

TABLE OF CONTENTS

4.2 AGRICULTURE AND FORESTRY RESOURCES..... 4.2-1

- 4.2.1 Environmental Setting 4.2-1
- 4.2.2 Regulatory Setting 4.2-12
- 4.2.3 Significance Criteria 4.2-16
- 4.2.4 Impact Analysis 4.2-17
- 4.2.5 Applicant-Proposed Measures 4.2-19
- 4.2.6 Mid-Line Series Capacitor Site Alternatives 4.2-19
- 4.2.7 References..... 4.2-21

LIST OF FIGURES

Figure 4.2-1: Agricultural and Forestry Lands in the Project Vicinity..... 4.2-5

LIST OF TABLES

Table 4.2-1: Summary of Important Farmland in San Bernardino County 4.2-3

This page intentionally left blank.

4.2 Agriculture and Forestry Resources

This section describes the agriculture and forestry resources in the area of the proposed Eldorado-Lugo-Mohave Series Capacitor Project (Proposed Project¹). Alternatives to the Proposed Project are also discussed.

Research for this analysis involved a review of the following resources:

- California Department of Conservation's (DOC's) Farmland Mapping and Monitoring Program (FMMP) Important Farmland maps
- United States (U.S.) Department of Agriculture's National Resources Conservation Service (NRCS) publications
- California Department of Forestry and Fire Protection's (CAL FIRE's) Fire and Resources Assessment Program maps and publications
- Local agency planning documents
- Aerial photographs

4.2.1 Environmental Setting

The Proposed Project is located in California and Nevada, within the Mojave Basin and Range (Mojave). Federal lands constitute a majority of the land area in the Mojave, including lands under the jurisdiction of the Bureau of Land Management (BLM), National Park Service (NPS), Bureau of Reclamation (BOR), and Department of Defense (DoD). The Proposed Project would modify three existing transmission lines that extend northeast from Lugo Substation (located in San Bernardino County, California) to Eldorado Substation (located in the City of Boulder City, Nevada) and Mohave Substations (located in Clark County, Nevada), and from Mohave Substation northwest to Eldorado Substation. Portions of the Proposed Project would also cross the City of Hesperia, California, the unincorporated community of Lucerne Valley in California, as well as the unincorporated communities of Searchlight and Laughlin in Nevada.

4.2.1.1 Agriculture

California

For the purposes of evaluating the Proposed Project under the California Environmental Quality Act (CEQA), agricultural land includes Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance, as defined by the USDA land inventory and monitoring criteria as modified for California. For the purposes of this section, "Important Farmland" includes Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance.

The DOC Division of Land Resource Protection generates maps depicting Important Farmland. These farmlands are categorized according to specific criteria, including soil quality and irrigation conditions. Approximately 94 percent of the FMMP study area is based on the NRCS

¹ The term "Proposed Project" is inclusive of all components of the Eldorado-Lugo-Mohave Series Capacitor Project. Where the discussion in this section focuses on a particular component, that component is called out by its individual work area (e.g., "Ludlow Series Capacitor").

soil classification system, which evaluates both physical and chemical conditions, including soil temperature, moisture regime, acidity level (pH), flooding, groundwater depth, erodibility, permeability, and sodium content. FMMP maps are updated every two years using an aerial imagery review, field reconnaissance, computer mapping analyses, and public input. The minimum land use mapping unit is 10 acres, and smaller units of land are generally incorporated into surrounding map classifications.

The DOC has established the following eight land use classifications:

- **Prime Farmland:** Prime Farmlands have the optimum combination of physical and chemical conditions that are able to sustain long-term agricultural production. The soil quality, growing season, and moisture supply on Prime Farmlands provide conditions to produce sustained high yields. Prime Farmlands must have been used for irrigated production within four years of the mapping date.
- **Farmland of Statewide Importance:** Farmlands of Statewide Importance are similar to Prime Farmlands; however, these farmlands have minor shortcomings, such as a higher slope or decreased ability to store soil moisture. Similar to Prime Farmlands, Farmlands of Statewide Importance must have been used for irrigated production within four years of the mapping date.
- **Unique Farmland:** Unique Farmlands have lower-quality soils and are used for the production of California's leading agricultural products. Unique Farmlands are typically irrigated, but may also include non-irrigated vineyards or orchards found in certain climatic zones. Unique Farmlands must have been cropped within four years of the mapping date.
- **Farmland of Local Importance:** Farmlands of Local Importance are considered vital to the local agricultural economy, as identified by each county's local advisory committee and board of supervisors.
- **Grazing Land:** Grazing Lands are lands on which existing vegetation is suitable for livestock grazing.
- **Urban and Built-Up Land:** These lands are occupied by buildings or other structures at a minimum density of one structure to 1.5 acres (or approximately six structures to 10 acres). Urban and Built-Up Lands are used for development purposes, including residential, commercial, industrial, construction, public administration, institutional, transportation yards, airports, cemeteries, golf courses, sewage treatment, sanitary landfills, and water control structures.
- **Other Land:** Other Lands include those that are not in any other map category, such as waterbodies smaller than 40 acres; low-density rural developments; confined livestock, poultry, or aquaculture facilities; and brush, timber, wetland, and riparian areas not suitable for livestock grazing.
- **Water:** Water includes all perennial waterbodies that measure at least 40 acres.

The DOC's FMMP has not designated any farmland within 3 miles of the Proposed Project. Within the vicinity of the existing transmission lines, there is land zoned for agricultural use, but no land designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance.

San Bernardino County

The annual San Bernardino County Crop Report estimated that agricultural commodities were valued at approximately \$527,087,000 for 2014. San Bernardino County's primary agricultural products include milk, eggs, cattle and calves (meat), alfalfa (all types), and oriental vegetables. Much of the agricultural land in San Bernardino County is pastureland or cropland. According to the 2012 Census of Agriculture, San Bernardino County has approximately 77,199 acres of agricultural land.

According to Important Farmland data in the DOC FMMP, San Bernardino County had approximately 22,761 acres of Important Farmland in 2013. Table 4.2-1: Summary of Important Farmland in San Bernardino County provides a summary of existing inventoried Important Farmland in San Bernardino County. As shown, Important Farmland makes up less than one percent of San Bernardino County's inventoried area.

Table 4.2-1: Summary of Important Farmland in San Bernardino County

Important Farmland	Approximate Inventoried Area (Acres)	Important Farmland within Inventoried Area (Percent)
Prime Farmland	12,848	0.1
Farmland of Statewide Importance	6,242	0.1
Unique Farmland	2,511	<0.1
Farmland of Local Importance	1,160	<0.1
Important Farmland Total	22,761	0.2

Source: DOC (2012)

The existing transmission lines cross approximately 2.5 miles of land zoned for agriculture-related use. Within the Proposed Project area located in San Bernardino County, the Floodway-Agriculture Preserve (FW-AP) zone is intended to protect vital agriculture and related uses and/or agriculture by-products. The Rural Living-10 Acre Minimum-Agriculture Preserve (RL-10-AP) zone is intended to protect vital agriculture and related uses and/or agriculture by-products while allowing residential development at densities of one unit per 10 acres. The Lugo-Mohave 500 kilovolt (kV) Transmission Line and the Eldorado-Lugo 500 kV Transmission Line cross approximately 0.1 mile of land zoned FW-AP and 0.1 mile of land zoned RL-10-AP.

In addition, the Lucerne Valley/Agriculture (LV/AG) zone within San Bernardino County provides sites for commercial agricultural operations, agriculture support services, rural residential uses, and similar and compatible uses. The Lugo-Mohave 500 kV Transmission Line

crosses approximately 1.5 mile of land zoned LV/AG. In addition, the Lugo-Mohave 500 kV Transmission Line also crosses the Lucerne Valley/Agriculture-40 Acre Minimum (LV/AG-40) zone, which allows commercial agricultural operations, agriculture support services, rural residential uses, and similar and compatible uses. The Lugo-Mohave 500 kV Transmission Line crosses approximately 0.7 mile of land zoned LV/AG-40.

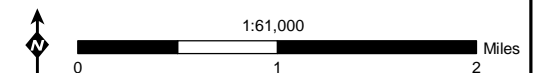
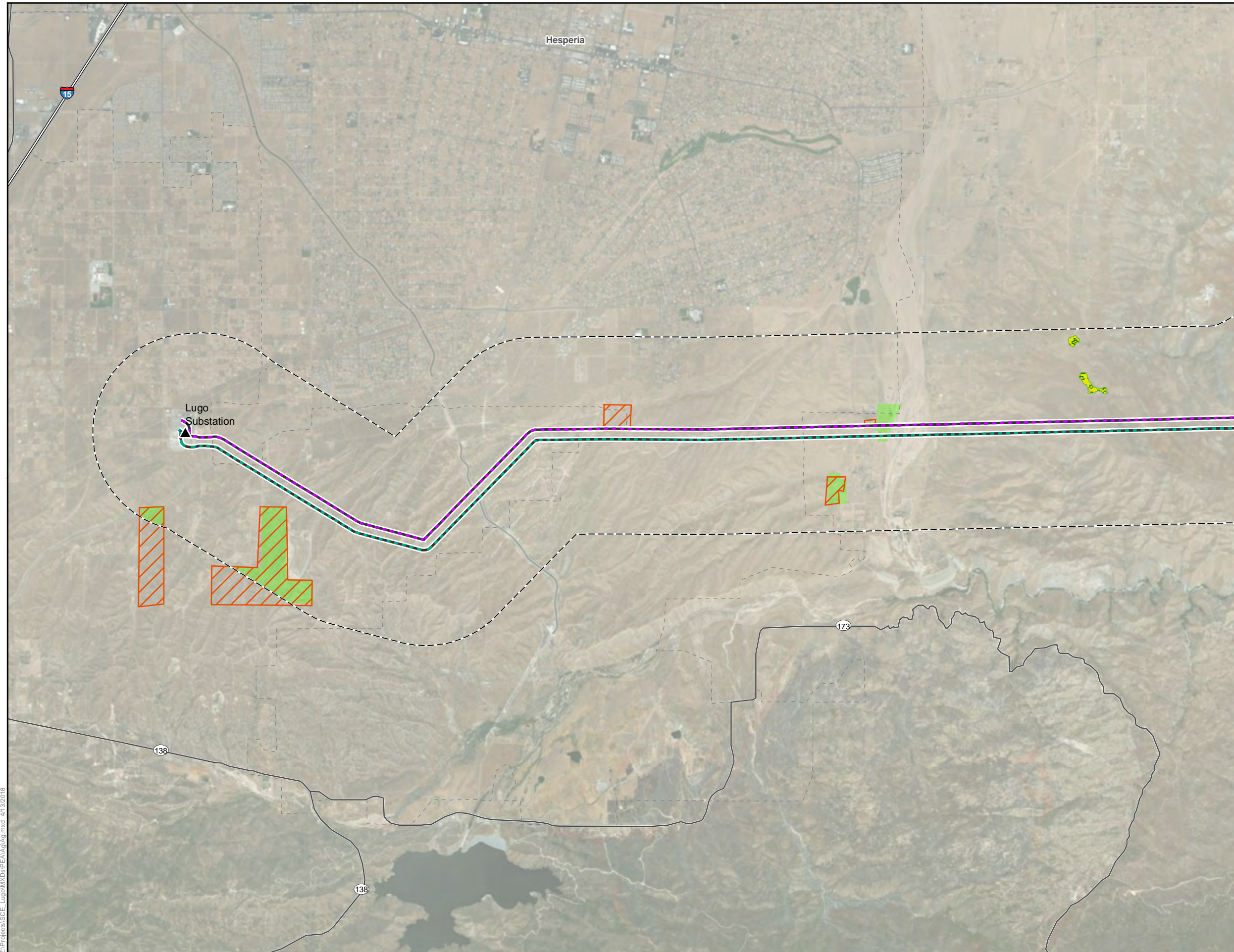
The Lugo-Mohave 500 kV Transmission Line, as shown in Figure 4.2-1: Agricultural and Forestry Lands in the Project Vicinity,² crosses less than 0.1 mile of land under a Williamson Act contract and is within 30 feet of land under Williamson Act contract in unincorporated San Bernardino County. The Williamson Act allows local governments to establish agricultural preserves, which are lands set aside for continued agricultural use under a land conservation contract. The Williamson Act is described in greater detail in Section 4.2.2.2 , State.

² Figure 4.2-1: Agricultural and Forestry Lands in the Project Vicinity does not show Proposed Project areas where resources do not occur.

Figure 4.2-1: Agricultural and Forestry Lands in the Project Vicinity
Map 1 of 3

Eldorado-Lugo-Mohave Series Capacitor Project

- ▲ Existing Substation
- Eldorado - Lugo 500 kV Transmission Line
- Lugo - Mohave 500 kV Transmission Line
- - - 1-Mile Project Buffer
- - - City Boundary
- - - State Boundary
- ▨ Forestry Area
- ▨ Williamson Act Land
- Zoning Designations**
- Rural Residential



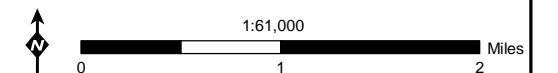
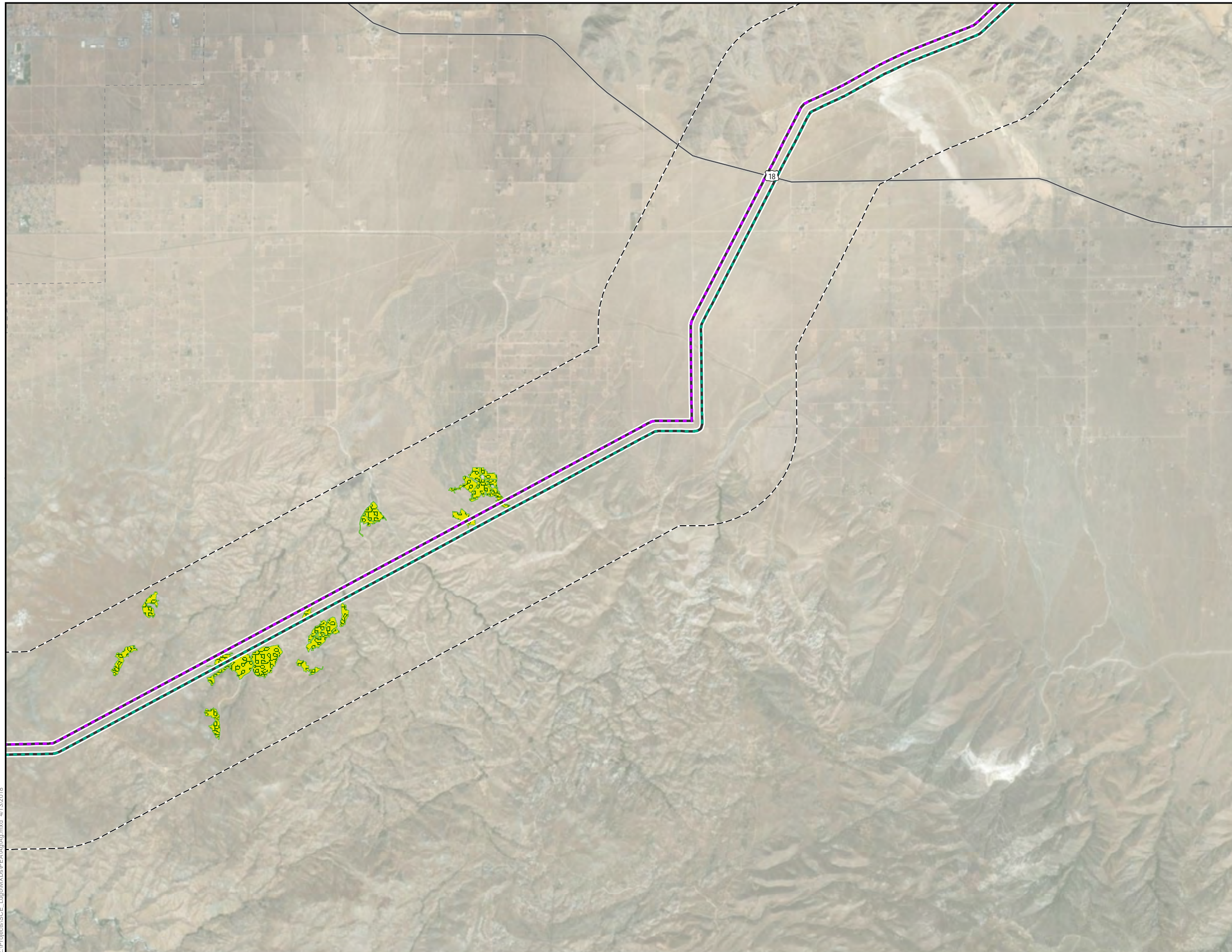
Source: Insignia, 2018; San Bernardino GIS; California Land Conservation Act, 2016; SCE, 2018

This page intentionally left blank.

**Figure 4.2-1: Agricultural and Forestry Lands in the Project Vicinity
Map 2 of 3**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

-  Eldorado - Lugo 500 kV Transmission Line
-  Lugo - Mohave 500 kV Transmission Line
-  1-Mile Project Buffer
-  City Boundary
-  State Boundary
-  Forestry Area
- Zoning Designations**
-  Agriculture



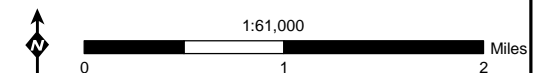
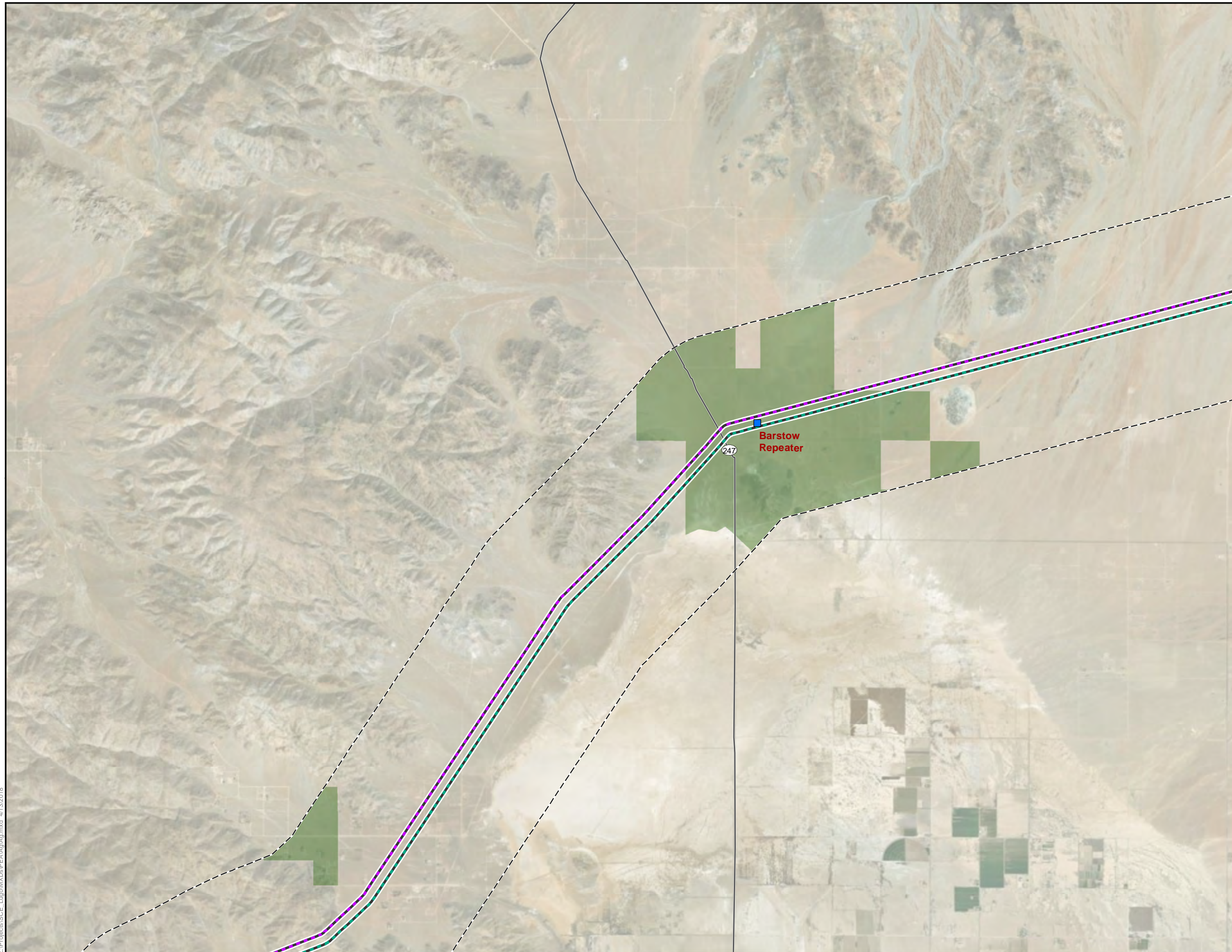
Source: Insignia, 2018; San Bernardino GIS; California Land Conservation Act, 2016; SCE, 2018

This page intentionally left blank.

**Figure 4.2-1: Agricultural and Forestry Lands in the Project Vicinity
Map 3 of 3**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

- Proposed Fiber Optic Repeater Location
- Eldorado - Lugo 500 kV Transmission Line
- Lugo - Mohave 500 kV Transmission Line
- 1-Mile Project Buffer
- State Boundary
- Zoning Designations**
- Agriculture



Source: Insignia, 2018; San Bernardino GIS; California Land Conservation Act, 2016; SCE, 2018

This page intentionally left blank.

City of Hesperia

There is no land designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance within the Proposed Project vicinity. Within the City of Hesperia, there is land zoned for agriculture purposes, but the existing transmission lines do not cross any of the land zoned for agriculture.

The existing transmission lines do not cross any Williamson Act land within the City of Hesperia.

Nevada

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact that federal programs have on the unnecessary and irreversible conversion of farmland to non-agricultural uses. It ensures that federal programs are administered to be compatible with Nevada State, local units of government, and private programs and policies to protect farmland to the extent possible. Federal agencies are required to develop and review their policies and procedures to implement the FPPA every two years.

For the purpose of FPPA, farmland includes Prime Farmland, Unique Farmland, and Farmland of Local Importance and Farmland of Statewide Importance.

The NRCS has established classifications for notable agricultural lands based on criteria for soil characteristics, climate conditions, and water supply. Notable agricultural lands are classified as follows:

- **Prime Farmland:** Prime Farmland has the best combination of physical and chemical properties for the production of crops.
- **Unique Farmland:** Unique Farmland has soils of lesser quality, but was recently used for the production of specific, high-economic-value crops.
- **Farmland of Local Importance:** Farmland of Local Importance is identified by the local agency or agencies crossed. Additional farmland of local importance may include tracts of land that have been designated for agriculture by local ordinance.
- **Farmland of Statewide Importance:** Farmland of Statewide Importance is similar to Prime Farmland, but with minor shortcomings (e.g., steeper slopes or the inability to hold water).

Clark County

The annual Clark County Report estimated that agriculture commodities were valued at approximately \$304,940,000 for 2013. Clark County's primary agricultural products include cattle and calves, dairy and milk products, sheep and lambs, feed crops (e.g., hay and alfalfa), wheat, onions, and garlic. Much of the agricultural land in Clark County is pastureland. According to the 2012 Census of Agriculture, Clark County has approximately 15,620 acres of agricultural land. Within Clark County, there is land zoned for agricultural purposes, but the existing transmission lines do not cross any of the land zoned for agriculture. In addition, there is

no land designated as Prime Farmland, Unique Farmland, Farmland of Local Importance, or Farmland of Statewide Importance within the Proposed Project vicinity.

City of Boulder City

The City of Boulder City does not contain any lands designated or zoned for agricultural uses. In addition, there is no land designated as Prime Farmland, Unique Farmland, Farmland of Local Importance, or Farmland of Statewide Importance within the Proposed Project vicinity.

4.2.1.2 Forestry

California

Forest land is defined by Section 12220(g) of the California Public Resources Code (PRC) as “land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.” PRC Section 4526 defines timberland as “land, other than land owned by the federal government and land designated by the State Board of Forestry as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees.” The Lugo-Mohave 500 kV Transmission Line crosses approximately 0.4 mile of area mapped as Joshua tree woodland, as shown in Figure 4.2-1: Agricultural and Forestry Lands in the Project Vicinity.

“Timberland production zone” (TPZ) is defined in PRC Section 51104(g) as an area that has been zoned pursuant to California Government Code (CGC) Section 51112 or 51113 and is devoted to and used for growing and harvesting timber and compatible uses. In this context, “compatible uses” include any use that “does not significantly detract from the use of the property for, or inhibit, growing and harvesting timber” (CGC §51104[h]). The Proposed Project does not cross any TPZ land.

Nevada

Section 527.130 of the Nevada Revised Statutes (NRS) defines forest or forest land as “land on which occurs a stand or potential stand of trees valuable for timber products, watershed or wildlife protection, recreational uses or for other purposes.” There are no TPZs within or adjacent to the Proposed Project area.

4.2.2 Regulatory Setting

Federal, State, and local regulations were reviewed for applicability to the Proposed Project. The following subsections describe regulations regarding agriculture and forestry that are relevant to the Proposed Project.

4.2.2.1 Federal

There are no federal regulations related to agriculture and forestry that are relevant to the Proposed Project. However, federal authorizations would be required because a majority of the land within the Proposed Project area is under the jurisdiction of the BLM, NPS, BOR, and DoD.

4.2.2.2 State

California

California Public Utilities Commission General Order 131-D

Pursuant to California Public Utilities Commission (CPUC) General Order (G.O.) 131-D, the CPUC has sole and exclusive jurisdiction over the siting and design of electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities in the State of California. Under CEQA, the CPUC is the Lead Agency with respect to such Proposed Project elements within the State of California. SCE is required to comply with G.O. 131-D and is seeking a Permit to Construct from the CPUC for the Proposed Project.

Williamson Act

The Williamson Act, also known as the California Land Conservation Act of 1965 (CGC §51200 et seq.), preserves agricultural and open space lands from conversion to urban land uses by establishing a contract between local governments and private landowners to voluntarily restrict their landholdings to agricultural or open space use. In return, landowners receive property tax assessments based on farming or open space use, rather than assessments based on the full market property value, which is typically 20 percent to 75 percent higher. Williamson Act contracts are valid for a minimum of 10 years and, in the absence of a notice of non-renewal, they are automatically renewed each year for an additional 10-year term.

The Williamson Act also allows local governments to establish agricultural preserves, which are parcels of land set aside for agricultural uses. They must include a minimum of 100 acres, and they typically avoid areas where public utility improvements and associated land acquisitions may be necessary (CGC §51230). Although the Williamson Act does not specify compatible land uses for property located adjacent to contract lands or agricultural preserves, it does state that cities and counties must determine compatible land use types while recognizing that temporary or permanent population increases frequently impair or hamper agricultural operations (CGC §51220.5).

California Government Code Section 51238

CGC Section 51238 includes the provisions related to the Williamson Act that state, “notwithstanding any determination of compatible uses by the county or city pursuant to this article, unless the board or council after notice and hearing makes a finding to the contrary, the erection, construction, alteration, or maintenance of gas, electric, water, communication, or agricultural laborer housing facilities are hereby determined to be compatible uses within any agricultural preserve.”

California Government Code Sections 51100 to 51155

Chapter 6.7 of the CGC (§51100 to 51155) regulates timberlands within the State of California. According to the code, examples of compatible uses are watershed management; grazing; and the erection, construction, alteration, or maintenance of electric transmission facilities.

California Public Resources Code Section 12220(g)

The PRC governs forestry, forests, and forest resources, as well as range and forage lands within the State of California.

Forest Taxation Reform Act

Commercial timberlands are afforded protection through the State's Forest Taxation Reform Act of 1976, which mandates the creation of TPZs to restrict and protect commercial timber resources.

Nevada

Nevada Revised Statutes Section 704.865

NRS Section 704.865 provides that "A person, other than a local government, shall not commence to construct a utility facility in the State without first having obtained a permit therefor from the Commission. The replacement of an existing facility with a like facility, as determined by the Commission, does not constitute construction of a utility facility." The Public Utilities Commission of Nevada is the Lead Agency for compliance with the Nevada Utility Environmental Protection Act.

Nevada Administrative Code Sections 528.010 to 528.110

Chapter 528 of the Nevada Administrative Code (§528.010 to 528.110) governs forest practice and reforestation within the State of Nevada. The code was reviewed for agriculture and forestry resources regulations that are relevant to the Proposed Project. None were identified within this section.

4.2.2.3 Local

The CPUC has sole and exclusive jurisdiction over the siting and design of the Proposed Project components located in the State of California. Pursuant to CPUC G.O. 131-D, Section XIV.B, "Local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the CPUC's jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters." Consequently, public utilities are directed to consider local regulations and consult with local agencies, but the county and cities' regulations are not applicable as the county and cities do not have jurisdiction over the Proposed Project. Accordingly, the following discussion of local regulations is provided for informational purposes only. The Proposed Project is subject to local regulations in the State of Nevada.

California

Southern California Association of Governments

Southern California Association of Governments' Regional Comprehensive Plan

The Southern California Association of Governments' (SCAG's) Regional Comprehensive Plan was reviewed for agriculture and forestry resources policies that are relevant to the Proposed Project. The Open Space and Habitat Chapter includes the following goals for maintaining

adequate viable resource production lands, particularly lands devoted to commercial agriculture and mining operations in the SCAG region:

- Goal 1: Conserve natural lands that are necessary to preserve the ecological function and value of the region's ecosystems
- Goal 2: Conserve wildlife linkages as critical components of the region's open space infrastructure
- Goal 3: Coordinate transportation and open space to reduce transportation impacts to natural lands

County of San Bernardino

County of San Bernardino 2007 General Plan

The Conservation Element of the County of San Bernardino 2007 General Plan contains the following policies that are relevant to the Proposed Project:

- Policy CO 6.1: Protect prime agricultural lands from the adverse effects of urban encroachment, particularly increased erosion and sedimentation, trespass, and non-agricultural land development
- Policy CO 6.4: Provide and maintain a viable and diverse agricultural industry in San Bernardino County

County of San Bernardino Development Code

Section 82.03.040 of the County of San Bernardino Development Code regulates development within the agricultural zoning districts. Transmission lines are permitted with an alternative review procedure (as defined in Section 85.02.050), which includes review and approval by the CPUC.

City of Hesperia

City of Hesperia General Plan 2010

The City of Hesperia's General Plan 2010 does not contain any specific goals or policies that are relevant to the Proposed Project.

Nevada

Clark County

Clark County Comprehensive Plan

The Conservation Element of the Clark County Comprehensive Plan includes one policy related to agriculture resources:

- Policy 1: Promote agricultural/farmland practices that reduce soil runoff and wind erosion

South County Land Use Plan

The South County Land Use Plan does not contain any specific goals or policies that are relevant to the Proposed Project.

Laughlin Land Use Plan

The Laughlin Land Use Plan does not contain any specific goals or policies that are relevant to the Proposed Project.

City of Boulder City

Boulder City Master Plan

The Boulder City Master Plan does not contain any specific goals or policies that are relevant to the Proposed Project.

Boulder City, Nevada City Code

Title 11-43-8 of the Boulder City, Nevada City Code states that all persons, firms, or entities located within Clark County that engage in any activity covered pursuant to the Clark County Multiple Species Habitat Conservation Plan (MSHCP) must comply with the applicable provisions of the incidental take permit (ITP) to be included for coverage under the ITP. Covered activities include, but are not limited to, residential and commercial development, agriculture, mining, grazing and off-highway vehicle activities. However, SCE's ROWs are within the BLM utility corridor, which is not regulated by the MSHCP.

4.2.3 Significance Criteria

The significant criteria for assessing the impacts to agriculture and forestry resources come from the CEQA Environmental Checklist.³ According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use
- Conflict with existing zoning for agricultural use, or a Williamson Act contract
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220[g]), timberland (as defined by PRC Section 4526), or TPZs (as defined by CGC Section 51104[g])
- Result in the loss of forest land or conversion of forest land to non-forest use

³ CEQA is a statute that requires State of California and local agencies in California to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. There is no CEQA equivalent for the State of Nevada. Therefore, in the absence of such regulations, the Proposed Project (including components in Nevada) has been evaluated against the CEQA significance criteria. Where specific Nevada environmental regulations exist, a discussion has been included in the impact analysis for the Proposed Project.

- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use

4.2.4 Impact Analysis

4.2.4.1 Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, to nonagricultural use?

Construction

No Impact. Construction of the Proposed Project would not be located on, nor would it span any land designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. As a result, no impact would occur.

Operation

No Impact. Operation and Maintenance (O&M) activities associated with the Proposed Project would be similar to those currently performed by Southern California Edison Company (SCE) for existing facilities, and generally include repairing conductors, washing or replacing insulators, repairing or replacing other hardware components, repairing or replacing poles and towers, tree trimming, brush and weed control, and access road maintenance, among other things. O&M practices would also include routine inspections and emergency repair within substations and rights-of-way (ROWs), which would require the use of vehicles and equipment. SCE also inspects the transmission and subtransmission overhead facilities in a manner consistent with CPUC G.O. 165, which requires observation a minimum of once per year, but inspection typically occurs more frequently to ensure system reliability. Following construction of the mid-line series capacitors,⁴ additional O&M activities would consist of monthly and annual inspections, as well as equipment testing and maintenance of emergency generators ranging from once a year to once every five years. Additional testing, inspections and maintenance of the building, site, generator, and fuel tank would also be required at the new fiber optic repeater facilities every six months to once a year. No O&M activities would occur on land designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. Therefore, no impact would occur.

4.2.4.2 Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

Construction

No Impact. The existing transmission lines cross land zoned for agricultural use. However, because the Proposed Project would modify existing facilities within existing or to-be-acquired franchise areas and SCE ROWs and no acquisition of existing agricultural lands would occur, the Proposed Project would not result in conflicts with agricultural zoning or result in any change of existing land uses, and no impact would occur. Less than 0.1 mile of land under a Williamson Act contract is crossed by the existing Lugo-Mohave 500 kV Transmission Line. In addition, the Lugo-Mohave 500 kV Transmission Line is within 30 feet of another Williamson Act contract

⁴ The Proposed Project includes construction of two new 500 kV mid-line series capacitors—the proposed Newberry Springs Series Capacitor and Ludlow Series Capacitor.

within unincorporated San Bernardino County. No temporary construction activities would occur on any lands under a Williamson Act contract. In addition, no permanent aboveground facilities would be constructed within lands under a Williamson Act contract. Therefore, the Proposed Project would not require the cancellation of any Williamson Act contract. Thus, there would be no impact as a result of the Proposed Project.

Operation

No Impact. As previously described, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. Because O&M activities would be similar to those currently performed and would not affect farmland or Williamson Act lands, there would be no impact from the Proposed Project.

4.2.4.3 Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220[g]), timberland (as defined by PRC Section 4526), or TPZs (as defined by CGC Section 51104[g])?

Construction

No Impact. The Proposed Project would not cross any area zoned for forest land, timberland, or TPZs. Therefore, the Proposed Project would not conflict with or cause rezoning of these lands, and there would be no impact.

Operation

No Impact. As previously described, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. Because O&M activities would be similar to current practices and would not conflict with zoning of forest lands, no impact would result from the Proposed Project.

4.2.4.4 Would the project result in the loss of forest land or conversion of forest land to non-forest use?

Construction

Less-Than-Significant Impact. As previously discussed, the existing Eldorado-Lugo and Lugo-Mohave 500 kV Transmission Lines span approximately 0.4 mile of mapped forest land. Two proposed landing zones would be located within mapped forest land. Following construction, the proposed landing zones would be restored to pre-construction conditions. Construction of the Proposed Project would not result in the conversion of forest land to non-forest use. Therefore, less-than-significant impacts would occur.

Operation

No Impact. As previously described, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. Because O&M activities would be similar to current practices and would not involve the loss of forest land, no impact would result from the Proposed Project.

4.2.4.5 Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Construction

No Impact. The Proposed Project would not involve changes to the existing environment that would have the potential to convert farmland to non-agricultural use or forest land to non-forest use. The Proposed Project would modify existing facilities within existing and to-be-acquired franchise areas and SCE ROWs, and no expansion of ROW is proposed within agricultural or forest lands that could lead to future conversion of these lands. Therefore, there would be no impact.

Operation

No Impact. As previously described, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. Because O&M activities would be similar to current practices and would not result in a conversion of forest or farmland, no impact would result from the Proposed Project.

4.2.5 Applicant-Proposed Measures

Because no impacts to agriculture or forestry would occur as a result of the Proposed Project, no avoidance or minimization measures are proposed.

4.2.6 Mid-Line Series Capacitor Site Alternatives

Consistent with Section 15126.6(d) of the CEQA Guidelines, this Proponent's Environmental Assessment analyzes alternatives to the Proposed Project. Section 5.2, Description of Project Alternatives and Impact Analysis, identifies and compares the construction and operation of SCE's Proposed Project with its alternatives, including alternatives that did not meet key Proposed Project objectives and were not carried forward. The alternatives retained for a full evaluation—alternative sites for the Newberry Springs Series Capacitor and the Ludlow Series Capacitor—are analyzed in relation to agriculture and forestry resources in the following discussion.

The alternative site for the Newberry Springs Series Capacitor is an approximately 3.1-acre site located approximately 930 feet to the northeast of its proposed location along the Eldorado-Lugo 500 kV Transmission Line. The alternative site for the Ludlow Series Capacitor is an approximately 3.1-acre site located approximately 970 feet to the southwest of its proposed location along the Lugo-Mohave 500 kV Transmission Line.

The land surrounding the alternative Newberry Springs Series Capacitor site is undeveloped and does not include any lands that are being used for agricultural activities or lands designated or zoned for agricultural uses. Construction and O&M of the mid-line series capacitor at the alternative site would also not affect any Williamson Act lands. As a result, no impact to agriculture and forestry resources would result from the alternative Newberry Springs Series Capacitor site.

The land surrounding the alternative Ludlow Series Capacitor site is owned and managed by the BLM and is undeveloped. Similar to the proposed mid-line series capacitors, the land surrounding the alternative Ludlow Series Capacitor site does not include any lands that are being used for agricultural activities or lands designated or zoned for agricultural uses. Construction and O&M of the alternative sites would also not affect any Williamson Act lands. As a result, no impact to agriculture and forestry resources would result from the alternative Ludlow Series Capacitor site.

4.2.7 References

- CAL FIRE. (2012). Wildland Hazard & Building Codes. Retrieved December 21, 2015, from http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones_maps.php.
- City of Boulder City. (2009). *Boulder City Master Plan*. Retrieved December 21, 2015, from <http://www.bcnv.org/DocumentCenter/Home/View/129>
- City of Boulder City. (2015). *Boulder City, Nevada City Code*. Retrieved December 21, 2015, from http://www.sterlingcodifiers.com/codebook/index.php?book_id=417.
- City of Hesperia. (2010). *City of Hesperia General Plan 2010*. Retrieved December 21, 2015, from <http://www.cityofhesperia.us/DocumentCenter/View/3459>.
- City of Hesperia. (2015). *Hesperia, California Municipal Code*. Retrieved December 21, 2015, from https://www.municode.com/library/ca/hesperia/codes/code_of_ordinances.
- Clark County. (2012). *South County Land Use Plan*. Retrieved March 30, 2016, from http://www.clarkcountynv.gov/comprehensive-planning/land-use/Documents/SouthCounty_LandUsePlan.pdf.
- Clark County. (2014). *Clark County Comprehensive Plan*. Retrieved December 21, 2015, from <http://www.clarkcountynv.gov/comprehensive-planning/advanced-planning/Documents/PRINT%20VERSION%20CPPLAN%20APR%202015%20UPDATE%20WITH%20LU%20POLICIES.pdf>.
- County of San Bernardino. (2007). *County of San Bernardino 2007 General Plan*. Retrieved December 21, 2015, from <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>.
- County of San Bernardino. (2014). *Annual Crop Report 2014*. Retrieved December 21, 2015, from <http://cms.sbcounty.gov/Portals/13/CropReports/2014CropReport.pdf?ver=2015-07-16-090201-963>.
- County of San Bernardino. (2015). Development Code. Retrieved December 21, 2015 from [http://library.amlegal.com/nxt/gateway.dll/California/sanbernardinocounty_ca/sanbernardinocountycaliforniacodeofordin?f=templates\\$fn=default.htm\\$3.0\\$vid=amlegal:sanbernardinocounty_ca](http://library.amlegal.com/nxt/gateway.dll/California/sanbernardinocounty_ca/sanbernardinocountycaliforniacodeofordin?f=templates$fn=default.htm$3.0$vid=amlegal:sanbernardinocounty_ca).
- DOC. (2012). Index of FMMP 2012. Retrieved December 21, 2015, from <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2012/>.
- DOC. (2015a). *California Important Farmland Finder*. Retrieved December 18, 2015, from <http://maps.conservation.ca.gov/ciff/ciff.html>.
- DOC. (2015b). *Important Farmland Categories*. Retrieved December 18, 2015, from http://www.conservation.ca.gov/dlrp/fmmp/mccu/Pages/map_categories.aspx.

