will be adjacent to the temporarily impacted areas that will be restored, contain the same general plant species and densities as the work area, and will be approximately the same size—typically 50 feet by 100 feet—as the area to be restored. The documentation prepared as defined in this section will be submitted to the CPUC, BLM, and CDFG within 30 days of completing temporary disturbance activities associated with covered activities under each Notice to Proceed.

4.1 CLEARING AND GRADING

Clearing and grading activities will be limited to the staked work limits, as required by MM BIO-1a of the MMCRP. Wherever possible, vegetation will be left in place to avoid excessive root damage and to allow for natural recruitment following construction. However, if vegetation poses a safety hazard, or where grading is required, the native vegetation will be removed and windrowed along the edge of the work area. Windrowed vegetation will be kept separate from trench spoil and maintained for use during cleanup activities, as described in Section 4.2.5 Mulch. However, in areas with noxious weeds, the vegetation will not be windrowed or used for cleanup activities. In these areas, the removed vegetation will be hauled off site and disposed of at an approved facility.

Where feasible, temporarily disturbed work areas will be topsoiled.¹ Topsoil will be stripped in areas to be restored and segregated during the grading phase and stockpiled along the edge of the work area for use during restoration. Within temporarily impacted areas, SDG&E will ensure that topsoil containing potential seed banks of sensitive plant species, as identified in Attachment A: 2012 Rare Plant Survey Species Occurrence Maps, is returned to the same general location from which the topsoil was removed. In general, the top two to four inches or the entire A horizon²—whichever is deeper—will be removed and salvaged. However, the actual depth to be salvaged will be determined by SDG&E in the field.³ Topsoil will not be salvaged in areas that will be permanently impacted, such as within the substation boundaries, where fill will be imported, or where soil has been previously highly disturbed or currently infested with noxious or invasive species. However, some of the topsoil to be removed for construction of the slopes surrounding the ECO and Boulevard substations will be stockpiled, saved, and spread out across

¹ Temporarily disturbed work areas include any areas that will require restoration.

² The A horizon is considered the uppermost layer of soil with physical and chemical characteristics that differ from the soil layers beneath.

³ Arid soils are generally very shallow, but it can be advantageous to salvage slightly deeper than the A horizon when mechanically stripping topsoil to obtain more organic matter and seed base.

the slopes to facilitate the establishment of the substations' landscape, per the Project's Landscape/Screening plans.

4.2 CLEANUP

4.2.0 Construction Material and Equipment

Following the completion of grading activities, the Construction Contractor will begin removing construction debris from the work areas.⁴ All construction materials will be removed from the site. Debris will be hauled to the staging areas and later disposed of or recycled at a licensed facility. SDG&E will verify that all construction debris is properly removed prior to final grading. Construction equipment that is not required for final cleanup and seeding will be hauled to the staging areas or demobilized from the Project. Along the underground alignments, the duct banks will be backfilled with non-expansive, engineered fill and covered with asphalt or road base, as appropriate for their location.

4.2.1 Final Grade

Once all of the construction debris has been removed, the Construction Contractor will return temporary work areas to near pre-construction contours and elevations. Topsoil that was stockpiled during grading and grubbing associated with construction will be returned to its associated restored areas. Care will be taken so that non-disturbed areas will not be impacted; however, the edges of temporary work areas will be slightly feathered to blend in with immediately adjacent areas.

4.2.2 Compaction

Soil compaction can increase surface runoff, reduce water holding capacity, and increase the potential seed loss due to wind erosion. Prior to initiating final grade, the HRS and/or SDG&E—in coordination with the Construction Contractor—will determine if soil decompaction is necessary by comparing the work area to adjacent non-disturbed areas. If decompaction is required, it will be performed with a deep-tillage instrument, the teeth of a backhoe bucket, a bulldozer ripper, or a similar mechanism prior to re-spreading the topsoil. In some cases, where compaction is only on the surface, scarifying during seedbed preparation will be sufficient.⁵

4.2.3 Restoration of Temporary Impacts to Waters

Temporarily impacted ephemeral and intermittent drainages will be restored after the Project has been completed, in accordance with the United States Army Corps of Engineers Nationwide Permit and Regional Water Quality Control Board Water Quality Certification. Fill will be removed from drainages, and the drainages will be returned to near pre-construction contours and elevations. No additional stabilization measures are anticipated, but erosion-control blankets may be used, if approved by the HRS and the Project's Qualified Stormwater Pollution Prevention Plan (SWPPP) Developer.

⁴ The initiation of cleanup activities will depend on the location and the phase of construction. It is anticipated that overhead, underground, and substation cleanup will occur at different times.

⁵ Scarification is the process of loosening the surface layer. The process improves soil-to-seed contact and permeability, and facilitates seed cover when the soil is back-dragged after the seed is applied.

4.2.4 Seedbed Preparation

Prior to seeding and during the spreading of stockpiled topsoil, the area to be seeded will be scarified using the teeth of a backhoe bucket, harrow, disc, or other similar implementation method. The HRS or SDG&E's designated representative will inspect the seedbed prior to conducting seeding, as described in Section 4.3 Seeding.

4.2.5 Mulch

Mulch can be used to reduce soil erosion during precipitation events by intercepting the impact of raindrops. It also helps regulate soil temperatures and protect seed from wildlife and wind, and can be composed of straw, rock, or other ground covers. Of all the types of mulch available for restoration, straw is the most commonly used because it is degradable, provides organic matter, and is compatible with most vegetation types. However, straw mulch has proven to have a negligible effect on dry, sandy soils, particularly in areas with high wind. Due to the abundance of these conditions within the Project area, mulch will not be applied following seeding. The HRS may determine that hydromulch is required to provide effective soil cover. If hydromulch is used, it will be applied with an SDG&E-approved tackifier and at the manufacturer's recommended rate, which is based on slope length and steepness of the site. If hydromulch is used, it will be applied after the seed has achieved soil contact or, if approved by the HRS, mixed with the seed. If SDG&E determines that mulch is necessary to prevent water or wind erosion, the mulch will be weed-free straw, as required by the Project's Noxious Weed and Invasive Species Control Plan.

4.3 SEEDING

All temporarily disturbed work areas will be restored and seeded. No soil additives or amendments will be applied to the seeded areas. If through direct observation by the HRS or the on-site biological monitor, it is determined that there is significant seed loss due to granivory, SDG&E will re-seed the area to achieve the success criteria described in Section 6 – Restoration Monitoring. Approved seed mixes, application methods, and rates are described in the following sections.

4.3.0 Seed Mix

Seed will be purchased from and blended by a qualified distributor that specializes in providing custom native seed mixes for restoration projects in California. Seed will be weed-free and consist of native species that occur within the Project area. Each bag of seed will be properly labeled with the weight, species, percentage of seed of each species, percentage of germination of each species, purity of seed, inert ingredients, and packaging date.

The Project occurs in two distinct vegetation communities and is in a transitional vegetation area; therefore, two different seed mixes will be required. One seed mix will be used for desert scrub/juniper woodland, and one seed mix will be used for chamise/redshank chaparral. Where appropriate, a third erosion control seed mix—consisting of locally occurring, fast-growing, native species—may be used to temporarily stabilize work areas prior to restoration. A list of each seed mix, application rate, and source of the seed is provided in Attachment B: Seed Mixes.

4.3.1 Application Methods

Seed will be broadcasted at the rate recommended by the distributor. Seed broadcasted directly on bare soil will be lightly raked into the soil surface by hand or with a drag chain to ensure adequate soil-to-seed contact. All seeding will occur after final grading and seedbed preparation has been completed and in accordance with the schedule described in Section 5.1 Seeding. Restored areas will not be irrigated following application.

4.3.2 Seeding Rates

Seed will be uniformly applied according to the application rates indicated in Attachment B: Seed Mixes.

4.3.3 Irrigation

No irrigation systems will be installed as part of this Plan. Irrigation may be used for landscaped areas and tree replacement at the ECO and Boulevard substation sites, as described in the Landscape Plan and Tree Replacement Plan. In areas of potential significant land scarring due to Project road construction, the restored areas may be watered, by hand or water truck, to facilitate rapid germination and growth of the seed.

5 – SCHEDULE

5.0 RESTORATION

Restoration efforts will be implemented once construction activities have been completed at any given area along the ROW⁶. In most cases, restoration will not begin until construction has been completed for the entire Project, but the Construction Contractor may elect to begin restoration in some areas if no additional work is anticipated. In any case, temporary soil stabilization will occur immediately after ground disturbance occurs in accordance with the SWPPP. Final restoration activities will be completed after energization, but may begin at some locations at any time during construction.

5.1 SEEDING

Seeding will occur in fall, winter, or early spring to maximize natural rainfall patterns that occur within the Project area. If interim seeding is deemed advantageous by the Project's Qualified SWPPP Developer and/or the Qualified SWPPP Practitioner, the seed mix will be approved by the HRS prior to use.

6 – RESTORATION MONITORING

Post-construction monitoring of all restored temporary work areas will be performed by SDG&E to ensure that the restoration effort is deemed sufficient to compensate for the impacts to the satisfaction of the CPUC and BLM. The following subsections describe the monitoring methods, success criteria, and reporting for the post-construction monitoring of restored areas.

⁶ All temporarily impacted areas will be restored within two years of the start of construction.

6.0 MONITORING, SUCCESS CRITERIA, AND REMEDIAL MEASURES

After construction and initial restoration has been completed, SDG&E has designated Jeffrey Coward as the HRS to monitor the restoration effort. The HRS will also be responsible for assessing the success of control methods implemented to prevent the spread of noxious weeds and invasive plants, as described in the Project's Noxious Weed and Invasive Plant Control Plan. The restoration specialist will collect pertinent information through direct observation during annual site visits, including data on germination success, plant density, survivorship, and diversity. Specific monitoring activities will include the following:

- Documenting the percent cover of native vegetation within the disturbed areas
- Comparing restoration sites to surrounding undisturbed reference sites⁷
- Documenting all plant species within the restoration areas
- Conducting photographic documentation of restoration areas and surrounding undisturbed sites

Restoration and weed-control will be considered successful if the following conditions are met:

- At least 60 percent of total vegetation cover will be achieved for each plant community, relative to the adjacent reference site with similar vegetation.
- Native species present will include the dominant species found within the adjacent reference site. The HRS will take into account the level of recruitment of dominant species and likelihood of vegetative succession to the desired community.
- The percent of weed species remain at or below the populations within the adjacent reference sites.

If the success criteria for the seeded areas have not been met after three years, SDG&E will consult with the CPUC, BLM, and CDFG to develop additional restoration measures. In general, an adaptive management approach should be taken to identify additional restoration and weed-control measures. This approach will focus on gathering information during the monitoring period, and adjusting management practices and remedial measures according to assessments made while monitoring. If a site fails to meet the established success criteria, SDG&E and the HRS will modify and/or add restoration and/or weed-control measures in coordination with the CPUC, BLM, and CDFG. Examples of modified or additional restoration or weed-control measures include the following:

- re-seeding a site that experienced significant seed loss during a major rain event
- implementing a watering program during a prolonged drought
- recontouring and reapplying hydromulch to a site damaged by unauthorized off-road vehicle use
- utilizing mechanical weed abatement methods, or the selective use of herbicides

⁷ Prior to construction, reference sites will be identified within SDG&E's ROW and adjacent to each area to be restored that contains similar vegetation, percent native plant composition, and percent cover as the work sites, as described in Section 4.0 Pre-Construction Documentation.

If chemical or mechanical weed abatement methods are determined to be required, the application of these methods will be conducted in a manner that minimizes potential impacts to sensitive plant and wildlife species, such as the timing of implementation, application rate for chemical controls, and utilization of site-specific measures.

If within two years after the additional restoration and/or weed-control measures are implemented (total of five years) the CPUC, BLM, and CDFG⁸ determine that the additional measures are not sufficient and restoration in certain areas is not feasible, the impacts in these areas will be considered permanent, as required by MM BIO-1e.

6.1 REPORTING

SDG&E will submit a Restoration Monitoring Report, which will include an assessment of the success of control methods implemented to prevent the spread of noxious weeds and invasive plants, to the CPUC, BLM, and CDFG by July of each of the five years following the completion of construction. This report will include the following:

- Introduction
- Monitoring methods summary
- Monitoring results
- Discussion
- Conclusion and recommendations

Monitoring and reporting of restoration progress will be conducted for up to five years. If the restoration success criteria have been met before year five, monitoring and reporting will cease at that time.

6.2 COMPLETION OF RESTORATION PROGRAM

The restoration of the Project area will be considered complete when the monitoring period is over and final success standards are met. SDG&E will notify the CPUC, BLM, and CDFG that the success standards have been met for the Project upon submitting the annual report for the final year, and will request acceptance that the success criteria has been met and acknowledgement that MM BIO-1d has been fulfilled.

7 – REFERENCES

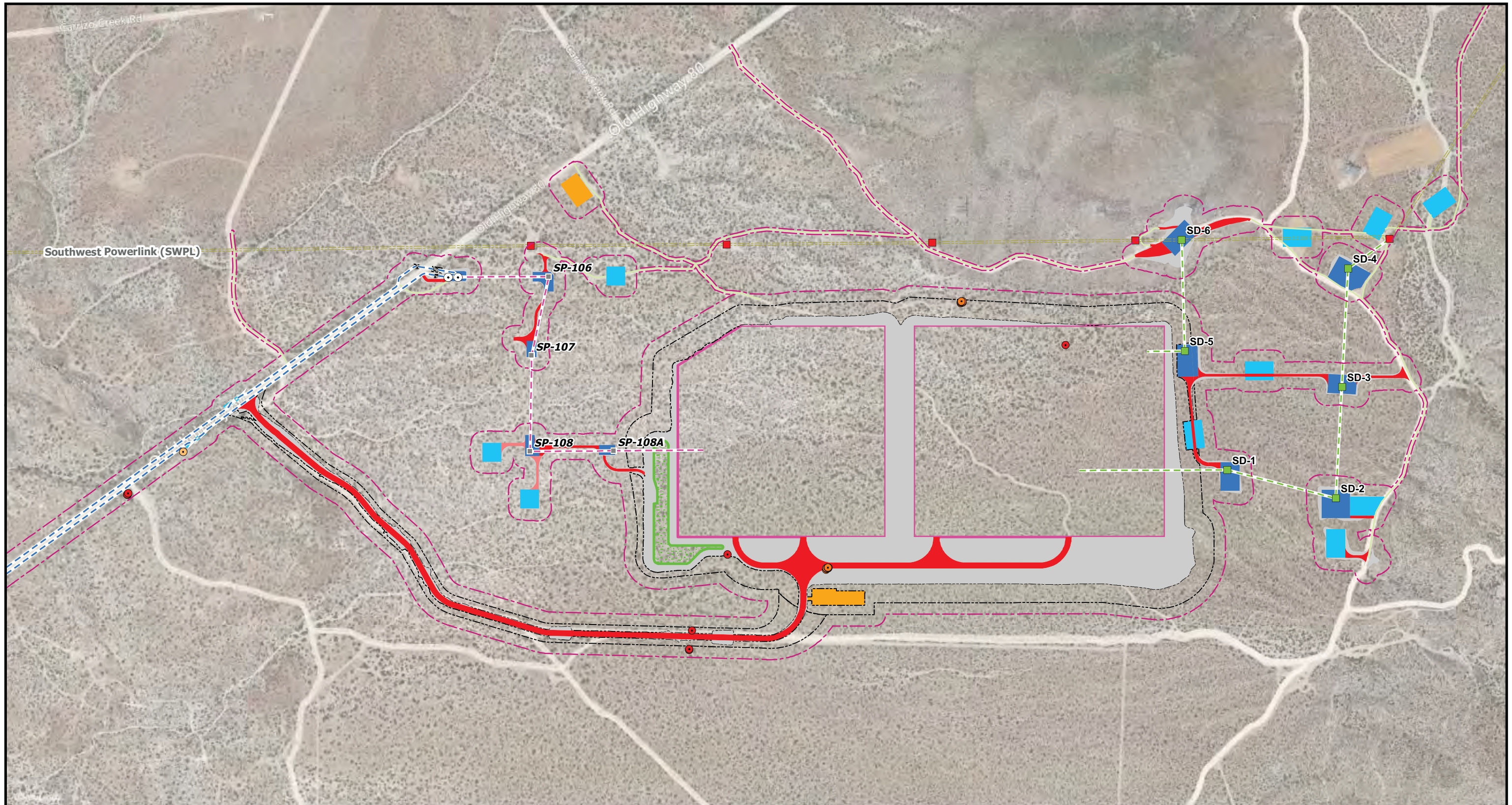
BLM. 1980. *California Desert Conservation Area Plan*. California Desert District Office, Riverside California.

BLM. 2007. *Eastern San Diego County Proposed Resource Management Plan and Final Environmental Impact Statement*. El Centro Field Office, El Centro, California.

⁸ Monitoring of restoration of CDFG-jurisdictional drainages will be conducted for up to 10 years. If the restoration success criteria have been met before year 10, monitoring and reporting will cease at that time.

- BLM. 2002. *Northern and Eastern Mojave Desert Management Plan*. California Desert District Office, Moreno Valley, California.
- BLM. 2005. *Western Mojave Desert Management Plan*. California Desert District Office, Moreno Valley, California.
- CDFG. Agreement Regarding Proposed Stream and Lake Alteration, Notification No. 1600-2011-0328-R5, San Diego Gas & Electric Company East County Substation Project. CDFG
- ECO Substation Project. Final Environmental Impact Report/Environmental Impact Statement. 2012. Online.
http://www.cpuc.ca.gov/environment/info/dudek/ECOSUB/ECO_Final_EIR-EIS.htm.
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- SDG&E Best Management Practices Manual for Water Quality Construction. July 2011.