- DOC. (2015c). Williamson Act Program. Retrieved December 18, 2015, from <http://www.consrv.ca.gov/dlrp/lca/Pages/Index.aspx>.
- DOC. (n.d.). *Farmland of Local Importance*. Retrieved December 18, 2015, from http://www.consrv.ca.gov/dlrp/fmmp/Documents/Local_definitions_00.pdf.
- FindLaw. (2015). *California Government Code – Section 51110*. Retrieved December 18, 2015, from <http://codes.lp.findlaw.com/cacode/GOV/1/5/d1/1/6.7/2/s51110>.
- Nevada Legislature. (2016). Chapter 527 – Protection and Preservation of Timbered Lands, Trees and Flora. Retrieved January 19, 2016, from <http://www.leg.state.nv.us/NRS/NRS-527.html#NRS527Sec120>.
- NRCS. (2006). *Soil Survey of Clark County Area, Nevada*. Retrieved January 11, 2016, from http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/nevada/NV755/0/Clarkmanus.pdf.
- NRCS. (2015). Farmland Protection Policy Act. Retrieved January 19, 2016, from http://www.nrcs.usda.gov/wps/portal/nrcs/detail/?cid=nrcs143_008275.
- SCAG. (2008). *Regional Comprehensive Plan*. Retrieved December 21, 2015, from <http://www.scag.ca.gov/NewsAndMedia/Pages/RegionalComprehensivePlan.aspx>.
- University of New Hampshire. (2016). Demographic Trends in U.S. Counties. Retrieved March 30, 2016, from <http://www.unh.edu/demographic-indicators/USFS%20DataBook.070213/Final%20Display/states/06/06071.html>.
- USDA. (2012a). 2012 Census of Agriculture County Profile – Clark County. Retrieved December 28, 2015, from http://www.agcensus.usda.gov/Publications/2012/Online_Resources/County_Profiles/California/cp32003.pdf.
- USDA. (2012b). 2012 Census of Agriculture County Profile – San Bernardino County. Retrieved December 28, 2015, from http://www.agcensus.usda.gov/Publications/2012/Online_Resources/County_Profiles/California/cp06071.pdf.

TABLE OF CONTENTS

4.3 AIR QUALITY.....	4.3-1
4.3.1 Environmental Setting	4.3-1
4.3.2 Regulatory Setting	4.3-11
4.3.3 Significance Criteria	4.3-21
4.3.4 Impact Analysis	4.3-23
4.3.5 Applicant-Proposed Measures	4.3-28
4.3.6 Mid-Line Series Capacitor Site Alternatives	4.3-29
4.3.7 References.....	4.3-31

LIST OF TABLES

Table 4.3-1: Sensitive Receptors within 500 Feet of the Proposed Project.....	4.3-5
Table 4.3-2: Recent Ambient Air Quality Concentrations	4.3-7
Table 4.3-3: Frequency of Air Quality Standard Exceedances in the Proposed Project Area..	4.3-9
Table 4.3-4: Attainment Status for the Proposed Project Area.....	4.3-11
Table 4.3-5: State and Federal Ambient Air Quality Standards	4.3-13
Table 4.3-6: Thresholds of Significance.....	4.3-22
Table 4.3-7: Operational Air Quality Thresholds of Significance.....	4.3-23
Table 4.3-8: Uncontrolled Construction Emissions.....	4.3-24
Table 4.3-9: Controlled Construction Emissions.....	4.3-25

This page intentionally left blank.

4.3 Air Quality

This section describes the air quality in the area of the Eldorado-Lugo-Mohave Series Capacitor Project (Proposed Project¹). Alternatives to the Proposed Project are also discussed.

The existing air quality within the Proposed Project area was researched using data obtained from the Mojave Desert Air Quality Management District (MDAQMD) network of air quality monitoring stations and the Clark County Department of Air Quality (DAQ). Recent regulations and guidance documents from the California Air Resources Board (CARB), the Clark County DAQ, the California Public Utilities Commission (CPUC), the California Energy Commission, and the MDAQMD were also reviewed. Emission factors from the CARB's OFFROAD 2007 model, the California Emissions Estimator Model 2013.2.2 (CalEEMod), and the United States (U.S.) Environmental Protection Agency's (EPA's) Compilation of Air Pollutant Emission Factors (AP-42) were used to simulate the anticipated emissions by state within California and Nevada during construction. Site-specific information from these sources was to generate emission rates based on the Proposed Project's anticipated size, schedule, land use, and construction methods. Using this data, anticipated peak daily and annual emissions were calculated for a range of pollutants. Calculated emissions were compared to local thresholds to determine impacts.

4.3.1 Environmental Setting

The Proposed Project is located in California and Nevada, within the Mojave Basin and Range (Mojave). Federal lands constitute a majority of the land area in the Mojave, including lands under the jurisdiction of the Bureau of Land Management (BLM), National Park Service (NPS), Bureau of Reclamation (BOR), and Department of Defense (DoD). The Proposed Project would modify three existing transmission lines that extend northeast from Lugo Substation (located in San Bernardino County, California) to Eldorado Substation (located in the City of Boulder City, Nevada) and Mohave Substation (located in Clark County, Nevada), and from Mohave Substation northwest to Eldorado Substation. Portions of the Proposed Project would also cross the City of Hesperia, California, the unincorporated community of Lucerne Valley in California, as well as the unincorporated communities of Searchlight and Laughlin in Nevada.

4.3.1.1 Air Quality Environmental Setting

The Proposed Project is located within California's Mojave Desert Air Basin (MDAB) and Nevada's Las Vegas Intrastate Air Quality Control Region (AQCR). The MDAB covers approximately 27,300 square miles and includes eastern Kern County, northeast Los Angeles County, eastern Riverside County, and most of San Bernardino County. The MDAB is bounded by the Colorado River Valley to the south and east, and by mountains on its remaining sides. The MDAB covers most of California's high desert and is California's largest air basin. The MDAQMD encompasses

¹ The term "Proposed Project" is inclusive of all components of the Eldorado-Lugo-Mohave Series Capacitor Project. Where the discussion in this section focuses on a particular component, that component is called out by its individual work area (e.g., "Ludlow Series Capacitor").

approximately 20,000 square miles and covers the majority of the MDAB. The MDAQMD has jurisdiction over San Bernardino County's high desert and portions of Riverside County.

The weather within the MDAB tends to be windy, with winds blowing predominately from the south and west. During the summer, a Pacific subtropical high cell that sits off of the coast generally influences the MDAB, inhibiting cloud formation and encouraging daytime solar heating. In the late spring months, high winds from the coastal areas of Southern California blow into the Mojave Desert. During Santa Ana conditions in the fall, hot air from the desert blows into Southern California. The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert.

The Las Vegas Intrastate AQCR consists of the territorial area within the Clark County boundary. The Las Vegas Intrastate AQCR is one of the three AQCRs within Nevada. These regions are further subdivided into particular jurisdictions for monitoring and management purposes. Within the Las Vegas Intrastate AQCR, strong winds are the most persistent weather hazard in the area. Winds can reach over 50 miles per hour (mph), are infrequent, and can occur with vigorous storms. The climate is dry throughout the year, with long, hot summers and short, mild winters. Flurries of snow occur once or twice during most winters. Over several weeks during the summer, warm, moist air predominates in the area and causes scattered, occasionally severe thunderstorms.

4.3.1.2 Criteria Air Pollutants

Ozone (O₃), particulate matter (PM) less than 10 microns in diameter (PM₁₀), PM less than 2.5 microns in diameter (PM_{2.5}), carbon monoxide (CO), nitrogen dioxide (NO₂), and sulfur dioxide (SO₂) are all criteria air pollutants (CAPs) that are regulated in California and Nevada. Non-methane ethane volatile organic compounds (VOCs), also referred to as reactive organic compounds (ROGs), are also regulated as precursors to the formation of O₃. These CAPs and their effects on humans are discussed in the subsections that follow.

Ozone

O₃ is a colorless gas that is not directly emitted as a pollutant, but is formed when hydrocarbons and nitrogen oxides (NO_x) react in the presence of sunlight. Low wind speeds or stagnant air mixed with warm temperatures typically provide optimum conditions for the formation of O₃. Because O₃ formation does not occur quickly, O₃ concentrations often peak downwind of the emission source. As a result, O₃ is of regional concern as it impacts a larger area. When inhaled, O₃ irritates and damages the respiratory system.

Particulate Matter

Defined as particles suspended in a gas, PM is often a mixture of substances, including metals, nitrates, organic compounds, diesel exhaust, and soil. PM can be traced back to both man-made and natural sources. The most common sources of natural PM are dust and fires, while the most common man-made source is the combustion of fossil fuels.

PM causes irritation to the human respiratory system when inhaled. The extent of the health risks due to PM exposure can be determined by the size of the particles, as the smaller particles (e.g., PM_{2.5}) are able to become more deeply deposited in the lungs.

Carbon Monoxide

CO is a colorless, odorless, and tasteless gas that is directly emitted as a byproduct of combustion. CO concentrations tend to be localized to the source, and the highest concentrations are associated with cold, stagnant weather conditions. CO is readily absorbed through the lungs and into the blood, where it reduces the ability of the blood to carry oxygen.

Nitrogen Oxides

NO_x is a generic name for the group of highly reactive gases that contain nitrogen and oxygen in varying amounts. Many types of NO_x are colorless and odorless. However, one common pollutant—NO₂, along with particles in the air—can often be seen as a reddish-brown layer over many urban areas.

NO_x form when fuel is burned at high temperatures. Typical man-made sources of NO_x include motor vehicles; fossil-fueled electricity generation; and other industrial, commercial, and residential sources that burn fossil fuels. With sufficient exposure, NO_x can harm humans by affecting the respiratory system. Small particles can penetrate the sensitive parts of the lungs, causing or worsening respiratory disease and aggravating existing heart conditions.

Sulfur Oxides

Sulfur oxides (SO_x) form when sulfur-containing materials are processed or burned. SO_x sources include industrial facilities (e.g., petroleum refineries, cement manufacturing facilities, and metal processing facilities), locomotives, large ships, and some non-road diesel equipment.

A wide variety of adverse health and environmental impacts are associated with SO_x because of the way they react with other substances in the air. Children, elderly people, and people with asthma or a heart or lung disease are particularly sensitive to SO_x emissions. When inhaled, these particles gather in the lungs and contribute to increased respiratory symptoms and disease, difficulty in breathing, and premature death.

Volatile Organic Compounds

VOCs (or ROGs) are a group of chemicals that react with NO_x and hydrocarbons in the presence of sunlight to form O₃. Examples of VOCs include gasoline fumes and oil-based paints. This group of chemicals does not include methane or other compounds determined by the U.S. EPA to have negligible photochemical reactivity.

4.3.1.3 Sensitive Receptors

Some exposed population groups (e.g., children, and people who are elderly or ill) can be especially vulnerable to airborne chemicals and irritants, and are termed “sensitive receptors.” In addition, due to sustained exposure durations, all persons located within residential areas are considered sensitive receptors. In general, sensitive receptors include, residences, schools, day-care centers, playgrounds, and medical facilities.² Table 4.3-1: Sensitive Receptors within 500 Feet of the Proposed Project summarizes sensitive receptors within 500 feet of the Proposed

² These facilities are listed as sensitive receptors in the MDAQMD’s California Environmental Quality Act (CEQA) and Federal Conformity Guidelines.

Project. Section 4.12, Noise provides more detail on the locations of residential areas and other sensitive receptors in the vicinity of the Proposed Project.

Table 4.3-1: Sensitive Receptors within 500 Feet of the Proposed Project

Sensitive Receptor Name	Receptor Type	Approximate Distance to Nearest Proposed Project Component	Nearest Project Component*
Occupied Residential Dwellings	Residential	300 feet	Mile 7 of the Lugo-Mohave 500 kilovolt (kV) Transmission Line
Occupied Residential Dwellings	Residential	340 feet	Stringing site near Mile 173 of the Lugo-Mohave 500 kV Transmission Line
Occupied Residential Dwellings	Residential	400 feet	Mile 25 of the Lugo-Mohave 500 kV Transmission Line
Occupied Residential Dwellings	Residential	400 feet	Helicopter Landing Zone at Tower M7-T3 on the Eldorado-Lugo 500 kV Transmission Line and M7-T4 on the Lugo-Mohave 500 kV Transmission Line
Occupied Residential Dwellings	Residential	430 feet	Helicopter Landing Zone near Tower M0-T4 of the Lugo-Mohave 500 kV Transmission Line
Occupied Residential Dwellings	Residential	480 feet	Mile 7 of the Eldorado-Lugo 500 kV Transmission Line

*Note: Mileage numbering begins at Lugo Substation.

4.3.1.4 Ambient Air Quality

MDAQMD monitors levels of various pollutants by using a network of monitoring stations throughout the MDAB. Ambient air quality data was obtained from the two monitoring stations in San Bernardino County, California and the two monitoring stations in Clark County, Nevada that are nearest to the Proposed Project area.

The most recently available data on the peak concentrations and number of exceedances of applicable air quality standards for O₃, PM₁₀, and PM_{2.5} at these locations are summarized in Table 4.3-2: Recent Ambient Air Quality Concentrations and Table 4.3-3: Frequency of Air Quality Standard Exceedances in the Proposed Project Area. As reflected in Table 4.3-3: Frequency of Air Quality Standard Exceedances in the Proposed Project Area, records at the Hesperia and Barstow monitoring stations indicated violations of National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) for O₃, PM₁₀, and PM_{2.5} between 2013 and 2015.

Table 4.3-2: Recent Ambient Air Quality Concentrations

Nearest Proposed Project Component	Pollutant	Maximum Concentration			Monitoring Station ³
		2015	2014	2013	
California					
Lugo Substation and Barstow Fiber Optic Repeater	O ₃ Maximum one-hour (ppm)	0.125	0.121	0.100	Hesperia-Olive Street
	PM ₁₀ National Maximum 24-hour (µg/m ³)	61.100	82.700	49.000	Hesperia-Olive Street
	PM _{2.5} National Maximum 24-hour (µg/m ³)	50.200	24.100	13.100	Victorville
Newberry Springs Series Capacitor	O ₃ Maximum one-hour (ppm)	0.090	0.094	0.099	Barstow
	PM ₁₀ National Maximum 24-hour (µg/m ³)	145.500	305.800	87.100	Barstow
	PM _{2.5} National Maximum 24-hour (µg/m ³)	50.200	24.100	13.100	Victorville

³ The monitoring stations are located at the following locations:

- The Hesperia-Olive Street monitoring station is located at 17288 Olive Street in the City of Hesperia, California, approximately 3.5 miles south of Lugo Substation.
- The Victorville monitoring station is located at 14306 Park Avenue in the City of Victorville, California, approximately 10.0 miles north of Lugo Substation and approximately 57.0 miles east of the Newberry Springs Series Capacitor.
- The Barstow monitoring station is located at 1301 West Mountain View Street in the City of Barstow, California, approximately 37.8 miles northwest of the Newberry Springs Series Capacitor.
- The Boulder City monitoring station is located at 1005 Industrial Road in the City of Boulder City, Nevada, approximately 15.2 miles southeast of Eldorado Substation.
- The Henderson monitoring station is located at 298 North Arroyo Grande in the City of Henderson, Nevada, approximately 17.0 miles north of Eldorado Substation.
- The Jean monitoring station is located at 1965 State Highway 161 in the Town of Jean, Nevada, approximately 19.4 miles west of Eldorado Substation.

Nearest Proposed Project Component	Pollutant	Maximum Concentration			Monitoring Station ³
		2015	2014	2013	
Nevada					
Eldorado Substation	O ₃ Maximum one-hour (ppm)	0.080	0.080	0.080	Boulder City
	PM ₁₀ National Maximum 24-hour (µg/m ³)	837.670	948.830	1129.970	Boulder City
	PM _{2.5} National Maximum 24-hour (µg/m ³)	72.530	89.810	52.450	Henderson
	O ₃ Maximum one-hour (ppm)	0.090	0.080	0.090	Jean
	PM ₁₀ National Maximum 24-hour (µg/m ³)	487.480	1081.17	540.700	Jean
	PM _{2.5} National Maximum 24-hour (µg/m ³)	85.380	156.48	80.670	Jean

Sources: CARB (2015); Clark County DAQ (2016a)

Notes: "--" = insufficient or unavailable data; ppm = parts per million; µg/m³ = micrograms per cubic meter. Days over PM₁₀ CAAQS are based on monitoring every sixth day.

Table 4.3-3: Frequency of Air Quality Standard Exceedances in the Proposed Project Area

Proposed Project Component	Pollutant	Days Above Standard			Monitoring Station
		2015	2014	2013	
California					
Lugo Substation and Barstow Fiber Optic Repeater	State one-hour O ₃	7	8	1	Hesperia-Olive Street
	State 24-hour PM ₁₀	--	--	--	
	National 24-hour PM ₁₀	0	0	--	
	National 24-hour PM _{2.5}	--	--	--	
Newberry Springs Series Capacitor	State one-hour O ₃	0	0	1	Barstow
	State 24-hour PM ₁₀	--	--	--	
	National 24-hour PM ₁₀	--	1	0	
	National 24-hour PM _{2.5}	--	--	--	
Nevada					
Eldorado Substation	State one-hour O ₃	4	8	8	Jean
	State 24-hour PM ₁₀	0	0	1	
	National 24-hour PM ₁₀	0	0	1	
	National 24-hour PM _{2.5}	0	0	0	
	State one-hour O ₃	1	4	6	Boulder City
	State 24-hour PM ₁₀	0	0	1	
	National 24-hour PM ₁₀	0	0	1	
	National 24-hour PM _{2.5}	--	--	--	

Proposed Project Component	Pollutant	Days Above Standard			Monitoring Station
		2015	2014	2013	
Eldorado Substation (cont.)	State one-hour O ₃	1	0	0	Henderson
	State 24-hour PM ₁₀	0	0	0	
	National 24-hour PM ₁₀	0	0	0	
	National 24-hour PM _{2.5}	0	0	0	

Sources: CARB (2016); Clark County DAQ (2016c)

4.3.1.5 Air Quality Designations

As described in Section 4.3.2, Regulatory Setting, the following three air quality designations can be assigned to an area for a particular pollutant:

- **Nonattainment:** This designation applies when air quality standards have not been consistently achieved
- **Attainment:** This designation applies when air quality standards have been achieved
- **Unclassified:**⁴ This designation applies when insufficient monitoring data exist to determine either a nonattainment or attainment designation

The current CAAQS, Nevada Standards for Clark County, and NAAQS attainment statuses for the Proposed Project area are provided in Table 4.3-4: Attainment Status for the Proposed Project Area. The Proposed Project area is currently designated as a nonattainment area under the CAAQS for O₃, PM₁₀, and PM_{2.5}. Portions of Clark County are currently designated as nonattainment areas under the NAAQS for PM₁₀ and CO. Under the NAAQS, the Proposed Project area is also designated as a nonattainment area for O₃, PM₁₀, and PM_{2.5}.

Table 4.3-4: Attainment Status for the Proposed Project Area

Pollutant	California Standards	Nevada Standards	National Standards
O ₃	Nonattainment	Unclassifiable, Attainment	Unclassified/Attainment (eight-hour), Nonattainment (eight-hour) ⁵
PM ₁₀	Nonattainment	Nonattainment	Nonattainment
PM _{2.5}	Unclassified and Nonattainment	Unclassifiable, Attainment	Nonattainment
CO	Attainment	Nonattainment	Unclassified/Attainment
NO ₂	Attainment	Unclassifiable, Attainment	Unclassified/Attainment
SO ₂	Attainment	Unclassifiable, Attainment	Unclassified

Sources: CARB (2014); Clark County (2015)

4.3.2 Regulatory Setting

Federal, State, and local regulations were reviewed for applicability to the Proposed Project. The following subsections describe regulations regarding air quality that are relevant to the Proposed Project.

⁴ The Clark County DAQ refers to “Unclassified” as “Unclassifiable.”

⁵ Portions of San Bernardino County are currently designated as unclassifiable/attainment and some portions are designated as nonattainment for the eight-hour ozone. The Proposed Project crosses both of these areas.

4.3.2.1 Federal

In addition to the federal regulation described in the following subsection, federal authorizations would also be required because a majority of the land within the Proposed Project area is under the jurisdiction of the BLM, NPS, BOR, and DoD.

Clean Air Act

The 1970 federal Clean Air Act (CAA) established ambient air quality standards for six pollutants—O₃, PM₁₀, CO, NO₂, SO₂, and lead—that are known to have adverse impacts on human health and the environment. To protect human health and the environment, the U.S. EPA set primary and secondary maximum ambient thresholds for CAPs. The primary thresholds were set to protect human health, particularly for children and the elderly, as well as for individuals who suffer from chronic lung conditions (e.g., asthma and emphysema). The secondary standards were set to protect the natural environment and prevent further adverse effects on animals, crops, vegetation, and buildings. NAAQS are the combined primary and secondary standards set by the U.S. EPA. The 1977 CAA Amendments required each state to develop and maintain a State Implementation Plan (SIP) for each CAP that exceeds the NAAQS for that pollutant. The SIP serves as a tool to reduce levels of pollutants known to cause impacts if they exceed ambient thresholds and to achieve compliance with the NAAQS. In 1990, the CAA was further amended to strengthen regulation of both stationary and mobile emission sources for the CAPs.

In July 1997, the EPA developed new, health-based NAAQS for O₃ and PM₁₀. However, these standards were not fully implemented until 2001, after the resolution of several lawsuits. The new federal O₃ standard of 0.080 ppm, established in 1997, was based on a longer averaging period (eight hours versus one hour), recognizing that prolonged exposure to O₃ is more damaging. In March 2008, the EPA further lowered the eight-hour O₃ standard from 0.080 ppm to 0.075 ppm. The new federal standard for PM is based on finer particles (PM_{2.5} versus PM₁₀), recognizing that PM_{2.5} may remain in the lungs longer and contribute to greater respiratory illness. In February 2007, the NAAQS for NO₂ was amended to lower the existing one-hour standard of 0.25 ppm to 0.18 ppm not to be exceeded, and established a new annual standard of 0.030 ppm not to be exceeded. In October 2015, the national eight-hour O₃ primary and secondary standards were lowered from 0.075 ppm to 0.070 ppm. Table 4.3-5: State and Federal Ambient Air Quality Standards contains a list of the NAAQS and CAAQS.

Table 4.3-5: State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	Nevada Standards	National Standards	
				Primary	Secondary
O ₃	One hour	0.09 ppm (180 µg/m ³)	N/A	N/A	N/A
	Eight hours	0.070 ppm (137 µg/m ³)	0.075 ppm	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³)
PM ₁₀	24 hours	50 µg/m ³	150 µg/m ³	150 µg/m ³	150 µg/m ³
	Annual arithmetic mean	20 µg/m ³	N/A	N/A	N/A
PM _{2.5}	24 hours	N/A	35 µg/m ³	35 µg/m ³	35 µg/m ³
	Annual arithmetic mean	12 µg/m ³	N/A	12 µg/m ³	15 µg/m ³
CO	One hour	20 ppm (23 mg/m ³)	35 ppm	35 ppm (40 mg/m ³)	N/A
	Eight hours	9.0 ppm (10 mg/m ³)	9 ppm	9 ppm (10 mg/m ³)	N/A
NO ₂	One hour	0.18 ppm (339 µg/m ³)	100 ppb	100 ppb (188 µg/m ³)	N/A
	Annual arithmetic mean	0.030 ppm (57 µg/m ³)	53 ppb	0.053 ppm (100 µg/m ³)	0.053 ppm (100 µg/m ³)
SO ₂	One hour	0.25 ppm (655 µg/m ³)	75 ppb	N/A	N/A
	Three hours	N/A	0.5 ppm	N/A	0.5 ppm (1,300 µg/m ³)

Pollutant	Averaging Time	California Standards	Nevada Standards	National Standards	
				Primary	Secondary
SO ₂ (cont.)	24 hours	0.04 ppm (105 µg/m ³)	N/A	0.14 ppm (for certain areas)	N/A
	Annual Arithmetic Mean	N/A	N/A	0.030 ppm	Annual Arithmetic Mean
Lead	30 days	1.5 µg/m ³	N/A	N/A	N/A
	Rolling three month	N/A	0.15µg/m ³	0.15 µg/m ³	0.15 µg/m ³
	Quarterly	N/A	N/A	1.5 µg/m ³	1.5 µg/m ³

Sources: CARB (2016); Nevada Division of Environmental Protection (NDEP) (2016)

Key: mg/m³ = milligrams per cubic meter; ppb = parts per billion, N/A = not applicable.

Notes:

1. The CAAQS for O₃, PM₁₀, PM_{2.5}, CO (except Lake Tahoe), NO₂, SO₂ (1- and 24-hour), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The CAAQS are listed in the Table of Standards in Title 17, Section 70200 of the California Code of Regulations.
2. The NAAQS (other than O₃, PM₁₀, PM_{2.5}, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O₃ standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
3. Concentrations are expressed first in the units in which they were promulgated. Equivalent units given in parentheses are based on a reference temperature of 25° Celsius (°C) and a reference pressure of 760 torr (1 torr is the pressure approximately exerted by 1 millimeter of mercury). Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent procedure that can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality deemed necessary, with an adequate margin of safety, to protect the public health.
6. National Secondary Standards: The levels of air quality deemed necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the EPA. An “equivalent method” of measurement may be used, but must have a “consistent relationship to the reference method” and must be approved by the EPA.
8. On October 1, 2015, the national eight-hour ozone primary and secondary standards were lowered from 0.075 ppm to 0.070 ppm.

9. On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over three years.
10. To attain the one-hour national standard, the three-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national one-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national one-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new one-hour SO₂ standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the one-hour national standard, the three-year average of the annual 99th percentile of the one-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24 hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the one-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the one-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The CARB has identified lead and vinyl chloride as toxic air contaminants (TACs) with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling three-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and “extinction of 0.07 per kilometer” for the statewide and Lake Tahoe Air Basin standards, respectively.

4.3.2.2 State

California

California Public Utilities Commission General Order 131-D

Pursuant to CPUC General Order (G.O.) 131-D, the CPUC has sole and exclusive jurisdiction over the siting and design of electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities in the State of California. Under CEQA, the CPUC is the lead agency with respect to such Proposed Project elements within the State of California. Southern California Edison Company (SCE) is required to comply with G.O. 131-D and is seeking a Permit to Construct from the CPUC for the Proposed Project.

California Clean Air Act

The California Clean Air Act of 1988 (CCAA) provided the framework for the management of air quality throughout the State. The CCAA requires local air quality management districts to develop and implement strategies to attain the CAAQS. For some pollutants, the CAAQS are more stringent than the NAAQS, and the CCAA mandated that the air quality management districts prepare air quality management plans (AQMPs) specifying how both the federal and State standards would be met. The CAAQS are listed in Table 4.3-5: State and Federal Ambient Air Quality Standards.

The CARB enforces the CAAQS and works with the State's Office of Environmental Health Hazard Assessment in identifying TACs and enforcing rules related to TACs, including the Air Toxic Hot Spots Information and Assessment Act of 1987. Enacted to identify TAC hot spots where emissions from specific sources may expose individuals to an elevated risk of adverse health effects, this law requires that a business or other establishment identified as a significant source of toxic emissions must provide the affected population with information about health risks posed by those emissions.

Nevada

Nevada Revised Statutes Section 704.865

Nevada Revised Statutes Section 704.865 provides that "A person, other than a local government, shall not commence to construct a utility facility in the State without first having obtained a permit therefor from the Commission. The replacement of an existing facility with a like facility, as determined by the Commission, does not constitute construction of a utility facility." The Public Utilities Commission of Nevada is the lead agency for compliance with the Nevada Utility Environmental Protection Act.

Clark County Current Rules & Regulations

The Clark County DAQ implements and enforces the air pollution control program in Clark County. The DAQ applies and enforces Current Rules & Regulations, which establish requirements for sources that emit or release air contaminants into the atmosphere. The DAQ has also developed guidelines for source testing to provide uniform guidance for sources and testing companies in the preparation, execution, and reporting of air quality performance tests in Clark County. The standards for ambient air quality in Nevada are presented in Table 4.3-5: State and Federal Ambient Air Quality Standards.

4.3.2.3 Local

The CPUC has sole and exclusive state jurisdiction over the siting and design of the Proposed Project components located in the State of California. Pursuant to CPUC G.O. 131-D, Section XIV.B, “Local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the CPUC’s jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters.” Consequently, public utilities are directed to consider local regulations and consult with local agencies, but the county and cities’ regulations are not applicable as the county and cities do not have jurisdiction over the Proposed Project. Accordingly, the following discussion of local regulations is provided for informational purposes only. The Proposed Project is subject to local regulations in the State of Nevada.

California

Mojave Desert Air Quality Management District

The air districts are primarily responsible for regulating stationary emission sources at industrial and commercial facilities within their respective geographic areas, and for preparing the AQMPs required under the CAA and CCAA. The Proposed Project area is located within the MDAB, and the MDAQMD has jurisdictional control over the entire basin. The MDAQMD stipulates rules and regulations with which all projects must comply. In addition, the MDAQMD provides methodologies for analyzing a project’s impacts under CEQA. The following plans, rules, and regulations apply to all sources within the MDAQMD’s jurisdiction.

2004 Ozone Attainment Plan

The MDAQMD is required to prepare an Air Quality Attainment Plan that outlines measures to achieve attainment levels for CAPs and avoid future levels that exceed applicable standards. The MDAQMD has developed the 2004 Ozone Attainment Plan, which achieves and maintain the CAAQS by the earliest possible date considering concentrations, violations, transport, emission projections, emission inventories, control measures, emission reductions, military base closures, and cost effectiveness. This plan provides an update of previously submitted plans and summaries of progress.

Reasonable Further Progress/Rate of Progress Plan

The MDAQMD adopted the Rate of Progress Plan to present milestone dates beginning in 1996 and continuing every three years thereafter by demonstrating Reasonable Further Progress (RFP) and attainment of the O₃ NAAQS by milestone dates. These emissions are verified at each milestone date to determine RFP until the O₃ NAAQS is attained.

County of San Bernardino

County of San Bernardino 2007 General Plan

The Conservation Element of County of San Bernardino General Plan contain the following goal that is relevant to the Proposed Project:

- Goal CO 4: The County will ensure good air quality for its residents, businesses, and visitors to reduce impacts on human healthy and the economy

City of Hesperia

City of Hesperia General Plan 2010

The Conservation Element of City of Hesperia General Plan contains the following policy that is relevant to the Proposed Project:

- Implementation Policy CN-7.9: Promote sustainable principles in development that conserves such natural resources as air quality and energy resources

Nevada

Clark County

Clark County Department of Air Quality Air Quality Regulations

The Clark County DAQ is the air pollution control agency for all of Clark County, Nevada. The DAQ administers a variety of programs to improve the health and welfare of its residents by ensuring that the air quality in Clark County meets healthy, regulatory standards.

Section 41 – Fugitive Dust

Section 41 prohibits construction activities from generating visible dust beyond the property line. To minimize fugitive dust emissions, the rule requires construction activities to take reasonable precautions, which may include sprinkling, compacting, enclosure, chemical or asphalt sealing, cleaning up, and sweeping.

Section 90 – Fugitive Dust from Open Areas and Vacant Lots

Section 90 limits PM emissions into the ambient air from open areas and vacant lots. To limit PM emissions into the ambient air from open areas and vacant lots, the rule requires construction activities to use the best available control measures, which may include the following:

- Installing barriers, curbs, fences, gates, posts, signs, shrubs, trees, or other effective traffic control measures
- Applying and maintaining surface gravel or dust palliatives to all disturbed areas by motor vehicles in compliance with one of the stabilization standards described in Subsection 90.2.1.2
- Applying and maintaining an alternative control measure approved in writing by the Control Officer and Region IX Administrator of the U.S. EPA

Section 94 – Permitting and Dust Control For Construction Activities

Section 94 limits PM emission in ambient air by preventing, controlling, and mitigating fugitive dust from construction activities; and establishing fugitive dust control standards for Clark County, defining precautions for the prevention and control of fugitive dust from all construction activities, and establishing thresholds for enforcement of these standards. Prior to engaging in any construction activities, the property owner and/or operator must apply for and obtain a dust control permit from the Clark County DAQ. To limit PM emissions in ambient air by preventing, controlling, and mitigating fugitive dust from construction activities, the rule requires construction activities to use the best available control measures, which may include the following:

- Maintaining soil stability 24 hours a day, seven days a week, until the permit is closed in accordance with Subsection 94.6.3(c)
- Operating water trucks and water pulls in the event there are wind conditions that cause fugitive dust emissions, unless wind conditions are such that the continued operation of watering equipment cannot reduce fugitive dust emissions or that continued equipment operation poses a safety hazard

These actions are required for all projects within Clark County that are capable of generating fugitive dust.

PM₁₀ State Implementation Plan for Clark County

The Clark County PM₁₀ SIP demonstrated that the adoption and implementation of best available control measures and technologies for all significant sources of PM₁₀ would result in attainment of the annual NAAQS by 2001 and the 24-hour NAAQS by 2006. In December 2001, the U.S. EPA granted Clark County a five-year extension for the 24-hour attainment date. In June 2007, Clark County submitted the PM₁₀ Milestone Achievement Report. This report documents Clark County's attainment of the 24-hour PM₁₀ NAAQS by December 31, 2006.

The plan provides a comprehensive inventory of emissions from all sources of PM₁₀. The emission inventories indicate that the significant sources contributing to exceedances of PM₁₀ NAAQS are fugitive dust sources, including construction activities, vacant land, paved roads, and unpaved roads.

Ozone Redesignation Request and Maintenance Plan

The Ozone Redesignation Request and Maintenance Plan is a formal request from Clark County that the U.S. EPA redesignate the county's O₃ nonattainment area as being in attainment with the 1997 eight-hour O₃ NAAQS. The plan provides a summary of the progression in attaining the O₃ standard, demonstrates that all CAA amended requirements have been met, and presents a plan to ensure continued attainment over the next 10 years.

Clark County Transportation Conformity Plan

The Clark County Transportation Conformity Plan is based on Section 176(c)(4)(E) of the CAA, which provides the requirements for conformity SIPs. The plan is also based on the

transportation conformity regulations in Title 40, Sections 51.390 and 93.100-129 of the Code of Federal Regulations. These regulations detail consultation criteria, policies, and procedures that metropolitan planning Organizations must follow when addressing transportation conformity issues.

The Clark County Transportation Conformity Plan applies to all U.S. EPA-designated nonattainment and maintenance areas for transportation-related CAPs within Clark County in the present and future.

Clark County Comprehensive Plan

The Conservation Element of the Clark County Comprehensive Plan contains the following policies that are relevant to the Proposed Project:

- Policy 1: Development approval should be conditioned upon compliance with local, state, and national air quality standards.
- Policy 6: Place high polluting facilities away from sensitive receptors (defined as segments of the population susceptible to poor air quality and certain at-risk sensitive land uses such as schools, hospitals, parks, residential communities, community centers or senior centers).
- Policy 7: Pollution control measures should be required, including: stabilizing vacant land, landscaping, vegetation, and other materials that trap particulate matter and produce shade, reduce energy consumption or control pollution, near sensitive land uses to reduce evaporative emissions and the heat sink effect.

South Clark County Land Use Plan

The South Clark County Land Use Plan contains the following policies that are relevant to the Proposed Project:

- Policy 51.1: Utility Roads, infrastructure alignments and other pioneered roads created along recently constructed infrastructure (water, gas, sewer, etc.) are a problem in this area (i.e., South County). These alignments are turned into roads which then produce fugitive dust emissions that adversely impact adjacent land uses and air quality. These roads should be developed in accordance with Section 30.32.070 of Title 30.
- Policy 51.4: All vacant land with in nonattainment areas should be stabilized for dust as Section 90 of the Air Quality Regulations requires stabilization of vacant land.

Laughlin Land Use Plan

The Laughlin Land Use Plan contains the following policies that are relevant to the Proposed Project:

- Policy 30.1: Utility alignments have turned into dirt shortcut roads which produce significant fugitive dust emissions that adversely impact adjacent land uses and air

quality. These roads should be developed in accordance with Section 30.32.070 of Title 30.

- Policy 30.4: All vacant land should be stabilized for dust as Section 90 of the Air Quality Regulations requires stabilization of vacant land.

City of Boulder City

Boulder City Master Plan

The Boulder City Master Plan does not have any plans or policies that are relevant to the Proposed Project.

4.3.3 Significance Criteria

The significant criteria for assessing the impacts to air quality come from the CEQA Environmental Checklist.⁶ According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O₃ precursors)
- Expose sensitive receptors to substantial pollutant concentrations
- Create objectionable odors affecting a substantial number of people

4.3.3.1 Thresholds for Construction Emissions

The MDAQMD adopted the CEQA and Federal Conformity Guidelines in August 2016. The guidelines' purpose is to provide a framework for preparing air quality evaluations for environmental documents. The guidelines recommend specific criteria and threshold levels for determining whether a proposed project may have a significant adverse air quality impact. CEQA significance thresholds that have been adopted by the MDAQMD are listed in Table 4.3-6: Thresholds of Significance.

⁶ CEQA is a statute that requires State of California and local agencies in California to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. There is no CEQA equivalent for the State of Nevada. Therefore, in the absence of such regulations, the Proposed Project (including components in Nevada) has been evaluated against the CEQA significance criteria. Where specific Nevada environmental regulations exist, a discussion has been included in the impact analysis for the Proposed Project.

Table 4.3-6: Thresholds of Significance

Pollutant	MDAQMD Threshold⁷ (Tons per Year)	Clark County Threshold (Tons per Year)
PM ₁₀	15	100
PM _{2.5}	12	100
CO	100	100
NO _x	25	100
SO ₂	25	100
ROGs (VOCs)	25	100

Sources: MDAQMD (2016); U.S. EPA (2018)

The Clark County DAQ Air Quality Regulations do not include specific construction thresholds that apply to the Proposed Project. As a result, the U.S. EPA's General Conformity Rule has been applied to portions of the Proposed Project that would occur in Nevada. General Conformity ensures that actions taken by federal agencies do not interfere with a state's plans to attain and maintain national air quality standards. Clark County's current NAAQS attainment statuses were compared to the U.S. EPA's de minimis tables to develop Proposed Project thresholds. Table 4.3-6: Thresholds of Significance lists the resulting thresholds of significance that have been applied to the portion of the Proposed Project within Clark County.

4.3.3.2 Thresholds for Operational Emissions

As shown in Table 4.3-7: Operational Air Quality Thresholds of Significance, the MDAQMD has established quantitative thresholds to evaluate a project's operational impacts. The Clark County DAQ does not have established numerical thresholds that apply to Operation and Maintenance (O&M) of the Proposed Project. As a result, the U.S. EPA's General Conformity Rule has been applied to portions of the Proposed Project within Clark County. These thresholds are summarized in Table 4.3-7: Operational Air Quality Thresholds of Significance.

⁷ The MDAQMD CEQA Guidelines direct multi-phased projects (e.g., a project with a construction phase and separate operation phase) with phases shorter than one year be compared to the district's daily thresholds. Because the Proposed Project's construction phase will last more than one year, the MDAQMD's annual thresholds have been included

Table 4.3-7: Operational Air Quality Thresholds of Significance

Pollutant	MDAQMD Threshold ⁷ (Tons per Year)	Clark County Threshold (Tons per Year)
PM ₁₀	15	100
PM _{2.5}	12	100
CO	100	100
NO _x	25	100
SO ₂	25	100
ROGs (VOCs)	25	100

Sources: MDAQMD (2016); U.S. EPA (2018)

4.3.4 Impact Analysis

4.3.4.1 Would the project conflict with or obstruct implementation of the applicable air quality plan?

Construction

Less-Than-Significant Impact. When determining whether a project would conflict with an air quality plan, the primary focus is to evaluate if the project's emissions are properly anticipated in the regional air planning process and if these emissions can be reduced where feasible. To determine if the emissions were captured during the air quality planning process, it is necessary to assess the Proposed Project's consistency with the MDAQMD and Clark County DAQ's air quality standards. Consistency with these standards is determined by evaluating if the Proposed Project's emissions would exceed the CAP thresholds established by the MDAQMD and the Federal Conformity Guidance and if the Proposed Project would result in growth that is anticipated.

As described previously, the anticipated emissions during construction were estimated based on the Proposed Project's anticipated size, schedule, land use, and construction methods, which are described in Chapter 3 – Project Description. Using this data, the maximum daily emission rates for a range of pollutants were calculated. The emissions are the composite of two types of sources: fugitive dust and tailpipe emissions. Typical fugitive dust sources include earth-moving activities (e.g., grading and equipment foundations for the mid-line series capacitors,⁸ excavation for the lattice steel tower and tubular steel pole foundations, as well as excavation of the underground duct bank trenches, and repeater sites), the loading and unloading of fill and spoil materials, and vehicle travel across unpaved areas. Tailpipe emissions result from the combustion of fossil fuels in both off-road construction equipment and on-road vehicles. The input and output data from the emissions calculations are provided in Appendix F: Air Quality Calculations. Table 4.3-8: Uncontrolled Construction Emissions summarizes the construction emissions for each year of construction without the implementation of any applicant-proposed

⁸ The Proposed Project includes construction of two new 500 kV mid-line series capacitors—the proposed Newberry Springs Series Capacitor and Ludlow Series Capacitor.

measures (APMs). As shown in Table 4.3-8: Uncontrolled Construction Emissions, the Proposed Project's uncontrolled emissions would exceed the applicable MDAQMD daily emission thresholds for PM₁₀ and PM_{2.5}. The Proposed Project's uncontrolled emissions would be below the de minimis thresholds used for Clark County.

Table 4.3-8: Uncontrolled Construction Emissions

Pollutant	Uncontrolled Emissions (Tons per Year)					
	ROGs	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
California						
2019	1.7	17.2	17.8	0.6	79.2	12.6
2020	0.9	8.0	9.9	0.5	37.2	5.3
Applicable Threshold	25	25	100	25	15	12
Threshold Exceeded?	No	No	No	No	Yes	Yes
Nevada						
2019	1.0	9.9	10.1	0.5	41.8	6.7
2020	0.3	2.7	3.2	< 0.1	19.1	2.4
Applicable Threshold	100	100	100	100	100	100
Threshold Exceeded?	No	No	No	No	No	No

As discussed in Section 4.3.5, Applicant-Proposed Measures, APM-AIR-01, APM-AIR-02, APM-AIR-03, APM-AIR-04, and APM-AIR-05 would be implemented to reduce emissions during construction. The anticipated construction emissions were recalculated after applying the APMs and are presented in Table 4.3-9: Controlled Construction Emissions.

Table 4.3-9: Controlled Construction Emissions

Pollutant	Controlled Emissions (Tons per Year)					
	ROGs	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
California						
2019	0.9	6.5	19.9	0.6	14.3	2.9
2020	0.6	3.7	10.9	0.5	7.0	1.5
Applicable Threshold	25	25	100	25	15	12
Threshold Exceeded?	No	No	No	No	No	No
Nevada						
2019	0.6	4.2	11.3	0.5	12.4	2.0
2020	0.1	1.0	3.5	< 0.1	5.4	0.6
Applicable Threshold	100	100	100	100	100	100
Threshold Exceeded?	No	No	No	No	No	No

As shown, the Proposed Project's controlled emissions would be below the applicable MDAQMD threshold and the de minimis thresholds for use in Clark County. As a result, impacts would be less than significant.

Operation

No Impact. O&M activities associated with the Proposed Project would be similar to those currently performed by SCE for existing facilities, and generally include repairing conductors, washing or replacing insulators, repairing or replacing other hardware components, repairing or replacing poles and towers, tree trimming, brush and weed control, and access road maintenance, among other things. O&M practices would also include routine inspections and emergency repair within substations and rights-of-way, which would require the use of vehicles and equipment. SCE also inspects the transmission and subtransmission overhead facilities in a manner consistent with CPUC G.O. 165, which requires observation a minimum of once per year, but inspection typically occurs more frequently to ensure system reliability. Following construction of the mid-line series capacitors, additional O&M activities would consist of monthly and annual inspections, as well as equipment testing and maintenance of emergency generators, ranging from once a year to once every five years. Additional testing, inspections, and maintenance of the building, site, generator, and fuel tank would also be required at the new fiber optic repeater facilities every six months to once a year.

The Proposed Project is not a trip-generating project, such as a residential or commercial development, nor would it result in population growth. Once construction of the Proposed Project has been completed, scheduled O&M activities would continue to be conducted at a

similar frequency and intensity as they are for the existing facilities in the Proposed Project area, with a minor amount of additional maintenance associated with the new mid-line series capacitors and fiber optic repeater sites. A minor increase in emissions would occur due to the regular, periodic inspections of the mid-line series capacitors and fiber optic repeater sites. Therefore, due to the minor increase in emissions, the Proposed Project would not conflict with or obstruct implementation of the applicable air quality plans, and the Proposed Project would have no impact with regard to plan consistency.

4.3.4.2 Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction

Less-Than-Significant Impact. Construction of the Proposed Project would generate short-term air quality impacts during construction activities. As described previously, various emission factors were used to estimate the anticipated emissions during construction. The annual emissions for each year of construction are compared to the MDAQMD and General Conformity Guideline thresholds to determine significance. The annual emissions represent the maximum anticipated emissions during each calendar year of construction. The modeling results are provided in Appendix F: Air Quality Calculations and are summarized in Table 4.3-8: Uncontrolled Construction Emissions and Table 4.3-9: Controlled Construction Emissions. As shown, with the implementation of APM-AIR-01 and APM-AIR-02 (which would control fugitive dust emissions and reduce tailpipe emissions by specifying the use of Tier 4 equipment), APM-AIR-03 (which would reduce equipment idling time), APM-AIR-04 (which would maintain equipment in good working order), and APM-AIR-05 (which would encourage workers to carpool and/or utilize public transportation to work sites), all emissions would be below the applicable thresholds, and impacts would be less than significant.

Operation

Less-Than-Significant Impact. As described previously, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. There would be a minor increase in O&M activities due to the new capacitors and repeater sites. As a result, there would be a minor increase in emissions due to O&M activities, and impacts would be less than significant.

4.3.4.3 Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O₃ precursors)?

Construction

Less-Than-Significant Impact. As described in Section 4.3.1, Environmental Setting, the Proposed Project site is currently designated as nonattainment under the CAAQS for O₃, PM₁₀, and PM_{2.5}. This location is also classified as nonattainment under the Nevada standards for PM₁₀ and CO, as well as nonattainment under the NAAQS for PM₁₀ and PM_{2.5}. As discussed previously, even with the implementation of APM-AIR-01, APM-AIR-02, APM-AIR-03, APM-

AIR-04, and APM-AIR-05, the Proposed Project would be below all applicable MDAQMD thresholds and the de minimis thresholds used for Clark County. As a result, emissions from the Proposed Project would not be considered a cumulatively considerable net increase, and impacts would be less than significant.

Operation

Less-Than-Significant Impact. As described previously, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. There would be a minor increase in O&M activities due to the new capacitors and repeater sites. As a result, there would be a less-than-significant impact related to O&M activities.

4.3.4.4 Would the project expose sensitive receptors to substantial pollutant concentrations?

Construction

Less-Than-Significant Impact. Sensitive receptors in the Proposed Project vicinity could be exposed to increases in CAPs as a result of the fugitive dust released during excavation activities and vehicle travel on unpaved roads. As shown in Table 4.3-1: Sensitive Receptors within 500 Feet of the Proposed Project, six sensitive receptors are located within 500 feet of the Proposed Project and are occupied residences. The nearest residence is located approximately 300 feet from the Lugo-Mohave 500 kV Transmission Line. As described previously, the Proposed Project emissions would be below all applicable emissions thresholds, and the construction schedule calls for multiple crews working simultaneously across the entire approximately 240-mile-long Proposed Project. As a result, the actual emissions that would be created at a single site, and thus at a single sensitive receptor, would be dramatically lower than the overall Proposed Project emissions. In addition, APM-AIR-01 and APM-AIR-02 would be implemented to control fugitive dust and reduce CAP emissions from off-road equipment use, APM-AIR-03 would be implemented to reduce equipment idling time, APM-AIR-04 would be implemented to maintain equipment in good working order, and APM-AIR-05 would be implemented to encourage workers to carpool and/or utilize public transportation to work sites. Impacts would be less than significant due to the separation between construction activities and sensitive receptors, the APMs that would be implemented to reduce emissions, and because sensitive receptors would only be exposed to a single crew during construction for short periods of time.

Operation

Less-Than-Significant Impact. As described previously, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. There would be a minor increase in O&M activities due to the new capacitors and repeater sites; however, there are no sensitive receptors in the vicinity of these proposed facilities. Therefore, impacts during O&M would be less than significant.

4.3.4.5 Would the project create objectionable odors affecting a substantial number of people?

Construction

Less-Than-Significant Impact. Due to the nature of the Proposed Project, odor impacts are unlikely. Typical odor nuisances include hydrogen sulfide, ammonia, chlorine, and other sulfide-related emissions. No significant sources of these pollutants would exist during construction. An additional potential source of Proposed Project-related odor is diesel engine emissions. These emissions would be temporary in nature, would disperse quickly, and would be limited by the relatively small number of vehicles on site (i.e., an average of five off-road vehicles per construction location). In addition, most sensitive receptors are located far enough from the Proposed Project that they would not be affected by any odors caused by construction. Therefore, construction would not create objectionable odors that would affect a substantial number of people, and the impact would be less than significant.

Operation

Less-Than-Significant Impact. As described previously, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. Similar to construction, odor impacts are unlikely as no significant sources of odor nuisances would exist during O&M activities. There would be a minor increase in O&M activities due to the new capacitors and repeater sites; however, there are no sensitive receptors in the vicinity of these facilities. As a result, there would be minor increases in odors at these locations due to O&M activities, and impacts would be less than significant.

4.3.5 Applicant-Proposed Measures

The following APMs would be implemented to reduce air quality impacts associated with the Proposed Project:

- **APM-AIR-01: Fugitive Dust.** During construction, fugitive dust would be controlled by implementing the following measures:
 - Surfaces disturbed by construction activities would be covered or treated with a dust suppressant or water until the completion of activities at each site of disturbance.
 - Inactive, disturbed (e.g., excavated or graded areas) soil and soil piles would be sufficiently watered or sprayed with a soil stabilizer to create a surface crust, or would be covered.
 - Drop heights from excavators and loaders would be minimized to a distance of no more than 5 feet. Vehicles hauling soil and other loose material would be covered with tarps or maintain at least 6 inches of freeboard.
 - Within Nevada, vehicle speeds on unpaved traffic and parking areas would be restricted to 15 mph. In California, vehicle speeds on unpaved roadways would adhere to all posted speed limits.

- Within Nevada, unpaved non-public traffic and parking areas designated for utilization during Proposed Project construction would be effectively stabilized to control dust emissions (e.g., using water or chemical stabilizer/suppressant). In California, unpaved non-public traffic and parking areas designated for utilization during Proposed Project construction would be effectively stabilized to control dust emissions with a chemical stabilizer/suppressant.
- **APM-AIR-02: Tier 4 Engines.** Off-road diesel construction equipment with a rating between 100 and 750 horsepower would be required to use engines compliant with the U.S. EPA’s final Tier 4 non-road engine standards. In the event that a Tier 4 engine is not available, the equipment would be equipped with a Tier 3 engine and documentation would be provided from a local rental company stating that the rental company does not currently have the required diesel-fueled, off-road construction equipment, or that the vehicle is specialized and is not available to rent. Similarly, if a Tier 3 engine is not available, that equipment would be equipped with a Tier 2 or 1 engine, and documentation of unavailability would be provided.
- **APM-AIR-03: Idling.** Equipment would not be left idling in excess of five minutes, except when idling is required for the equipment to perform its task or has a California clean-idle sticker.
- **APM-AIR-04: Equipment Maintenance.** Diesel engines would be maintained in good working order and according to manufacturer’s specifications to reduce emissions.
- **APM-AIR-05: Ridesharing.** Workers would be encouraged to carpool to work sites, and/or utilize public transportation for employee commutes.

4.3.6 Mid-Line Series Capacitor Site Alternatives

Consistent with Section 15126.6(d) of the CEQA Guidelines, this Proponent’s Environmental Assessment analyzes alternatives to the Proposed Project. Section 5.2, Description of Project Alternatives and Impact Analysis, identifies and compares the construction and operation of SCE’s Proposed Project with its alternatives, including alternatives that did not meet key Proposed Project objectives and were not carried forward. The alternatives retained for a full evaluation—alternative sites for the Newberry Springs Series Capacitor and the Ludlow Series Capacitor—are analyzed in relation to air quality in the following discussion.

The alternative site for the Newberry Springs Series Capacitor is an approximately 3.1-acre site located approximately 930 feet to the northeast of its proposed location along the Eldorado-Lugo 500 kV Transmission Line. The alternative site for the Ludlow Series Capacitor is an approximately 3.1-acre site located approximately 970 feet to the southwest of its proposed location along the Lugo-Mohave 500 kV Transmission Line.

The alternative Newberry Springs Series Capacitor site would be located within an area under the jurisdiction of the MDAQMD. While construction activities at the alternative site would be similar in scope to those of the proposed mid-line series capacitor, the alternative Newberry Springs Series Capacitor site would be approximately 0.9 mile northeast of Interstate (I-) 40 and the proposed mid-line series capacitor site would be approximately 0.6 mile northwest of I-40.

The farther distance from I-40 would generate increased CAP emissions associated with employee travel to and from the site. Emissions related to the O&M of the alternative Newberry Springs Series Capacitor site would be similar to proposed mid-line series capacitor emissions, and operational impacts would be less than significant. In addition, APMs discussed in Section 4.3.5, Applicant-Proposed Measures would be applied to construction of the alternative Newberry Springs Series Capacitor to avoid or minimize potential impacts to cultural resources.

The alternative Ludlow Series Capacitor site would also be located within an area under the jurisdiction of the MDAQMD. While construction activities would be similar in scope to those of the proposed mid-line series capacitor, the alternative Ludlow Series Capacitor site would be approximately 0.4 mile northwest of I-40 and the proposed mid-line series capacitor would be approximately 0.5 mile northwest of I-40. The closer distance to I-40 would generate less CAP emissions associated with employee travel to and from the site. The resulting impacts from the alternative Ludlow Series Capacitor would be less than the impacts associated with the proposed Ludlow Series Capacitor. In addition, APMs discussed in Section 4.3.5, Applicant-Proposed Measures would be applied to construction of the alternative Ludlow Series Capacitor to avoid or minimize potential impacts to cultural resources.

4.3.7 References

- BLM. (2011). Sloan Hills Competitive Mineral Materials Sale Draft EIS. Retrieved May 4, 2016, from [http://www.blm.gov/style/medialib/blm/nv/field_offices/las_vegas_field_office/sloan_hills_eis.Par.98601.File.dat/SloanHills_ch03\[1\].pdf](http://www.blm.gov/style/medialib/blm/nv/field_offices/las_vegas_field_office/sloan_hills_eis.Par.98601.File.dat/SloanHills_ch03[1].pdf).
- CARB. (2014). Area Designations Maps/State and National. Retrieved October 30, 2016, from <http://www.arb.ca.gov/desig/adm/adm.htm>.
- CARB. (2015). iADAM: Air Quality Data Statistics. Retrieved May 4, 2016, from <http://www.arb.ca.gov/adam/>.
- CARB. (2016). Ambient Air Quality Standards. Retrieved April 12, 2016, from <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>.
- City of Boulder City. (2009). *Boulder City Master Plan*. Retrieved May 10, 2016, from <http://www.bcnv.org/DocumentCenter/Home/View/129>.
- City of Hesperia. (2010). City of Hesperia General Plan 2010. Retrieved July 27, 2016, from <http://www.cityofhesperia.us/DocumentCenter/View/3459>.
- Clark County DAQ. (2016a). Air Monitoring Site Information. Retrieved May 5, 2016, from http://airquality.clarkcountynv.gov/cgi-bin/site_info.pl.
- Clark County DAQ. (2016b). Clark County Air Quality Regulations. Retrieved May 10, 2016, from http://www.clarkcountynv.gov/airquality/regulations/Pages/Rules_CurrentRulesandRegulations.aspx.
- Clark County DAQ. (2016c). Air Quality Index Yearly Summary. Retrieved August 3, 2016, from http://airquality.clarkcountynv.gov/cgi-bin/aqi_archive_rpt.pl.
- Clark County. (2001). *PM₁₀ State Implementation Plan for Clark County*. Retrieved April 20, 2016, from http://www.clarkcountynv.gov/airquality/planning/Documents/SIP/PM10/PM10_SIP_PLAN_without_Appendices.pdf.
- Clark County. (2007). *Laughlin Land Use Plan*. Retrieved April 15, 2016, from <http://www.clarkcountynv.gov/comprehensive-planning/land-use/Documents/LaughlinAmendedPlan0907.pdf>.
- Clark County. (2008). Clark County Transportation Conformity Plan. Retrieved April 20, 2016, from http://www.clarkcountynv.gov/airquality/planning/Documents/SIP/transportation/Transportation_Conformity_Plan_January_2008.pdf.

- Clark County. (2011). *Ozone Redesignation Request and Maintenance Plan*. Retrieved April 20, 2016, from http://www.clarkcountynv.gov/airquality/planning/Documents/SIP/ozone/Ozone_Maint_Plan_final.pdf.
- Clark County. (2012). *South County Land Use Plan*. Retrieved April 15, 2016, from http://www.clarkcountynv.gov/comprehensive-planning/land-use/Documents/SouthCounty_LandUsePlan.pdf.
- Clark County. (2014). *Clark County Air Quality Regulations*. Retrieved August 1, 2016, from http://www.clarkcountynv.gov/airquality/regulations/Documents/SECT12.1_03-18-14.pdf.
- Clark County. (2014). *Clark County Comprehensive Plan*. Retrieved April 15, 2016, from <http://www.clarkcountynv.gov/comprehensive-planning/advanced-planning/Documents/PRINT%20VERSION%20CPPLAN%20APR%202015%20UPDATE%20WITH%20LU%20POLICIES.pdf>.
- Clark County. (2015). Clark County, NV NAAQS. Retrieved April 20, 2016, from <http://www.clarkcountynv.gov/airquality/planning/Documents/CriteriaPolutants/Clark%20County%20map.pdf>.
- County of San Bernardino. (2007). *County of San Bernardino 2007 General Plan*. Retrieved April 15, 2016, from <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>.
- Fallon Range Training Complex. (2015). Fallon Range Training Complex Draft EIS. Retrieved May 4, 2016, from http://frtceis.com/Portals/frtceis/documents/deis/ByIndividualSection/FRTC_DEIS_v5_3.2_Air_Quality.pdf.
- MDAQMD. (1994). *Rate-of Progress Plan*. Retrieved July 27, 2016, from <http://www.mdaqmd.ca.gov/Modules/ShowDocument.aspx?documentid=39>.MDAQMD. 2004.
- MDAQMD. (2004). *2004 Ozone Attainment Plan*. Retrieved July 27, 2016, from <http://www.mdaqmd.ca.gov/Modules/ShowDocument.aspx?documentid=41>.
- MDAQMD. (2016). California Environmental Quality Act (CEQA) and Federal Conformity Guidelines. Retrieved February 3, 2017, from <http://www.mdaqmd.ca.gov/Modules/ShowDocument.aspx?documentid=5417>.
- NDEP. (2015). Ambient Air Monitoring Network Plan. Retrieved April 19, 2016, from <http://ndep.nv.gov/baqp/monitoring/docs/2015%20Air%20Monitoring%20Network%20Draft.pdf>.
- NDEP. (2016). Ambient Air Quality Monitoring Program – Pollutants of Concern. Retrieved April 12, 2016, from <https://ndep.nv.gov/baqp/monitoring/aaqstd.html>.

U.S. EPA. (2018). General Conforming De Minimis Tables. Retrieved April 9, 2018, from <https://www.epa.gov/general-conformity/de-minimis-tables>.

This page intentionally left blank.

TABLE OF CONTENTS

4.4 BIOLOGICAL RESOURCES	4.4-1
4.4.1 Environmental Setting	4.4-3
4.4.2 Regulatory Setting	4.4-3
4.4.3 Existing Biological Resources	4.4-18
4.4.4 Significance Criteria	4.4-86
4.4.5 Impact Analysis	4.4-87
4.4.6 Applicant-Proposed Measures	4.4-99
4.4.7 Mid-Line Series Capacitor Site Alternatives	4.4-103
4.4.8 References.....	4.4-107

LIST OF FIGURES

Figure 4.4-1: CNDDDB Special-Status Plant Occurrences Map	4.4-25
Figure 4.4-2: CNDDDB Special-Status Wildlife Occurrences Map	4.4-55
Figure 4.4-3: NNHP Special-Status Wildlife and Plant Occurrences Map	4.4-73
Figure 4.4-4: Desert Tortoise Critical Habitat Map.....	4.4-83

LIST OF TABLES

Table 4.4-1: Surveys Conducted for the Proposed Project.....	4.4-2
Table 4.4-2: Vegetation Community Alliances and Land Cover Types Observed within the BRSA	4.4-20
Table 4.4-3: Special-Status Plant Species Observed within the BRSA.....	4.4-52
Table 4.4-4: Potentially Jurisdictional Waters within the BRSA	4.4-86
Table 4.4-5: Potential Impacts to Special-Status Plant Species.....	4.4-88
Table 4.4-6: Impacts to Sensitive Natural Communities	4.4-94
Table 4.4-7: Water Features to be Impacted by the Proposed Project.....	4.4-95

This page intentionally left blank.

4.4 Biological Resources

This section describes the biological resources in the area of the Eldorado-Lugo-Mohave Series Capacitor Project (Proposed Project¹). Alternatives to the Proposed Project are also discussed.

Biological resources data for the Proposed Project area were obtained through a review of biological literature and databases. A database search—including a geographic information system review of the California Natural Diversity Database (CNDDDB) maintained by the California Department of Fish and Wildlife (CDFW), the Nevada Natural Heritage Program (NNHP) database, and the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS Inventory)—was conducted for all United States (U.S.) Geological Survey 7.5-minute quadrangles surrounding or spanned by the Proposed Project.² The U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System was also queried for a list of federally endangered, threatened, and candidate species that may occur within or near the Proposed Project. Records for all known special-status plants and animals within 0.25 mile, 1 mile, and 5 miles of the Proposed Project were compiled and reviewed. Database searches and literature reviews were used to determine which special-status plants, natural communities, and wildlife might have potential to occur in the Proposed Project area. Local government plans and ordinances were also reviewed for the County of San Bernardino and the City of Hesperia in California, and for Clark County and the City of Boulder City in Nevada.

Using the results of the desktop review, field visits were then conducted to assess biological resources in the Proposed Project area. Table 4.4-1: Surveys Conducted for the Proposed Project contains a complete list of the biological resources surveys that were conducted for the Proposed Project and provides survey dates and approximate acres surveyed. Detailed discussions of survey methods and results are provided in Appendix G: Biological Resources Technical Report.

¹ The term “Proposed Project” is inclusive of all components of the Eldorado-Lugo-Mohave Series Capacitor Project. Where the discussion in this section focuses on a particular component, that component is called out by its individual work area (e.g., “Ludlow Series Capacitor”).

² The 7.5-minute quadrangle search was conducted for the following quadrangles: McCollough Mountain NE, Nelson SW, Searchlight, Searchlight SE, Tenmile Well, Davis Dam, Bridge Canyon, Juniper Mine, Mt. Manchester, East of Homer Mtn., Homer Mtn., Homer, Goffs, Fenner Hills, Desert Spring, Colton Well, Fountain Peak, Kelso Dunes, Glasgow, West of Broadwell Mesa, Budweiser Wash, West of Budweiser Wash, East of Broadwell Lake, Broadwell Lake, Sleeping Beauty, Hector, Ludlow, Sunshine Peak, Silver Bell Mine, Fry Mtns., Grand View Mine, White Horse Mountain, Fifteenmile Valley, Apple Valley South, Lake Arrowhead and Silverwood Lake.

Table 4.4-1: Surveys Conducted for the Proposed Project

Survey Type	Year	Date(s)	Approximate Acres Surveyed
Habitat assessment	2016	February 22 to February 24	N/A ³
Vegetation Community Mapping	2016	March 28 through April 16	N/A ³
Special-status plants ⁴	2016	March 28 to April 15	2,511
		May 2 to May 18	2,511
	2017	March 29 to April 9	124
		May 8 to May 15	74
		September 28 to October 5	774
Least Bell's vireo (<i>Vireo bellii pusillus</i>)	2016	April 20, May 8, May 23, June 5, June 15, June 25, July 6, and July 19	10
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	2016	April 20, May 8, May 23, June 5, June 15, June 25, July 6, and July 19	10
Desert tortoise (<i>Gopherus agassizii</i>)	2016	October 3 to October 20	1,342
	2017	May 11 to 15	6
		October 4 to October 5	12
Jurisdictional Waters Delineations	2016	April 18 through May 3	2,511
	2017	April 1, 2, 7, and 9	77
		October 4 to October 5	12

Note: N/A = not applicable

³ This survey was conducted in an approximately 1,000-foot wide corridor (500 feet on either side) of the entire approximately 240-mile transmission alignment of the Proposed Project.

⁴ With approval from the Bureau of Land Management (BLM), special-status plant surveys were not conducted in 2018 due to extreme drought conditions in the Mojave Desert, which prevented germination of annual plant species. Special-status plant surveys will resume in 2019.

4.4.1 Environmental Setting

The Proposed Project is located in California and Nevada, within the Mojave Basin and Range (Mojave). Federal lands constitute a majority of the land area in the Mojave, including lands under the jurisdiction of the BLM, National Park Service (NPS), Bureau of Reclamation (BOR), and Department of Defense (DoD). The Proposed Project would modify three existing transmission lines that extend northeast from Lugo Substation (located in San Bernardino County, California) to Eldorado Substation (located in the City of Boulder City, Nevada) and Mohave Substation (located in Clark County, Nevada), and from Mohave Substation northwest to Eldorado Substation. Portions of the Proposed Project would also cross the City of Hesperia, California, the unincorporated community of Lucerne Valley in California, as well as the unincorporated communities of Searchlight and Laughlin in Nevada.

4.4.1.1 Biological Setting

The existing transmission lines associated with the Proposed Project transect the Mojave Desert Geomorphic Province. The elevation of the Proposed Project ranges from 780 feet near Mohave Substation to 4,000 feet above mean sea level at various points. Between 1981 and 2010, rainfall records from the nearest climatological station to Eldorado Substation⁵ show an average annual rainfall of approximately 4.9 inches. Between 1981 and 2010, the average annual high temperature was approximately 80.1 degrees Fahrenheit (°F) and the average annual low temperature was 58.7°F. The Proposed Project is within the Southern Mojave and Piute Wash Hydrological Units. With the exception of the Mojave River and several smaller intermittent streams, streams consist almost exclusively of ephemeral dry washes that only hold water for a short period of time as the result of seasonal precipitation. Major drainages crossed by the Proposed Project include the Mojave River, Budweiser Wash, and Piute Wash. Within the vicinity of Lugo Substation, water generally flows from south to northeast, toward the Mojave River, and from there to isolated basins in the interior of the Mojave. Near Mohave Substation, water flows from west to east, toward the Colorado River. The Colorado River eventually empties to the Gulf of California, south of the U.S.-Mexico border. In the vicinity of Eldorado Substation, water generally flows from southwest to northeast and into the Eldorado Dry Lake. Vegetation in the Proposed Project area is generally characterized by the dominance of creosote (*Larrea tridentata*) shrubs, although other shrubs and emergent trees may be present at low densities. The habitat in the area supports a variety of wildlife species, consisting mainly of rodents and reptiles.

4.4.2 Regulatory Setting

Federal, State, and local regulations were reviewed for applicability to the Proposed Project.

4.4.2.1 Federal

In addition to the federal regulations described in the following subsections, federal authorizations would also be required because a majority of the land within the Proposed Project area is under the jurisdiction of the BLM, NPS, BOR, and DoD.

⁵ The nearest climatological station to Eldorado Substation is located in the City of Las Vegas.

Federal Endangered Species Act

The federal Endangered Species Act (FESA) protects plants and wildlife that are listed as endangered or threatened by the USFWS and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries). The FESA prohibits take of endangered wildlife, where "take" is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (16 U.S. Code [U.S.C.] §§ 1532[19], 1538). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of State law (16 U.S.C. § 1538[c]).

Under Section 7 of the FESA, federal agencies are required to consult with the USFWS and/or NOAA Fisheries if their actions, including permit approvals or funding, could adversely affect a listed species (including plants) or its critical habitat. Through consultation and the issuance of a Biological Opinion, the USFWS and/or NOAA Fisheries may issue an incidental take statement, allowing take of the species that is incidental to another authorized activity, provided that the action would not jeopardize the continued existence of the species. Through Section 10 of the FESA, private parties may develop a Habitat Conservation Plan (HCP) to address incidental take of federally-listed species.

Federal Land Policy and Management Act

The Federal Land Policy and Management Act (FLPMA) provides a regulatory framework for the management and use of BLM resources. An important aspect of the FLPMA is that it supports multiple uses on public lands. In addition, under the FLPMA, the BLM regulates rights-of-way (ROWs) for electrical power generation, transmission and distribution systems, systems for the transmission and reception of electronic signals and other means of communication, pipelines (other than oil and gas), railroads, highways, and other facilities or systems developed in the interest of the public.

The FLPMA also gives authority to the BLM to manage sensitive plants on BLM land. BLM Handbook 6840-1 describes management practices for sensitive plants. This includes providing site-specific habitat and population management objectives for each listed plant species and ensuring that any project the BLM funds, sponsors, or approves would avoid adverse impacts to sensitive plant species, to the maximum extent possible. If adverse impacts are unavoidable, the BLM would develop measures to mitigate adverse impacts to sensitive plant species.

California Desert Conservation Area Plan

The California Desert Conservation Area (CDCA) Plan is a comprehensive, long-range plan for the management, use, development, and protection of lands within the CDCA, and it is required as part of the FLPMA and implemented by the BLM. The CDCA Plan defines rare, threatened, and endangered plants as those listed as endangered by the FESA; endangered or rare by the California Endangered Species Act (CESA); or candidates for endangered or threatened listing by the USFWS. Rare, threatened, and endangered species are managed in accordance with applicable laws and regulations. These plants are also protected through consideration in all BLM site-specific environmental impact analysis to ensure that any action authorized by the

BLM does not jeopardize listed plants or habitats supporting listed plants. The CDCA Plan stabilizes and improves populations of listed plants through management and recovery plans developed and implemented cooperatively with the USFWS and CDFW. The CDCA Plan also prohibits the harvesting of plants that are listed as rare, threatened, or endangered. As part of Phase I of the Desert Renewable Energy Conservation Plan (DRECP), the BLM adopted an amendment to the CDCA Plan in September 2016—the Land Use Plan Amendment (LUPA) to the CDCA Plan and Bishop and Bakersfield Resource Management Plan, which is discussed further below.

Desert Renewable Energy Conservation Plan

The DRECP is a collaborative effort between the California Energy Commission, CDFW, BLM, and USFWS to advance federal and state natural resource conservation goals and other federal land management goals; meet the requirements of the FESA, CESA, Natural Community Conservation Planning Act, and FLPMA; and facilitate the timely and streamlined permitting of renewable energy projects in the Mojave and Colorado/Sonoran desert regions of Southern California. The DRECP covers approximately 22.5 million acres in the desert regions of Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego Counties. The DRECP is being prepared in two phases. Phase I consisted of the BLM LUPA to the CDCA Plan and Bishop and Bakersfield Resource Management Plan. Phase II will consist of adopting a General Conservation Plan for approximately 5.5 million acres of non-federal land and a Conceptual Plan-Wide Natural Community Conservation Plan (NCCP) that encompasses the entire DRECP plan area.

Bureau of Land Management Land Use Plan Amendment

The BLM LUPA establishes management direction for the permitting of renewable energy and transmission development on approximately 10 million acres of BLM-managed lands in the DRECP area. The BLM LUPA amends the CDCA Plan and the Bakersfield and Bishop Resource Management Plans. The purpose of the LUPA is to conserve biological, environmental, cultural, recreation, scenic, and visual resources; respond to federal renewable energy goals and policies, including state-level renewable energy targets; and comply with the FLPMA. The BLM LUPA prescribes conservation management actions (CMAs).

Bald and Golden Eagle Protection Act

The bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are federally protected under the Bald and Golden Eagle Protection Act (BGEPA), which was passed in 1940 to protect the bald eagle and amended in 1962 to include the golden eagle (16 U.S.C. § 668a-d). The BGEPA (16 U.S.C. § 668-668d) prohibits the take, possession, sale, purchase, barter, offering to sell or purchase, export or import, or transport of bald eagles and golden eagles and their parts, eggs, or nests without a permit issued by the USFWS. The definition of “take” includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb. The BGEPA prohibits any form of possession or take of either eagle species, and imposes criminal and civil sanctions as well as an enhanced penalty provision for subsequent offenses. Further, the BGEPA provides for the forfeiture of anything used to acquire eagles in violation of the statute. Regarding its prohibitions on possession, the statute exempts the use of eagles or eagle parts for exhibition, scientific, and Native American religious uses.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) recognizes international treaties between the U.S. and other countries that have been accorded to protect migratory birds and any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities:

- Falconry
- Raptor propagation
- Scientific collecting
- Special purposes (e.g., rehabilitation, education, migratory game bird propagation, and salvage)
- Take of depredating birds, taxidermy, and waterfowl sale and disposal

The regulations governing migratory bird permits can be found in Title 50 of the Code of Federal Regulations (CFR) in Part 13 (General Permit Procedures) and Part 21 (Migratory Bird Permits).

Desert Tortoise Recovery Plan and Critical Habitat Designation

The Desert Tortoise Recovery Plan (DTRP) is administered by the USFWS and establishes a strategy for the recovery and eventual delisting of the desert tortoise within the Mojave. This plan establishes five recovery units that cover the entire range of the desert tortoise. It also delineates 12 Critical Habitat Units established by the USFWS. The Proposed Project crosses the Colorado Desert, Western Mojave, and Eastern Mojave Recovery Units and falls within critical habitat.

The DTRP establishes a policy of “no net loss” of habitat within desert tortoise conservation areas. This can be accomplished through the avoidance of land disturbance, to the maximum extent possible. If unavoidable, disturbance would be minimized or mitigated. In addition to general protection measures, the DTRP outlines specific restoration and revegetation standards.

Clean Water Act

Section 404 of the Clean Water Act

The purpose of the Clean Water Act (CWA) is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the CWA prohibits the discharge of dredge or fill material into waters of the U.S. without a permit from the U.S. Army Corps of Engineers (USACE). The definition of waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas “that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR § 328.3[b]). The U.S. Environmental Protection Agency has veto authority over the USACE’s administration of the Section 404 program and may override a USACE decision with respect to permitting.

Under the current USACE-administered Nationwide Permit (NWP) Program, substation expansion may be authorized under NWP 12 (Utility Line Activities) if the project does not

result in a loss of more than 0.5 acre of waters of the U.S. Permanent impacts to waters of the U.S. that exceed 0.5 acre may require an Individual Permit. The portions of the Proposed Project in California are under the jurisdiction of the Los Angeles District of the USACE. The portions of the Proposed Project in Nevada are under the jurisdiction of the Sacramento District of the USACE.

Section 401 of the Clean Water Act

While the USACE administers permitting programs that authorize impacts to waters of the U.S., in California, any USACE permit authorized for a proposed project would be invalid unless the Regional Water Quality Control Board (RWQCB) has issued a project-specific Water Quality Certification (WQC) or waiver of water quality. A WQC requires a finding by the RWQCB that the activities permitted by the USACE would not violate water quality standards individually or cumulatively over the term of the issued USACE permit. The portions of the Proposed Project in California are under the jurisdiction of the Colorado River and Lahontan RWQCBs. When a project falls within the jurisdiction of two or more RWQCBs the State Water Resources Control Board (SWRCB) assumes regulatory oversight of the project, and will be the agency to issue the project-specific WQC. In Nevada, Section 401 certification falls under the authority of the Nevada Department of Environmental Protection (NDEP), Bureau of Water Quality Planning (BWQP). The BWQP may either waive, certify, or deny Section 401 WQCs.

Mojave National Preserve General Management Plan

The Mojave National Preserve (MNP) General Management Plan (MNP-GMP) seeks to perpetuate native plant life as critical components of the Mojave Desert ecosystem within the MNP. Specifically, it allows the manipulation of plant and plant communities only when necessary and requires that all disturbed vegetation be restored to pre-disturbance conditions. This plan also seeks to identify, inventory, and promote conservation for any plant, as well as USFWS-designated critical habitat for any FESA-listed species or State- and locally listed threatened, endangered, rare, or candidate species.

The NPS may restrict access to USFWS-designated critical habitat, and active management programs are established, as necessary and only after consultation with the USFWS and CDFW. The MNP-GMP also outlines specific management policies and goals for desert tortoise and desert bighorn sheep (*Ovis canadensis nelsoni*), as described in the following subsections.

Desert Tortoise

The MNP-GMP recommends expanding current USFWS-designated critical habitat and outlines specific management policies for desert tortoise that are already in effect. The relevant policies to the Proposed Project require the following:

- The aggressive management of trash and litter that may attract common ravens, a desert tortoise predator
- The prohibition of surface disturbance on park lands, unless it is appropriately restored or mitigated for

The MNP-GMP also recommends the following relevant management policies:

- No new roads will be constructed in desert tortoise critical habitat
- ROWs and easements will be reduced on MNP lands
- Holders of ROWs and easements may be required to install tortoise fencing through critical habitat
- An active restoration program will be established on previously disturbed lands

Desert Bighorn Sheep

The MNP/GMP's management goal is to research and understand the effects of development, including increased traffic and noise pollution on populations of desert bighorn sheep.

4.4.2.2 State

California

California Public Utilities Commission General Order 131-D

Pursuant to California Public Utilities Commission (CPUC) General Order (G.O.) 131-D, the CPUC has sole and exclusive jurisdiction over the siting and design of electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities in the State of California. Under the California Environmental Quality Act (CEQA), the CPUC is the Lead Agency with respect to such Proposed Project elements within the State of California. Southern California Edison Company (SCE) is required to comply with G.O. 131-D and is seeking a Permit to Construct from the CPUC for the Proposed Project.

California Fish and Game Code

Sections 1600 through 1617

Sections 1600 through 1617 of the California Fish and Game Code require that a Notification of Lake or Streambed Alteration Agreement Application be submitted to the CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” The CDFW reviews the proposed actions and, if necessary, submits to the applicant a Draft Lake or Streambed Alteration Agreement that includes measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the CDFW and the applicant is a Lake or Streambed Alteration Agreement.

Sections 3503, 3503.5, 3513, and 3800

Sections 3503, 3503.5, 3513, and 3800 of the California Fish and Game Code affords protection over the destruction of nests or eggs of native bird species, and it states that no birds in the orders of *Falconiformes* or *Strigiformes* (i.e., birds of prey) can be taken, possessed, or destroyed.

Sections 3511 and 4700

According to Sections 3511 and 4700 of the California Fish and Game Code—which regulate birds and mammals, respectively—a fully protected (FP) species may not be taken or possessed, and incidental take of these species is not authorized. The State of California first began to designate species as FP prior to the creation of the CESA and the FESA. Lists of FP species were initially developed to provide protection to animals that were rare or faced possible extinction,

including fish, amphibians, reptiles, birds, and mammals. Most FP species have since been listed as threatened or endangered under the CESA and/or the FESA. FP species may not be taken or possessed at any time, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock (California Fish and Game Code § 3511).

California Endangered Species Act

The CESA (California Fish and Game Code § 2050) generally parallels the main provisions of the FESA. Section 2080 of the California Fish and Game Code prohibits the take, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the California Fish and Game Code as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” The CESA allows for take incidental to otherwise lawful projects. State lead agencies are required to consult with the CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat. Under California Fish and Game Code Section 2081 (b), the CDFW can issue an Incidental Take Permit (ITP) to allow take of a CESA-listed species, if such take is incidental to, and not the purpose of, carrying out an otherwise lawful activity. Permittees must implement species-specific avoidance and minimization measures and fully mitigate the impacts of the project.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code, §§ 1900-1913) directed the CDFW to carry out the Legislature’s intent to “preserve, protect, and enhance rare and endangered plants in this State.” The NPPA is administered by the CDFW. The California Fish and Game Commission has the authority to designate native plants as “endangered” or “rare,” and protect endangered and rare plants from take. When the CESA was passed in 1984, it expanded on the original NPPA, enhanced legal protection for plants, and created the categories of “threatened” and “endangered” species to parallel the FESA. The CESA converted all rare animals to threatened species under the NPPA, but did not do so for rare plants, which resulted in three listing categories for plants in California—rare, threatened, and endangered. The NPPA remains part of the California Fish and Game Code, and mitigation measures for impacts to rare plants are specified in a formal agreement between the CDFW and a project proponent.

The CDFW generally regards many plant species as rare if they are included on California Rare Plant Rank (CRPR) Lists 1A, 1B, 2A, and 2B of the CNPS Inventory. In addition, CRPR List 3 and 4 plants are sometimes considered if the population has local significance in the area and is impacted by the project. For the purposes of this document, CRPR List 3 and 4 plants are omitted from further discussion. Section 1913(b) includes a specific provision to allow for the incidental removal of endangered or rare plant species, if not otherwise salvaged by the CDFW, within a ROW to allow a public utility to fulfill its obligation to provide service to the public.

Natural Community Conservation Planning Act

The Natural Community Conservation Planning Act of 1991 is designed to conserve natural communities at the ecosystem scale within California while accommodating compatible land uses. Section 2800 of the California Fish and Game Code implements a collaborative program by the State of California and numerous public and private partners to take a broad, ecosystem approach to planning for the protection and perpetuation of biological diversity. NCCPs are the result of an effort to move away from specific species protections and implement community-wide protection measures.

Desert Renewable Energy Conservation Plan

As previously discussed, the existing transmission lines within California are located within the proposed DRECP area. As part of Phase II, the USFWS will determine whether to approve the proposed General Conservation Plan, and CDFW will determine whether to approve the proposed NCCP. The Draft DRECP was released in September 2014 for public review and comment.

California Environmental Quality Act

CEQA was enacted in 1970 to provide for full disclosure of environmental impacts to the public before issuance of a permit by local public agencies. In addition to federally or State-listed species, special-status plants and animals receive consideration under CEQA. Special-status species include wildlife species of special concern (SSCs), which are listed by the CDFW. Pursuant to the CEQA Guidelines (14 California Code of Regulations [CCR] § 15380), some SSCs could be considered “rare.” Any unmitigated impacts to rare species could be considered a “significant effect on the environment” (14 CCR § 15382). Thus, SSCs must be considered in any project that will undergo or is currently undergoing CEQA review, and/or that must obtain environmental permits from a public agency.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1967 (California Water Code § 13000 et seq.) requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect waters of the State. These criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. Individual water quality control plans are prepared for each RWQCB. These plans set implementation policies, goals, and water management practices in accordance with the Porter-Cologne Water Quality Control Act. Waste discharge requirements and waivers are mechanisms used by the RWQCBs/SWRCB to control discharges and protect water quality.