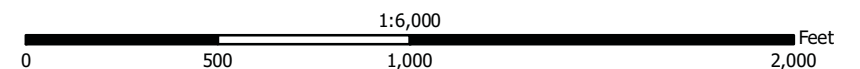
ATTACHMENT A: 2012 RARE PLANT SURVEY SPECIES OCCURRENCE MAPS



Attachment A: 2012 Rare Plant Survey Species Occurrences Map 1 of 11

East County Substation Project

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|-------------------------|-------------------------|----------------------------------|----------------------------------|---------------------------------|------------------------------|-----------------------|
| Survey Boundary | Long-spined spineflower | Populated Areas Collected | Proposed 138 kV Overhead Line | Proposed Steel Pole - 69 kV | Access Road | Pole Work Area |
| Points Collected | Oceanblue larkspur | Desert beauty | Proposed 138 kV Underground Line | Proposed Riser Pole | Boulevard Substation Rebuild | Pull Site/Vault Pad |
| Campo pea | Palmer's grapplehook | Jacumba milk-vetch | Proposed SWPL Loop-In | Proposed SWPL Loop-In Structure | Retention Basin | Staging Area |
| Desert beauty | Stickey geraea | Long-spined spineflower | Existing Transmission Line | Proposed 138 kV Pole | Temporary Construction Area | Stream Crossing |
| Jacumba milk-vetch | Tecate tarplant | Palmer's grapplehook | | Existing SWPL Structure | Concrete Channel | ECO Substation Pad |
| Jacumba monkeyflower | | Stickey geraea | | Milepost | Fly Yard | Temporary Access Road |
| | | Tecate tarplant | | | Grading | Existing Access Road |

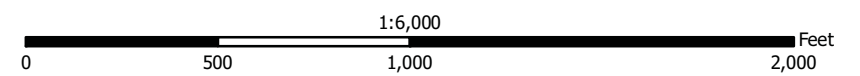




Attachment A: 2012 Rare Plant Survey Species Occurrences Map 2 of 11

East County Substation Project

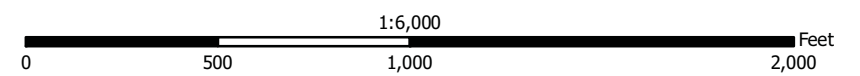
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| Survey Boundary | Long-spined spineflower | Populated Areas Collected | Proposed 138 kV Overhead Line | Proposed Steel Pole - 69 kV | Access Road | Pole Work Area |
| Points Collected | Oceanblue larkspur | Desert beauty | Proposed 138 kV Underground Line | Proposed Riser Pole | Boulevard Substation Rebuild | Pull Site/Vault Pad |
| Campo pea | Palmer's grapplinghook | Jacumba milk-vetch | Proposed SWPL Loop-In | Proposed SWPL Loop-In Structure | Retention Basin | Staging Area |
| Desert beauty | Sticky geraea | Long-spined spineflower | Existing Transmission Line | Proposed 138 kV Pole | Temporary Construction Area | Stream Crossing |
| Jacumba milk-vetch | Tecate tarplant | Palmer's grapplinghook | | Existing SWPL Structure | Concrete Channel | ECO Substation Pad |
| Jacumba monkeyflower | | Sticky geraea | | Milepost | Fly Yard | Temporary Access Road |
| | | Tecate tarplant | | | Grading | Existing Access Road |

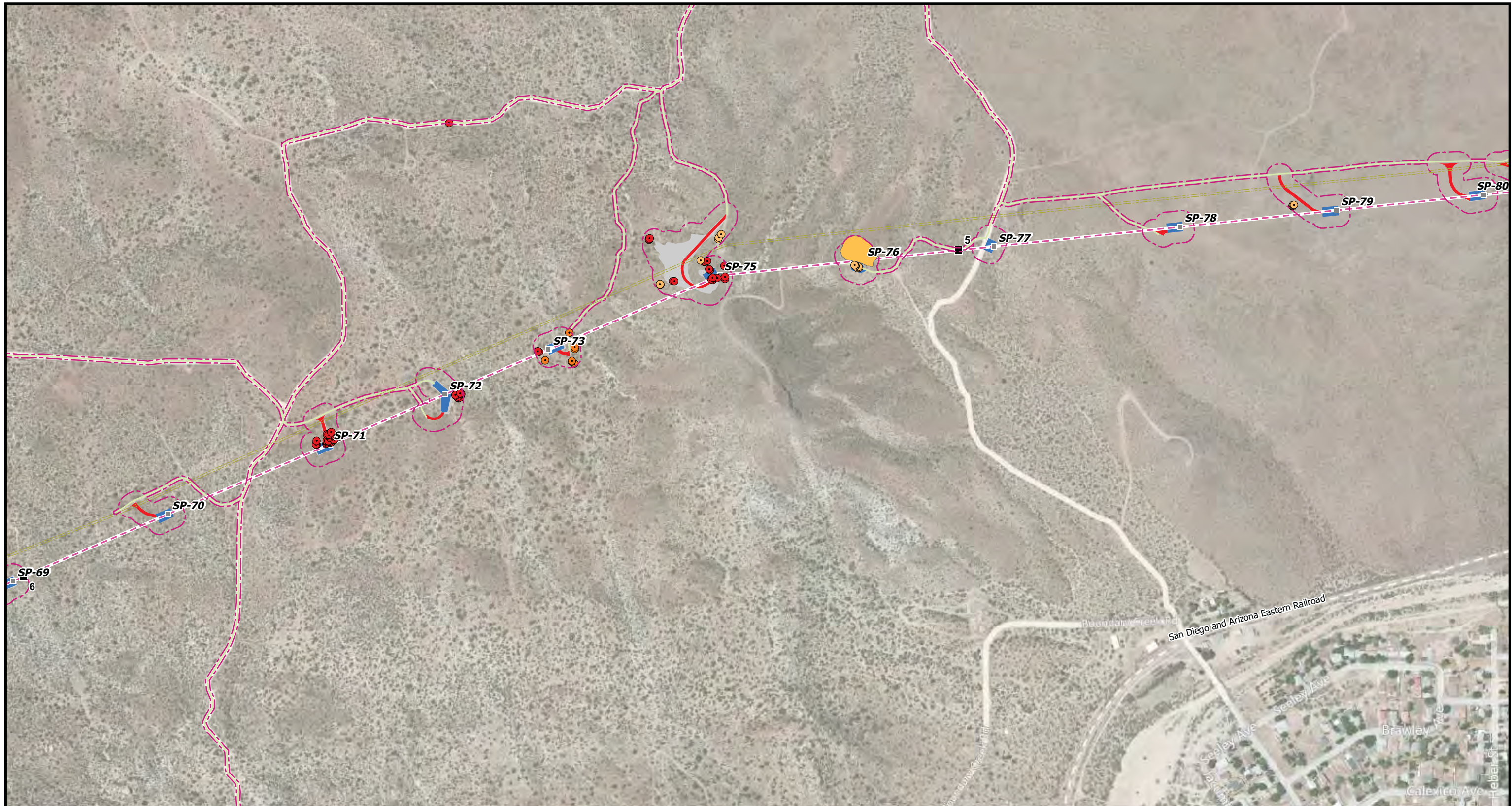




East County Substation Project

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| Survey Boundary | Long-spined spineflower | Populated Areas Collected | Proposed 138 kV Overhead Line | Proposed Steel Pole - 69 kV | Access Road |
| Points Collected | Oceanblue larkspur | Desert beauty | Proposed 138 kV Underground Line | Proposed Riser Pole | Boulevard Substation Rebuild |
| Campo pea | Palmer's grapplinghook | Jacumba milk-vetch | Proposed SWPL Loop-In | Proposed SWPL Loop-In Structure | Retention Basin |
| Desert beauty | Sticky geraea | Long-spined spineflower | Existing Transmission Line | Proposed 138 kV Pole | Temporary Construction Area |
| Jacumba milk-vetch | Tecate tarplant | Palmer's grapplinghook | | Existing SWPL Structure | Concrete Channel |
| Jacumba monkeyflower | | Sticky geraea | | Milepost | Fly Yard |
| | | Tecate tarplant | | | Grading |
| | | | | | Pole Work Area |
| | | | | | Pull Site/Vault Pad |
| | | | | | Staging Area |
| | | | | | Stream Crossing |
| | | | | | ECO Substation Pad |
| | | | | | Temporary Access Road |
| | | | | | Existing Access Road |

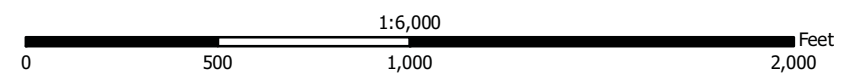
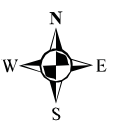