Nevada

Nevada Revised Statutes Section 704.865

Nevada Revised Statutes (NRS) Section 704.865 provides that “A person, other than a local government, shall not commence to construct a utility facility in the State without first having obtained a permit therefor from the Commission. The replacement of an existing facility with a like facility, as determined by the Commission, does not constitute construction of a utility

facility.” The Public Utilities Commission of Nevada is the Lead Agency for compliance with the Nevada Utility Environmental Protection Act.

Nevada Revised Statutes Section 527.260-527.300

NRS Section 527.260, supplemented by the Nevada Administrative Code (NAC), protects native plant species that are threatened by extinction. After consulting other competent authorities, the State Forester Fire Warden has the authority to establish a list of species that are threatened with extinction. Any species declared to be threatened with extinction is placed on the list of FP species, and no individual of this species may be removed except under special permit issued by the State Forester Fire Warden.

Nevada Revised Statutes Section 503.585

NRS Section 503.585 requires a special purpose permit from the NDOW for the capture, removal, or destruction of any State-listed wildlife species. The special purpose permit specifies the relocation methods required on a project site.

Nevada Revised Statutes Chapter 445A

NRS Chapter 445A requires permits for discharges of any pollutant, including dredged soil and biological material, into any water of the State. A general permit is available for all projects that involve similar categories of discharges as previous projects. Individual permits may be granted if a proposed project does not fall within the parameters of the general permit.

Nevada Administrative Code 503

The Nevada Administrative Code (NAC) 503 establishes the State’s list of endangered, threatened, sensitive, and protected species. A permit issued by the Nevada Department of Wildlife (NDOW) is required to handle, move, or temporarily possess any wildlife species classified as endangered, threatened, sensitive, or protected to protect the wildlife from harm that may result from any previously approved activity on land where the wildlife is located. The NDOW reserves the right to make any stipulations and conditions of use it deems necessary.

4.4.2.3 Local

The CPUC has sole and exclusive jurisdiction over the siting and design of the Proposed Project components located in the State of California. Pursuant to CPUC G.O. 131-D, Section XIV.B, “Local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the CPUC’s jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters.” Consequently, public utilities are directed to consider local regulations and consult with local agencies, but the county and cities’ regulations are not applicable as the county and cities do not have jurisdiction over the Proposed Project. Accordingly, the following discussion of local regulations is provided for informational purposes only. The Proposed Project is also subject to local regulations in the State of Nevada.

California

County of San Bernardino

County of San Bernardino 2007 General Plan

The County of San Bernardino 2007 General Plan was reviewed for relevant goals and policies related to biological resources. The Conservation Element contains the following goals and policies that are relevant to the Proposed Project:

- Goal CO 2: The County will maintain and enhance biological diversity and healthy ecosystems throughout the County.
- Goal CO 5: The County will protect and preserve water resources for the maintenance, enhancement, and restoration of environmental resources.
- Policy CO 2.1: The County will coordinate with state and federal agencies and departments to ensure that their programs to preserve rare and endangered species and protect areas of special habitat value, as well as conserve populations and habitats of commonly occurring species, are reflected in reviews and approvals of development programs.
- Policy CO 2.2: Provide a balanced approach to resource protection and recreational use of the natural environment.
- Policy CO 2.4: All discretionary approvals requiring mitigation measures to biological resources will include the condition that the mitigation measures be monitored and modified.
- Policy CO 5.4: Drainage courses will be kept in their natural condition to the greatest extent feasible to retain habitat and allow some recharge of groundwater basins and resultant savings.

The Open Space Element contains the following goal and policy that are relevant to the Proposed Project:

- Goal OS 6: Improve and preserve open space corridors throughout the County.
- Policy OS 4.2: The County will preserve and encourage the management of suitable land for greenbelts, forests, recreation facilities, and flood control to provide adequate water supply, achieve air quality improvement, and provide habitat for fish, wildlife, and wild vegetation.
- The Land Use Element contains the following policy that is relevant to the Proposed Project:
- Policy LU 7.2: Enact and enforce regulations that will limit development in environmentally sensitive areas, such as those adjacent to river or streamside areas, and hazardous areas, such as flood plains.

*County of San Bernardino Development Code*Chapter 88.01.060

Section 88.01.060, Native Desert Plant Protection, of the County of San Bernardino Development Code provides regulations for the removal of specified native desert plants in order to preserve and protect the plants and to provide for the conservation and wise use of desert resources. The Native Desert Plant Protection requires a Tree or Plant Removal Permit to remove the following plants:

- Smoke trees (*Psoralea argophylla*) and mesquites (*Prosopis* spp.) with a stem measuring 2 inches or more in diameter or 6 feet or more in height
- All species of the family *Agavaceae*
- Creosote rings with diameters of 10 feet or more
- All Joshua trees (*Yucca brevifolia*)
- Any part, living or dead, of desert ironwood (*Olneya* spp.), mesquites, or palo verdes (*Parkinsonia* spp.)

Chapter 88.01.080

Section 88.01.080, Regulated Riparian Plants, provides for the protection of riparian plants. The county defines riparian vegetation as vegetation within 200 feet of the bank of a stream. Any removal of riparian vegetation requires a Tree or Plant Removal Permit and is subject to environmental review.

*City of Hesperia**City of Hesperia General Plan 2010*

The City of Hesperia General Plan 2010 was reviewed for relevant goals and policies related to biological resources. The following goals and implementation policies are contained in the Conservation Element of the plan:

- Goal CN-1: Conserve water resources within the Upper Mojave River Groundwater Basin.
- Goal CN-2: Establish building and development standards to maximize the reclamation of water resources.
- Goal CN-3: Minimize development and set aside necessary open space near and along the surface waters as well as those washes and other water passageways located in the City of Hesperia to preserve and protect plant and animal species and their natural habitat dependent on such surface waters and water ways.
- Goal CN-4: Establish policies and regulations to protect the natural environment and habitat of the cities biological resources.
- Implementation Policy CN-1.4: Limit the disturbance of natural water hydrology by minimizing the creation of impervious surface area.

- Implementation Policy CN-2.1: Minimize impacts to washes that convey drainage by prohibiting development within drainage corridors.
- Implementation Policy CN-2.3: Protect open space areas used for recharging groundwater basins.
- Implementation Policy CN-3.1: Monitor the development impacts to these surface water resources within the city.
- Implementation Policy CN 3-2: Preserve areas within the Oro Grand wash and un-named wash #1 that exhibit ideal native habitat in a natural state.
- Implementation Policy CN-4.1: Preserve pristine open space areas and known wildlife corridors for conservation to protect species and their habitats.
- Implementation Policy CN-4.2: Encourage the protection, preservation and long-term viability of environmentally sensitive habitats and species in the City of Hesperia.
- Implementation Policy CN-4.3: Identify lands that are suitable for preservation for sensitive species and their habitats.
- Implementation Policy CN-4.4: In those areas known as possible habitat for endangered and sensitive species, require proper assessments before authorizing development.
- Implementation Policy CN-4.5: Where such assessments indicate the presence of endangered or sensitive species, require appropriate actions to preserve the habitat and protect the identified species.

City of Hesperia Code of Ordinances

Chapter 16.24, Article II

Article II, Desert Native Plant Protection, describes the importance of protecting and preserving specified desert native plants. It also details the regulations and guidelines for harvesting such plants. A removal permit is required for any of the following trees:

- Smoke trees, all species of the family *Agavaceae*, and all mesquites with stems measuring more than 2 inches in diameter or more than 6 feet in height
- Creosote rings with diameters of 10 feet or more
- All Joshua trees (mature and immature)

Chapter 16.24, Article III

Article III, Riparian Plant Conservation, requires a tree removal permit for any vegetation removal within 200 feet of a stream bank.

Nevada

Clark County

Clark County Comprehensive Plan

The Conservation and Open Space Element of the Clark County Comprehensive Plan contains the following policies that are relevant to the Proposed Project:

- Environmentally Sensitive Lands Policy 6: Clark County should explore an expanded local government role in protecting and managing Environmentally Sensitive Lands where appropriate
- Land Conservation Policy 3: Encourage preservation and protection of washes and waterways.
- Species Protection Policy 1: Encroachment upon endangered species habitats and unique biological resource areas should be avoided or mitigated.
- Species Protection Policy 3: Clark County and Federal agencies should coordinate land uses and disposals near federally designated management areas to reduce environmental and habitat impacts within protected areas.
- Species Protection Policy 4: Protect existing threatened or endangered species and those species that may be listed under the provisions of the Federal Endangered Species Act.
- Species Protection Policy 5: Throughout the 30-year term of the permit, Clark County will administer and maintain Permit TE 034927-0 for the Clark County Multiple Species Habitat Conservation Plan (MSHCP), under Section 10(a)1(B) of the Endangered Species Act of 1973.
- Water Quality Policy 8: Actively pursue efforts to ensure the quality of water entering the Colorado River.

Clark County Code of Ordinances

Chapter 30.32.050, Incidental Take Permit: Compliance with Endangered Species Act, details the process required by developers to comply with the Clark County Multiple Species HCP (MSHCP).

Clark County Multiple Species Habitat Conservation Plan

The Clark County Desert Conservation Program manages FESA compliance for Clark County and the City of Boulder City, among others, in coordination with the USFWS, NPS, BLM, the U.S. Forest Service, the NDOW, and other State and local agencies. In doing so, the program implements the MSHCP and measures required in the associated incidental take statement, pursuant to Section 10(a)1(B), to provide a streamlined process for FESA compliance by private landowners. Along with broad measures for funding and administration, the Clark County MSHCP provides for specific protective measures to be implemented by the various agencies involved on their respective jurisdictions. Although SCE's ROWs are within the BLM utility

corridor, which is not regulated by the MSHCP, the following special-status wildlife measures are relevant to the Proposed Project outside of the ROW:

Bureau of Land Management

- Limit motorized use in the Eldorado/Piute “Conserved Habitat” to designated trails.
- Protect snags as important ecological features.
- Work with the Nevada Power Company and other utilities to modify existing power line towers or poles to meet BLM standards for the prevention of raptor mortality.
- Protect key nesting areas, migration routes, important prey base areas, and concentration areas for birds of prey on public lands through the mitigation of activities during National Environmental Policy Act compliance.
- Limit the construction of new roads for the development of utility lines within special status species habitat.
- Protect important resting/nesting habitat, such as riparian areas and mesquite/acacia woodlands. Do not allow projects that may adversely impact the water table supporting these plant communities.
- Within desert tortoise critical habitat, require reclamation of activities that result in loss or degradation of habitat, with habitat to be reclaimed to pre-disturbance condition.
- During development of all activity plans, give special attention to protecting riparian zones as wildlife habitat and to protecting associated native wildlife.
- Limit utility corridors to widths of 3,000 feet or less.

Nevada Division of State Parks

- Prohibit collection or harassment of any wildlife
- Prohibit unconstrained pets or domestic animals

Laughlin Land Use Plan

The Laughlin Land Use Plan was reviewed for relevant goals and policies related to biological resources. The Natural Environment section contains the following policies that are relevant to the Proposed Project:

- Policy 39.4: In coordination with the Clark County Regional Flood Control District (CCRFCD) and other community stakeholders, encourage the preservation of natural washes and unlined channels to an extent practical and consistent with the need for flood protection, erosion control, and water quality.
- Policy 39.6: Encourage the preservation of natural washes and waterways.

The Conservation Areas section contains the following goal and policies that are relevant to the Proposed Project:

- Goal 44: Encourage the conservation of wilderness and preservation lands.
- Policy 44.2: Clark County should encourage the preservation of areas that exceed two and one half acres in size with slopes of 12% or greater for parks, open space conservation and other compatible uses.
- Policy 44.3: Encourage transitional development to buffer environmentally sensitive lands from more intensive uses.

South Clark County Land Use Plan

The South Clark County Land Use Plan was reviewed for relevant goals and policies related to biological resources. The Natural Environment section contains the following policy that is relevant to the Proposed Project:

- Policy 46.4: In coordination with Regional Flood Control District and other community stakeholders, encourage the preservation of natural washes and unlined channels to an extent practical and consistent with the need for flood protection, erosion control, and water quality.

The Conservation section contains the following goal and policies that are relevant to the Proposed Project:

- Goal 50: Encourage Conservation Areas.
- Policy 50.2: Encourage preservation and protection of washes and waterways.
- Policy 50.3: Encourage transitional development to buffer environmentally sensitive lands from more intensive uses.
- Policy 50.7: Environmentally sensitive lands should be buffered by using sound development design and having low intensity uses next to these lands.
- Policy 50.8: Roads ending at conservation/sensitive lands should be properly terminated to prevent: vehicles from traversing vegetated areas; use of unimproved/undedicated rights-of-way; and illegal dumping.

The Cal-Nev-Ari section contains the following goal that is relevant to the Proposed Project:

- Goal 52: To promote development that is compatible with the natural environment and consistent with the history of Cal-Nev-Ari.

City of Boulder City

Boulder City Master Plan

The Conservation and Open Space Elements of the Boulder City Master Plan include the following relevant policies:

- NRC 5: The city should continue to preserve, wherever possible, natural habitat for wildlife and plants native to the region through compliance with the Clark County Multiple Species Habitat Conservation Plan. When the Multiple Species Habitat Conservation Plan is amended to include riparian species, the city shall amend its plans as necessary to abide by any new requirements.
- NRC 9: The city shall continue to work with the Regional Flood Control District to ensure that future development projects provide multi-purpose flood control systems that incorporate trails and recreational facilities as well as serving flood control functions.

Boulder City City Code

Chapter 43 of the Boulder City City Code requires that all development comply with the Clark County MSHCP. Chapter 40 of the Boulder City City Code prohibits the alteration of natural floodplains, stream channels, and natural protective barriers, which help channel flood waters and sediments.

4.4.3 Existing Biological Resources

This section describes the biological resources that occur or potentially occur in the Proposed Project area. The following subsections describe the general vegetation community types, sensitive natural communities, and wildlife populations and movement patterns in the Proposed Project area, as well as special-status plant and wildlife species that are either known to occur or have the potential to occur.

Surveys were conducted within the Biological Resources Survey Area (BRSA) to evaluate and inventory biological resources. The BRSA is composed of the Proposed Project area and a buffer of variable widths (to allow for changes in Proposed Project engineering). Therefore, the BRSA comprises a larger area than would be impacted by the Proposed Project. For the initial habitat assessment, jurisdictional delineation, and protocol-level special-status plant surveys, the BRSA encompassed approximately 2,511 acres over approximately 240 linear miles. Subsequently, the BRSA was reduced due to engineering refinements. All subsequent surveys were conducted over reduced acreages.

4.4.3.1 Vegetation Communities

Vegetation within the BRSA was surveyed and mapped to the alliance level described in A Manual of California Vegetation Online (CNPS 2018). Thirty-seven⁶ vegetation community alliances and land cover types were identified within the BRSA, as presented in Table 4.4-2: Vegetation Community Alliances and Land Cover Types Observed within the BRSA. The BRSA

⁶ Several of the alliances documented in the 2015 vegetation mapping effort were renamed or recategorized to reflect the most recent names in A Manual of California Vegetation Online (2018).

consists mostly of undeveloped lands, with few urbanized areas. The *Larrea tridentata* – *Ambrosia dumosa* Shrubland Alliance and the *Larrea tridentata* Shrubland Alliance were observed throughout the majority of the BRSA, accounting for approximately 52 percent of the BRSA. These alliances are characterized by the dominance of creosote bush (*Larrea tridentata*), although other shrubs and emergent trees may be present at low densities. These alliances support a variety of wildlife species, consisting mainly of rodents, reptiles, and invertebrates, as well as nesting and foraging birds and raptors. The presence of standing water in winter and the growth of herbaceous plants in spring provides foraging areas and food for wildlife. Descriptions of each vegetation community identified are provided in the Special-Status Plant Survey Report in Appendix G: Biological Resources Technical Report.

Table 4.4-2: Vegetation Community Alliances and Land Cover Types Observed within the BRSA

Vegetation Community Alliance or Land Cover Type	State Rarity Ranking ⁷	Approximate Area within the BRSA (Acres)
<i>Achnatherum speciosum</i> Herbaceous Alliance	S2.2	0.3
Active Agriculture	N/A	12.9
<i>Adenostoma fasciculatum</i> Shrubland Alliance	S5	8.5
<i>Ambrosia dumosa</i> Shrubland Alliance	S5	9.1
<i>Ambrosia salsola</i> – <i>Bebbia juncea</i> Shrubland Alliance	S4	17
<i>Atriplex confertifolia</i> Shrubland Alliance	S4.2	0.6
<i>Atriplex polycarpa</i> Shrubland Alliance	S4	53.4
Barren – Not Developed	N/A	209.7
<i>Cercocarpus montanus</i> Shrubland Alliance	S4	3.4
<i>Chilopsis linearis</i> – <i>Psoralea argophylla</i> Woodland Alliance	S3	3.4
<i>Chorizanthe rigida</i> – <i>Geraea canescens</i> Desert Pavement Sparsely Vegetated Alliance	S4	13.4
<i>Coleogyne ramosissima</i> Shrubland Alliance	S4	4.7
<i>Cylindropuntia bigelovii</i> Shrubland Alliance	S3	0.2
Developed Land	N/A	299.4
<i>Encelia (actoni, virginensis)</i> – <i>Viguiera reticulata</i> Shrubland Alliance	S3	6.3
<i>Encelia farinosa</i> Shrubland Alliance	S4	68.1
<i>Ephedra funerea</i> Shrubland Alliance	S2.3	7.9
<i>Ephedra nevadensis</i> – <i>Lycium andersonii</i> – <i>Grayia spinosa</i> Shrubland Alliance	S4	1.1
<i>Ephedra viridis</i> Shrubland Alliance	S4	4.3
<i>Ericameria cooperi</i> Provisional Shrubland Alliance	TBD	5.0
<i>Ericameria linearifolia</i> – <i>Cleome isomeris</i> Shrubland Alliance	S4	8.4

⁷ The rankings are explained in the Sensitive Natural Communities section.

Vegetation Community Alliance or Land Cover Type	State Rarity Ranking ⁷	Approximate Area within the BRSA (Acres)
<i>Ericameria nauseosa</i> Shrubland Alliance	S5	32.4
<i>Ericameria paniculata</i> Shrubland Alliance	S3	14.5
<i>Eriogonum fasciculatum</i> Shrubland Alliance	S5	97.1
<i>Juniperus californica</i> Woodland Alliance	S4	20.1
<i>Larrea tridentata</i> – <i>Ambrosia dumosa</i> Shrubland Alliance	S5	1,155.7
<i>Larrea tridentata</i> – <i>Encelia farinosa</i> Shrubland Alliance	S4	33.4
<i>Larrea tridentata</i> Shrubland Alliance	S5	290.5
<i>Pleuraphis rigida</i> Herbaceous Alliance	S2.2	0.6
<i>Prunus fasciculata</i> – <i>Salazaria mexicana</i> Shrubland Alliance	S3.3	81.8
<i>Purshia tridentata</i> Shrubland Alliance	S3	0.5
<i>Salix exigua</i> Woodland Alliance	S4.2	0.4
<i>Senegalia greggii</i> – <i>Hyptis emoryi</i> – <i>Justicia californica</i> Shrubland Alliance	S4	50.7
<i>Suaeda moquinii</i> Shrubland Alliance	S3	5.2
<i>Tamarix</i> spp. Shrubland Semi-Natural Alliance	N/A	0.9
<i>Yucca brevifolia</i> Woodland Alliance	S3.2	66.9
<i>Yucca schidigera</i> Shrubland Alliance	S4	135.6

Source: CNPS 2018

Note: TBD = Rank has yet to be determined.

Sensitive Natural Communities

Sensitive natural communities are defined as communities that are of limited distribution within California⁸ or within a county or region, and are often vulnerable to environmental effects of projects. These communities may or may not contain special-status species or their habitats. Natural communities with a State rarity ranking of 1 to 3 are considered sensitive. No State sensitive associations, outside what has already been characterized within the State sensitive alliances listed in this section, were observed in the BRSA. The rankings are defined as follows:

- S1, Critically Imperiled: Critically imperiled in California because of extreme rarity (often five or fewer occurrences) or because of some factor(s), such as very steep declines, making it especially vulnerable to extirpation from the State/province
- S2, Imperiled: Imperiled in California because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or State/province
- S3, Vulnerable: Vulnerable in California due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation

Of the 36 vegetation communities and land cover types observed within the BRSA, the following 11 are designated as sensitive natural communities:

- *Achnatherum speciosum* Herbaceous Alliance
- *Chilopsis linearis* – *Psoralea argophylla* Woodland Alliance
- *Cylindropuntia bigelovii* Shrubland Alliance
- *Encelia (actoni, virginensis)* – *Viguiera reticulata* Shrubland Alliance
- *Ephedra funerea* Shrubland Alliance
- *Ericameria paniculata* Shrubland Alliance
- *Pleuraphis rigida* Herbaceous Alliance
- *Prunus fasciculata* – *Salazaria mexicana* Shrubland Alliance
- *Purshia tridentata* Shrubland Alliance
- *Suaeda moquinii* Shrubland Alliance
- *Yucca brevifolia* Woodland Alliance

Detailed descriptions are provided in the Special-Status Plant Survey Report in Appendix G: Biological Resources Technical Report.

The *Prunus fasciculata* – *Salazaria mexicana* Shrubland Alliance and *Yucca brevifolia* Woodland Alliance were the most prevalent sensitive communities observed within the BRSA. The *Prunus fasciculata* – *Salazaria mexicana* Shrubland Alliance was observed in approximately 81.8 acres of the BRSA, and was entirely restricted to the Ord Mountains. Although the stands of

⁸ The CDFW's list of California Sensitive Natural Communities was used to evaluate sensitive natural communities within the BRSA in both California and Nevada. No equivalent list for sensitive natural communities in Nevada is available. All 11 sensitive natural communities observed within the BRSA occur in both California and Nevada.

desert almond (*Prunus fasciculata*) were localized within this region, it accounted for the majority of vegetation cover surveyed in the Ord Mountains.

The *Yucca brevifolia* Woodland Alliance was observed in various stretches in the BRSA. In total, this alliance was observed in 66.9 acres of the BRSA. An approximately 25-acre stand of Joshua trees (*Yucca brevifolia*) was observed in the vicinity of Lugo Substation. The alliance was otherwise contained to isolated areas within the BRSA. It occurred in small patches on the slopes of the Ord Mountains and on the basin floor of nearby Fifteenmile Valley. The woodland alliance was also observed in two approximately 25-acre patches, as well as several smaller areas, on the gentle slopes of the Highland Range near the community of Searchlight, Nevada.

Riparian vegetation is also considered to be a sensitive natural community in California because of the habitat it provides for special-status plant and wildlife species and their limited distribution in California. Riparian vegetation is regulated by the CDFW through Section 1602 et seq. of the California Fish and Game Code. Riparian vegetation may occur along drainages that typically are subject to seasonal flooding. Most natural riparian vegetation in California has been lost or degraded by the following:

- Land use conversions to agricultural, urban, and recreational uses
- Channelization for flood control
- Sand and gravel mining
- Groundwater pumping
- Water impoundments

Limited riparian habitat is present in small, isolated stands within the BRSA. Less than 0.1 acre of CDFW-jurisdictional riparian vegetation was observed within the BRSA and occurs in two isolated stands. One stand was located in Fenner Valley, in an unnamed wash along Powerline Road and approximately 9.4 miles east of Foshay Pass. The other stand was located in the Dead Mountains, in an unnamed wash located approximately 938 feet southwest of the intersection of Powerline Road and Old Government Road.

4.4.3.2 Special-Status Plant Species

For the purposes of this document, special-status plant species are defined as follows:

- Federally listed species (i.e., plants listed as threatened or endangered under the FESA)
- Species considered to be “sensitive” by the BLM
- State-listed species (i.e., plants listed as threatened or endangered under the CESA)
- Species that are candidates for possible future listing as threatened or endangered under the FESA
- State-listed species considered to be critically imperiled, imperiled, or vulnerable under the NNHP

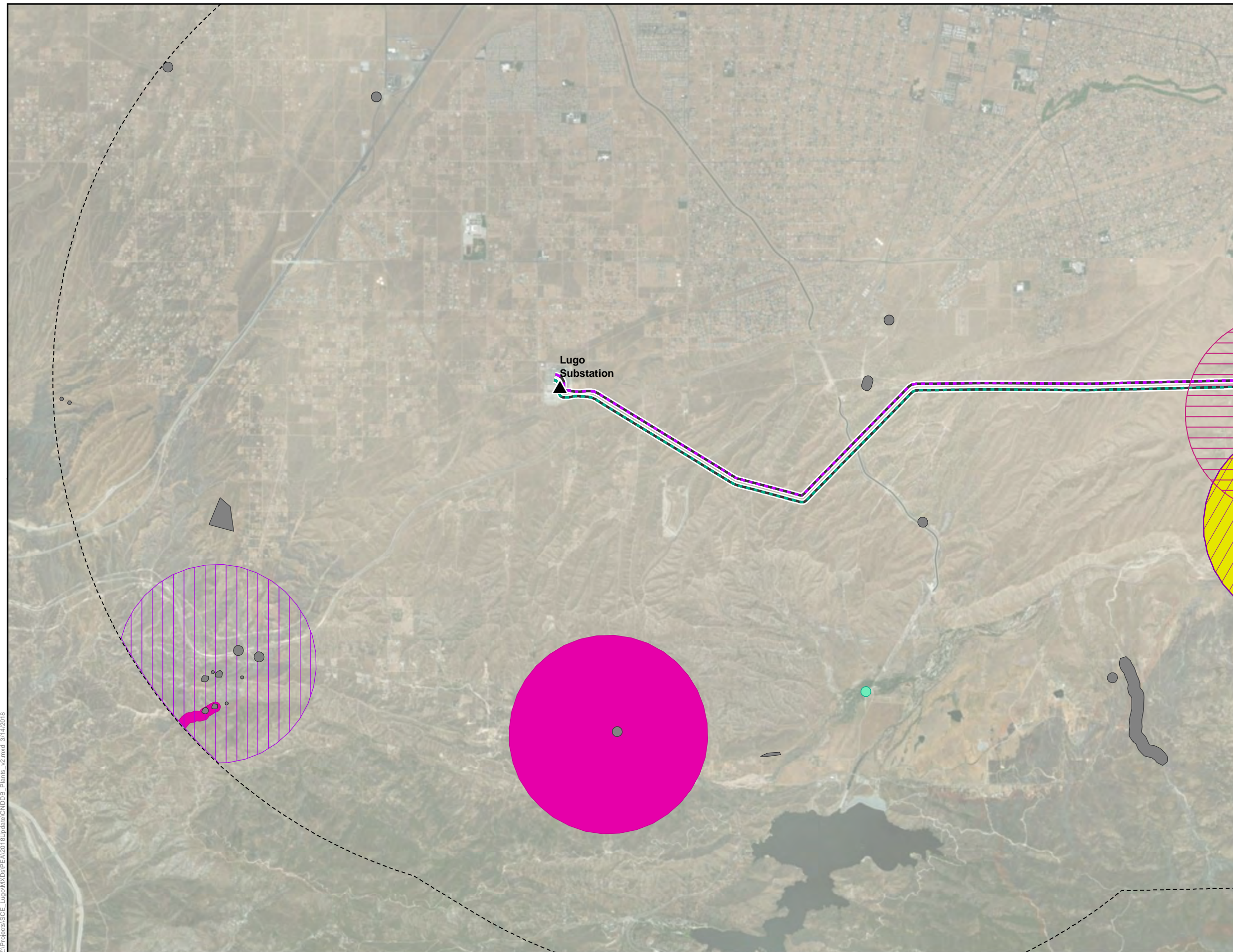
- Plants that meet the definition of rare or endangered under CEQA, including species considered by the CNPS to be rare, threatened, or endangered in California (i.e., California Rare Plant Ranks [CRPRs] 1A, 1B, 2A, 2B, and certain rank 3 and 4 species with local significance)

Insignia Environmental (Insignia) botanists reviewed background literature and searched relevant databases to generate a list of special-status plant species that may occur in the BRSA. Based on this background review, 19 special-status plant species occur within the BRSA. CNDDDB occurrences of special-status plants within 5 miles of the BRSA are shown in Figure 4.4-1: CNDDDB Special-Status Plant Occurrences Map. Appendix G: Biological Resources Technical Report contains the results of the background review and describes the special-status plant species with the potential to occur in the BRSA, including information on local populations, habitat requirements, and life history of the species.

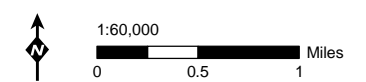
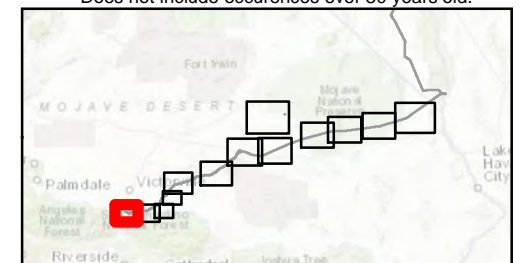
**Figure 4.4-1:
CNDDB Special-Status Plant
Occurrences Map
Page 1 of 13**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

- ▲ Substation
- Eldorado - Lugo 500 kV Transmission Line
- Lugo - Mohave 500 kV Transmission Line
- - - 5-Mile Project Buffer
- CNDDB Occurrence***
- ▨ Beaver Dam breadroot
- ▨ Booth's evening-primrose
- Mojave tarplant
- Palmer's mariposa-lily
- short-joint beavertail
- southern mountains skullcap
- ▨ white-bracted spineflower

















*Does not include occurrences over 30 years old.

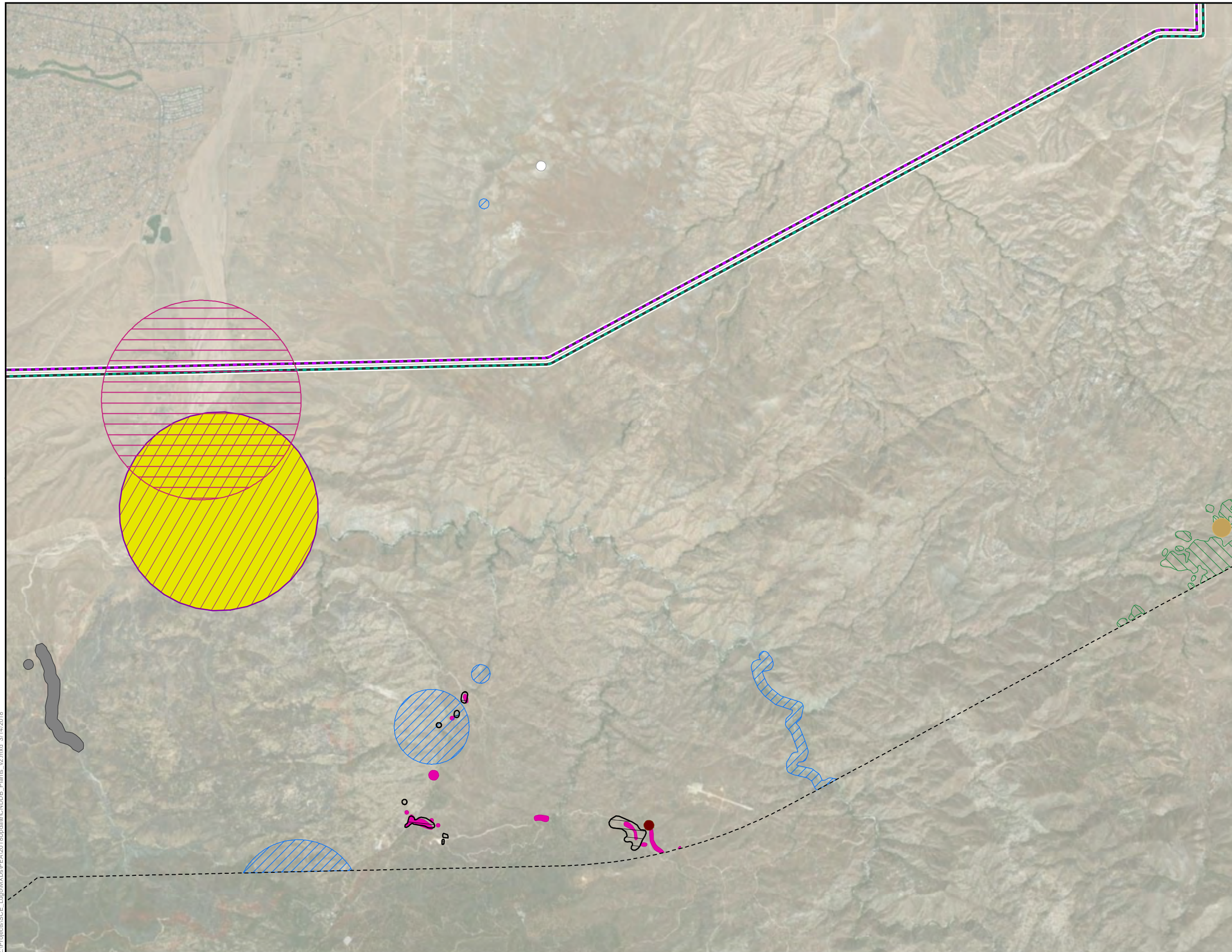


This page intentionally left blank.

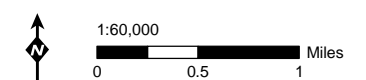
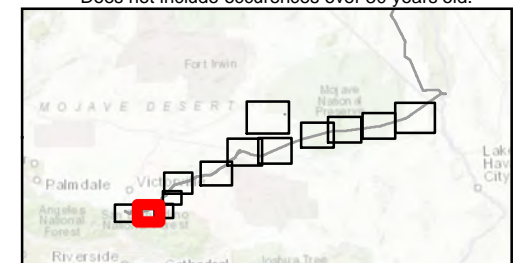
**Figure 4.4-1:
CNDDB Special-Status Plant
Occurrences Map
Page 2 of 13**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

-  Eldorado - Lugo 500 kV Transmission Line
-  Lugo - Mohave 500 kV Transmission Line
-  5-Mile Project Buffer
- CNDDB Occurrence***
-  Beaver Dam breadroot
-  Booth's evening-primrose
-  Mojave tarplant
-  Palmer's mariposa-lily
-  Parish's rockcress
-  Parish's yampah
-  San Bernardino Mountains dudleya
-  San Bernardino Mountains owl's-clover
-  pinyon rockcress
-  short-joint beavertail
-  southern mountain buckwheat


















*Does not include occurrences over 30 years old.

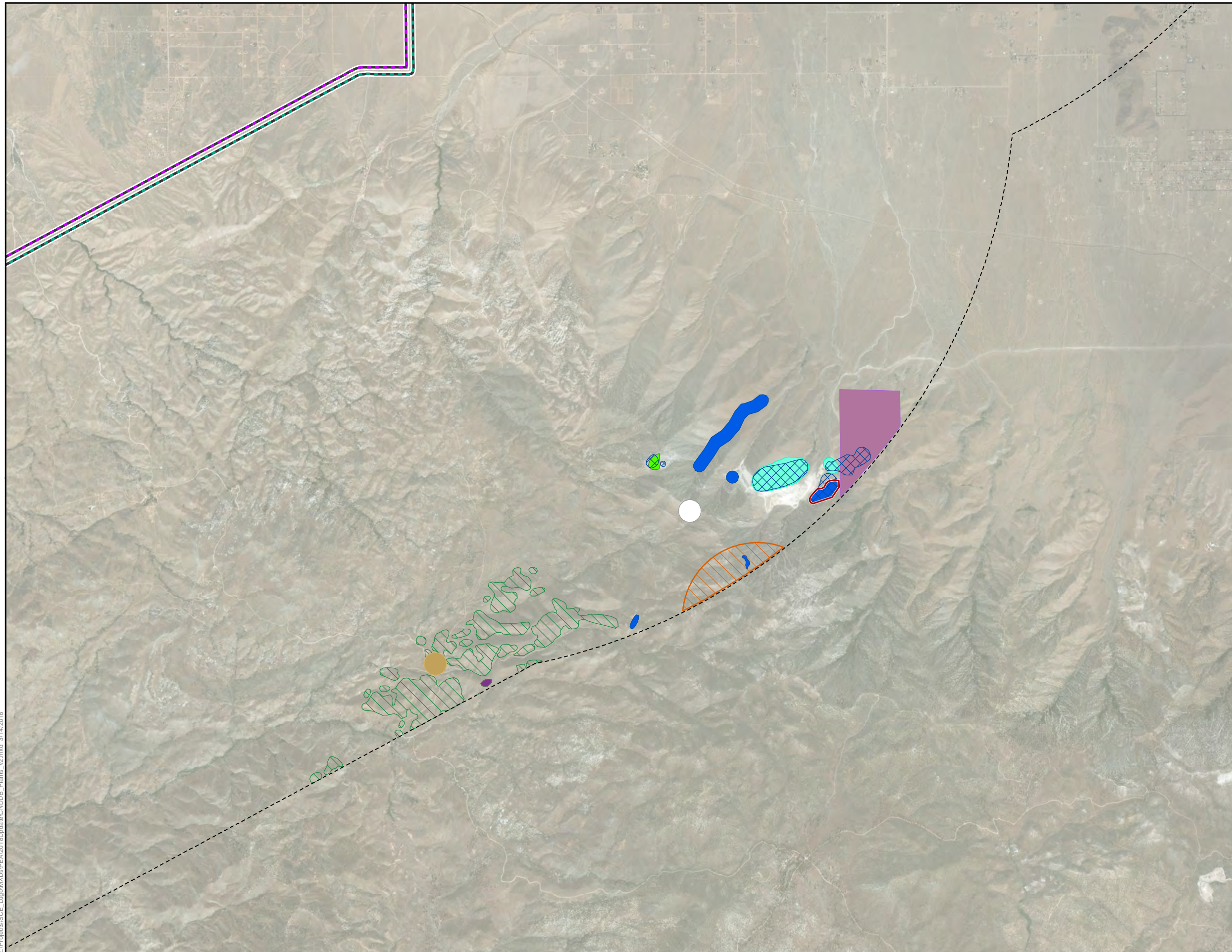


This page intentionally left blank.

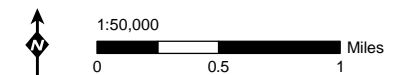
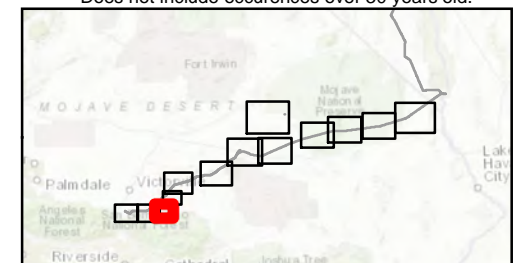
**Figure 4.4-1:
CNDDB Special-Status Plant
Occurrences Map
Page 3 of 13**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

-  Eldorado - Lugo 500 kV Transmission Line
-  Lugo - Mohave 500 kV Transmission Line
-  5-Mile Project Buffer
- CNDDB Occurrence***
-  Big Bear Valley phlox
-  Big Bear Valley sandwort
-  Cushenbury buckwheat
-  Cushenbury oxytheca
-  Latimer's woodland-gilia
-  Parish's alumroot
-  Parish's daisy
-  Parish's rockcress
-  San Bernardino Mountains dudleya
-  Shockley's rockcress
-  pinyon rockcress
-  southern mountain buckwheat











*Does not include occurrences over 30 years old.

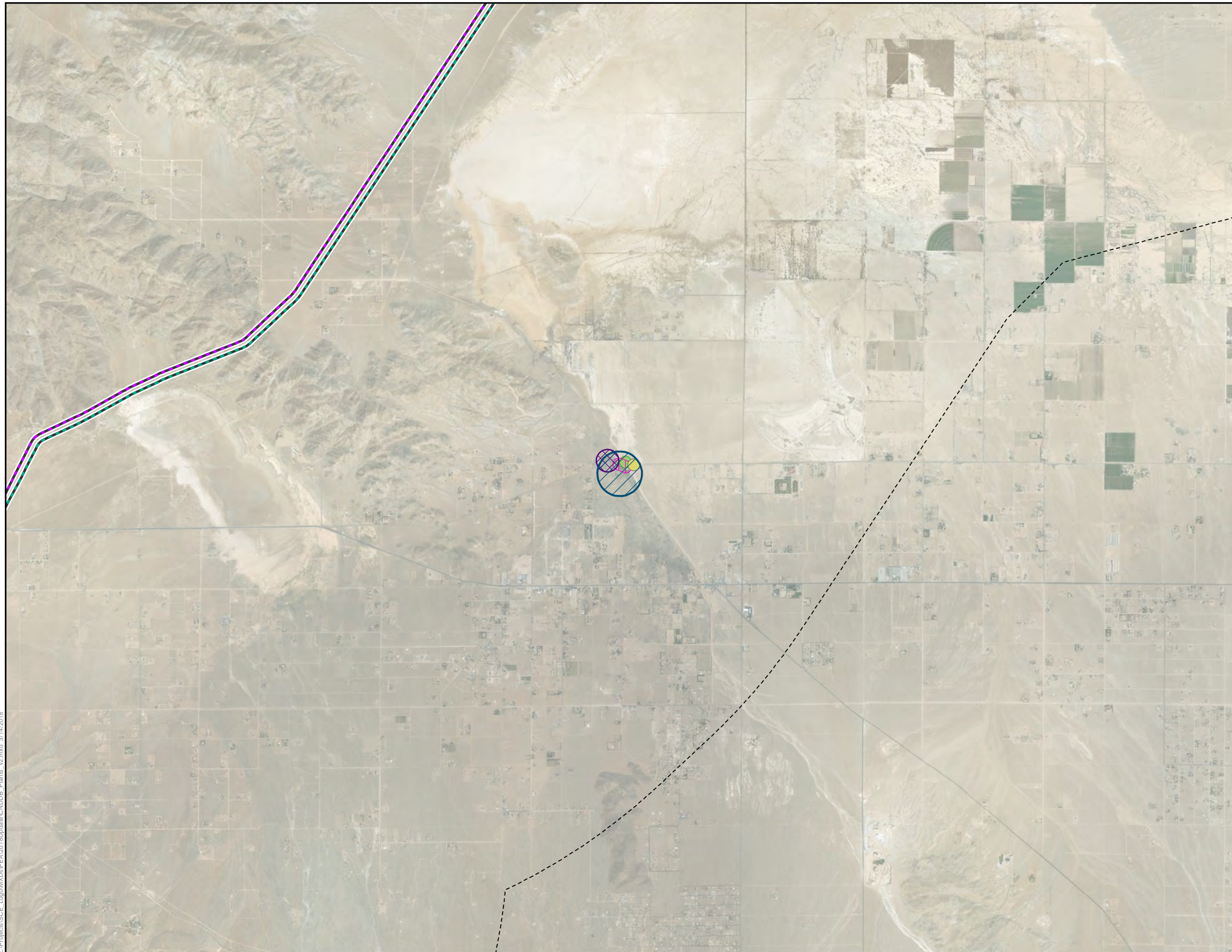


This page intentionally left blank.