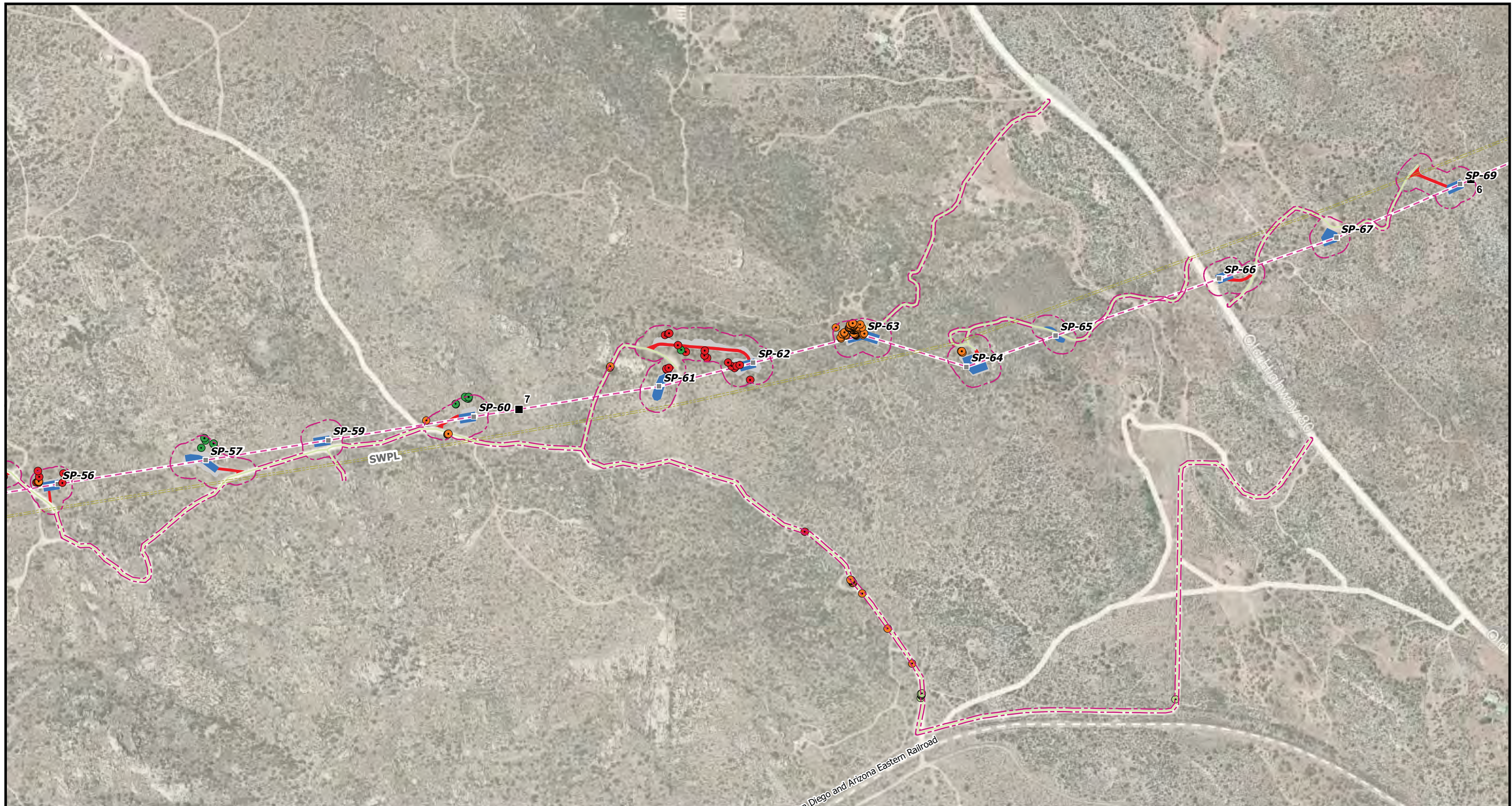


Attachment A: 2012 Rare Plant Survey Species Occurrences Map 4 of 11

East County Substation Project

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|-------------------------|-------------------------|----------------------------------|----------------------------------|---------------------------------|------------------------------|-----------------------|
| Survey Boundary | Long-spined spineflower | Populated Areas Collected | Proposed 138 kV Overhead Line | Proposed Steel Pole - 69 kV | Access Road | Pole Work Area |
| Points Collected | Oceanblue larkspur | Desert beauty | Proposed 138 kV Underground Line | Proposed Riser Pole | Boulevard Substation Rebuild | Pull Site/Vault Pad |
| Campo pea | Palmer's grapplinghook | Jacumba milk-vetch | Proposed SWPL Loop-In | Proposed SWPL Loop-In Structure | Retention Basin | Staging Area |
| Desert beauty | Stickey geraea | Long-spined spineflower | Existing Transmission Line | Proposed 138 kV Pole | Temporary Construction Area | Stream Crossing |
| Jacumba milk-vetch | Tecate tarplant | Palmer's grapplinghook | | Existing SWPL Structure | Concrete Channel | ECO Substation Pad |
| Jacumba monkeyflower | | Stickey geraea | | Milepost | Fly Yard | Temporary Access Road |
| | | Tecate tarplant | | | Grading | Existing Access Road |

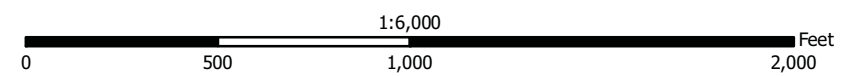
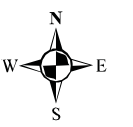