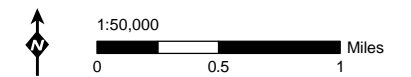
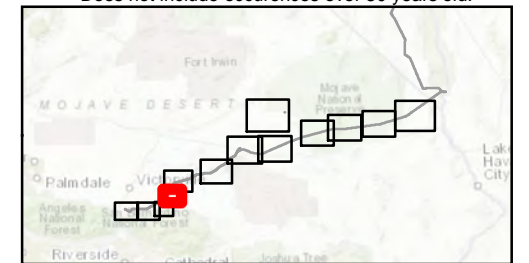
**Figure 4.4-1:
CNDDB Special-Status Plant
Occurrences Map
Page 4 of 13**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

-  Eldorado - Lugo 500 kV Transmission Line
-  Lugo - Mohave 500 kV Transmission Line
-  5-Mile Project Buffer
- CNDDB Occurrence***
-  Parish's alkali grass
-  Parish's popcornflower
-  alkali mariposa-lily
-  purple-nerve cymopterus
-  salt spring checkerbloom



*Does not include occurrences over 30 years old.



Source: CDFW, 2017; Insignia, 2018; SCE, 2018

This page intentionally left blank.

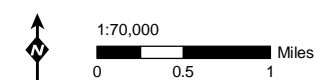
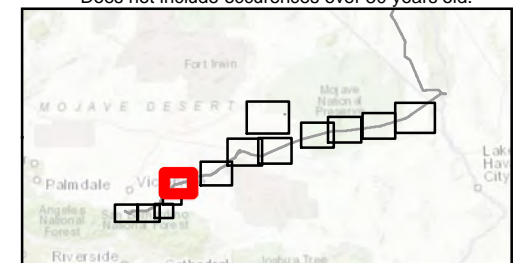
**Figure 4.4-1:
CNDDDB Special-Status Plant
Occurrences Map
Page 5 of 13**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

- Proposed Fiber Optic Repeater Location
- Eldorado - Lugo 500 kV Transmission Line
- Lugo - Mohave 500 kV Transmission Line
- 5-Mile Project Buffer
- CNDDDB Occurrence***
- Clokey's cryptantha

Barstow
Repeater

*Does not include occurrences over 30 years old.










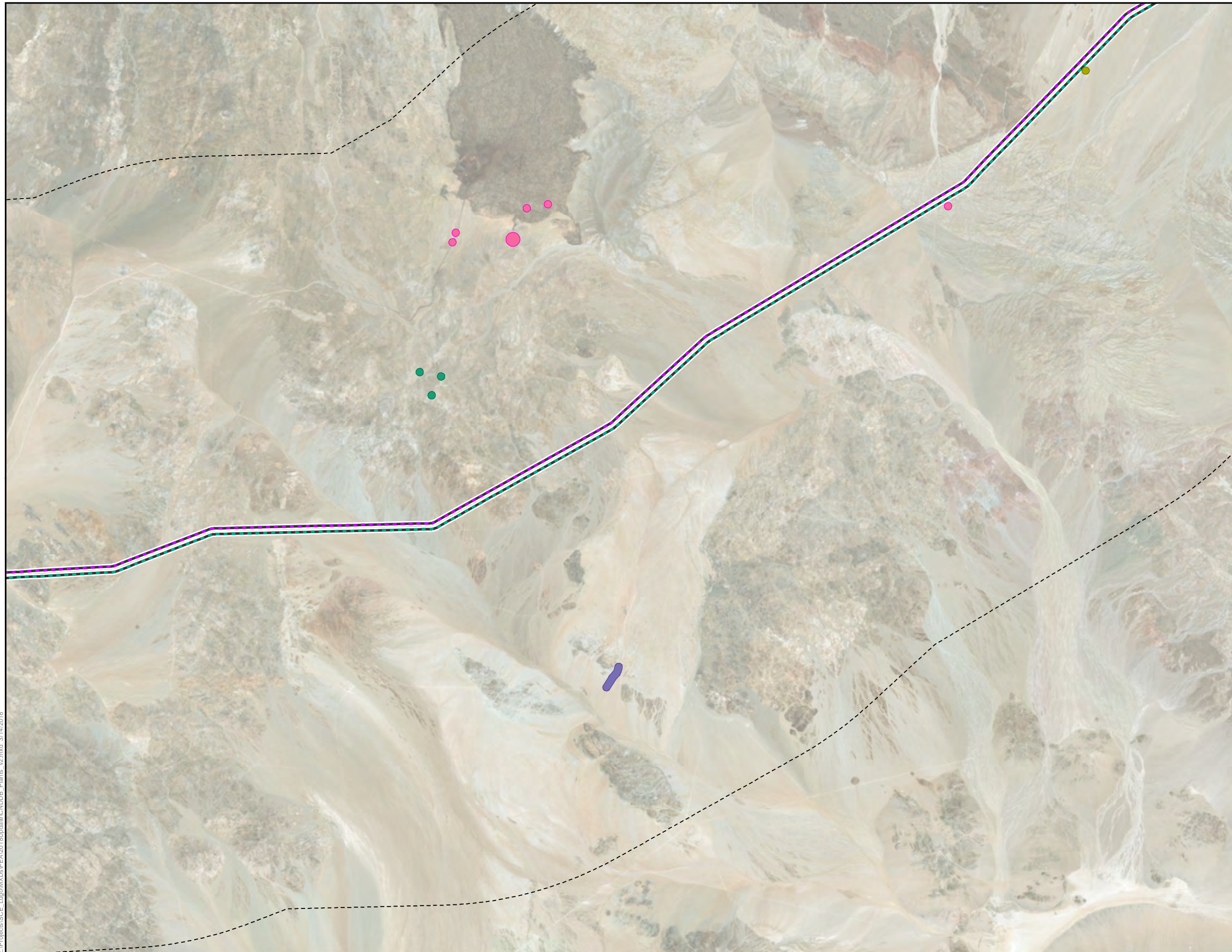
Source: CDFW, 2017; Insignia, 2018; SCE, 2018

This page intentionally left blank.

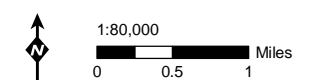
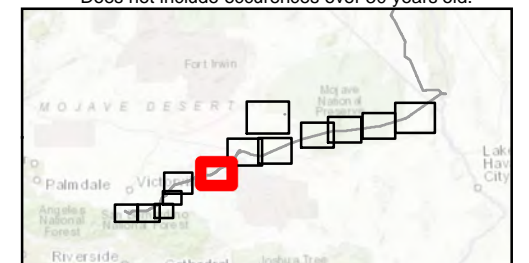
**Figure 4.4-1:
CNDDB Special-Status Plant
Occurrences Map
Page 6 of 13**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

-  Eldorado - Lugo 500 kV Transmission Line
-  Lugo - Mohave 500 kV Transmission Line
-  5-Mile Project Buffer
- CNDDB Occurrence***
-  Boyd's monardella
-  Little San Bernardino Mtns. linanthus
-  Mojave menodora
-  small-flowered androstephium = pink funnel lily



*Does not include occurrences over 30 years old.



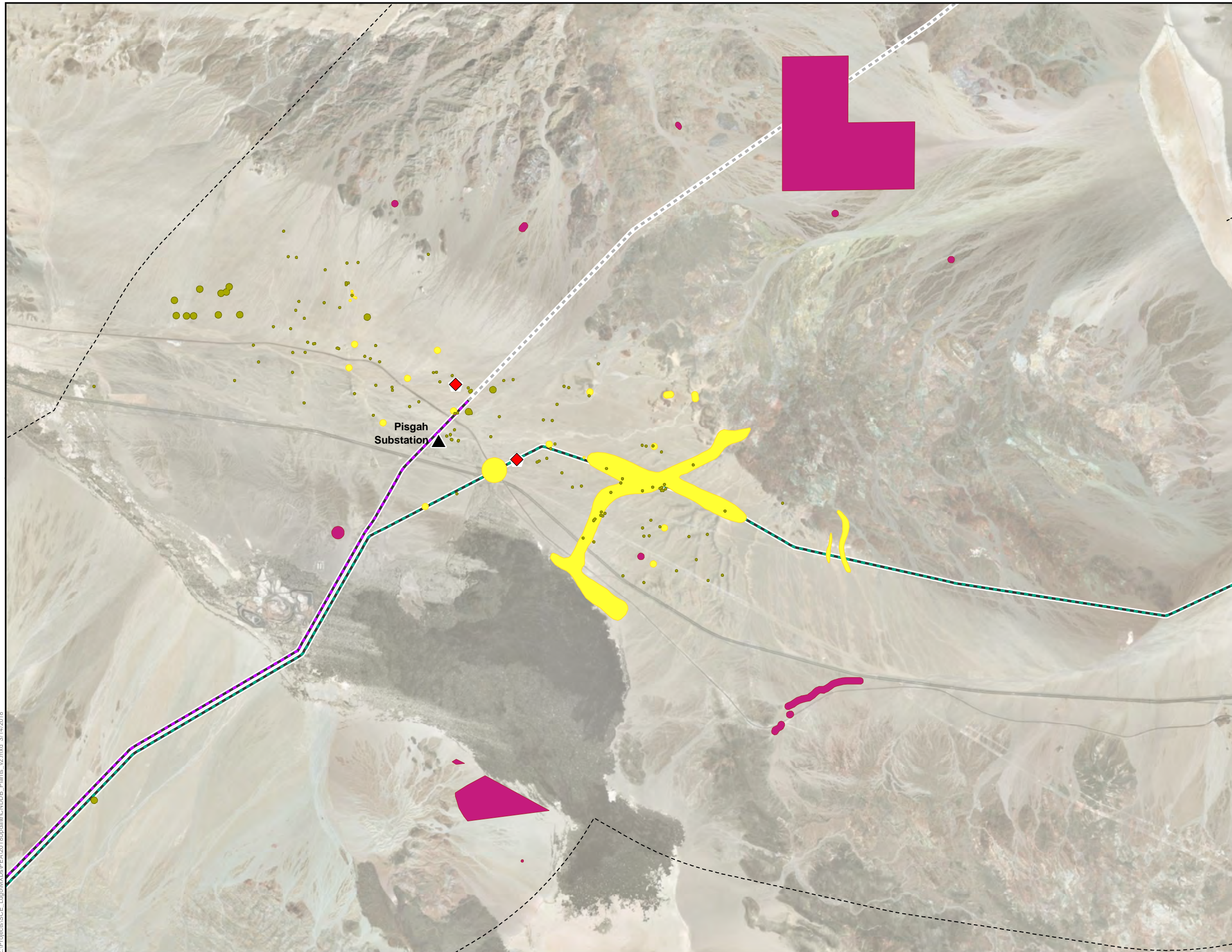
Source: CDFW, 2017; Insignia, 2018; SCE, 2018

This page intentionally left blank.

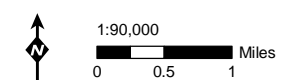
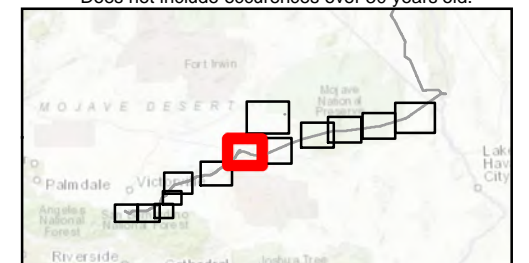
**Figure 4.4-1:
CNDDDB Special-Status Plant
Occurrences Map
Page 7 of 13**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

- ▲ Substation
- ◆ Proposed Mid-Line Capacitor Location
- Eldorado - Lugo 500 kV Transmission Line
- Lugo - Mohave 500 kV Transmission Line
- Transmission Line not part of Project
- - - 5-Mile Project Buffer
- CNDDDB Occurrence***
- Emory's crucifixion-thorn
- small-flowered androstephium = pink funnel lily
- white-margined beardtongue







*Does not include occurrences over 30 years old.

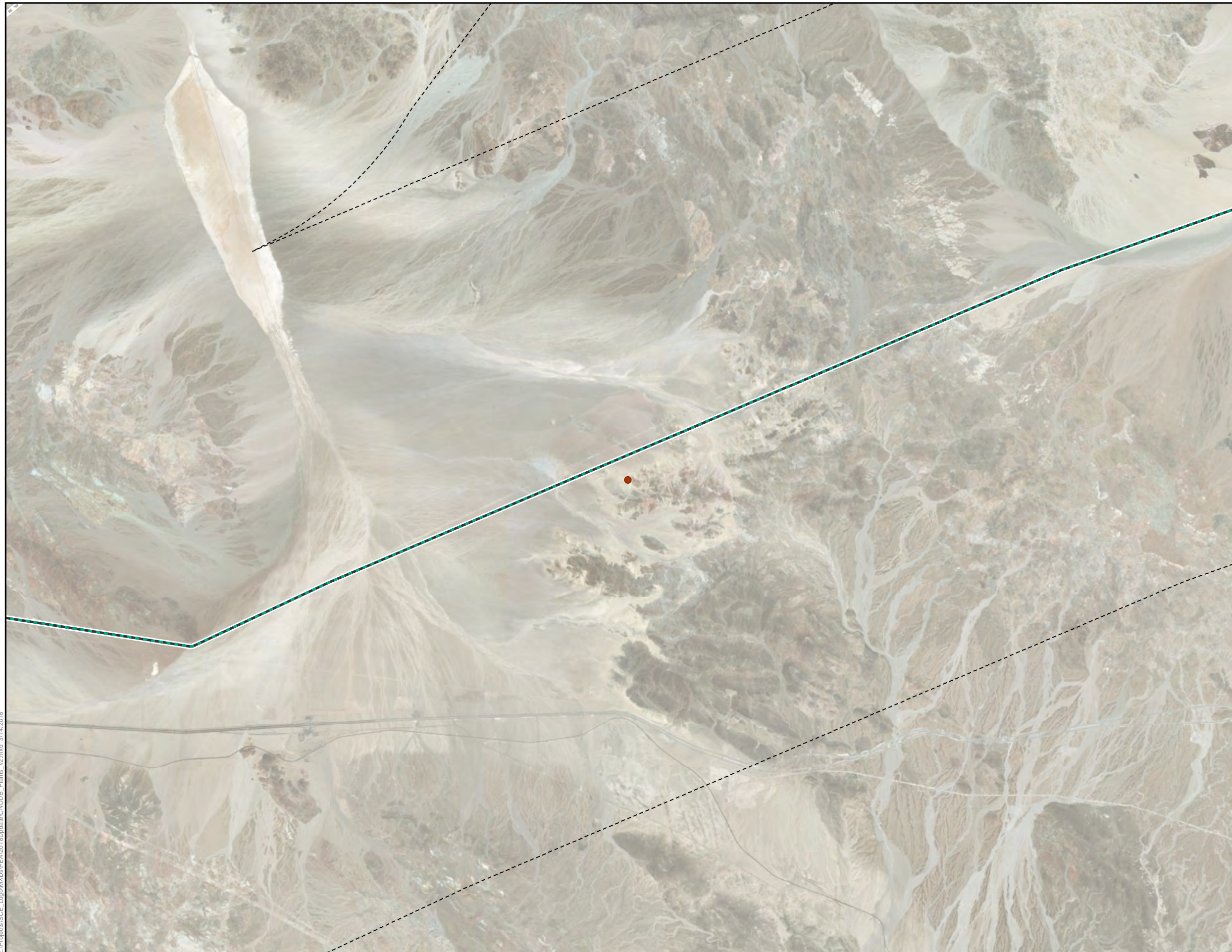


This page intentionally left blank.

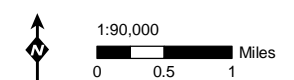
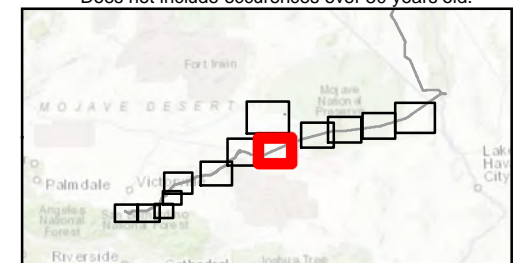
**Figure 4.4-1:
CNDDDB Special-Status Plant
Occurrences Map
Page 8 of 13**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

-  Lugo - Mohave 500 kV Transmission Line
-  Transmission Line not part of Project
-  5-Mile Project Buffer
- CNDDDB Occurrence***
-  Harwood's eriastrum



*Does not include occurrences over 30 years old.







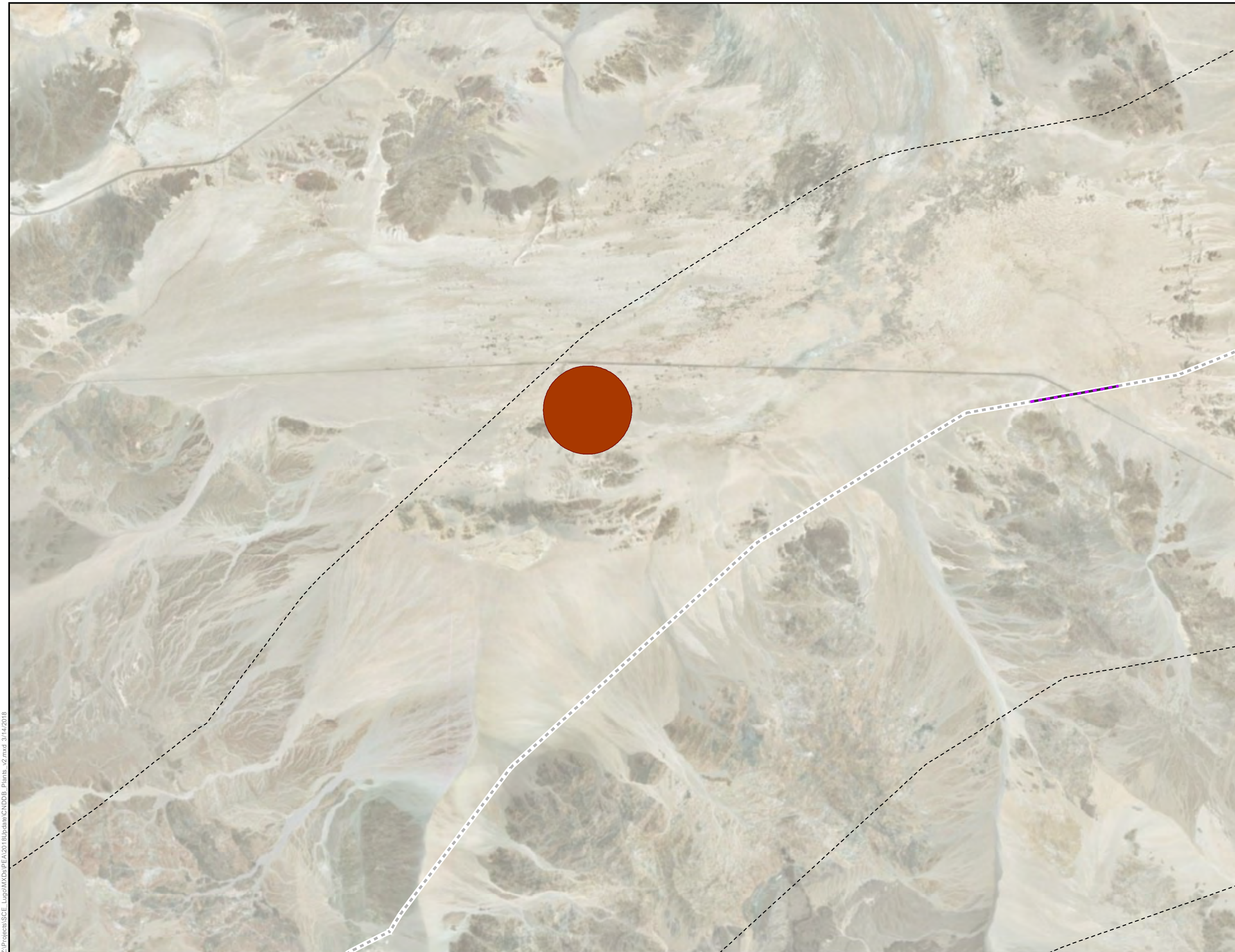
Source: CDFW, 2017; Insignia, 2018; SCE, 2018

This page intentionally left blank.

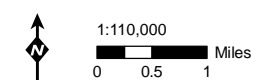
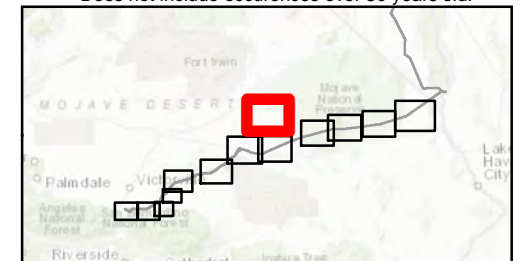
**Figure 4.4-1:
CNDDDB Special-Status Plant
Occurrences Map
Page 9 of 13**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

-  Eldorado - Lugo 500 kV Transmission Line
-  Transmission Line not part of Project
-  5-Mile Project Buffer
- CNDDDB Occurrence***
-  Harwood's eriastrum



*Does not include occurrences over 30 years old.



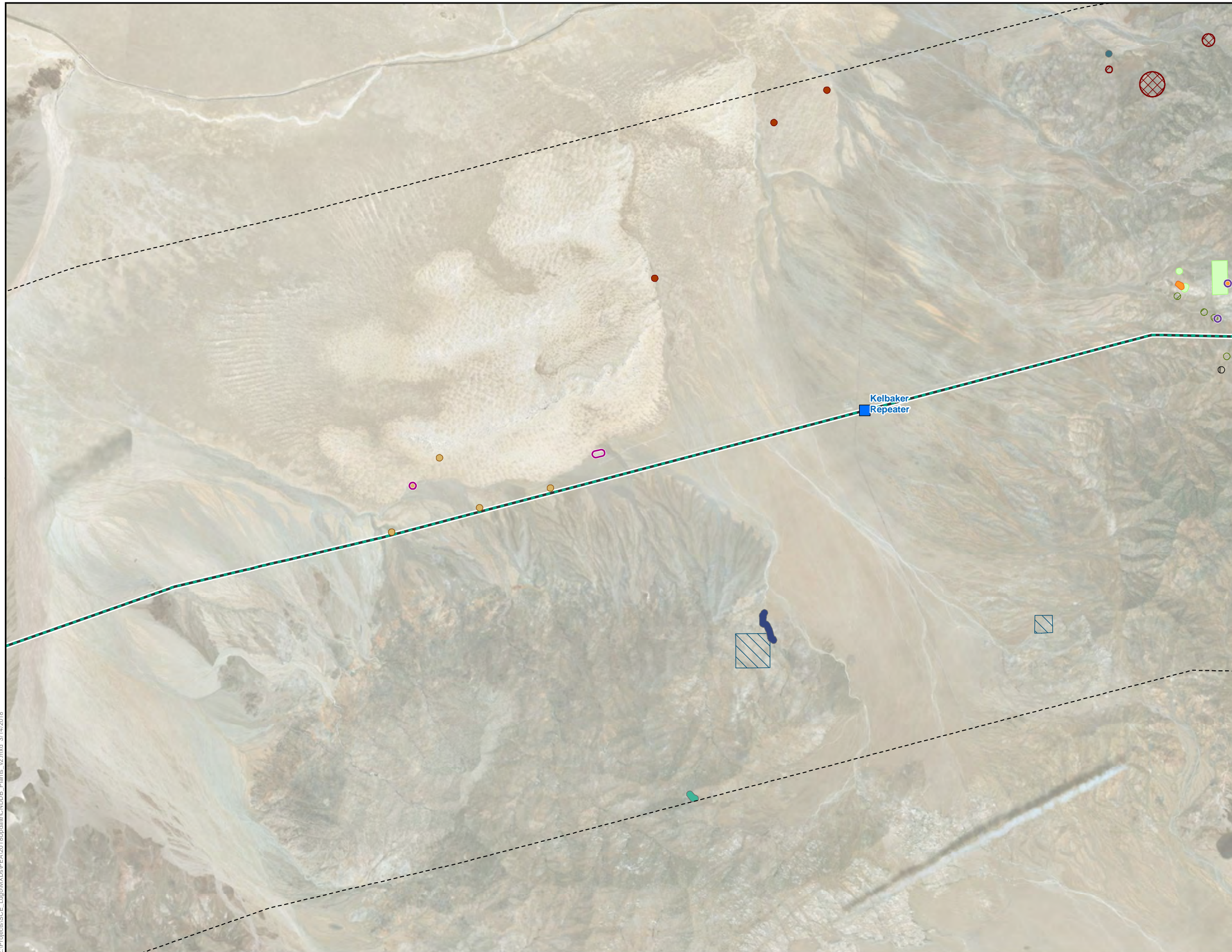
Source: CDFW, 2017; Insignia, 2018; SCE, 2018

This page intentionally left blank.

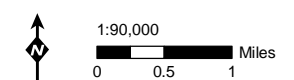
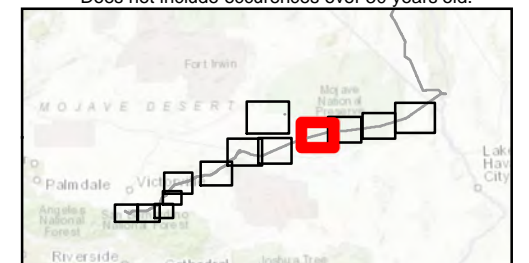
**Figure 4.4-1:
CNDDDB Special-Status Plant
Occurrences Map
Page 10 of 13**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

- Proposed Fiber Optic Repeater Location
- Lugo - Mohave 500 kV Transmission Line
- 5-Mile Project Buffer
- CNDDDB Occurrence***
- Harwood's eriastrum
- Parry's spurge
- Salina Pass wild-rye
- Utah beardtongue
- Wright's jaffuelobryum moss
- appressed muhly
- desert beardtongue
- desert bedstraw
- knotted rush
- limestone beardtongue
- long-stem evening-primrose
- scaly cloak fern
- slender cottonheads
- violet twining snapdragon



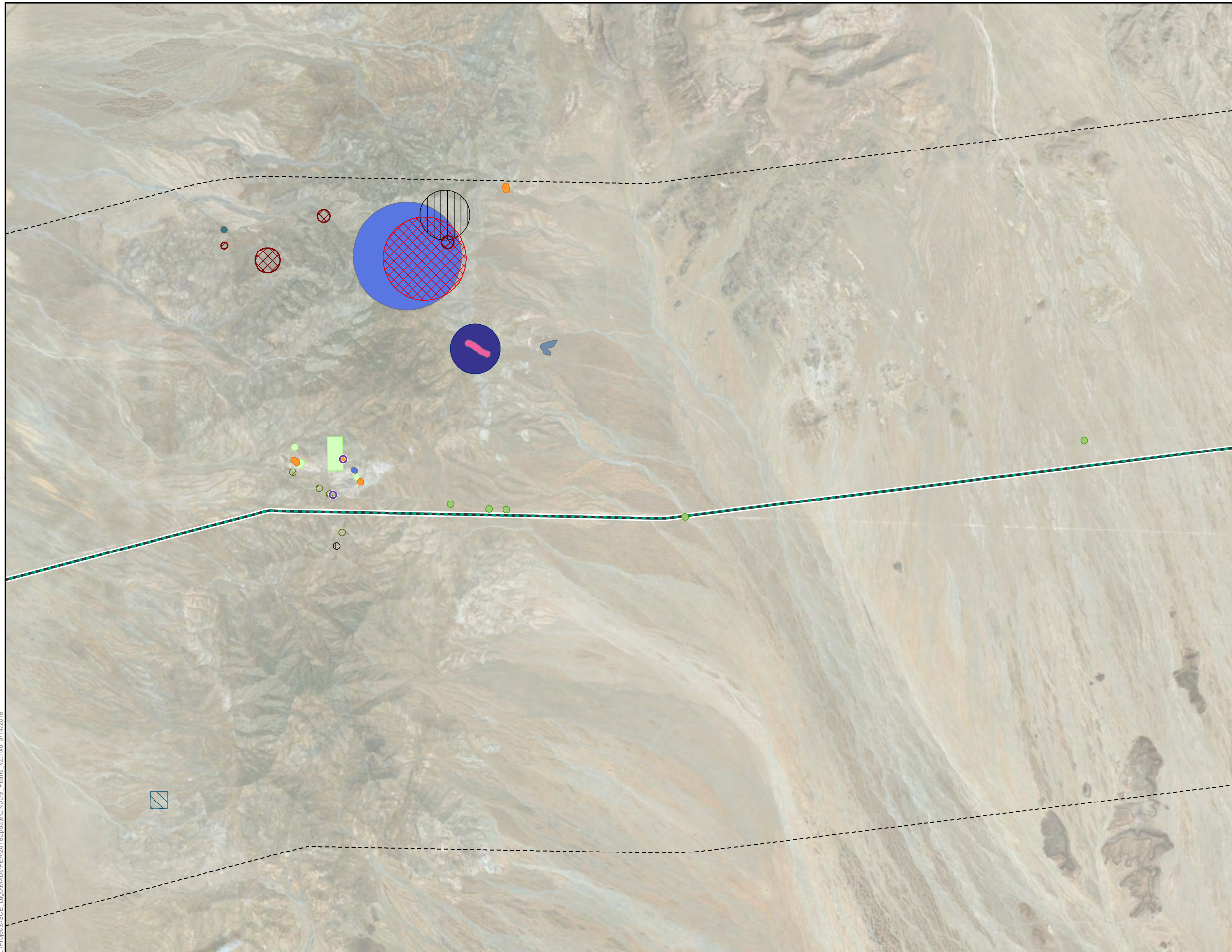
*Does not include occurrences over 30 years old.



This page intentionally left blank.

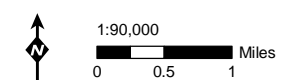
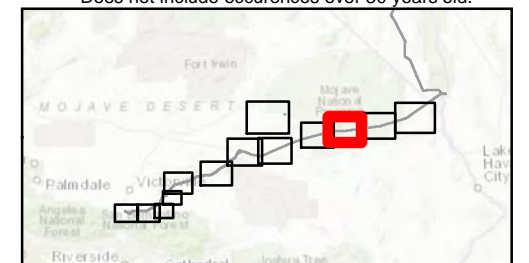
**Figure 4.4-1:
CNDDB Special-Status Plant
Occurrences Map
Page 11 of 13**

**Eldorado-Lugo-Mohave
Series Capacitor Project**



- Lugo - Mohave 500 kV Transmission Line
- 5-Mile Project Buffer
- CNDDB Occurrence***
- Abrams' spurge
- Mojave Mixed Steppe
- Salina Pass wild-rye
- Utah beardtongue
- appressed muhly
- desert bedstraw
- dwarf abutilon
- hairy erioneuron
- knotted rush
- limestone beardtongue
- long-stem evening-primrose
- scaly cloak fern
- small-flowered bird's-beak
- spiny cliff-brake
- violet twining snapdragon

*Does not include occurrences over 30 years old.



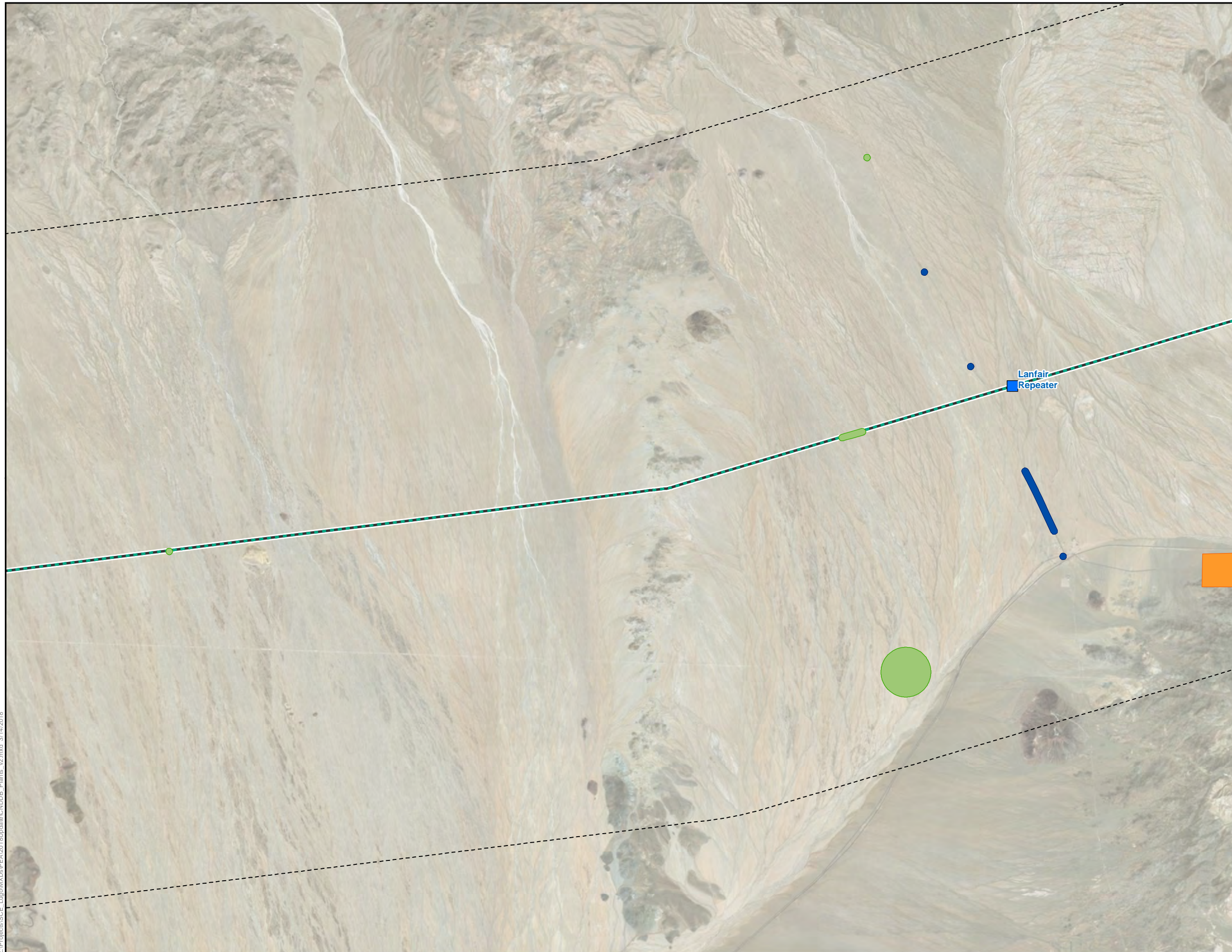
Source: CDFW, 2017; Insignia, 2018; SCE, 2018

This page intentionally left blank.

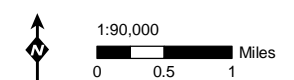
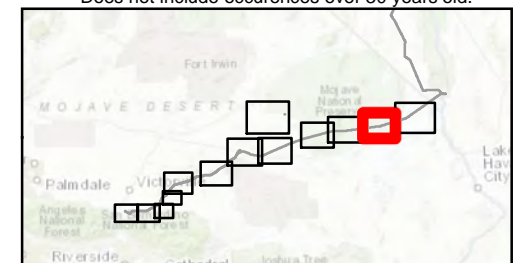
**Figure 4.4-1:
CNDDDB Special-Status Plant
Occurrences Map
Page 12 of 13**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

- Proposed Fiber Optic Repeater Location
- Lugo - Mohave 500 kV Transmission Line
- 5-Mile Project Buffer
- CNDDDB Occurrence***
- Abrams' spurge
- Howe's hedgehog cactus
- playa milk-vetch



*Does not include occurrences over 30 years old.








Source: CDFW, 2017; Insignia, 2018; SCE, 2018

This page intentionally left blank.

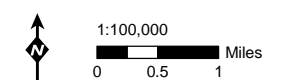
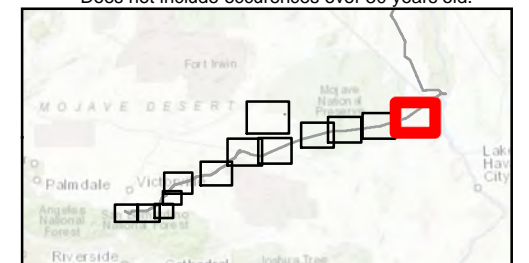
**Figure 4.4-1:
CNDDB Special-Status Plant
Occurrences Map
Page 13 of 13**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

-  Lugo - Mohave 500 kV Transmission Line
-  5-Mile Project Buffer
- CNDDB Occurrence***
-  Abrams' spurge
-  Arizona pholistoma
-  Howe's hedgehog cactus



*Does not include occurrences over 30 years old.



This page intentionally left blank.

In 2016 and 2017,⁹ special-status plant surveys¹⁰ were conducted in accordance with the guidelines published by the CNPS (2001), California Department of Fish and Game (CDFG)¹¹ (2009), and USFWS (1996). Although a complete floristic inventory was recorded in the BRSA, surveys were focused on species that were determined to be likely to occur, based on habitat suitability and nearby occurrence records. Insignia botanists observed 19 special-status plant species in the BRSA. Of these 19 species, 12 were observed in California only; one species was observed in Nevada only; and six species were observed in both states¹². All special-status plants observed within the BRSA are listed in Table 4.4-3: Special-Status Plant Species Observed within the BRSA. The locations of these species within the BRSA are provided on maps in Appendix G: Biological Resources Technical Report. Plant species that carry a special-status listing in California were also mapped in Nevada, even if the species was not listed as special status in Nevada. No species that are special status in Nevada only were observed in California.

⁹ With approval from the BLM, special-status plant surveys were not conducted in 2018 due to extreme drought conditions in the Mojave Desert which prevented germination of annual plant species. Surveys will resume in 2019.

¹⁰ Special-status plant individuals or populations that were mapped during the 2016 surveys and were observed again in 2017 were not re-recorded during the 2017 surveys.

¹¹ This document was published when the CDFW was known as the CDFG.

¹² Four of the six special-status species observed in both states do not carry a special-status listing in Nevada.

Table 4.4-3: Special-Status Plant Species Observed within the BRSA

Common Name	Scientific Name	Listing Status ¹³		Approximate Number of Plants Identified	
		California	Nevada	California	Nevada
Abrams' spurge	<i>Euphorbia abramsiana</i>	2B.2	none	32	0
Appressed muhly	<i>Muhlenbergia appressa</i>	2B.2	none	327	0
Clokey's cryptantha	<i>Cryptantha clokeyi</i>	1B.2	none	122	0
Coves' cassia	<i>Senna covesii</i>	2B.2	none	10	288 ¹⁴
Johnson's bee-hive cactus	<i>Sclerocactus johnsonii</i>	2B.2	none	0	25 ¹⁴
Matted cholla	<i>Grusonia parishii</i>	2B.2	none	226	175 ¹⁴
Mojave menodora	<i>Menodora spinescens</i> var. <i>mohavensis</i>	BLM 1B.2	none	1,659	0
Mojave milkweed	<i>Asclepias nyctaginifolia</i>	2B.1	none	5	72 ¹⁴
Narrow-leaved yerba santa	<i>Eriodictyon angustifolium</i>	2B.3	none	99	0
Parry's spurge	<i>Euphorbia parryi</i>	2B.3	none	12	0
Pink funnel lily	<i>Androstephium breviflorum</i>	2B.2	none	365	0

¹³ Explanation of listing status codes:

BLM species:	CNPS CRPRs:	Nevada listing code:
-BLM: species considered to be "sensitive" by the BLM in California (none of the species observed have a BLM sensitive listing in Nevada)	-1B: Plants rare, threatened, or endangered in California and elsewhere -2B: Plants rare, threatened, or endangered in California, but more common elsewhere Threat Ranks: -1: Seriously threatened in California (over 80 percent of occurrences threatened; high degree and immediacy of threat) -2: Moderately threatened in California (20 to 80 percent of occurrences threatened; moderate degree and immediacy of threat) -3: Not very threatened in California (less than 20 percent of occurrences threatened; low degree and immediacy of threat or no current threats known)	-S3: State-listed as Vulnerable

¹⁴ These species do not carry a special status listing in the states where they were documented.