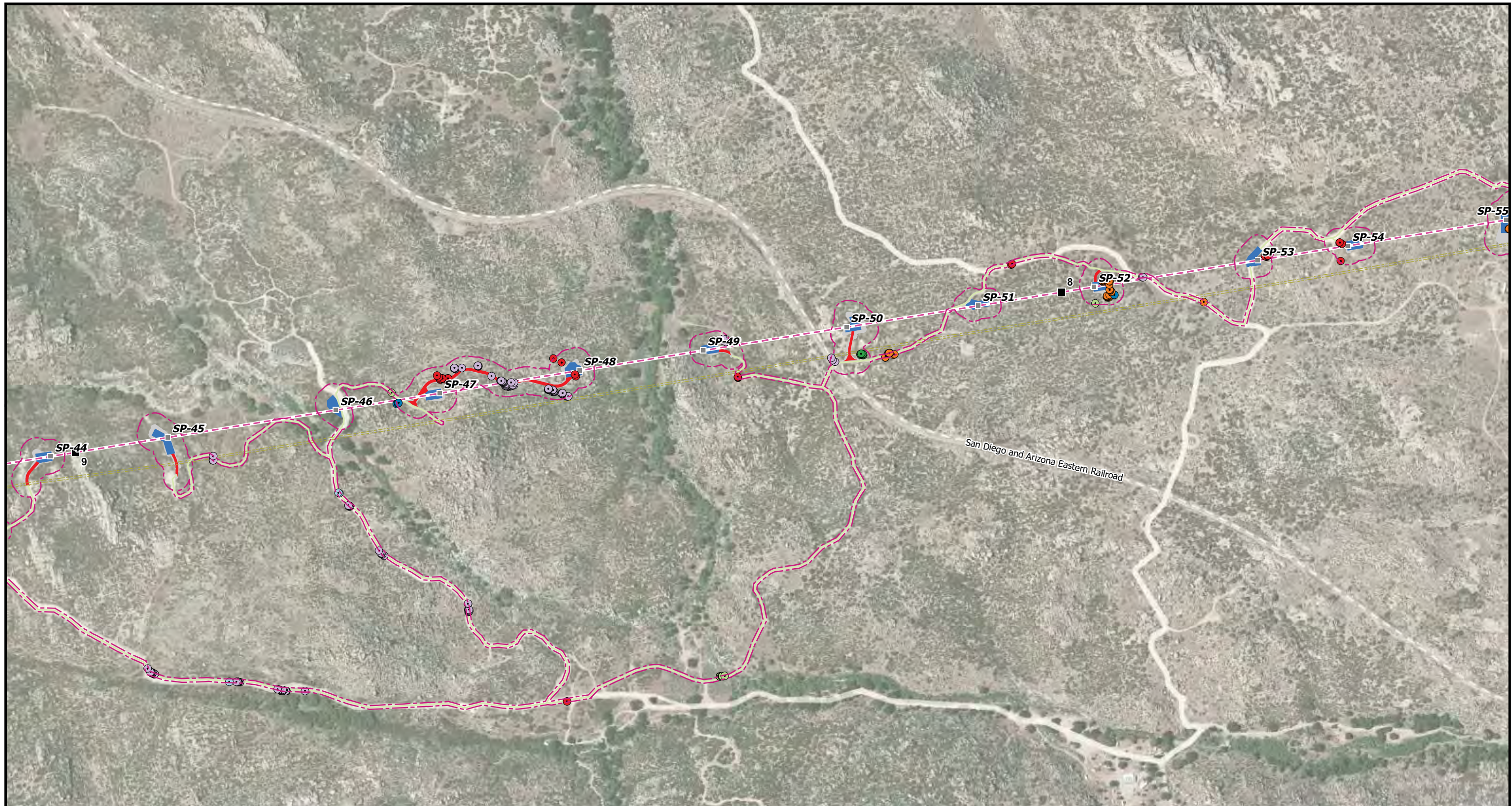


Attachment A: 2012 Rare Plant Survey Species Occurrences Map 5 of 11

East County Substation Project

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| Survey Boundary | Long-spined spineflower | Populated Areas Collected | Proposed 138 kV Overhead Line | Proposed Steel Pole - 69 kV | Access Road |
| Points Collected | Oceanblue larkspur | Desert beauty | Proposed 138 kV Underground Line | Proposed Riser Pole | Boulevard Substation Rebuild |
| Campo pea | Palmer's grapplinghook | Jacumba milk-vetch | Proposed SWPL Loop-In | Proposed SWPL Loop-In Structure | Pull Site/Vault Pad |
| Desert beauty | Sticky geraea | Long-spined spineflower | Existing Transmission Line | Proposed 138 kV Pole | Staging Area |
| Jacumba milk-vetch | Tecate tarplant | Palmer's grapplinghook | | Existing SWPL Structure | Stream Crossing |
| Jacumba monkeyflower | | Sticky geraea | | Milepost | ECO Substation Pad |
| | | Tecate tarplant | | Retention Basin | Temporary Access Road |
| | | | | Temporary Construction Area | Fly Yard |
| | | | | Concrete Channel | Grading |
| | | | | Fly Yard | Existing Access Road |

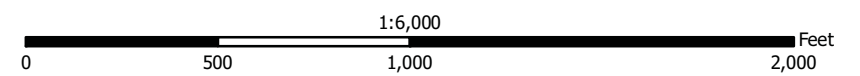


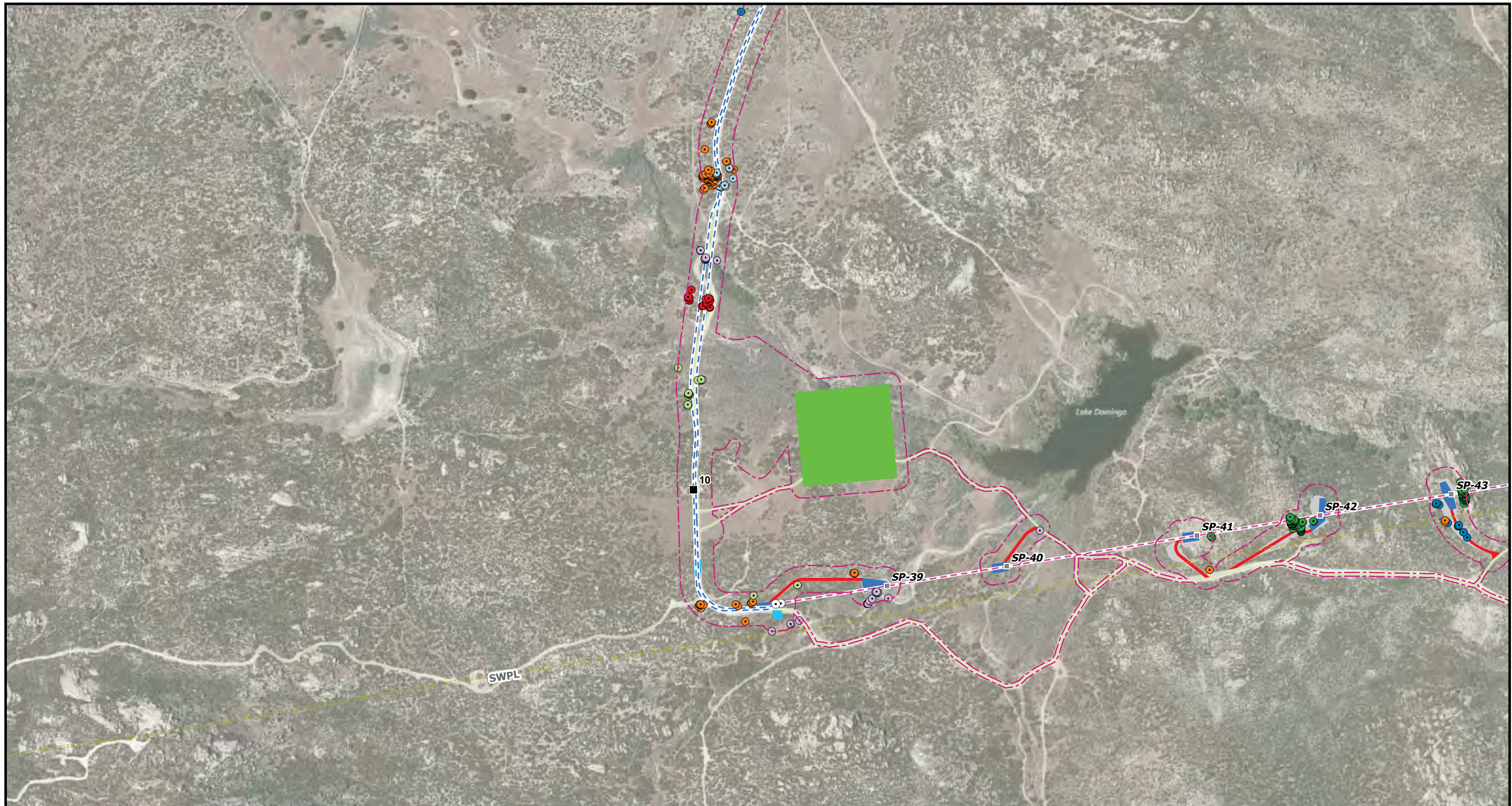


Attachment A: 2012 Rare Plant Survey Species Occurrences Map 6 of 11

East County Substation Project

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| Survey Boundary | Long-spined spineflower | Campo pea | Oceanblue larkspur | Jacumba milk-vetch | Proposed 138 kV Overhead Line | Proposed Steel Pole - 69 kV | Access Road | Pole Work Area |
| Points Collected | Palmer's grapplinghook | Desert beauty | Stickey geraea | Jacumba milk-vetch | Proposed 138 kV Underground Line | Proposed Riser Pole | Boulevard Substation Rebuild | Pull Site/Vault Pad |
| Desert beauty | Tecate tarplant | Jacumba milk-vetch | Tecate tarplant | Jacumba monkeyflower | Proposed SWPL Loop-In | Proposed SWPL Loop-In Structure | Retention Basin | Staging Area |
| Jacumba milk-vetch | Tecate tarplant | Jacumba monkeyflower | Tecate tarplant | | Existing Transmission Line | Proposed 138 kV Pole | Temporary Construction Area | Stream Crossing |
| Jacumba monkeyflower | Tecate tarplant | | Tecate tarplant | | | Existing SWPL Structure | Concrete Channel | ECO Substation Pad |
| | Tecate tarplant | | Tecate tarplant | | | Milepost | Fly Yard | Temporary Access Road |
| | Tecate tarplant | | Tecate tarplant | | | | Grading | Existing Access Road |