Common Name	Scientific Name	Listing Status ¹³		Approximate Number of Plants Identified	
		California	Nevada	California	Nevada
Playa milk-vetch	<i>Astragalus allochrous</i> var. <i>playanus</i>	2B.2	none	1	0
Rosy two-toned beardtongue	<i>Penstemon bicolor</i> ssp. <i>roseus</i>	BLM 1B.2	S3	8	4
Rusby's desert-mallow	<i>Sphaeralcea rusbyi</i> var. <i>eremicola</i>	1B.2	none	2,145	4
Salina Pass wild-rye	<i>Elymus salina</i>	2B.3	none	1,098	0
Short-jointed beavertail	<i>Opuntia basilaris</i> var. <i>brachyclada</i>	BLM 1B.2	none	122	0
Slender cottonheads	<i>Nemacaulis denudata</i> var. <i>gracilis</i>	2B.2	none	22	0
Spiny cliff-brake	<i>Pellaea truncata</i>	2B.3	none	25	0
Spiny-hair blazing star	<i>Mentzelia tricuspis</i>	2B.1	none	1	19 ¹⁴

4.4.3.3 Special-Status Wildlife Species

For purposes of this analysis, special-status wildlife are defined as follows:

- Species listed or candidates for listing as threatened or endangered under the FESA
- Species considered to be “sensitive” by the BLM
- Species designated “endangered,” “threatened,” “sensitive,” or “protected” in Nevada
- Species that are FP in California and/or in Nevada
- Species listed or candidates for listing as threatened or endangered under the CESA
- Species meeting the definition of endangered, rare, or threatened under CEQA
- Migratory birds and any of their parts, eggs, and nests, as protected by the MBTA
- Birds of prey
- Species designated as an SSC by the CDFW
- Species covered by the DRECP

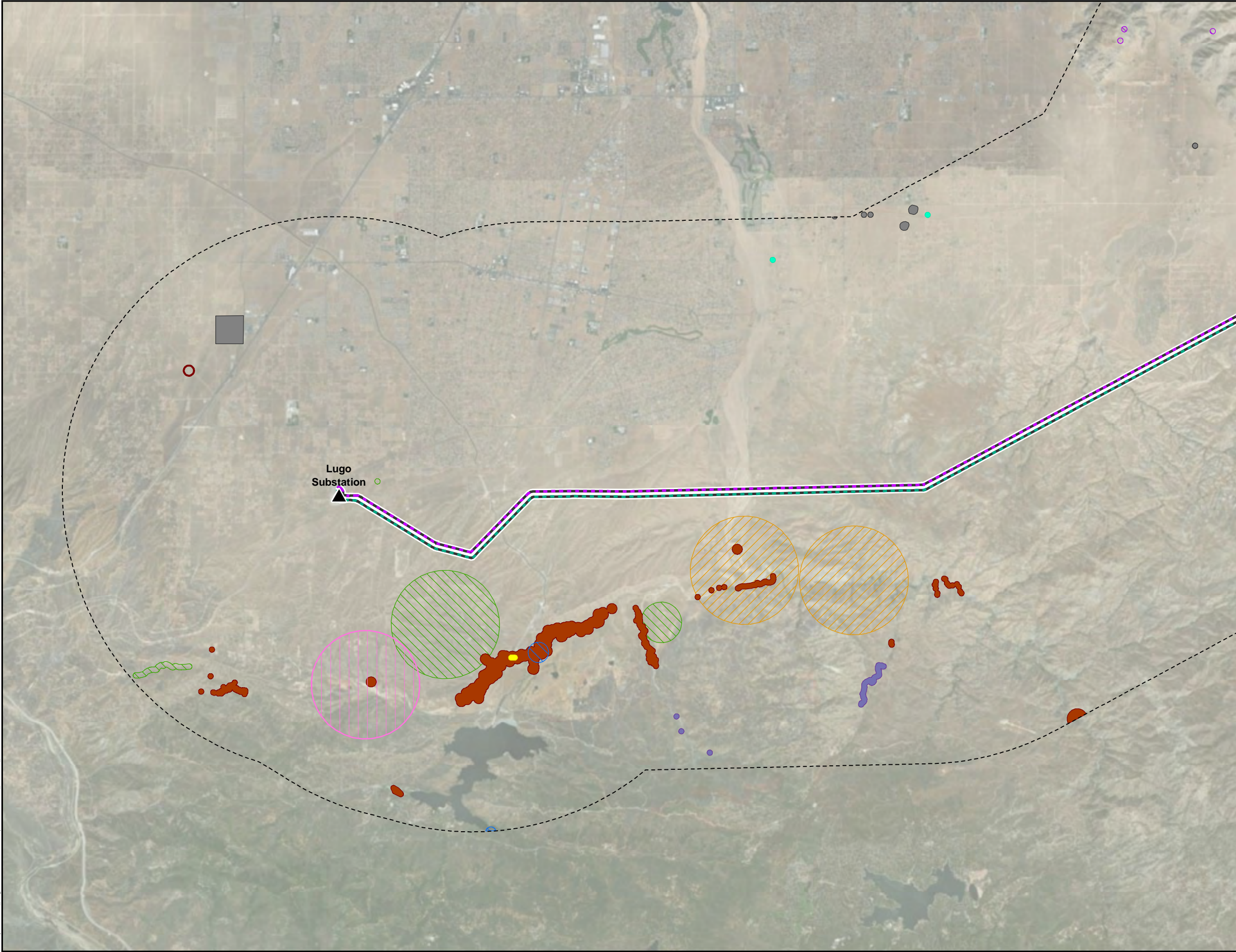
Insignia biologists reviewed background literature and searched relevant databases to generate a list of special-status wildlife species that may occur in the BRSA. Based on the background review, 44 special-status wildlife species were identified as having the potential to occur. Appendix G: Biological Resources Technical Report contains the results of the background literature review and describes the special-status wildlife species with the potential to occur in the BRSA, including information on local populations, habitat requirements, and the life history of the species.

CNDDDB occurrences of special-status wildlife within 5 miles of the BRSA are provided in Figure 4.4-2: CNDDDB Special-Status Wildlife Occurrences Map. NNHP occurrences within 5 miles of the BRSA are provided in Figure 4.4-3: NNHP Special-Status Wildlife and Plant Occurrences Map.

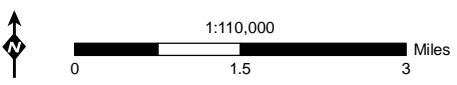
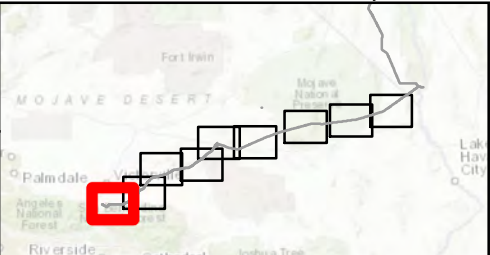
**Figure 4.4-2:
CNDDB Special-Status Wildlife
Occurrences Map
Page 1 of 9**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

- ▲ Substation
- Eldorado - Lugo 500 kV Transmission Line
- Lugo - Mohave 500 kV Transmission Line
- - - 5-Mile Project Buffer
- CNDDB Occurrences***
- American badger
- Le Conte's thrasher
- Mohave tui chub
- arroyo toad
- bald eagle
- burrowing owl
- coast horned lizard
- desert tortoise
- golden eagle
- two-striped gartersnake
- western pond turtle



*Does not include occurrences over 30 years old.



Source: CDFW, 2017; Insignia, 2018; SCE, 2018

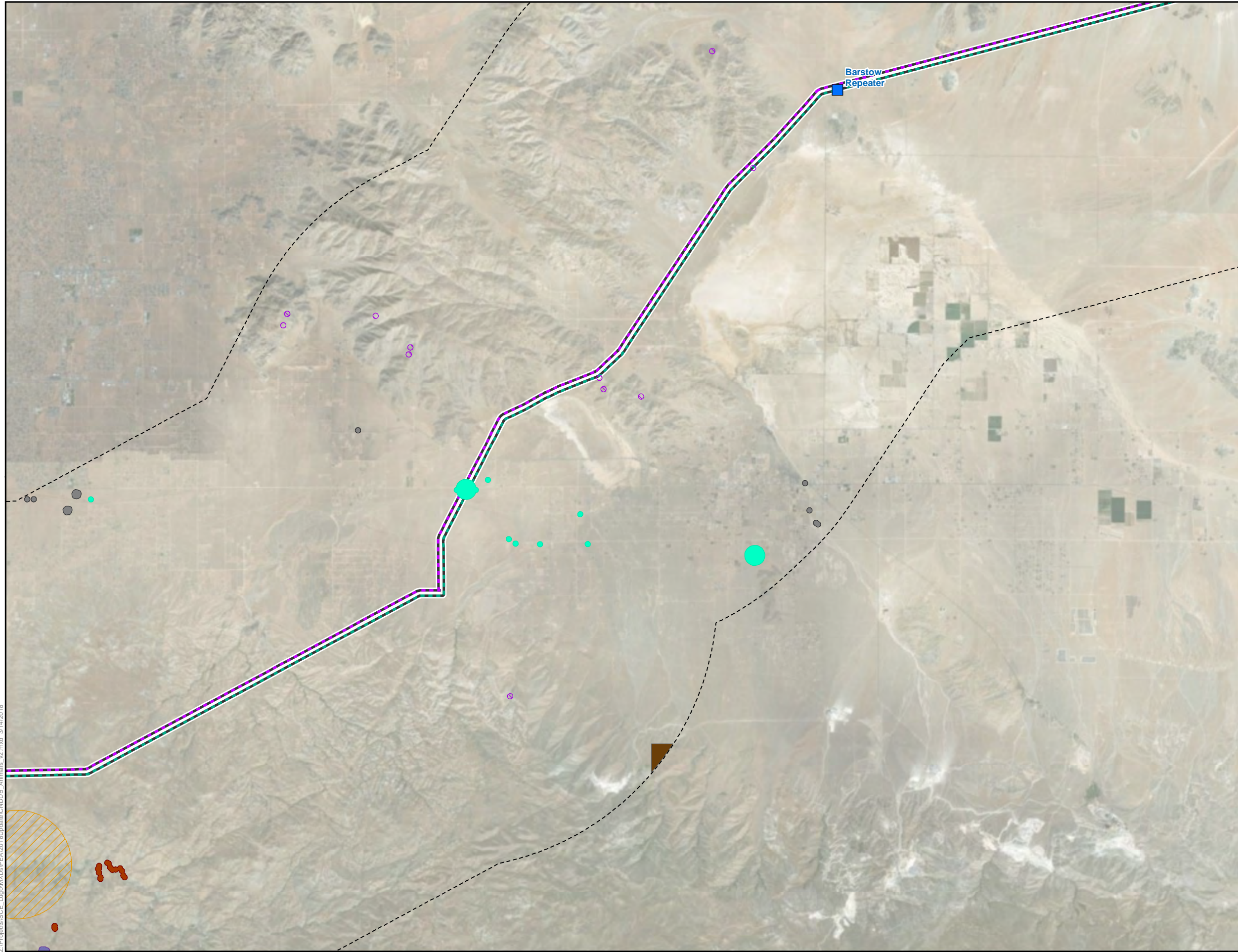
Z:\Projects\SCE_Lugo\MXDs\PEA\2018\Update\CNDDB_Animals_v2.mxd 3/14/2018

This page intentionally left blank.

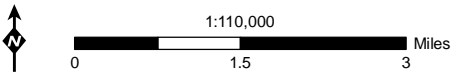
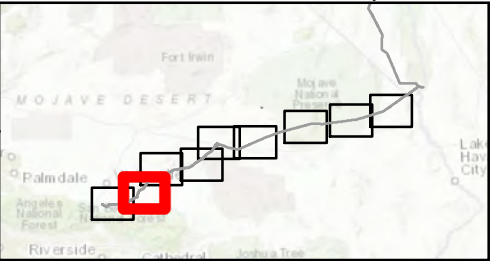
**Figure 4.4-2:
CNDDB Special-Status Wildlife
Occurrences Map
Page 2 of 9**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

- Proposed Fiber Optic Repeater Location
 - Eldorado - Lugo 500 kV Transmission Line
 - Lugo - Mohave 500 kV Transmission Line
 - 5-Mile Project Buffer
- CNDDB Occurrences***
- Le Conte's thrasher
 - Mohave tui chub
 - arroyo toad
 - burrowing owl
 - golden eagle
 - southern rubber boa
 - two-striped gartersnake



*Does not include occurrences over 30 years old.



Source: CDFW, 2017; Insignia, 2018; SCE, 2018

Z:\Projects\SCE_Lugo\MXDs\PEA\2018\Update\CNDDB_Animals_v2.mxd 3/14/2018

This page intentionally left blank.

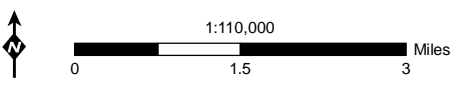
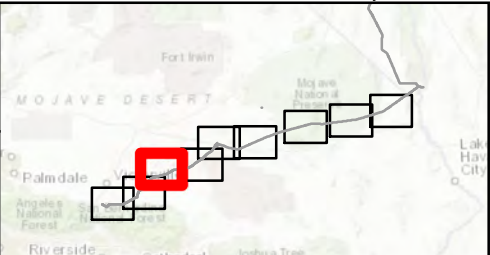
**Figure 4.4-2:
CNDDB Special-Status Wildlife
Occurrences Map
Page 3 of 9**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

- Proposed Fiber Optic Repeater Location
 - Eldorado - Lugo 500 kV Transmission Line
 - Lugo - Mohave 500 kV Transmission Line
 - 5-Mile Project Buffer
- CNDDB Occurrences***
- Bendire's thrasher
 - desert tortoise
 - golden eagle



*Does not include occurrences over 30 years old.








Source: CDFW, 2017; Insignia, 2018; SCE, 2018

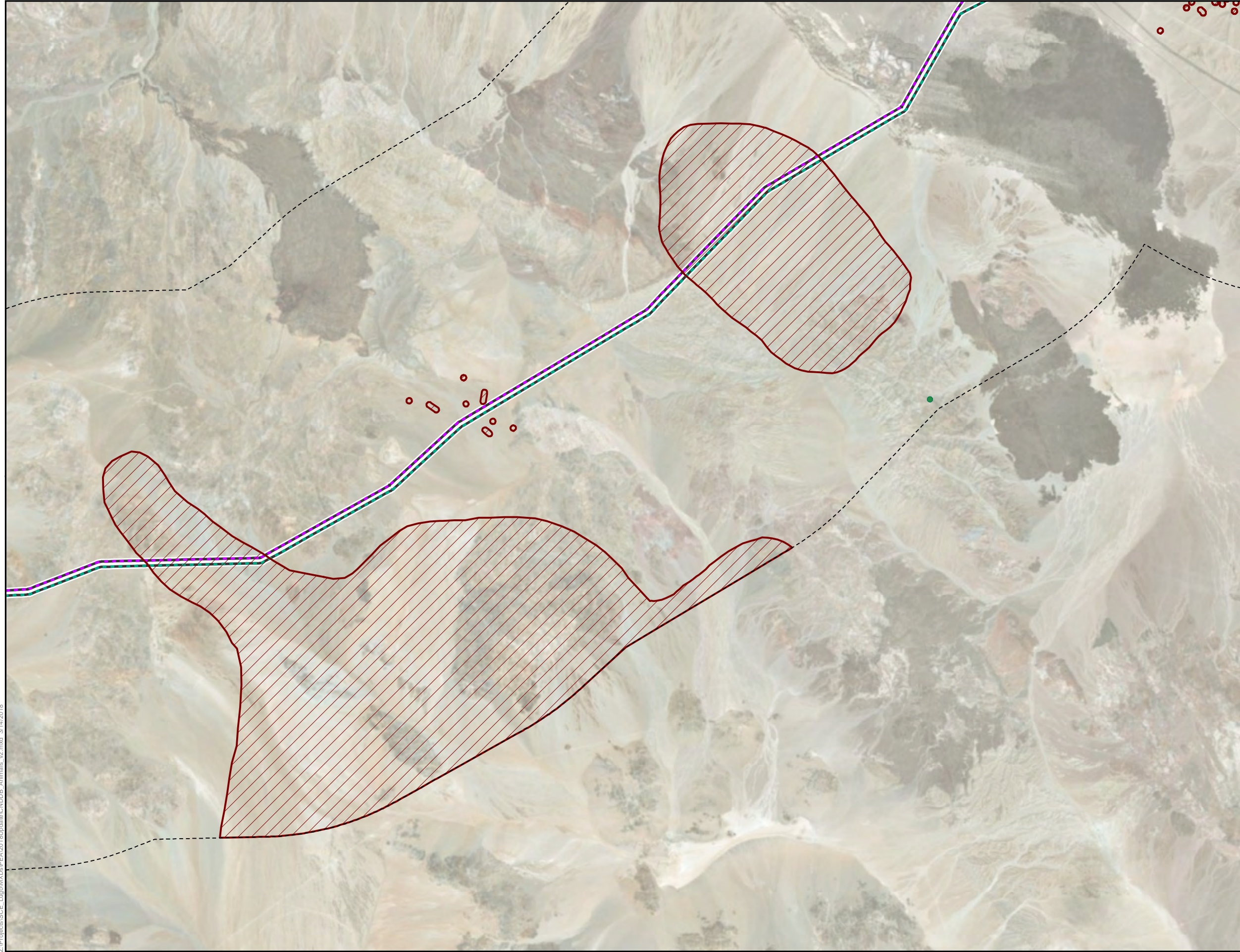
Z:\Projects\SCE_Lugo\MXDs\PEA\2018\Update\CNDDB_Animals_v2.mxd 3/14/2018

This page intentionally left blank.

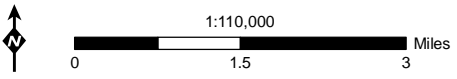
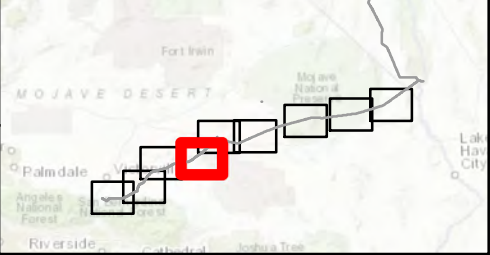
**Figure 4.4-2:
CNDDB Special-Status Wildlife
Occurrences Map
Page 4 of 9**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

-  Eldorado - Lugo 500 kV Transmission Line
-  Lugo - Mohave 500 kV Transmission Line
-  5-Mile Project Buffer
- CNDDB Occurrences***
-  Townsend's big-eared bat
-  desert tortoise



*Does not include occurrences over 30 years old.



Source: CDFW, 2017; Insignia, 2018; SCE, 2018

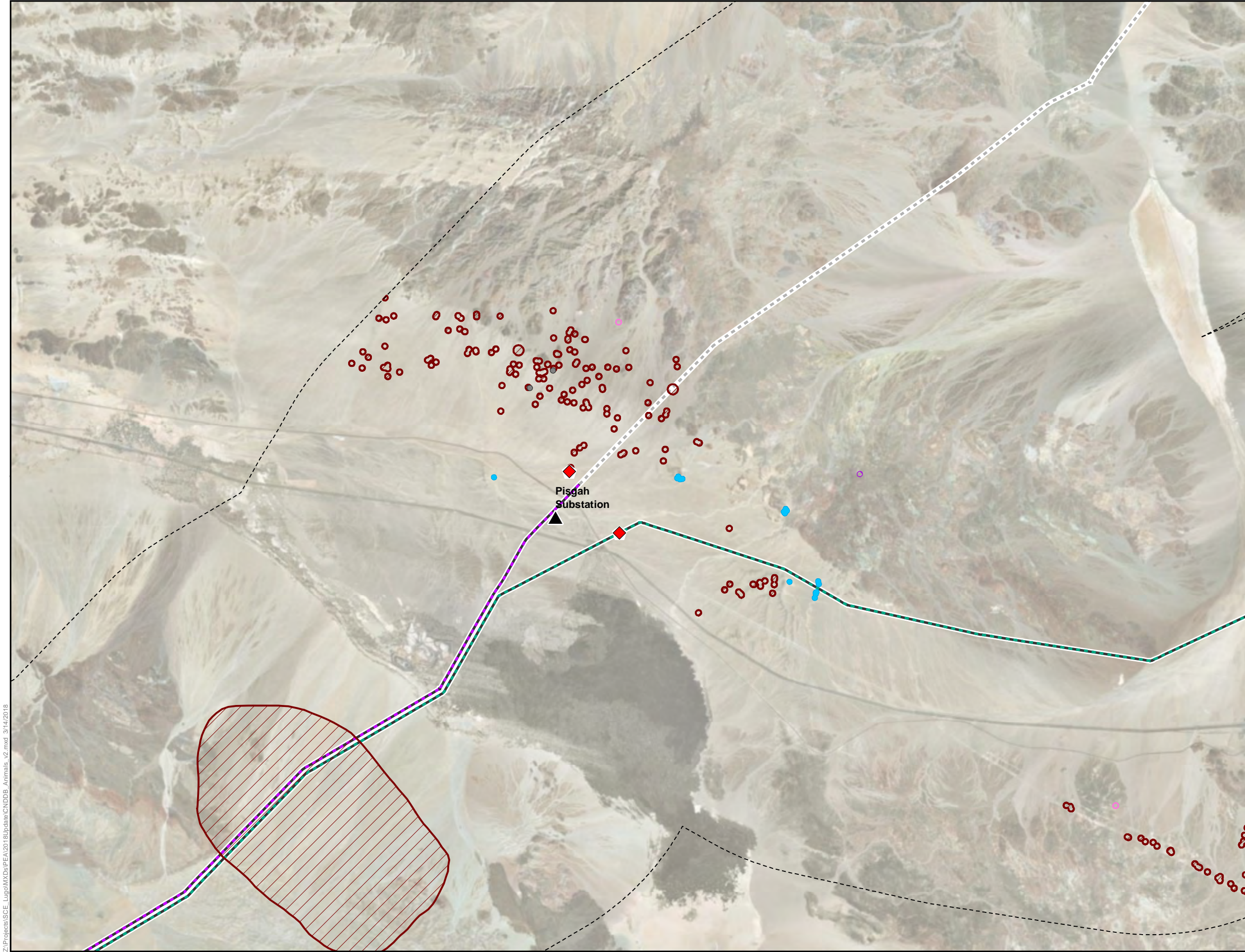
Z:\Projects\SCE_Lugo\MXDs\PEA\2018\Update\CNDDB_Animals_v2.mxd 3/14/2018

This page intentionally left blank.

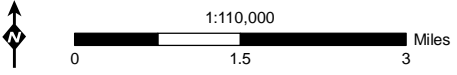
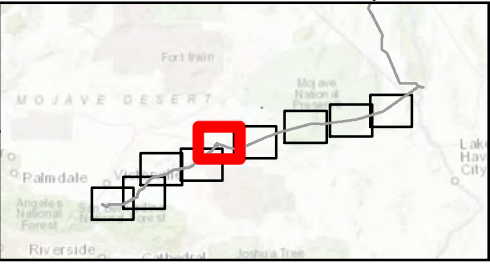
**Figure 4.4-2:
CNDDB Special-Status Wildlife
Occurrences Map
Page 5 of 9**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

- ▲ Substation
- ◆ Proposed Mid-Line Capacitor Location
- Eldorado - Lugo 500 kV Transmission Line
- Lugo - Mohave 500 kV Transmission Line
- - - Transmission Line not part of Project
- - - 5-Mile Project Buffer
- CNDDB Occurrences***
- American badger
- Mojave fringe-toed lizard
- burrowing owl
- ▨ desert tortoise
- ▨ golden eagle



*Does not include occurrences over 30 years old.





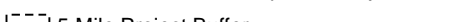


Source: CDFW, 2017; Insignia, 2018; SCE, 2018

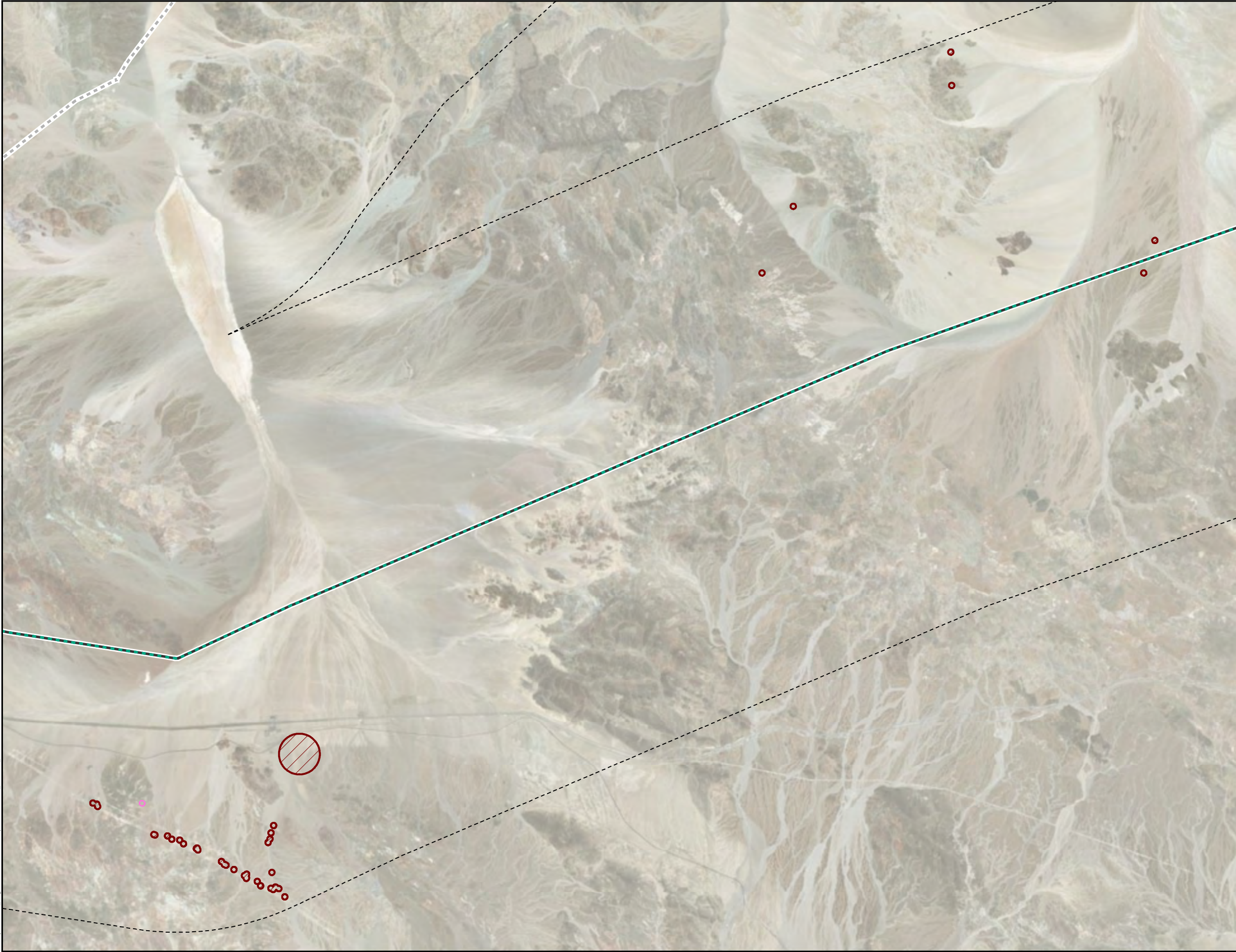
Z:\Projects\SCE_Lugo\MXDs\PEA\2018\Update\CNDDB_Animals_v2.mxd 3/14/2018

This page intentionally left blank.

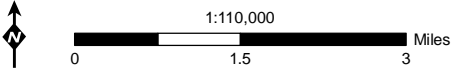
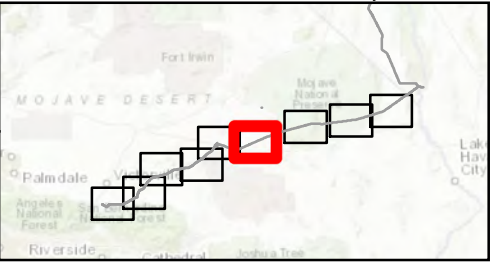
**Figure 4.4-2:
CNDDB Special-Status Wildlife
Occurrences Map
Page 6 of 9**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

-  Lugo - Mohave 500 kV Transmission Line
-  Transmission Line not part of Project
-  5-Mile Project Buffer
- CNDDB Occurrences***
-  American badger
-  desert tortoise



*Does not include occurrences over 30 years old.



Source: CDFW, 2017; Insignia, 2018; SCE, 2018

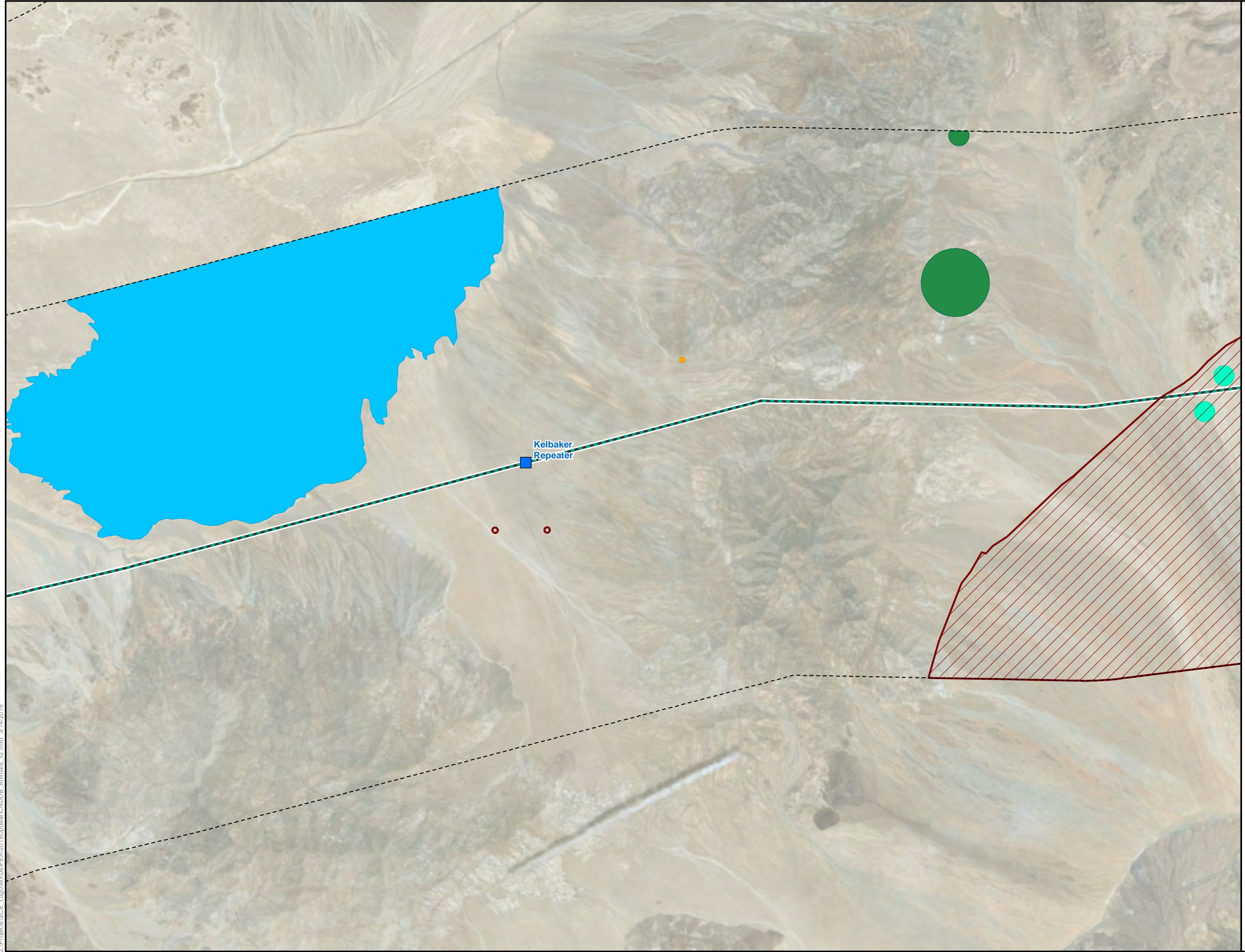
Z:\Projects\SCE_Lugo\MXD\PEA\2018\Update\CNDDB_Animals_v2.mxd 3/14/2018

This page intentionally left blank.

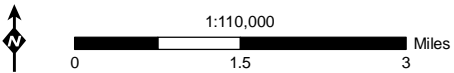
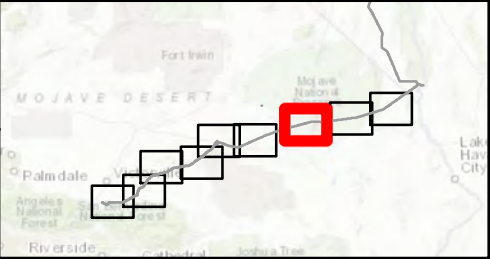
**Figure 4.4-2:
CNDDB Special-Status Wildlife
Occurrences Map
Page 7 of 9**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

- Proposed Fiber Optic Repeater Location
- Lugo - Mohave 500 kV Transmission Line
- 5-Mile Project Buffer
- CNDDB Occurrences***
- Le Conte's thrasher
- Mojave fringe-toed lizard
- Townsend's big-eared bat
- banded Gila monster
- desert tortoise
- pallid bat



*Does not include occurrences over 30 years old.



Source: CDFW, 2017; Insignia, 2018; SCE, 2018

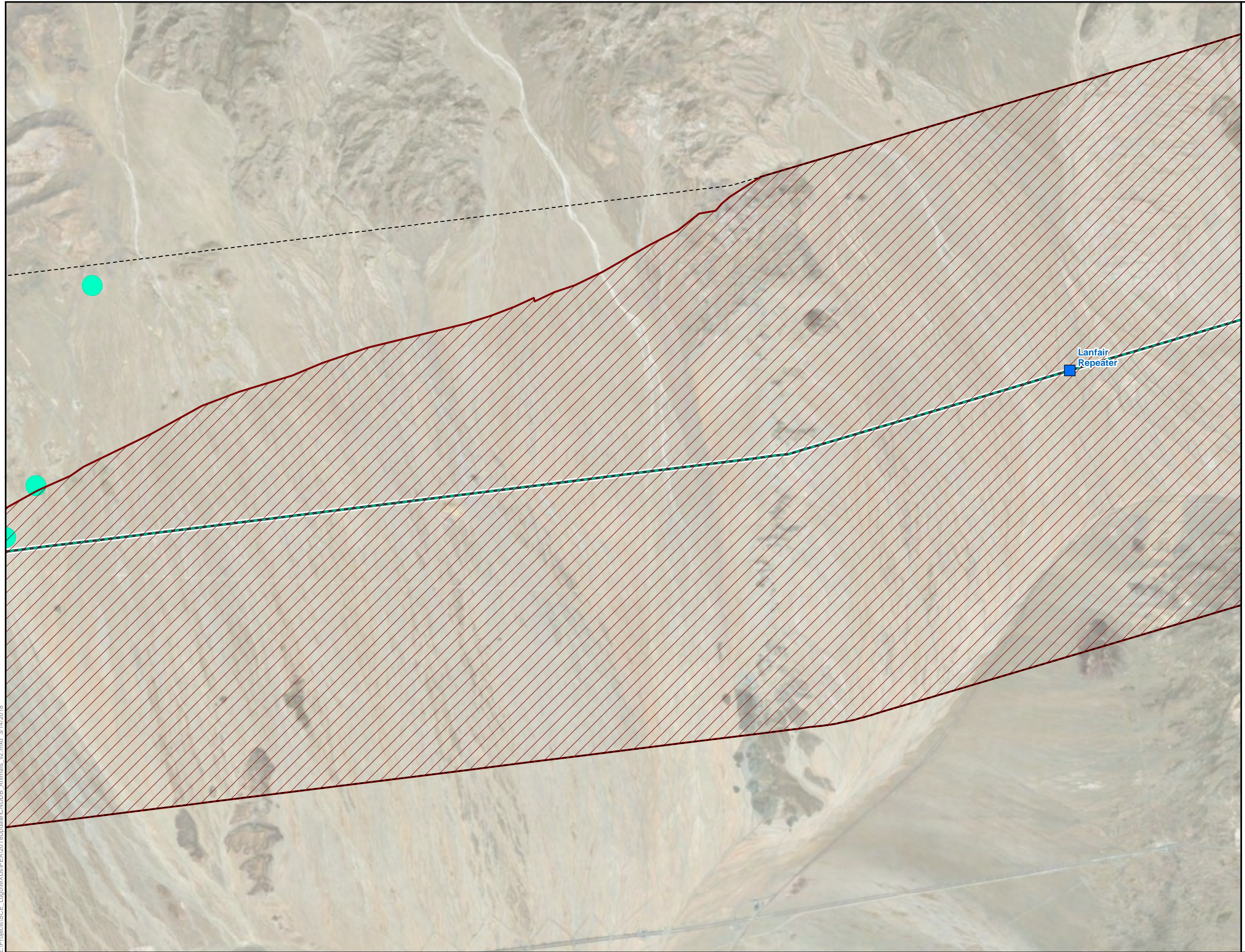
Z:\Projects\SCE_Lugo\MXDs\PEA\2018\Update\CNDDB_Animals_v2.mxd 3/14/2018

This page intentionally left blank.

**Figure 4.4-2:
CNDDB Special-Status Wildlife
Occurrences Map
Page 8 of 9**

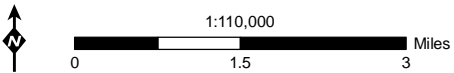
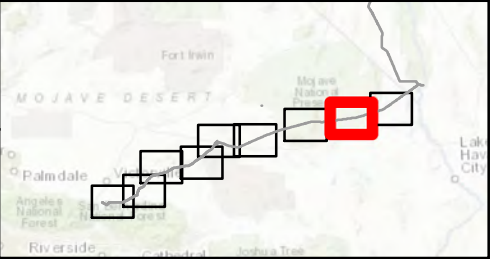
**Eldorado-Lugo-Mohave
Series Capacitor Project**

- Proposed Fiber Optic Repeater Location
- Lugo - Mohave 500 kV Transmission Line
- 5-Mile Project Buffer
- CNDDB Occurrences***
- Le Conte's thrasher
- desert tortoise



Lanfair
Repeater

*Does not include occurrences over 30 years old.







Source: CDFW, 2017; Insignia, 2018; SCE, 2018

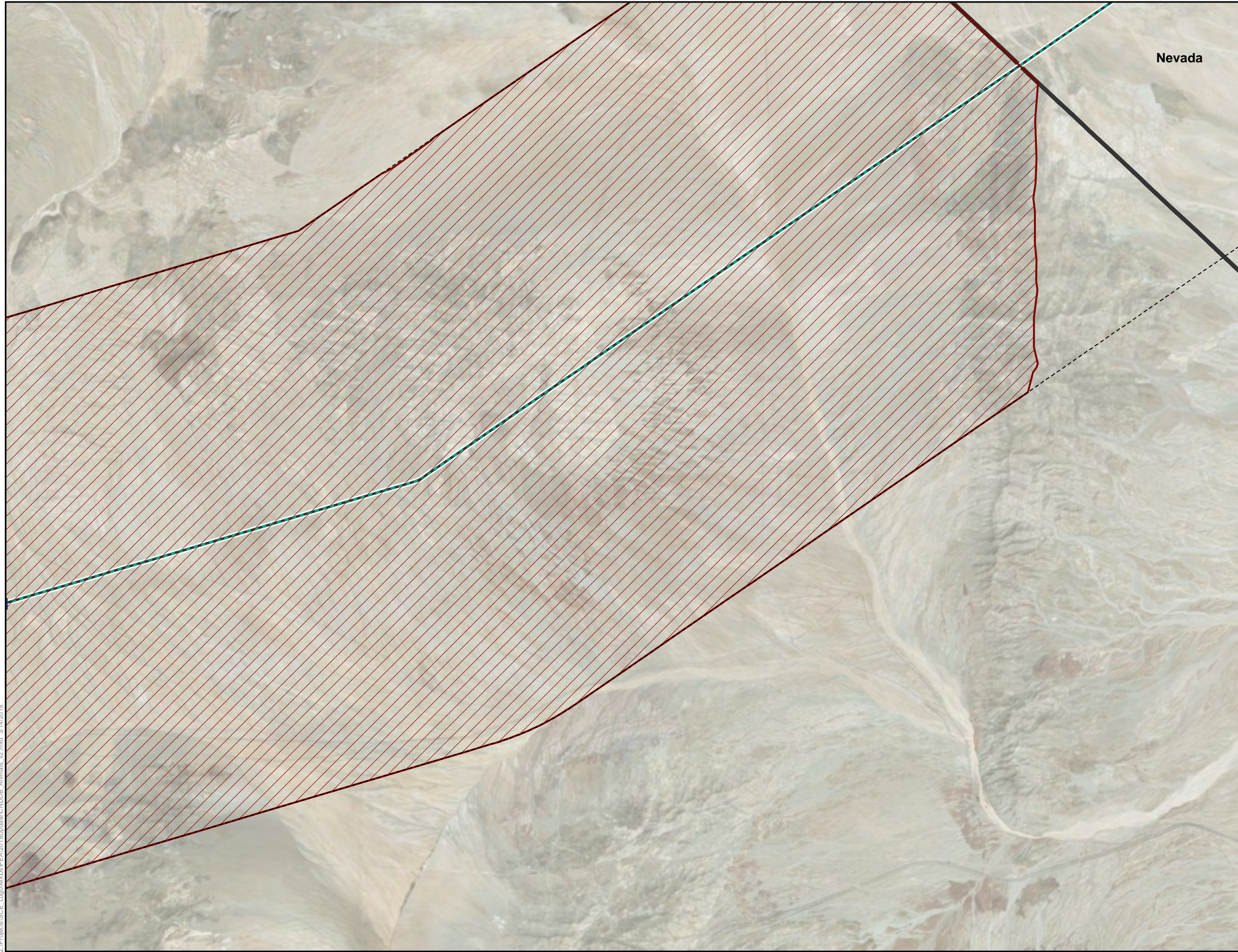
Z:\Projects\SC_E_Lugo\MXD\PEA\2018\Update\CNDDB_Animals_v2.mxd 3/14/2018

This page intentionally left blank.

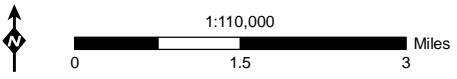
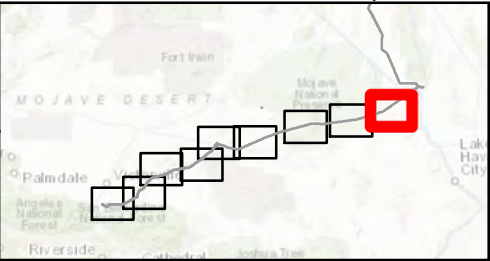
**Figure 4.4-2:
CNDDB Special-Status Wildlife
Occurrences Map
Page 9 of 9**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

-  Proposed Fiber Optic Repeater Location
-  Lugo - Mohave 500 kV Transmission Line
-  5-Mile Project Buffer
- CNDDB Occurrences***
-  desert tortoise



*Does not include occurrences over 30 years old.

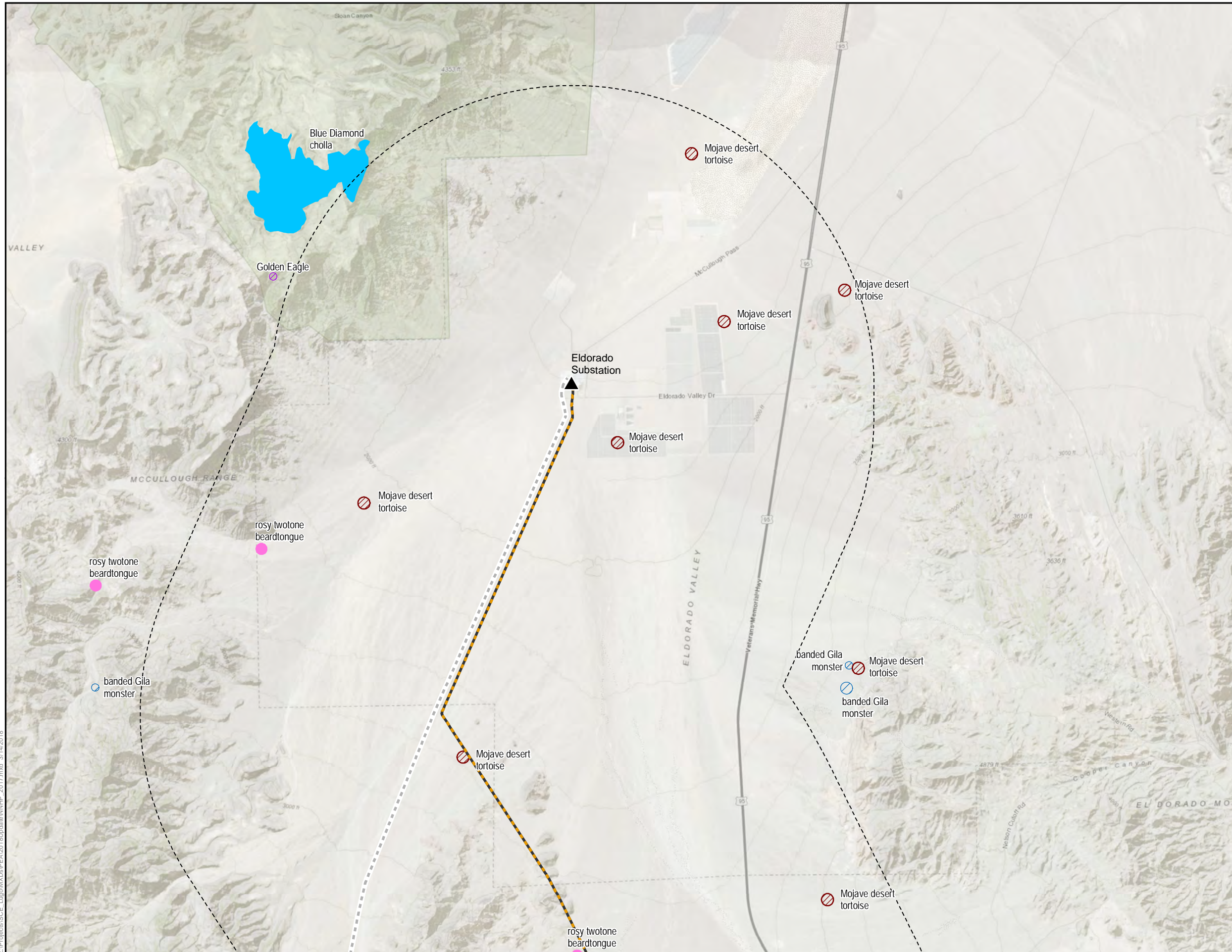


Source: CDFW, 2017; Insignia, 2018; SCE, 2018

Z:\Projects\SCE_Lugo\MXDs\PEA\2018\Update\CNDDB_Animals_v2.mxd 3/14/2018

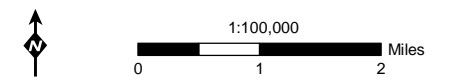
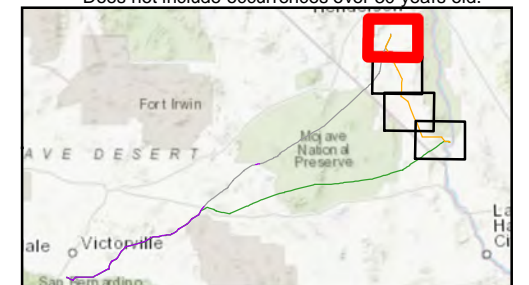
This page intentionally left blank.

**Figure 4.4-3:
 NNHP Special-Status Wildlife
 and Plant Occurrences Map
 Page 1 of 4
 Eldorado-Lugo-Mohave
 Series Capacitor Project**



- ▲ Substation
- Eldorado - Mohave 500 kV Transmission Line
- Transmission Line not part of Project
- - - 5-Mile Project Buffer
- NNHP Wildlife Occurrence***
- ▨ banded Gila monster
- ▨ Golden Eagle
- ▨ Mojave desert tortoise
- NNHP Plant Occurrence***
- Blue Diamond cholla
- rosy twotone beardtongue

*Does not include occurrences over 30 years old.









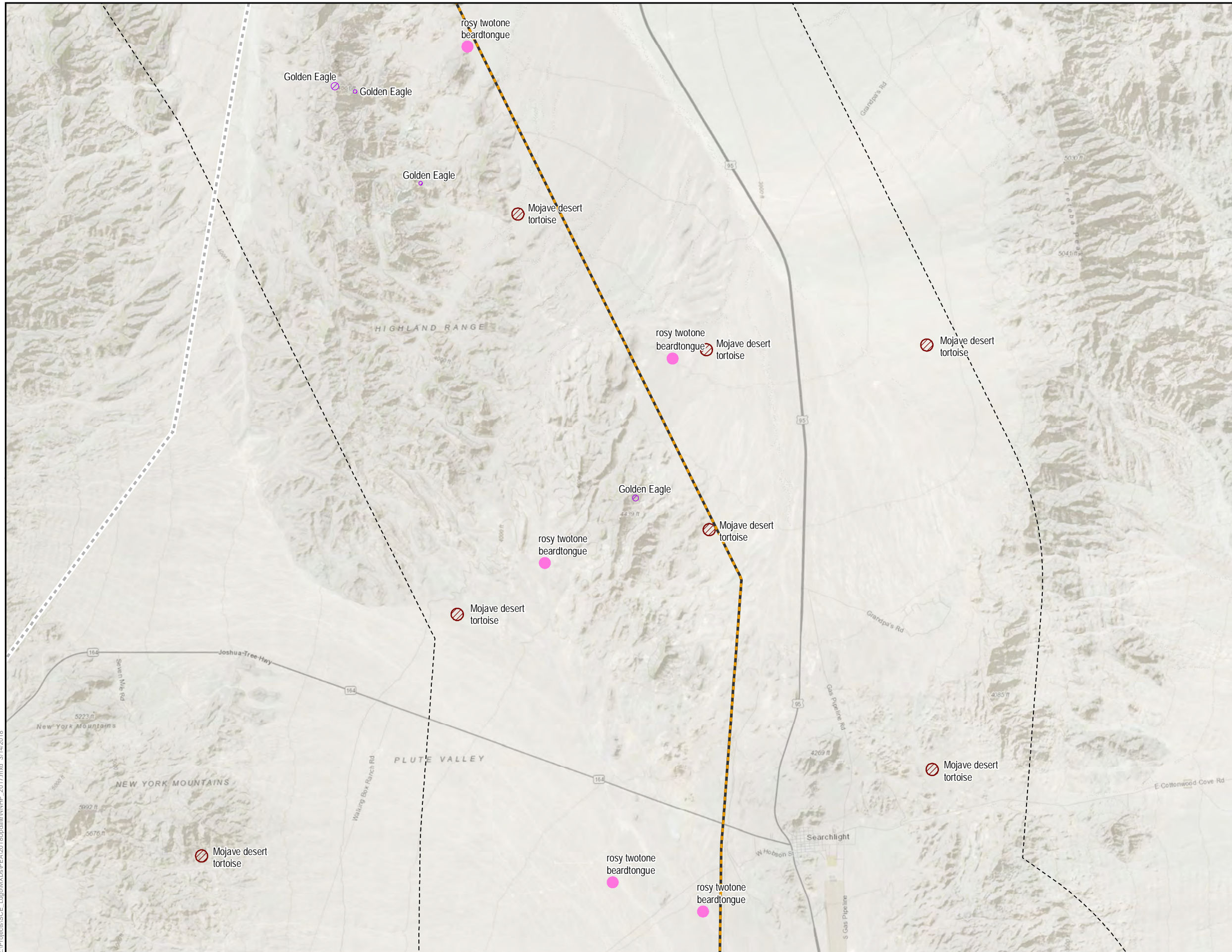
Source: Insignia, 2018; NNHP, 2017; SCE, 2018

Z:\Projects\SCE_Lugo\MXDs\PEA\2018\Update\NNHP_2017.mxd 3/14/2018

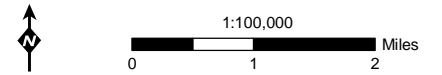
This page intentionally left blank.

**Figure 4.4-3:
 NNHP Special-Status Wildlife
 and Plant Occurrences Map
 Page 2 of 4
 Eldorado-Lugo-Mohave
 Series Capacitor Project**

-  Eldorado - Mohave 500 kV Transmission Line
-  Transmission Line not part of Project
-  5-Mile Project Buffer
- NNHP Wildlife Occurrence***
-  Golden Eagle
-  Mojave desert tortoise
- NNHP Plant Occurrence***
-  rosy twotone beardtongue



*Does not include occurrences over 30 years old.

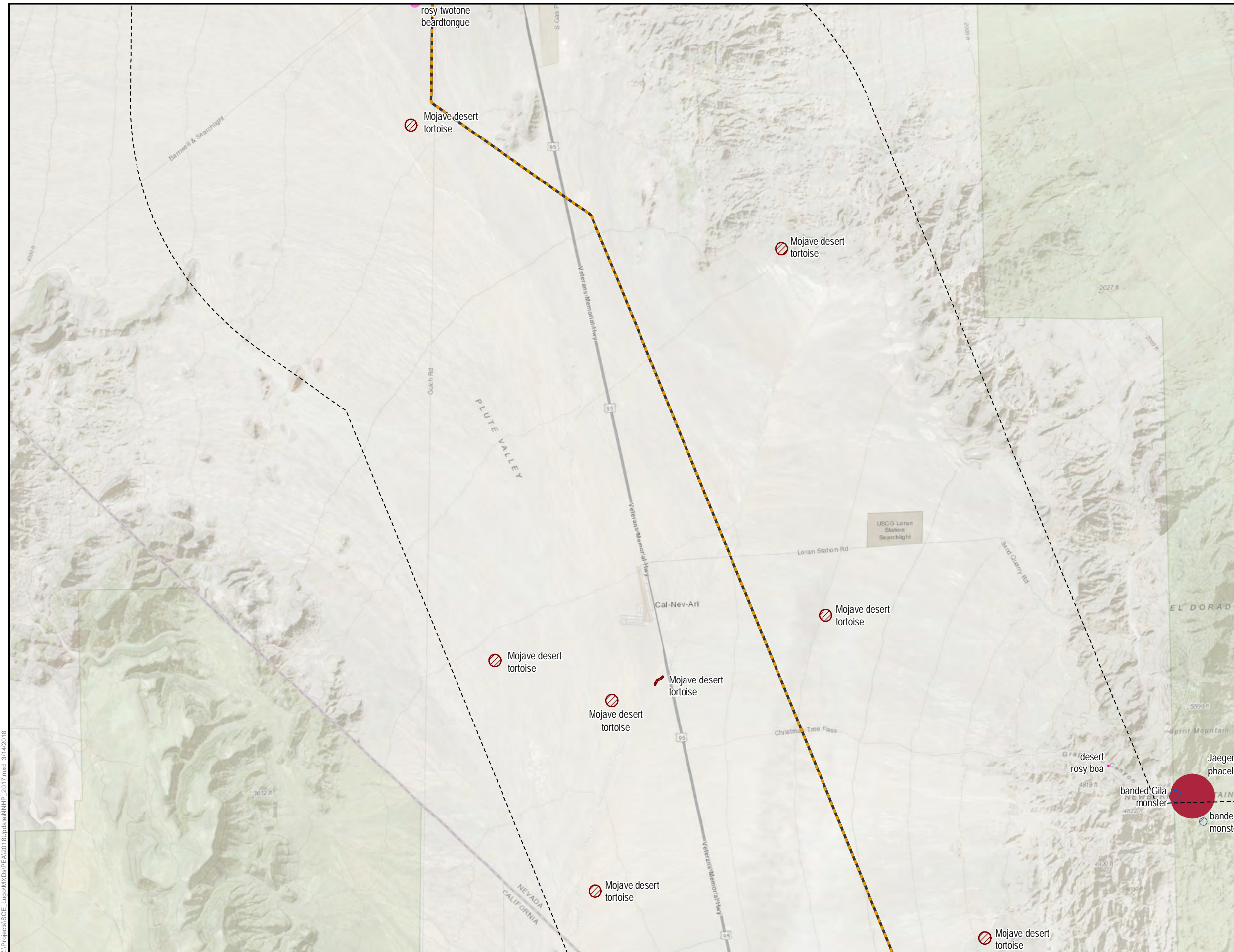


Source: Insignia, 2018; NNHP, 2017; SCE, 2018

Z:\Projects\SCE_Lugo\MXDs\PEA\2018\Update\NNHP_2017.mxd 3/14/2018

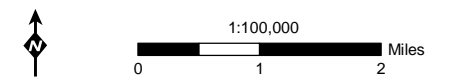
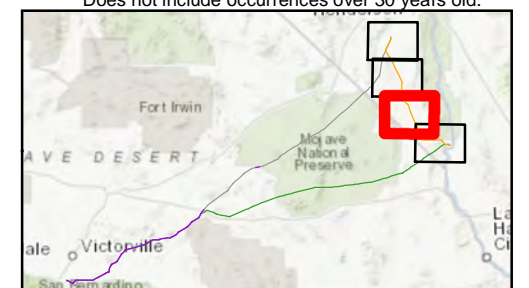
This page intentionally left blank.

**Figure 4.4-3:
 NNHP Special-Status Wildlife
 and Plant Occurrences Map
 Page 3 of 4
 Eldorado-Lugo-Mohave
 Series Capacitor Project**



- Eldorado - Mohave 500 kV Transmission Line
- 5-Mile Project Buffer
- NNHP Wildlife Occurrence***
 - banded Gila monster
 - desert rosy boa
 - Mojave desert tortoise
- NNHP Plant Occurrence***
 - Jaeger phacelia
 - rosy twotone beardtongue

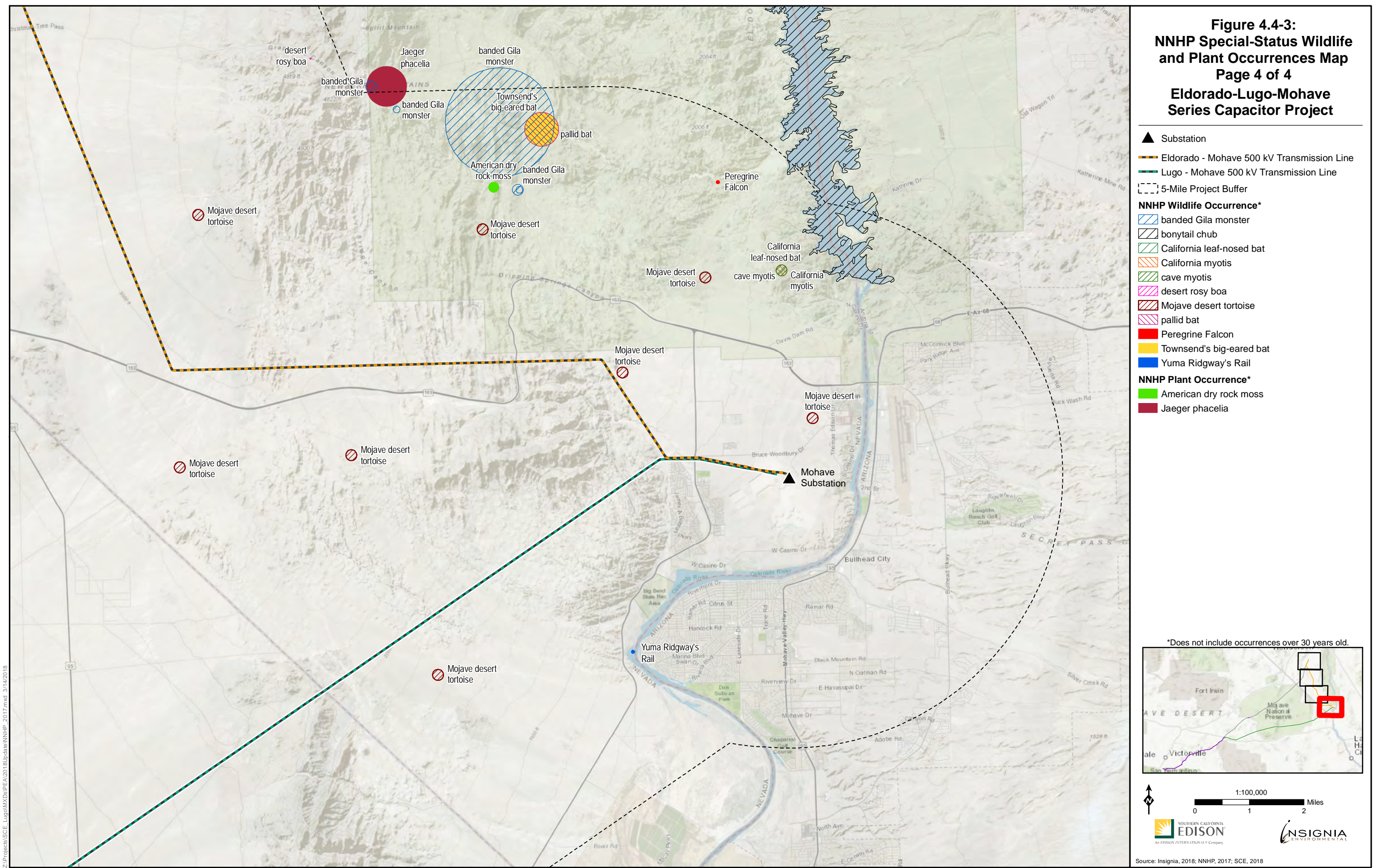
*Does not include occurrences over 30 years old.



Source: Insignia, 2018; NNHP, 2017; SCE, 2018

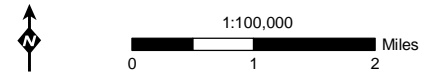
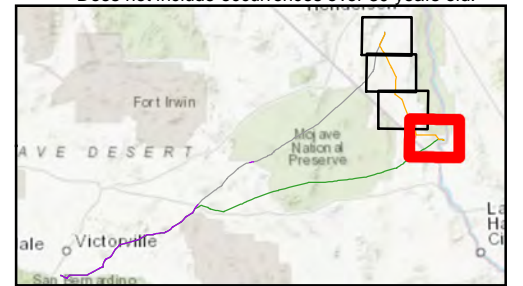
This page intentionally left blank.

**Figure 4.4-3:
 NNHP Special-Status Wildlife
 and Plant Occurrences Map
 Page 4 of 4
 Eldorado-Lugo-Mohave
 Series Capacitor Project**



- ▲ Substation
- Eldorado - Mohave 500 kV Transmission Line
- Lugo - Mohave 500 kV Transmission Line
- - - 5-Mile Project Buffer
- NNHP Wildlife Occurrence***
- ▨ banded Gila monster
- ▨ bonytail chub
- ▨ California leaf-nosed bat
- ▨ California myotis
- ▨ cave myotis
- ▨ desert rosy boa
- ▨ Mojave desert tortoise
- ▨ pallid bat
- ▨ Peregrine Falcon
- ▨ Townsend's big-eared bat
- ▨ Yuma Ridgway's Rail
- NNHP Plant Occurrence***
- ▨ American dry rock moss
- ▨ Jaeger phacelia

*Does not include occurrences over 30 years old.



Source: Insignia, 2018; NNHP, 2017; SCE, 2018

Z:\Projects\SCE_Lugo\MXDs\PEA\2018\Update\NNHP_2017.mxd 3/14/2018

This page intentionally left blank.

Of the 44 special-status wildlife species with the potential to occur, nine either occur in the BRSA or are likely to occur in the BRSA. For these species, the following was determined:

- Two species occur: desert tortoise and desert bighorn sheep.
- Seven species are likely to occur: American badger (*Taxidea taxus*), banded Gila monster (*Heloderma suspectum cinctum*), Bendire's thrasher (*Toxostoma bendirei*), golden eagle, Mojave fringe-toed lizard (*Uma scoparia*), pallid bat (*Antrozous pallidus*), and western burrowing owl (*Athena cunicularia*).
- Of these species, desert tortoise is the only species listed under the FESA and/or CESA. It is listed as threatened under the FESA and CESA, and is listed in Nevada as a threatened reptile.

In 2016, protocol-level surveys were conducted for desert tortoise, least Bell's vireo (*Vireo bellii pusillus*), and southwestern willow flycatcher (*Empidonax traillii extimus*). In 2017, additional desert tortoise surveys were conducted. A detailed discussion of the methods and results of these surveys is provided in Appendix G: Biological Resources Technical Report and is briefly summarized as follows:

- Fourteen desert tortoises and 246 potential desert tortoise burrows were observed during the 2016 protocol-level desert tortoise surveys. No desert tortoises were observed during the 2017 protocol-level desert tortoise surveys, which were conducted in a significantly smaller area than in 2016. Several desert tortoises were incidentally observed during the special-status plant surveys in 2016 and 2017.
- No least Bell's vireos were observed during the 2016 focused presence/absence surveys for the species.
- No southwestern willow flycatchers were observed during the 2016 focused presence/absence surveys for the species.

4.4.3.4 Critical Habitat

Under the FESA, to the extent prudent and determinable, the USFWS is required to designate critical habitat for endangered and threatened species (16 U.S.C. § 1533 [a][3]). Critical habitat is defined as areas of land, water, and airspace containing the physical and biological features essential for the survival and recovery of endangered and threatened species. Designated critical habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter. Designated critical habitats require special management and protection of existing resources, including water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types. The critical habitat designation delineates all suitable habitat, occupied or not, that is essential to the survival and recovery of the species.

Critical habitat for desert tortoise is present along large sections of the BRSA. Portions of the BRSA are located within the Ord-Rodman, Fenner, Piute, and Eldorado Critical Habitat Units. In total, approximately 1,073.3 acres of desert tortoise critical habitat are present within the BRSA, as depicted in Figure 4.4-4: Desert Tortoise Critical Habitat Map.

Critical habitat for the following six additional species is located within 5 miles of the BRSA:

- Arroyo toad (*Anaxyrus californicus*)
- Bonytail chub (*Gila elegans*)
- Cushenbury buckwheat (*Eriogonum ovalifolium* var. *vineum*)
- Cushenbury oxytheca (*Acanthoscyphus parishii* var. *goodmaniana*)
- Razorback sucker (*Xyrauchen texanus*)
- Southwestern willow flycatcher

Critical habitat for arroyo toad and southwestern willow flycatcher is located approximately 1.5 miles south of the BRSA, in the vicinity of the Mojave River Forks Reservoir and Deep Creek in the Mojave River Forks Regional Park. Critical habitat for both Cushenbury buckwheat and Cushenbury oxytheca occurs on White Mountain, approximately 5 miles southeast of the BRSA. Critical habitat for bonytail chub and razorback sucker is located approximately 3.8 miles northeast of the BRSA in the Colorado River, upstream of Davis Dam and near the community of Laughlin, Nevada.

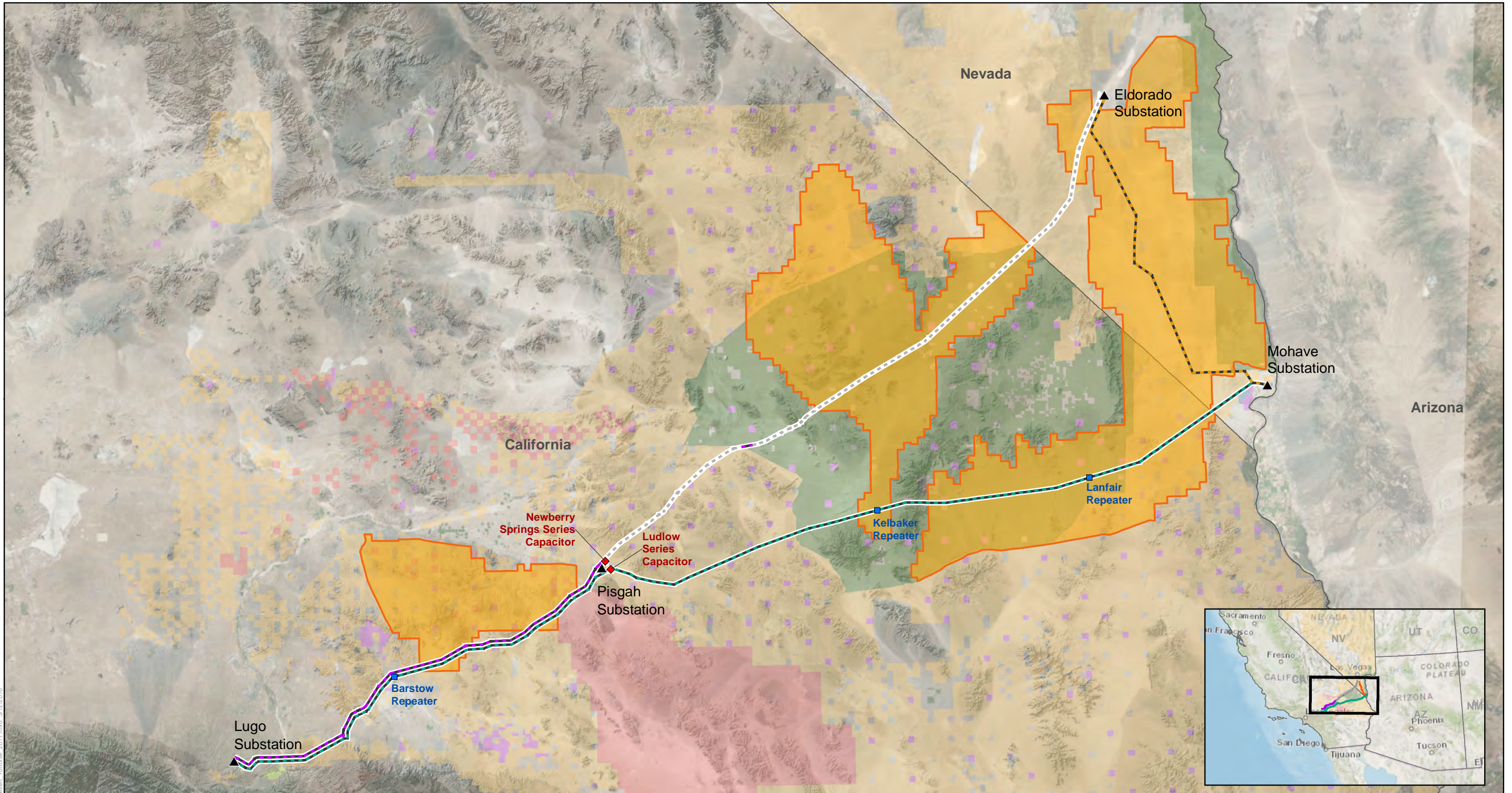
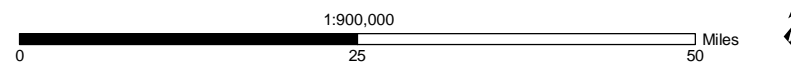


Figure 4.4-4: Desert Tortoise Critical Habitat Map

Eldorado-Lugo-Mohave Series Capacitor Project

- | | | |
|--|--|-----------------------------------|
| Desert Tortoise Critical Habitat | Eldorado - Lugo 500 kV Transmission Line | California Protected Areas |
| Existing Substation | Eldorado - Mohave 500 kV Transmission Line | County |
| Proposed Mid-Line Capacitor Location | Lugo - Mohave 500 kV Transmission Line | Military |
| Proposed Fiber Optic Repeater Location | Transmission Line not part of Project | National Park Service |
| | | Other State Park |
| | | US Bureau of Land Management |



This page intentionally left blank.

4.4.3.5 Wildlife Migration Corridors

Wildlife migration corridors are defined as areas that connect suitable habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features (e.g., canyon drainages, ridgelines, or areas with vegetation cover) provide corridors for wildlife travel. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high-population-density areas; and facilitate genetic diversity. The CEQA Guidelines require that project proponents disclose impacts to wildlife corridors and mitigate for significant impacts to wildlife corridors. This section discusses the applicable wildlife corridors that are present or potentially present within the BRSA.

Terrestrial wildlife species tend to travel along natural drainages or stretches of land that simultaneously provide protective cover from predators and a foraging source. Due to the length of the Proposed Project, the BRSA crosses many minor drainages and dry washes. The majority of the BRSA covers remote desert terrain that would allow for relatively uninhibited, local wildlife migrations. Scrub vegetation communities are located within the BRSA, which have direct connectivity to larger stretches of similar habitat. This could provide local migration corridors for birds, mammals, and reptiles while also providing foraging opportunities. The BRSA may also cross desert bighorn sheep migration corridors at higher elevations. Desert bighorn sheep require habitat connectivity to move uninhibited from steep and rugged topography (used as shelter from predators) at higher elevations to water sources and forage habitat at lower elevations.

The Proposed Project is also located in the Pacific Flyway, a major north-south avian migratory corridor that extends along the west coast of North and South America, from Alaska to Patagonia, and provides suitable foraging habitat for many resident and migratory avian species. The Pacific Flyway links breeding grounds in the north to more southerly wintering areas, and therefore is utilized by an abundance of bird species during migration. Migratory birds often use wetlands as a stopover during migration. One small wetland area is located within the BRSA and covers approximately 0.2 acre. Additionally, Silverwood Lake, is located approximately 3.1 miles south of the BRSA in the San Bernardino Mountains. The Colorado River is located approximately 1.2 miles east of the BRSA at its closest point, near the unincorporated community of Laughlin, Nevada. These open waters may also serve as stopovers for migratory birds.

4.4.3.6 Jurisdictional Waters

In 2016 and 2017, Insignia biologists delineated water features in the BRSA that are potentially under the jurisdiction of the USACE, SWRCB, NDEP, and CDFW. A total of 588 water features were mapped. This included 582 ephemeral drainages and five intermittent drainages. No perennial drainages occurred within the BRSA. One wetland was also delineated, measuring approximately 0.2 acre. CDFW-jurisdictional riparian vegetation was also mapped within the BRSA. Table 4.4-4: Potentially Jurisdictional Waters within the BRSA provides the approximate cumulative acreage of the potentially jurisdictional water features delineated in the BRSA.

Table 4.4-4: Potentially Jurisdictional Waters within the BRSA

Feature Type	Approximate Linear Feet	Approximate USACE-, SWRCB-, and NDEP- Jurisdictional Area (Acres)	Approximate CDFW- Jurisdictional Area (Acres)
Ephemeral Drainages	233,778.7	252.3	296.2
Intermittent Drainages	2,054.0	8.0	8.4
Wetlands	N/A	0.2	0.2
Perennial Drainages	0.0	0.0	0.0
Riparian Vegetation	N/A	N/A ¹⁵	<0.1
Total	235,832.7	260.5	304.8

These water features are described in detail in Appendix G: Biological Resources Technical Report and in Section 4.9, Hydrology and Water Quality. They are also depicted in detail in Appendix J: Jurisdictional Delineation Maps.

4.4.4 Significance Criteria

The significance criteria for assessing the impacts to biological resources come from the CEQA Environmental Checklist.¹⁶ According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status in local or regional plans, policies, or regulations, or by the CDFW or USFWS
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS
- Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means

¹⁵ Riparian vegetation is not under the jurisdiction of the USACE, SWRCB, or NDEP, and therefore is not applicable.

¹⁶ CEQA requires the State of California and local agencies in California to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. No CEQA equivalent exists for the State of Nevada. Therefore, in the absence of such regulations, the Proposed Project (including components in Nevada) has been evaluated against the CEQA significance criteria. Where specific Nevada environmental regulations exist, a discussion has been included in the impact analysis for the Proposed Project.

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridor, or impede the use of native wildlife nursery sites
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State HCP

4.4.5 Impact Analysis

4.4.5.1 Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

Construction

Less-Than-Significant Impact. Construction of the Proposed Project would result in temporary and permanent land disturbance. It is estimated that the Proposed Project would permanently disturb approximately 8.8 acres. Permanent impacts include the construction of the proposed Newberry Springs Series Capacitor, the proposed Ludlow Series Capacitor, and the fiber optic repeater sites, as well as limited grading of new access roads. The Proposed Project would also temporarily disturb approximately 385.2 acres. The estimated amount of land disturbance for each Proposed Project component is described in Chapter 3, Project Description.

Impacts to special-status species may include temporary and permanent loss of habitat associated with ground-disturbing activities and may also include additional direct and indirect impacts. The following subsections contain the impact analyses for special-status plant and wildlife species and critical habitat. Section 4.4.6, Applicant-Proposed Measures also includes applicant-proposed measures (APMs) that would further reduce impacts to sensitive species, and these APMs are discussed in the following subsections.

Special-Status Plant Species

As listed in Table 4.4-3: Special-Status Plant Species Observed within the BRSA, 19 special-status plant species were observed in the BRSA. Of these species, eight species were observed in areas proposed for construction activities associated with the Proposed Project, as shown in Table 4.4-5: Potential Impacts to Special-Status Plant Species.

Table 4.4-5: Potential Impacts to Special-Status Plant Species

Common Name	Scientific Name	Listing Status ¹⁷		Estimated Number of Individuals within Impact Areas ¹⁸	
		California	Nevada	Temporary	Permanent
Abrams' spurge	<i>Euphorbia abramsiana</i>	2B.2	none	4	0
Appressed muhly	<i>Muhlenbergia appressa</i>	2B.2	none	0	6
Matted cholla	<i>Grusonia parishii</i>	2B.2	none	1	30
Mojave menodora	<i>Menodora spinescens</i> var. <i>mohavensis</i>	BLM 1B.2	none	62	0
Narrow-leaved yerba santa	<i>Eriodictyon angustifolium</i>	2B.3	none	1	2
Pink funnel lily	<i>Androstephium breviflorum</i>	2B.2	none	71	17
Rusby's desert-mallow	<i>Sphaeralcea rusbyi</i> var. <i>eremicola</i>	BLM 1B.2	none	22	5
Salina Pass wild-rye	<i>Elymus salina</i>	2B.3	none	3	0

¹⁷ Explanation of CNPS CRPR listing codes:

BLM Sensitive species:

-BLM: species considered to be "special-status" or "sensitive" by the BLM (none of the species observed have a BLM sensitive listing in Nevada)+

CRPRs:

-1B: Rare, threatened, or endangered in California and elsewhere
-2B: Rare, threatened, or endangered in California, but more common elsewhere

CRPR Threat Ranks:

-.2: Moderately threatened in California (20 to 80 percent of occurrences threatened/moderate degree and immediacy of threat)
-.3: Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)

¹⁸ All impacts to special-status plant species will occur in California.

Construction activities associated with the Proposed Project have the potential to result in direct and indirect impacts to special-status plants that occur within temporary construction areas. Earth-moving and grading, vegetation clearing and grubbing, and vehicle travel may result in the direct crushing of individual plants. Earth-moving and grading also has the potential to bury or otherwise remove topsoil, which may contain viable seeds or bulbs of special-status plant species. Indirect impacts to special-status plant species located within and near construction areas could result from construction-related runoff, sedimentation, and erosion, which have the potential to alter site conditions sufficiently to favor the establishment of other native and non-native species. Indirect impacts may also result from the incidental introduction of invasive species into an area where special-status plant species occur. In addition, an increase in fugitive dust could reduce the growth and vigor of special-status plant species (Thomson et al. 1984).

In accordance with APM-BIO-01, SCE would develop and implement a revegetation plan for special-status plants that may be impacted by construction activities. The revegetation plan would include measures for avoiding and minimizing impacts to habitat for special-status plants, to the maximum extent possible. In addition, all disturbed areas would be returned to pre-construction conditions, as feasible. In accordance with APM-BIO-02, pre-construction special-status plant surveys would be conducted during the appropriate phenological (i.e., blooming) periods. The locations of any special-status plants identified during the surveys would be flagged and avoided to the extent possible, and monitored by a qualified biologist during construction activities. In accordance with APM-BIO-03, SCE would also establish a Noxious and Invasive Weed Management Plan (NIWMP) to minimize the spread of noxious and invasive weeds during construction. The NIWMP would require all equipment to be clean and weed-free prior to entering the right-of-way. It also would require that straw wattles used are weed-free and that the extent of noxious and invasive weeds are documented prior to construction. In accordance with APM-AIR-01, as described in Section 4.3, Air Quality, all areas disturbed by construction would be stabilized with a dust suppressant, to minimize fugitive dust. The implementation of the aforementioned APMs will ensure that any potential impacts to special-status plant species will be less than significant.

Special-Status Wildlife Species

Invertebrate Species

No special-status invertebrate species are anticipated to occur in the Proposed Project area. Therefore, no impacts to special-status invertebrate species are anticipated.

Fish Species

No special-status fish species are anticipated to occur in the Proposed Project area. Therefore, no impacts to special-status fish species are anticipated.

Amphibian Species

No special-status amphibian species are anticipated to occur in the Proposed Project area. Therefore, no impacts to special-status amphibian species are anticipated.

Reptile Species

One special-status reptile species—desert tortoise—was observed in the BRSA. In addition, two reptile species—Mojave fringe-toed lizard and banded Gila monster—are likely to occur in the BRSA. Proposed Project activities would result in temporary and permanent impacts to suitable habitat for these species. Habitat for desert tortoise can be found throughout the majority of the BRSA, and portions of the Proposed Project are located within USFWS-designated critical habitat for the species. Mojave fringe-toed lizard is likely to occur near the Kelso Dunes in the eastern portion of the Mojave Desert in California. Banded Gila monster is likely to occur near the McCullough and Highland Ranges and the Dead Mountains in Nevada, and near the Providence Mountains in California.

Direct impacts to special-status reptile species—especially desert tortoise—would most likely result from vehicle or equipment strikes. These species could fall into or become trapped within excavation areas, which could injure them or make them more vulnerable to predation. Special-status reptiles may also be crushed or buried in occupied burrows (or beneath the sand) during construction activities. Ground-disturbing activities may also increase the opportunities for introduction of invasive, non-native plant species that may compete with or replace forage species for desert tortoise (i.e., grasses and the flowers of annual plants). An increase in invasive plants may also facilitate fires in the area. Human presence in isolated areas may attract opportunistic predators (e.g., ravens [*Corvus corax*], coyotes [*Canis latrans*], and feral dogs [*Canis lupus familiaris*]), which are threats to special-status reptile species.