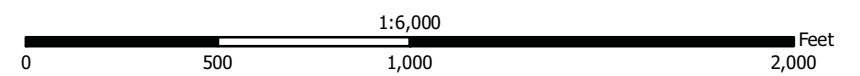


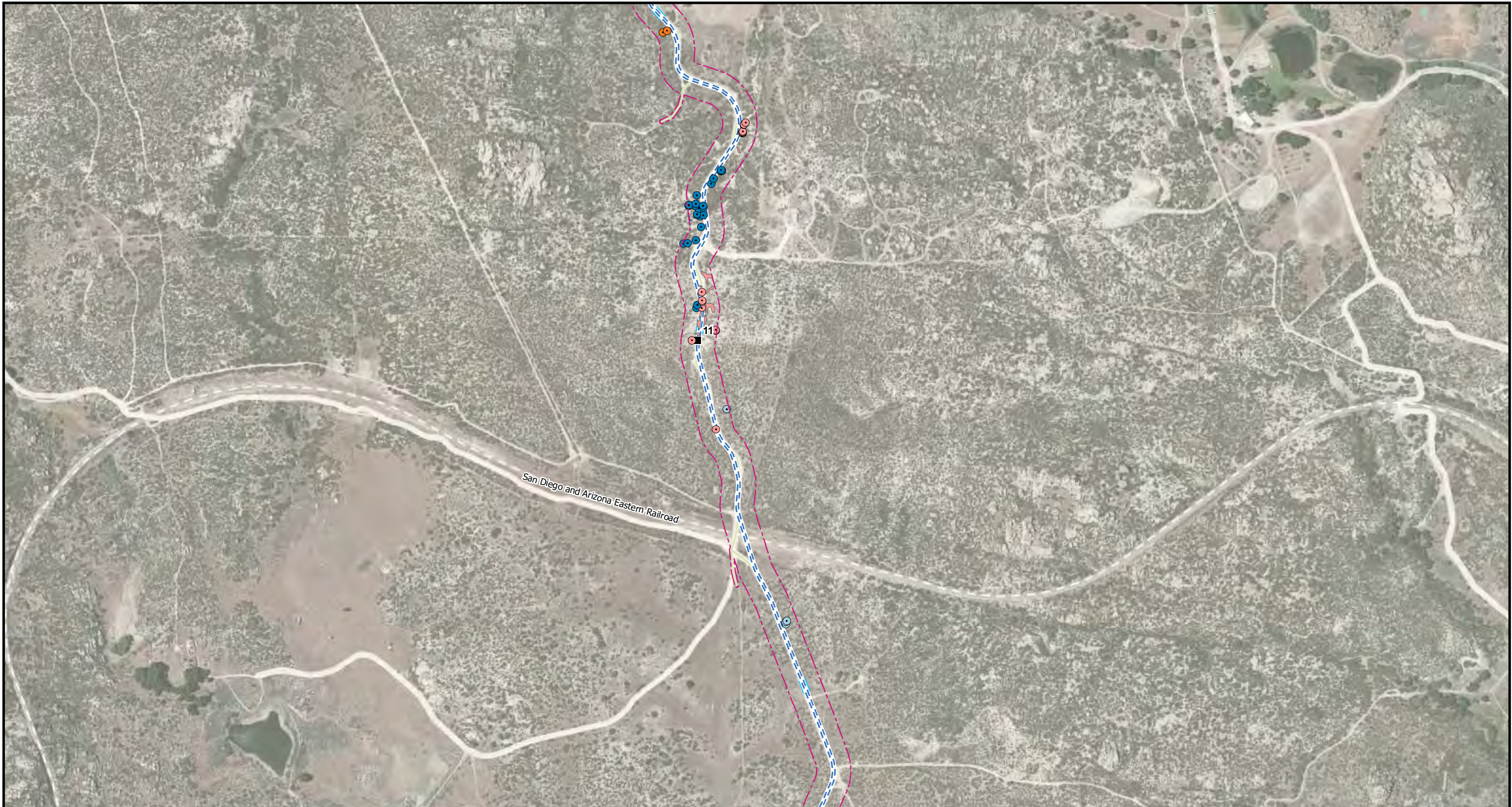


Attachment A: 2012 Rare Plant Survey Species Occurrences Map 7 of 11

East County Substation Project

| | | | | | | |
|-------------------------|-------------------------|----------------------------------|----------------------------------|---------------------------------|------------------------------|-----------------------|
| Survey Boundary | Long-spined spineflower | Populated Areas Collected | Proposed 138 kV Overhead Line | Proposed Steel Pole - 69 kV | Access Road | Pole Work Area |
| Points Collected | Oceanblue larkspur | Desert beauty | Proposed 138 kV Underground Line | Proposed Riser Pole | Boulevard Substation Rebuild | Pull Site/Vault Pad |
| Campo pea | Palmer's grapplinghook | Jacumba milk-vetch | Proposed SWPL Loop-In | Proposed SWPL Loop-In Structure | Retention Basin | Staging Area |
| Desert beauty | Sticky geraea | Long-spined spineflower | Existing Transmission Line | Proposed 138 kV Pole | Temporary Construction Area | Stream Crossing |
| Jacumba milk-vetch | Tecate tarplant | Palmer's grapplinghook | | Existing SWPL Structure | Concrete Channel | ECO Substation Pad |
| Jacumba monkeyflower | | Sticky geraea | | Milepost | Fly Yard | Temporary Access Road |
| | | Tecate tarplant | | | Grading | Existing Access Road |

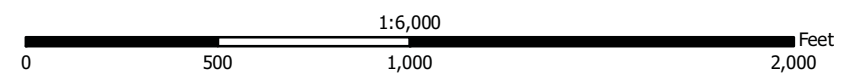
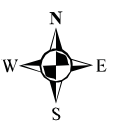


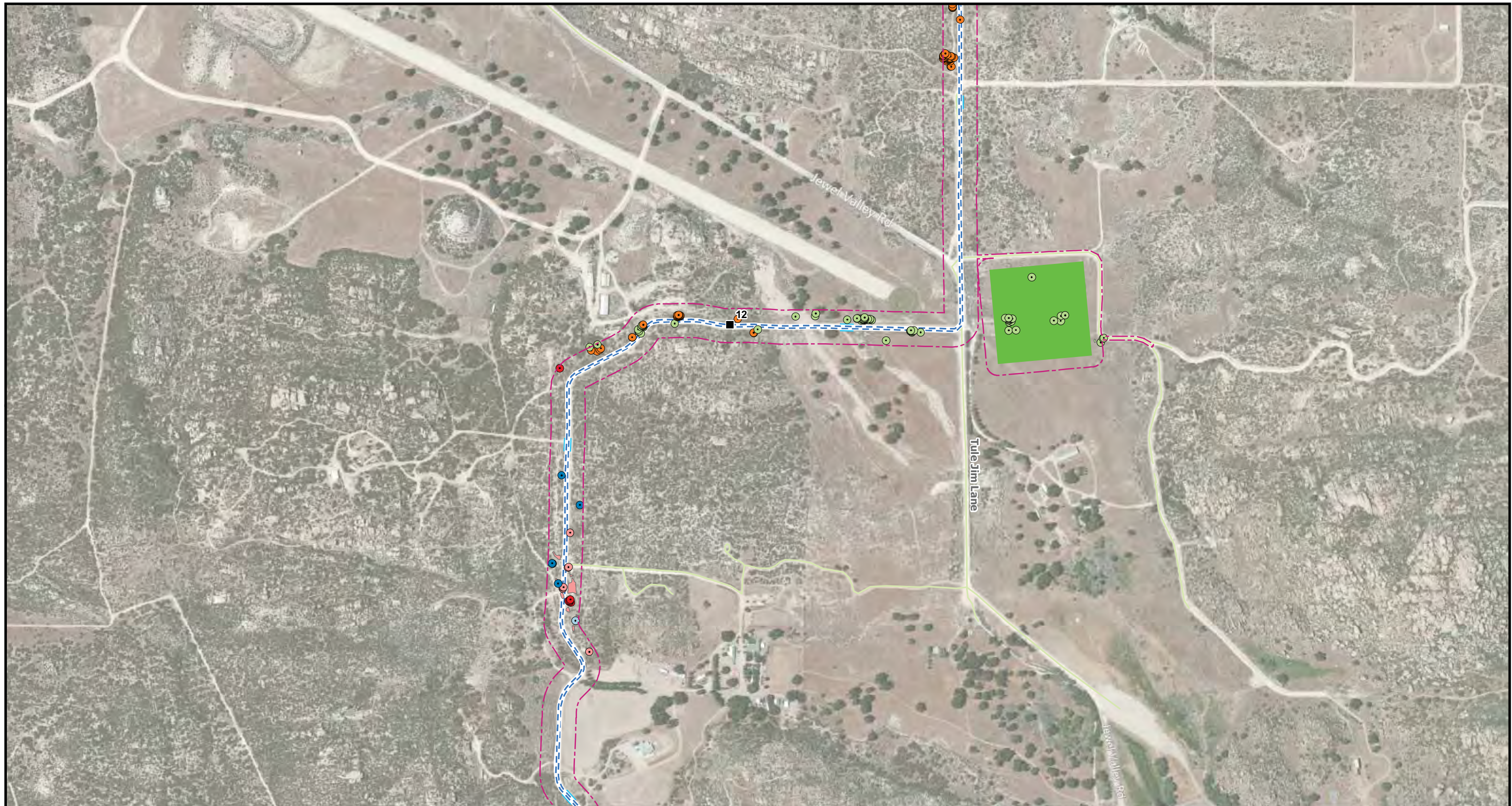


Attachment A: 2012 Rare Plant Survey Species Occurrences Map 8 of 11

East County Substation Project

| | | | | | | |
|-------------------------|-------------------------|----------------------------------|----------------------------------|---------------------------------|------------------------------|-----------------------|
| Survey Boundary | Long-spined spineflower | Populated Areas Collected | Proposed 138 kV Overhead Line | Proposed Steel Pole - 69 kV | Access Road | Pole Work Area |
| Points Collected | Oceanblue larkspur | Desert beauty | Proposed 138 kV Underground Line | Proposed Riser Pole | Boulevard Substation Rebuild | Pull Site/Vault Pad |
| Campo pea | Palmer's grapplinghook | Jacumba milk-vetch | Proposed SWPL Loop-In | Proposed SWPL Loop-In Structure | Retention Basin | Staging Area |
| Desert beauty | Sticky geraea | Long-spined spineflower | Existing Transmission Line | Proposed 138 kV Pole | Temporary Construction Area | Stream Crossing |
| Jacumba milk-vetch | Tecate tarplant | Palmer's grapplinghook | | Existing SWPL Structure | Concrete Channel | ECO Substation Pad |
| Jacumba monkeyflower | | Sticky geraea | | Milepost | Fly Yard | Temporary Access Road |
| | | Tecate tarplant | | | Grading | Existing Access Road |

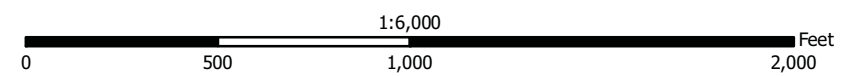
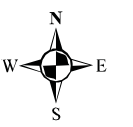


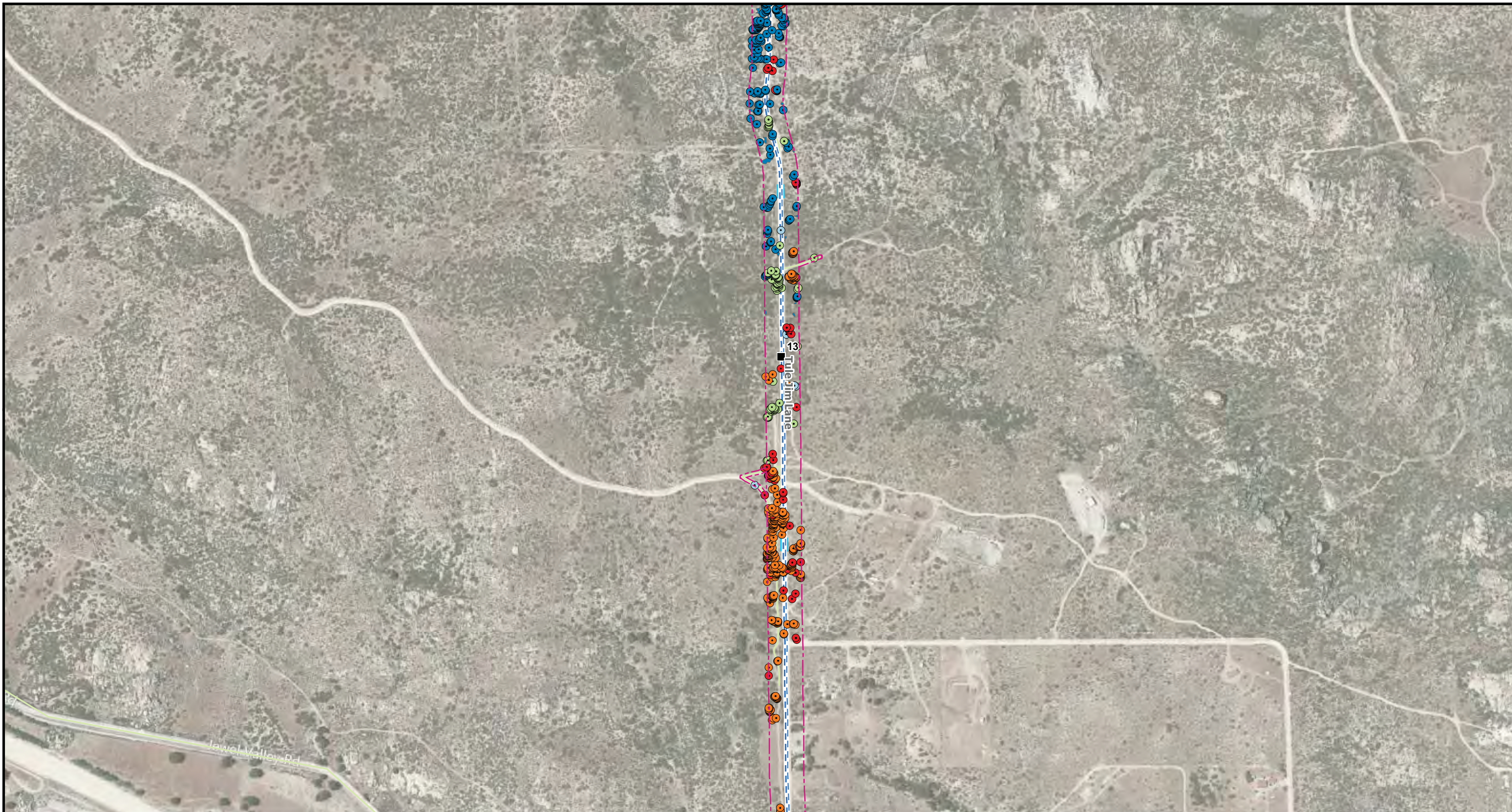


Attachment A: 2012 Rare Plant Survey Species Occurrences Map 9 of 11

East County Substation Project

| | | | | | | |
|-------------------------|-------------------------|----------------------------------|----------------------------------|---------------------------------|------------------------------|-----------------------|
| Survey Boundary | Long-spined spineflower | Populated Areas Collected | Proposed 138 kV Overhead Line | Proposed Steel Pole - 69 kV | Access Road | Pole Work Area |
| Points Collected | Oceanblue larkspur | Desert beauty | Proposed 138 kV Underground Line | Proposed Riser Pole | Boulevard Substation Rebuild | Pull Site/Vault Pad |
| Campo pea | Palmer's grapplinghook | Jacumba milk-vetch | Proposed SWPL Loop-In | Proposed SWPL Loop-In Structure | Retention Basin | Staging Area |
| Desert beauty | Sticky geraea | Long-spined spineflower | Existing Transmission Line | Proposed 138 kV Pole | Temporary Construction Area | Stream Crossing |
| Jacumba milk-vetch | Tecate tarplant | Palmer's grapplinghook | | Existing SWPL Structure | Concrete Channel | ECO Substation Pad |
| Jacumba monkeyflower | | Sticky geraea | | Milepost | Fly Yard | Temporary Access Road |
| | | Tecate tarplant | | | Grading | Existing Access Road |

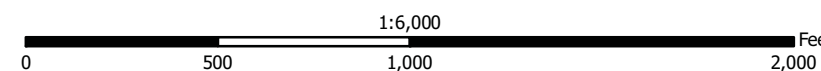


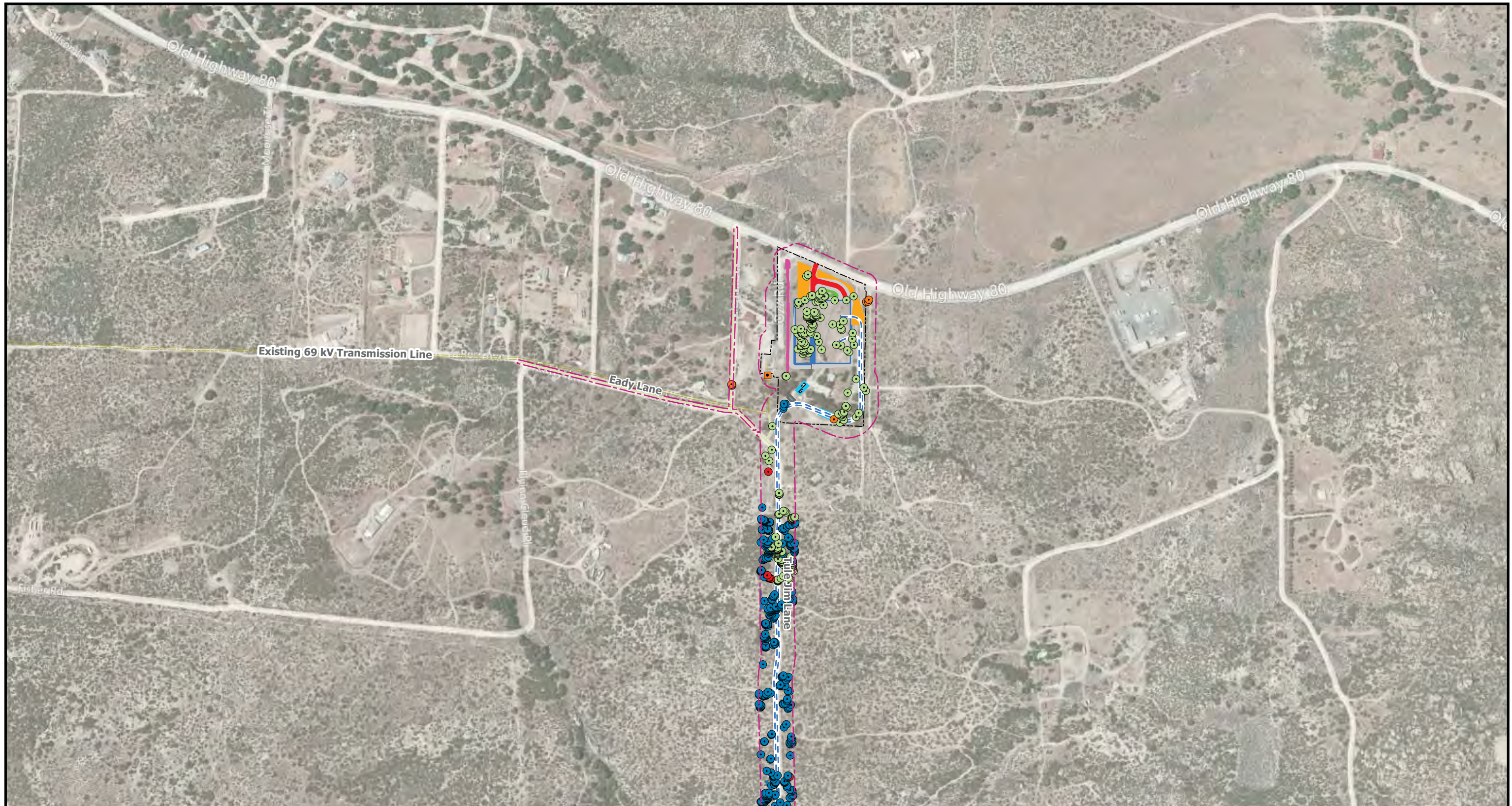


Attachment A: 2012 Rare Plant Survey Species Occurrences Map 10 of 11

East County Substation Project

| | | | | | | |
|-------------------------|-------------------------|----------------------------------|----------------------------------|---------------------------------|------------------------------|-----------------------|
| Survey Boundary | Long-spined spineflower | Populated Areas Collected | Proposed 138 kV Overhead Line | Proposed Steel Pole - 69 kV | Access Road | Pole Work Area |
| Points Collected | Oceanblue larkspur | Desert beauty | Proposed 138 kV Underground Line | Proposed Riser Pole | Boulevard Substation Rebuild | Pull Site/Vault Pad |
| Campo pea | Palmer's grapplinghook | Jacumba milk-vetch | Proposed SWPL Loop-In | Proposed SWPL Loop-In Structure | Retention Basin | Staging Area |
| Desert beauty | Sticky geraea | Long-spined spineflower | Existing Transmission Line | Proposed 138 kV Pole | Temporary Construction Area | Stream Crossing |
| Jacumba milk-vetch | Tecate tarplant | Palmer's grapplinghook | | Existing SWPL Structure | Concrete Channel | ECO Substation Pad |
| Jacumba monkeyflower | | Sticky geraea | | Milepost | Fly Yard | Temporary Access Road |
| | | Tecate tarplant | | | Grading | Existing Access Road |

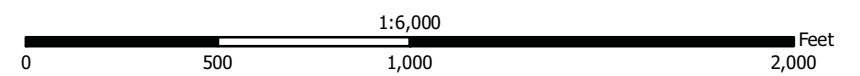




Attachment A: 2012 Rare Plant Survey Species Occurrences Map 11 of 11

East County Substation Project

| | | | |
|---|--|---|---|
| <ul style="list-style-type: none"> Survey Boundary Points Collected ● Campo pea ● Desert beauty ● Jacumba milk-vetch ● Jacumba monkeyflower ● Long-spined spineflower ● Oceanblue larkspur ● Palmer's grapplehook ● Stickey geraea ● Tecate tarplant | <ul style="list-style-type: none"> Populated Areas Collected ✕ Desert beauty ✕ Jacumba milk-vetch ✕ Long-spined spineflower ✕ Palmer's grapplehook ✕ Sticky geraea ✕ Tecate tarplant | <ul style="list-style-type: none"> Proposed 138 kV Overhead Line Proposed 138 kV Underground Line Proposed SWPL Loop-In Existing Transmission Line Proposed Steel Pole - 69 kV Proposed Riser Pole Proposed SWPL Loop-In Structure Proposed 138 kV Pole Existing SWPL Structure Milepost | <ul style="list-style-type: none"> Access Road Boulevard Substation Rebuild Retention Basin Temporary Construction Area Concrete Channel Fly Yard Grading Pole Work Area Pull Site/Vault Pad Staging Area Stream Crossing ECO Substation Pad Temporary Access Road Existing Access Road |
|---|--|---|---|



ATTACHMENT B: SEED MIXES

Chaparral Seed Mix

| Species | Collection Site | Pure Live Seed per Acre (In Pounds) |
|--|--------------------------|--|
| <i>Adenostoma fasciculatum</i> | Project area | 2.00 |
| <i>Artemisia tridentata</i> | Project area | 0.20 |
| <i>Ceanothus greggii</i> | Project area | 0.10 |
| <i>Cercocarpus betuloides</i> | Project area | 3.00 |
| <i>Ephedra californica</i> | Project area | 0.50 |
| <i>Eriodictyon trichocalyx</i> | Project area | 1.00 |
| <i>Eriophyllum confertiflorum</i> | Baja, Mexico | 1.00 |
| <i>Eriogonum fasciculatum polifolium</i> | Project area | 1.00 |
| <i>Penstemon centranthifolia</i> | Project area | 0.50 |
| <i>Rhus ovata</i> | Aguanga, CA | 2.00 |
| <i>Salvia apiana</i> | Pending local collection | 2.00 |
| <i>Ambrosia psilostachya</i> | Pending local collection | 0.50 |
| <i>Lasthenia gracilis</i> | Pending local collection | 0.50 |
| <i>Lupinus bicolor</i> | Commercially grown | 2.00 |
| <i>Vulpia microstachys</i> | Commercially grown | 6.00 |
| Total | | 22.30 |

Mixed Desert Scrub/Juniper Woodland Seed Mix

| Species | Collection Site | Pure Live Seed per Acre (In Pounds) |
|--|--------------------------|--|
| <i>Atriplex canescens</i> | Project area | 5.00 |
| <i>Encelia farinosa</i> | Pending local collection | 2.00 |
| <i>Ephedra californica</i> | Project area | 0.50 |
| <i>Hymenoclea salsola</i> | Indio, CA | 3.00 |
| <i>Juniperus californica</i> | Project area | 5.00 |
| <i>Larrea tridentata</i> | Project area | 2.00 |
| <i>Simmondsia chinensis</i> | Project area | 1.00 |
| <i>Vulpia microstachys</i> | Commercially grown | 3.00 |
| <i>Lasthenia gracilis</i> | Pending local collection | 0.50 |
| <i>Lupinus bicolor</i> | Commercially grown | 2.00 |
| <i>Eriophyllum confertiflorum</i> | Baja, Mexico | 1.00 |
| <i>Layia platyglossa</i> | Pending local collection | 0.50 |
| <i>Eriogonum fasciculatum polifolium</i> | Project area | 4.00 |
| <i>Phacelia distans</i> | Pending local collection | 0.50 |
| <i>Eriogonum fasciculatum foliosum</i> | Project area | 0.50 |
| <i>Adenostoma fasciculatum</i> | Project area | 0.20 |
| <i>Lotus scoparius brevialatus</i> | Project area | 0.50 |
| Total | | 31.20 |

Erosion Control Seed Mix

| Species | Collection Site | Pure Live Seed per Acre (In Pounds) |
|-----------------------------|------------------------|--|
| <i>Melica frutescens</i> | Project area | 2.00 |
| <i>Trifolium wildenovii</i> | Project area | 4.00 |
| <i>Lupinus bicolor</i> | Commercially grown | 2.00 |
| <i>Vulpia microstachys</i> | Commercially grown | 12.00 |
| Total | | 20.00 |

ATTACHMENT F: MITIGATION PARCELS REPRESENTATIVE PHOTOGRAPHS

**ATTACHMENT F: MITIGATION PARCELS REPRESENTATIVE
PHOTOGRAPHS**



Photograph 1: Recht property – typical large ephemeral drainage



Photograph 2: Recht property – overview of typical drainage



Photograph 3: Recht property – overview of a typical small drainage



Photograph 4: Recht property – typical rock outcrop



Photograph 5: Recht property – typical chaparral



Photograph 6: Recht property – typical mixed desert scrub



Photograph 7: Recht property – typical juniper woodland



Photograph 8: Recht property – typical large ephemeral drainage



Photograph 9: Recht property – old vehicles within drainage



Photograph 10: Recht property – Jacumba monkeyflower



Photograph 11: Recht property – Jacumba milk-vetch



Photograph 12: Recht property – desert beauty



Photograph 13: Recht property – oceanblue larkspur



Photograph 14: Recht property – Overview of property with juniper woodland and rock outcrops, facing west



Photograph 15: Recht property – QCB host plants



Photograph 16: Recht property – QCB observed within northern portion of property



Photograph 17: Recht property – QCB nectar sources



Photograph 18: Recht property – QCB nectar sources



Photograph 19: Seifker property – overview of property, facing west



Photograph 20: Seifker property – overview of property, facing southwest



Photograph 21: Seifker property – typical small drainage



Photograph 22: Seifker property – typical large drainage