To reduce the risk of impacts to desert tortoise as a result of the Proposed Project, SCE would implement APM-BIO-04, which provides specific desert tortoise protection measures, including pre-activity surveys and construction monitoring. SCE would also compensate for impacts to desert tortoise critical habitat at a 5-to-1 ratio, and desert tortoise non-critical habitat at a 1-to-1 ratio, as described in APM-BIO-05. As described in Section 4.4.6, Applicant-Proposed Measures, SCE would also implement protections requiring that open trenches and excavations are covered and secured, and that construction materials are inspected for local wildlife. The implementation of the aforementioned APMs would reduce the impacts to special-status reptile species to a less-than-significant level. Further, SCE is pursuing take coverage for desert tortoise under Section 7 of the FESA¹⁹ under the 2017 programmatic Biological Opinion for Activities in the California Desert Conservation Area for Proposed Project work in California. For Proposed Project work in Nevada, SCE will seek coverage under the 2018 BO issued for critical habitat in Southern Nevada. SCE is also seeking a Section 2081 ITP under the CESA for desert tortoise. SCE would conduct construction activities in accordance with the requirements set forth in these permits.

¹⁹ Section 7 of the FESA, called “Interagency Cooperation,” is the mechanism by which federal agencies ensure the actions they take, including those they fund or authorize, do not jeopardize the existence of any federally listed species. Section 7 consultation occurs between a federal agency, whose actions may affect a listed species, and the USFWS. Discussions between the two agencies may include listed species that may occur in the proposed action area, and what effect the proposed action may have on those species.

Birds

No special-status avian species were observed during surveys. Three special-status avian species—Bendire’s thrasher, golden eagle, and western burrowing owl—are likely to occur in the BRSA in California. Golden eagle and western burrowing owl are likely to occur in the BRSA in Nevada. Suitable nesting and foraging habitat for all three species and other migratory bird species is present within the BRSA and/or in the immediate vicinity.

Vegetation clearing and ground disturbance within nesting habitat could result in direct impacts to active nests (i.e., nests containing eggs or chicks). The use of heavy machinery and vegetation removal within or adjacent to nesting habitat could also result in the disruption of nesting behavior due to a temporary increase in human presence, and noise and dust from construction equipment and vehicles. Construction activities could also potentially impact foraging raptors, passerines, and other special-status bird species. Temporary impacts may include minor degradation of foraging habitat, removal of some food sources, and the disruption of foraging behavior due to a temporary increase in noise and visual disturbances from construction equipment and vehicles. The proposed project would permanently impact approximately 8.8 acres of suitable nesting and foraging habitat.

As described in APM-BIO-06, SCE would conduct pre-construction nesting bird surveys, implement nest avoidance buffers, and monitor active nests, thereby reducing the risk of temporary impacts to nesting bird species. Further, in accordance with APM-BIO-07, pre-construction burrowing owl surveys would be conducted within suitable habitat in accordance with the CDFW’s Appendix D of the *Staff Report on Burrowing Owl Mitigation*. If a breeding territory or nest is confirmed, the CDFW would be notified and SCE would avoid impacts to burrowing owl to the extent feasible. If unavoidable impacts to western burrowing owl are anticipated, SCE would implement mitigation methods as outlined in the staff report and in coordination with the CDFW.

As described in APM-BIO-01, SCE would revegetate any temporarily disturbed nesting habitat to pre-construction conditions. Permanent impacts include the construction of the proposed Newberry Springs Series Capacitor, the proposed Ludlow Series Capacitor, and the fiber optic repeater sites, as well as limited grading of new access roads. Permanent impacts to foraging habitat for all avian species would be limited, because the percentage of suitable foraging habitat that would be removed is extremely small in comparison to the total amount of available habitat for these species in the area. Therefore, permanent construction impacts to foraging avian species would be less than significant.

In addition, transmission facilities would be designed consistent with the Avian Power Line Interaction Committee’s (APLIC’s) *Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006* (APLIC 2006) where feasible. Transmission facilities would also be evaluated for potential collision reduction devices in accordance with *Reducing Avian Collisions with Power Lines: The State of Art in 2012*. Implementation of APM-BIO-01 and APM-BIO-06, as well as incorporating the practices outlined in APLIC’s *Suggested Practices for Raptor Protection on Power Lines: State of the Art in 2006* and *Reducing Avian Collisions with Power Lines: The State of Art in 2012*, would reduce the impacts to avian species to a less-than-significant level.

Mammals

One special-status mammal species—desert bighorn sheep—was observed within the BRSA. In addition, two special-status mammal species—American badger and pallid bat—are likely to occur. Potential roost sites for pallid bat within the BRSA or in the immediate vicinity include rock outcrops; snags; and abandoned, man-made structures. Foraging habitat for all three species occurs throughout the BRSA.

Temporary impacts to desert bighorn sheep may occur if construction activities take place near or within suitable habitat. American badger burrows could potentially be crushed by construction vehicles or excavation. Impacts to special-status bats may occur if Proposed Project activities result in the disruption or abandonment of nearby active bat roosts. No recent CNDDDB records have been documented within 5 miles of the BRSA, and potential roosting habitat for these species would not be directly impacted by construction activities. Suitable bat foraging habitat is located within the BRSA. However, these species forage at night, and the percentage of suitable foraging habitat that would be disturbed is minor in comparison to the total amount of available habitat. Therefore, potential impacts to bat foraging or habitat are anticipated to be minimal.

As described in Section 4.4.6, Applicant-Proposed Measures, SCE would implement a measure requiring all Proposed Project personnel to attend a Worker Environmental Awareness Program training that discusses the wildlife species that may occur within the construction area prior to starting work. Also, all excavated, steep-walled holes or trenches deeper than 6 inches would either be covered at the end of each workday, or a ramp would be built to provide a means of escape for trapped animals. Before the holes or trenches are filled, they would be thoroughly inspected by the biological monitor. In addition, all construction vehicles and equipment would adhere to posted speed limits for public roads and a speed limit of 15 miles per hour (mph) on all non-public unpaved access roads to prevent wildlife mortality from vehicle collisions. Implementation of these measures would reduce the impacts to special-status mammal species to a less-than-significant level.

Critical Habitat

As depicted in Appendix G: Biological Resources Technical Report, approximately 1,073 acres of designated desert tortoise critical habitat are located within the BRSA. However, approximately 86.4 acres are categorized as previously disturbed, barren – not developed, developed, or *Chorizanthe rigida* – *Geraea canescens* Desert Pavement Sparsely Vegetated Alliance and do not provide habitat value to the species. These approximately 86.4 acres are excluded from the impact acreages.

The Proposed Project activities would result in approximately 45.8 acres of temporary impacts to suitable desert tortoise critical habitat. The construction of the proposed Kelbaker and Lanfair Fiber Optic Repeaters and new access road construction would result in approximately 0.2 acre of permanent impacts to suitable desert tortoise critical habitat. Temporary disturbance due to ground-disturbing activities could result in direct impacts to desert tortoise critical habitat. Shrubs and other vegetation used by desert tortoise may be destroyed in these areas, resulting in the loss of foraging habitat. Soil disturbance may also temporarily impact burrowing habitat for desert tortoise.

To minimize impacts to desert tortoise critical habitat, a revegetation plan would be prepared and implemented to ensure that construction areas would be restored, in accordance with APM-BIO-01. Demarcating the boundaries of construction areas would minimize the potential for impacts to critical habitat to occur outside of approved work areas; and avoiding impacts to vegetation, when feasible, would preserve foraging habitat within critical habitat, also in accordance with APM-BIO-01. SCE would compensate for permanent impacts to desert tortoise critical habitat at a 5-to-1 ratio, in accordance with APM-BIO-05. With the implementation of APM-BIO-01 and APM-BIO-05, impacts to desert tortoise critical habitat would be less than significant.

Operation

Less-Than-Significant Impact. Operation and Maintenance (O&M) activities associated with the Proposed Project would be similar to those currently performed by SCE for existing facilities, and generally include repairing conductors, washing or replacing insulators, repairing or replacing other hardware components, repairing or replacing poles and towers, tree trimming, brush and weed control, and access road maintenance, among other things. O&M practices would also include routine inspections and emergency repair within substations and ROWs, which would require the use of vehicles and equipment. SCE also inspects the transmission and subtransmission overhead facilities in a manner consistent with CPUC G.O. 165, which requires observation a minimum of once per year, but inspection typically occurs more frequently to ensure system reliability. Following construction of the mid-line series capacitors,²⁰ additional O&M activities would consist of monthly and annual inspections, as well as equipment testing and maintenance of emergency generators, ranging from once a year to once every five years. Additional testing, inspections, and maintenance of the building, site, generator, and fuel tank would also be required at the new fiber optic repeater facilities every six months to once a year. Additional inspections would also be required at the new fiber optic repeater facilities. Further modifications of habitats or impacts to species are not anticipated to occur due to O&M. Minor increases in ambient noise would be associated with the operation of the proposed Newberry Springs and Ludlow Series Capacitors. As a result, impacts associated with O&M would be less than significant.

4.4.5.2 Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

Construction

Less-Than-Significant Impact. The following subsections detail the impact analyses for riparian and other sensitive natural communities.

Sensitive Natural Communities

Eleven sensitive natural communities occur within the BRSA. Of these 11 communities, six sensitive natural communities are present in temporary impact areas, as shown in Table 4.4-6: Impacts to Sensitive Natural Communities. Construction activities associated with the Proposed Project, including vegetation clearing and/or grading required for work areas and staging yards,

²⁰ The Proposed Project includes construction of two new 500 kilovolt (kV) mid-line series capacitors—the proposed Newberry Springs Series Capacitor and Ludlow Series Capacitor.

are anticipated to result in temporary impacts to approximately 0.8 acre of previously disturbed sensitive natural communities and approximately 7.6 acres of undisturbed sensitive natural communities. No permanent impacts to sensitive natural communities are anticipated as a result of the Proposed Project.

Table 4.4-6: Impacts to Sensitive Natural Communities

Vegetation Alliance	State Ranking ²¹	Area Temporarily Impacted (Acres)	
		Previously Disturbed	Undisturbed
<i>Achnatherum speciosum</i> Herbaceous Alliance	S2.2	0.0	< 0.1
<i>Cylindropuntia bigelovii</i> Shrubland Alliance	S3	0.0	< 0.1
<i>Ericameria paniculata</i> Shrubland Alliance	S3	0.0	0.2
<i>Prunus fasciculata</i> – <i>Salazaria mexicana</i> Shrubland Alliance	S3.3	0.5	1.4
<i>Suaeda moquinii</i> Shrubland Alliance	S3	0.1	0.9
<i>Yucca brevifolia</i> Woodland Alliance	S3.2	0.2	5
Total		0.8	7.6

SCE would implement APM-BIO-01, which would minimize impacts and permanent loss to sensitive natural vegetation communities. If impacts are unavoidable, SCE would implement a revegetation plan to restore vegetation to its pre-construction conditions, also in accordance with APM-BIO-01. Implementation of APM-BIO-01 would reduce impacts to sensitive natural vegetation communities to a less-than-significant level.

Construction of the Proposed Project would not directly impact riparian habitat under the jurisdiction of the CDFW. Less than 0.1 acre of riparian habitat was observed within the BRSA, and Proposed Project activities would avoid these areas. As a result, no impacts to riparian habitat are anticipated.

Operation

Less-Than-Significant Impact. As previously described, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. In addition, the proposed Newberry Springs and Ludlow Series Capacitors are not associated with sensitive natural vegetation communities, including riparian vegetation. Maintenance of structures within the transmission ROW could involve minor clearing of vegetation and grading in previously disturbed areas. During these activities, sensitive natural

²¹ State Rarity Rankings are defined in Section 4.4.3.1, Vegetation Communities.

vegetation communities would be avoided to the maximum extent practical. Therefore, impacts would be less than significant.

4.4.5.3 Would the project have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means?

Construction

Less-Than-Significant Impact. Construction of the Proposed Project would result in temporary impacts to approximately 9.2 acres of water features potentially under the jurisdiction of the USACE, SWRCB, and NDEP. Construction of the Proposed Project would not result in permanent impacts to water features under the jurisdiction of the USACE, SWRCB, and NDEP. Construction of the Proposed Project would also result in temporary impacts to approximately 11.9 acres and permanent impacts to less than 0.1 acre of areas potentially under the jurisdiction of the CDFW, as depicted in Table 4.4-7: Water Features to be Impacted by the Proposed Project. Construction of the Proposed Project would not impact any wetlands under the jurisdiction of the USACE, SWRCB, NDEP, or CDFW. SCE would mitigate for unavoidable impacts to aquatic resources as required by the USACE, SWRCB, NDEP, and CDFW, in accordance with APM-BIO-08. APM-BIO-08 stipulates that authorizations must be obtained from the applicable jurisdictional agencies and mitigation must be implemented for permanent impacts to jurisdictional waters. With the implementation of APM-BIO-08, impacts to aquatic resources would be reduced to less-than-significant levels.

Table 4.4-7: Water Features to be Impacted by the Proposed Project

Feature Type	Temporary Impacts (Acres)		Permanent Impacts (Acres)	
	USACE, SWRCB, and NDEP	CDFW	USACE, SWRCB, and NDEP	CDFW
Linear Water Features	9.2	11.9	< 0.1	< 0.1
Wetlands	0.0	0.0	0.0	0.0
Total	9.2	11.9	< 0.1	< 0.1

Indirect impacts to aquatic resources could also result from spillage of hazardous materials used during construction, as well as erosion and sedimentation. These potential impacts would be avoided and minimized through implementation of the Proposed Project's Storm Water Pollution Prevention Plans (SWPPPs), which are required by law. The SWPPPs would require that vehicles must be checked daily and maintained in accordance with manufacturer's specifications to minimize the potential for leaks, and refueling and maintenance of vehicles would occur at least 50 feet from the edge of any aquatic feature. As such, indirect impacts from the spillage of hazardous materials on aquatic resources would be less than significant.

Operation

Less-Than-Significant Impact. As previously described, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. O&M activities typically do not impact water quality nor result in discharges to waters as ground-disturbing activities are not usually required for O&M. However, if ground disturbance would be necessary, best management practices (BMPs) would be implemented to protect resources from any discharges, and affected areas would be restored to pre-disturbance conditions. With the implementation of BMPs and the restoration of affected areas to pre-disturbance conditions, O&M for new Proposed Project components is not expected to result in the impact of federally protected waters and drainages. In addition, if it is necessary to conduct any work within a channel or to remove riparian vegetation, the work would require approval from the USACE, and CDFW or NDEP, as well as adherence to any permit conditions associated with that approval. Therefore, impacts would be less than significant.

4.4.5.4 Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridor, or impede the use of native wildlife nursery sites?

Construction

Less-Than-Significant Impact. The Proposed Project would involve construction activities within existing transmission corridors, and would include the construction of five permanent facilities—the proposed Newberry Springs and Ludlow Series Capacitors, and three fiber optic repeater sites. The proposed facilities would be constructed mainly in existing SCE ROWs that are disturbed and do not provide optimal habitat for wildlife migration corridors. The majority of the Proposed Project activities would occur within small, discontinuous areas, and therefore would not create a barrier for terrestrial species that may use the surrounding area as a wildlife corridor. The Proposed Project would not impact riparian areas, which may serve as wildlife migration corridors. In accordance with APM-BIO-01, sensitive riparian habitat would be avoided to the maximum extent possible. If impacts cannot be avoided, a revegetation plan would be implemented that would restore all disturbed areas to pre-construction conditions. Implementation of APM-BIO-01 would reduce impacts to wildlife migration corridors to a less-than-significant level.

Operation

Less-Than Significant Impact. As previously described, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. Maintenance of structures within the transmission ROW could involve minor clearing of vegetation and grading in previously disturbed areas. During these activities, riparian vegetation would be protected to the maximum extent practical. Therefore, impacts would be less than significant.

4.4.5.5 Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Construction

Less-Than-Significant Impact. Section 88.01.060 of the County of San Bernardino Development Code provides regulations for the removal of specified desert native plants to preserve and protect them and to provide for the conservation and wise use of desert resources. This ordinance is further described in Section 4.4.2.3, Local. Native desert vegetation, including creosote rings and Joshua trees, are located throughout the BRSA. The Proposed Project would result in temporary impacts to approximately 5.2 acres of the *Yucca brevifolia* Woodland Alliance which is indicated by the presence of Joshua tree. The temporary impacts would result from wire pulling sites, helicopter landing zones, and infraction areas in several locations within the BRSA. The removal of native desert vegetation typically requires a discretionary Tree or Plant Removal Permit. However, local discretionary permits are preempted for projects under the jurisdiction of the CPUC. In accordance with APM-BIO-01, impacts to native vegetation would be avoided to the maximum extent possible. Should the removal of native vegetation, including Joshua trees and creosote rings, be unavoidable, a revegetation plan would be prepared to restore impacted vegetation to pre-construction conditions, also in accordance with APM-BIO-01.

Section 88.01.080 of the County of San Bernardino Development Code provides for the protection of riparian plants. The county considers vegetation to be riparian if it is located within 200 feet of the bank of a stream. Any removal of such vegetation requires a Tree or Plant Removal Permit, subject to environmental review. As previously discussed, local discretionary permits are preempted in projects under jurisdiction of the CPUC. No impacts to riparian plants are anticipated because Proposed Project activities would avoid the riparian habitat present within the BRSA. Implementation of APM-BIO-01 would reduce conflict with the County of San Bernardino Development Code to a less-than-significant level.

Chapter 16.24 of the City of Hesperia Code of Ordinances describes the protections afforded to specified native desert plants within the city limits. It also details the discretionary permitting process for removing native desert vegetation. This ordinance is further described in Section 4.4.2.3, Local. Native desert vegetation, including creosote rings and Joshua trees, is located throughout the BRSA. The Proposed Project would result in a temporary impact of approximately 5.2 acres of the *Yucca brevifolia* Woodland Alliance which is indicated by the presence of Joshua tree. The temporary impacts would result mainly from wire pulling sites. The removal of native desert vegetation typically requires a discretionary tree removal permit. However, local discretionary permits are preempted for projects under the jurisdiction of the CPUC. In accordance with APM-BIO-01, impacts to native vegetation would be avoided to the maximum extent possible. Should the removal of native vegetation be unavoidable, a revegetation plan would be prepared to restore impacted vegetation to pre-construction conditions, also in accordance with APM-BIO-01.

Chapter 16.24 of the City of Hesperia Code of Ordinances describes the discretionary permitting process for removing riparian vegetation. It defines riparian vegetation as any plant occurring within 200 feet of a stream. As previously discussed, local discretionary permits are preempted in projects under the jurisdiction of the CPUC. No impacts to riparian plants are anticipated because Proposed Project activities would avoid the riparian habitat present within the BRSA.

Implementation of APM-BIO-01 would reduce conflict with the City of Hesperia Code of Ordinances to a less-than-significant level.

Operation

Less-Than-Significant Impact. As previously described, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. Maintenance of structures within the transmission ROW could involve minor clearing of vegetation and grading in previously disturbed areas. During these activities, riparian and native desert vegetation would be protected to the maximum extent practical. Therefore, because grading and vegetation removal activities would be minor and vegetation would be protected, impacts would be less than significant.

4.4.5.6 Would the project conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP?

Construction

Less-Than-Significant Impact. Portions of the Proposed Project within California fall within the DRECP area. The DRECP provides for the protection of listed species and the conservation of habitat, while allowing for the permitting of electrical generation and transmission facilities. As part of Phase I of the DRECP, the BLM adopted the LUPA to the CDCA Plan and Bishop and Bakersfield Resource Management Plan; the LUPA provides for several CMAs—actions that provide for protection of listed species and conservation of resources. APM-BIO-02, APM-BIO-03, APM-BIO-04, APM-BIO-06, and APM-BIO-07 are designed to protect listed species during construction. Where impacts cannot be avoided, APM-BIO-01, APM-BIO-05, and APM-BIO-08 provide for the restoration of habitat and compensation for permanent impacts. With the implementation of these APMs, conflicts with the DRECP and the LUPA's CMAs would be less than significant.

Portions of the Proposed Project within Clark County would occur within the Clark County MSHCP; however, SCE's ROWs are within the BLM utility corridor, which is not regulated by the MSHCP. The Clark County MSHCP provides protection for snags as an ecologically important feature, especially in stands of the *Juniperus californica* Woodland Alliance, *Psoralea argemone* Woodland Alliance, *Salix exigua* Woodland Alliance, and *Yucca brevifolia* Woodland Alliance. Impacts to each of these alliances are described in Table 4.4-2: Vegetation Community Alliances and Land Cover Types Observed within the BRSA. APM-BIO-01 contains provisions to reduce the risk of temporary impacts and permanent loss to sensitive natural vegetation communities and to implement a revegetation plan for all trees removed. With the implementation of APM-BIO-01, conflicts with the Clark County MSHCP would be less than significant.

Operation

Less-Than-Significant Impact. As previously described, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. Maintenance of structures within the transmission ROW could involve minor

clearing of vegetation and grading in previously disturbed areas. During these activities, snags would be protected to the maximum extent practical. Therefore, impacts would be less than significant.

4.4.6 Applicant-Proposed Measures

The following APMs would be implemented to reduce biological resources impacts associated with the Proposed Project:

- **APM-BIO-01: Revegetation Plan.** To the extent feasible, SCE would minimize temporary impacts and permanent loss to sensitive natural vegetation communities and special-status plants. Impacts would be minimized at construction sites by clearly demarcating work areas and flagging resources to be avoided. If unable to avoid impacts to sensitive natural vegetation communities and special-status plants, a revegetation plan would be prepared in coordination with the applicable agencies. The revegetation plan would describe, at a minimum, which vegetation restoration method (e.g., natural revegetation, planting, or reseeded with native seed stock in compliance with the Proposed Project's SWPPPs) would be implemented in the Proposed Project area. The revegetation plan would also include the plant species or habitats to be restored or revegetated, the replacement or restoration ratios (as appropriate), the restoration methods and techniques, and the monitoring periods and success criteria.
- **APM-BIO-02: Special-Status Plant Species Protection.** Prior to construction and during the appropriate phenological (i.e., blooming) periods, a qualified biologist will flag the locations of any special-status plants present within a work area. These flagged areas would be avoided to the extent possible and monitored by a qualified biologist during construction activities. Where disturbance to these areas cannot be avoided, SCE would develop and implement a revegetation plan (APM-BIO-01). Weed species would be removed, where necessary, from areas to be revegetated to ensure successful revegetation to pre-construction conditions.
- **APM-BIO-03: Noxious and Invasive Weed Management Plan.** Prior to construction, SCE would prepare a Noxious and Invasive Weed Management Plan (NIWMP) that is intended to minimize the spread of noxious and invasive weeds during construction. The NIWMP would include, but would not be limited to, ensuring that construction (earth-moving or ground-disturbing) vehicles arrive to work sites clean and weed-free prior to entering the ROW in cross-country areas, ensuring straw wattles used to contain storm water runoff are weed-free, and documenting the extent of noxious weeds within the construction areas prior to construction. Noxious weeds are defined as species rated as High on the California Invasive Plant Inventory Database, published by the California Invasive Plant Council. Construction within urban/developed areas and intensive agricultural areas would be exempt from the NIWMP requirements.

- **APM-BIO-04: Desert Tortoise Protection.** The following list of measures is designed to avoid and minimize impacts to desert tortoise and would apply to all construction activities in areas with the potential to support the species:
 1. Pre-activity Surveys: No more than seven days prior to the onset of ground-disturbing activities, an agency-approved biologist—with experience monitoring and handling desert tortoise—would conduct a pre-activity survey in all work areas within potential desert tortoise habitat, plus an approximately 300-foot buffer. All desert tortoise burrows within the pre-activity survey area (including desert tortoise pallets) would be prominently flagged at that time so that they may be avoided during work activities. Proposed actions would avoid disturbing desert tortoise burrows to the extent possible. However, burrows would be excavated if they would be impacted by construction activities. If a potential tortoise burrow must be excavated, the biologist would proceed according to the Desert Tortoise Council’s *Guidelines for Handling Desert Tortoise during Construction Projects*.
 2. Monitoring: The approved tortoise biologist would be available on site to monitor any work areas for desert tortoise, as needed. The approved tortoise biologist would be responsible for performing surveys prior to Proposed Project activities in suitable desert tortoise habitat. The approved tortoise biologist would have the authority to halt all non-emergency actions (as soon as safely possible) that may result in harm to desert tortoise, and would assist in the overall implementation of APMs for the tortoise.
 3. Desert Tortoise in Work Area: In the event that a desert tortoise is encountered in the work area, all work would cease and the approved biologist would be contacted. Work would not commence until the animal has voluntarily moved to a safe distance away from the work area. Desert tortoises may be moved by an agency-approved biologist if necessary to move it out of harm’s way. Encounters with desert tortoise would be reported to an approved biologist. Encounters with desert tortoise would be documented and provided to the CDFW, BLM, and USFWS. In the event that a dead or injured desert tortoise is observed, the approved biologist would be responsible for notifying SCE’s herpetologist and reporting the incident to the CDFW, BLM, and USFWS.
 4. Under Vehicle Checks: Desert tortoises commonly seek shade during the hottest times of the day. Employees working within the geographic range of this species would be required to check under their equipment or vehicles before they are moved. If desert tortoises are encountered, the vehicle is not to be moved until the animals have voluntarily moved to a safe distance away from the parked vehicle. Desert tortoises may be moved by the approved biologist, if necessary, to move them out of harm’s way.
 5. Handling Desert Tortoise: Only an agency-approved biologist may move or handle desert tortoises. When a desert tortoise is moved, the approved biologist would be responsible for taking appropriate measures to ensure that the animal is not exposed to harmful temperature extremes. The approved biologist would follow the

- appropriate protocols outlined in the Desert Tortoise Council's Guidelines for Handling Desert Tortoises During Construction Projects when handling desert tortoises or excavating their burrows.
6. Excavation of Desert Tortoise Burrows: Should it prove necessary to excavate a desert tortoise from its burrow to move it out of harm's way, excavation would be done using hand tools, either by or under the direct supervision of an approved biologist. Excavation of desert tortoise burrows would occur no more than seven days before the onset of construction or O&M activities. All desert tortoises removed from burrows would be placed in an unoccupied burrow that is approximately the same size as the one from which it was removed. If an existing burrow is unavailable, the approved biologist would construct or direct the construction of a burrow of similar shape, size, depth, and orientation as the original burrow. To ensure their safety, desert tortoises moved during inactive periods would be monitored for at least two days after placement in the new burrows or until the end of the construction activity.
 - If desert tortoises need to be moved at a time of day when ambient temperatures could harm them (i.e., at temperatures lower than 40°F or higher than 90°F), they would be held overnight in a clean cardboard box. These desert tortoises would be kept in the care of the approved biologist under appropriate controlled temperatures and released the following day when temperatures are favorable. All cardboard boxes would be appropriately discarded after one use.
 7. Disposal of Trash: Trash and food items would be contained in closed containers and removed daily to reduce attractiveness to opportunistic predators, such as common ravens, coyotes, and feral dogs.
 8. Pets Prohibited: Employees would not bring pets to the Proposed Project area.
 9. Vehicle Travel: Motor vehicles would be limited to maintained roads and designated routes. If additional routes are needed, they would be surveyed by the approved biologist.
 10. Raven Management: SCE would implement a Raven Management Plan (RMP) to minimize avian predation of desert tortoise for the Proposed Project. The purpose of the RMP is to utilize methods that deter raven depredation of juvenile desert tortoises, and other wildlife species. The RMP is not intended to eliminate or control raven populations, but would target offending ravens that have been found to prey upon desert tortoises. The RMP would incorporate an adaptive management strategy for immediate implementation following construction of the Proposed Project. The RMP would be evaluated after three years of implementation, or as needed, if avian predation becomes apparent. The following activities may be implemented as part of the RMP: 1) Common raven nest/power line monitoring, 2) Funding of offending raven control via contract with the U.S. Department of Agriculture, and 3) Alternative control strategies developed in coordination with USFWS (e.g. egg-oiling, laser deterrents, etc.). Mutual and timely cooperation between SCE and the BLM, USFWS, and CDFW is central to effective implementation of the RMP.

- **APM-BIO-05: Compensation for Impacts to Desert Tortoise Habitat.** Compensation for temporary and permanent impacts to desert tortoise habitat is proposed at the following ratios:

- A 5-to-1 ratio for impacts to desert tortoise critical habitat
- A 1-to-1 ratio for impacts to desert tortoise habitat, excluding critical habitat

No compensatory mitigation is required for disturbed areas (i.e., totally denuded, mostly denuded with scattered shrub-like vegetation, active agricultural, residential, and urban) that provide no habitat value to the species. Although much of the desert tortoise habitat disturbance resulting from Proposed Project activities will be temporary, compensatory mitigation will be provided at a permanent ratio due to the slow recovery time of habitats in desert ecosystems. No mitigation will occur for impacts to developed land within the Proposed Project area.

- **APM-BIO-06: Nesting Birds.** SCE would conduct pre-construction clearance surveys no more than seven days prior to construction to determine the location of nesting birds and territories, during the nesting bird season (typically February 1 to August 31, or earlier for species such as raptors). An avian biologist would establish a buffer area around active nest(s) and would monitor the effects of construction activities to prevent failure of the active nest. The buffer would be established based on construction activities, potential noise disturbance levels, and behavior of the species. Monitoring of construction activities that have the potential to affect active nest(s) would continue until the adjacent construction activities are completed or until the nest is no longer active.
- **APM-BIO-07: Western Burrowing Owl Protection.** Pre-construction burrowing owl surveys would be conducted within suitable habitat in accordance with Appendix D of the Staff Report on Burrowing Owl Mitigation (CDFW 2012). Prior to construction activities SCE would prepare a survey report in accordance with the requirements of the staff report. If a breeding territory or nest is confirmed, the CDFW would be notified and SCE would avoid impacts to burrowing owl to the extent feasible. If unavoidable impacts to western burrowing owl are anticipated, SCE would implement mitigation methods as outlined in the staff report and in coordination with the CDFW.
- **APM-BIO-08: Compensation for Permanent Impacts to Jurisdictional Water Resources.** All necessary authorizations must be obtained from the applicable jurisdictional agencies for impacts to aquatic resources. Permanent impacts to all jurisdictional water resources would be compensated at a 1-to-1 ratio, or as agreed upon with the USACE, SWRCB, NDEP, and CDFW.

Additional Protections for General and Special-Status Wildlife Species

In addition to the APMs described previously, SCE would implement the following additional standard practices to minimize impacts to general and special-status species:

- **Worker Environmental Awareness Program Training:** Prior to construction, a qualified biologist or other qualified resource specialist would develop an environmental training

for all Proposed Project personnel. The training would cover all pertinent Proposed Project APMs, permit conditions, and any other required environmental compliance measures. In addition, the environmental training would familiarize all Proposed Project personnel with general and special-status wildlife species that may occur within the construction areas. All Proposed Project personnel would attend the training prior to starting work on the Proposed Project. Upon completion of the training, each attendee would sign a form stating that he/she participated in the training and understood the material presented.

- Construction Vehicle and Equipment Speed Limit: Construction vehicle and equipment speeds would be limited to 15 mph on all non-public unpaved surfaces to prevent wildlife mortality from vehicle collisions.
- Holes, Trenches, and Escape Routes: All excavated, steep-walled holes or trenches deeper than 6 inches would either be covered with plywood or a similar material at the end of each workday, or a ramp would be built to provide a means of escape for trapped animals. If holes or trenches are covered, the edges of the plywood would be secured with soil, sandbags, or a similar material to prevent wildlife from gaining access under the plywood. Holes or trenches would be inspected daily during construction to protect against wildlife entrapment. Additionally, holes or trenches would be inspected prior to filling to ensure the absence of wildlife. If wildlife is located in the trench or excavation and cannot escape unimpeded, the biological monitor would be called immediately to remove the animal. If the trapped animal is injured, a recognized wildlife rescue agency would be employed to remove the animal and address the injury.
- Biological Monitoring: Biological monitors would be present during vegetation removal and initial ground-disturbing activities within native habitat (i.e., all areas except the developed land cover types). The biological monitors would conduct a pre-construction clearance survey of the work area for special-status species prior to vegetation removal or initial ground disturbance. The biological monitors would also verify that activities are conducted within demarcated work areas and that they are in compliance with the Proposed Project permits and authorizations. The biological monitors would have the authority to halt work that poses an imminent threat to special-status species. If a special-status species is observed on site, the biological monitor would contact SCE's Environmental Program Manager for further guidance.

4.4.7 Mid-Line Series Capacitor Site Alternatives

Consistent with Section 15126.6(d) of the CEQA Guidelines, this Proponent's Environmental Assessment analyzes alternatives to the Proposed Project. Section 5.2, Description of Project Alternatives and Impact Analysis identifies and compares the construction and operation of SCE's Proposed Project with its alternatives, including alternatives that did not meet key Proposed Project objectives and were not carried forward. The alternatives retained for a full evaluation—alternative Newberry Springs Series Capacitor and Ludlow Series Capacitor sites—are analyzed in relation to biological resources in the following discussion.

The alternative Newberry Springs Series Capacitor site is approximately 3.1 acres and is located approximately 930 feet to the northeast of its proposed location along the Eldorado-Lugo 500 kV Transmission Line. The alternative Ludlow Series Capacitor site is approximately 3.1 acres and is located approximately 970 feet to the southwest of its proposed location along the Lugo-Mohave 500 kV Transmission Line. In addition, APMs discussed in Section 4.4.6, Applicant-Proposed Measures would be applied to construction of the alternative Newberry Springs Series and Ludlow Series Capacitors to avoid or minimize potential impacts to biological resources.

4.4.7.1 Vegetation Communities and Land Cover

The alternative and proposed Newberry Springs Series Capacitor sites are both located within *Larrea tridentata* – *Ambrosia dumosa* Shrubland Alliance. Construction of the alternative Newberry Springs Series Capacitor would result in similar impacts to sensitive natural communities and land cover types as the proposed site.

The alternative Ludlow Series Capacitor site is located within *Larrea tridentata* – *Ambrosia dumosa* Shrubland Alliance interspersed with *Chorizanthe rigida* – *Geraea canescens* Desert Pavement Sparsely Vegetated Alliance. The proposed Ludlow Series Capacitor site is located within *Larrea tridentata* – *Ambrosia dumosa* Shrubland Alliance. Therefore, construction of the alternative Ludlow Series Capacitor would result in similar potential impacts to vegetation communities and land cover as at the proposed site.

4.4.7.2 Special-Status Plant Species

No special-status plant species were observed within the alternative or proposed Newberry Springs Series Capacitor sites. However, as discussed in Section 4.4.3.2, Special-Status Plant Species, some special-status plant species may not have been observed during the focused rare plant surveys due to the timing of the surveys, the persistent drought conditions, or the grazing pressure at the site. Construction of the alternative Newberry Springs Series Capacitor would result in a similar risk of impacts to special-status plant species as the proposed site.

No special-status plant species were observed within the alternative or proposed Ludlow Series Capacitor sites. However, as previously discussed, some special-status plant species may not have been observed during the focused rare plant surveys due to the timing of the surveys, the persistent drought conditions, or the grazing pressure at the site. Construction of the alternative Ludlow Series Capacitor would result in a similar risk of impacts to special-status plant species as the proposed site.

4.4.7.3 Special-Status Wildlife

No special-status wildlife species or sign was observed within the alternative or proposed Newberry Springs Series Capacitor sites. Desert tortoise is presumed to be present throughout the Proposed Project area. During the protocol-level desert tortoise surveys, four desert tortoise burrows and several desert tortoise tracks were observed approximately 2.3 miles southwest of the alternative site and approximately 1.9 miles southwest of the proposed site. Additionally, three desert tortoise burrows were observed approximately four miles southeast of the alternative site and approximately 4.1 miles southeast of the proposed site. The alternative and proposed sites are relatively similar distances from the observed desert tortoise sign. Therefore,

construction of the alternative Newberry Springs Capacitor would result in a similar risk of potential impacts to special-status wildlife species as the proposed site.

No special-status wildlife species or sign were observed within the alternative or proposed Ludlow Series Capacitor sites. Desert tortoise is presumed to be present throughout the Proposed Project area. During protocol-level desert tortoise surveys, four desert tortoise burrows and several desert tortoise tracks were observed approximately 2.5 miles southwest of the alternative site and approximately 2.8 miles southwest of the proposed site. Additionally, three desert tortoise burrows were observed approximately 3.1 miles southeast of the alternative site and approximately 2.9 miles southeast of the proposed site. The alternative and proposed Ludlow Capacitor sites are relatively similar distances from the observed desert tortoise sign. Therefore, construction of the alternative Ludlow Series Capacitor would result in a similar risk of potential impacts to special-status wildlife species as the proposed site.

4.4.7.4 Critical Habitat

The alternative and proposed Newberry Springs Series Capacitor sites are not located within USFWS-designated critical habitat. Therefore, construction of the alternative Newberry Springs Series Capacitor would result in similar potential impacts to critical habitat as the proposed site.

The alternative and proposed Ludlow Series Capacitor sites are not located within USFWS-designated critical habitat. Therefore, construction of the alternative Ludlow Series Capacitor would result in a similar risk of potential impacts to critical habitat as the proposed site.

4.4.7.5 Wildlife Migration Corridors

The alternative and proposed Newberry Springs Series Capacitor sites are not located on ridgelines or within canyons that may serve as wildlife migration corridors. Additionally, neither site is located near wetlands that may serve as stopover points for migrating birds along the Pacific Flyway. Both sites are located within *Larrea tridentata* – *Ambrosia dumosa* Shrubland Alliance, which may provide limited cover for foraging and travel for terrestrial wildlife species. The alternative site would impact less than 0.1 acre of a small drainage, which may also provide limited cover for migrating wildlife. Therefore, construction of the alternative Newberry Springs Series Capacitor site would result in a slightly greater risk of potential impacts to wildlife migration corridors as the proposed site.

The alternative and proposed Ludlow Series Capacitor sites are not located on ridgelines or within canyons that may serve as wildlife migration corridors. Additionally, neither site is located near wetlands that may serve as stopover points for migrating birds along the Pacific Flyway, and neither site is located near drainages that may provide cover for migrating wildlife. The alternative site is located within *Larrea tridentata* – *Ambrosia dumosa* Shrubland Alliance, interspersed with patches of *Chorizanthe rigida* – *Geraea canescens* Desert Pavement Sparsely Vegetated Alliance. This alliance does not support vegetation that would provide cover from predators, and therefore would not likely serve as a wildlife migration corridor. The proposed site is located within *Larrea tridentata* – *Ambrosia dumosa* Shrubland Alliance, which may provide limited cover for migrating terrestrial wildlife species. Therefore, construction of the alternative Ludlow Series Capacitor would result in slightly less potential impacts to wildlife

migration corridors than the proposed site, due to the lack of cover from predators in the alternative site.

4.4.7.6 Jurisdictional Resources

The proposed Newberry Springs Series Capacitor site does not have any components that would result in permanent impacts to jurisdictional waters. The alternative site would result in less than 0.1 acre of permanent impacts to jurisdictional waters; thus, construction and O&M at the alternative mid-line series capacitor site would result in greater potential impacts than construction and O&M at the proposed mid-line series capacitor site.

The proposed and alternative Ludlow Series Capacitor sites are not located within or near any jurisdictional resources. Therefore, there would be no impact to jurisdictional resources associated with construction at these sites.

4.4.8 References

- APLIC. (2006). *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*. Retrieved December 12, 2017 from <https://www.nrc.gov/docs/ML1224/ML12243A391.pdf>.
- BLM. (1998). *Mojave River Vole, *Microtus californicus mohavensis**. Retrieved December 12, 2017 from http://www.blm.gov/ca/pdfs/cdd_pdfs/mvole1.PDF.
- BLM. (2008) *Manual 6840 – Special Status Species Management*. Retrieved December 12, 2017 from https://www.blm.gov/sites/blm.gov/files/uploads/mediacenter_blmpolicymanual6840.pdf
- BLM. (2014). *Draft Desert Renewable Energy Conservation Plan and Environmental Impact Report/Impact Statement*. Retrieved December 12, 2017, from <http://www.drecp.org/draftdrecp/>.
- BLM.(2016). *Desert Renewable Energy Conservation Plan Land Use Plan Amendment to the California Desert Conservation Plan, Bishop Resources Management Plan, and Bakersfield Resource Management Plan*. Retrieved April 10, 2017, from http://www.drecp.org/finaldrecp/lupa/DRECP_BLM_LUPA.pdf.
- California Department of Conservation. (2007). *Watershed Coordinator Grants 2008-2011*. Retrieved April 2016 from <http://www.conservation.ca.gov/dlrp/wp/Documents/Appendix%20A%20-%20Watershed%20Coordinator%20Map.pdf>.
- California State Parks and Recreation. (2006). *Silverwood Lake State Recreation Area*. Retrieved April 2016 from <http://www.parks.ca.gov/pages/650/files/SilverwoodFINALWebLayout11092010.pdf>.
- CDFG. (2009). *Protocols for Surveying and Evaluating Impacts to Special-status Native Plant Populations and Natural Communities*. California Natural Resources Agency.
- CDFW. (2012). *Staff Report on Burrowing Owl Mitigation*. California Natural Resources Agency.
- CDFW. (2016a). *Vegetation–Mojave Desert for DRECP final [ds735]*. Published by the CDFW Vegetation Classification and Mapping Program (VegCAMP), with support from the California Native Plant Society and Aerial Information Systems (AIS). Retrieved January 2016 from <https://map.dfg.ca.gov/metadata/ds0735.html>.
- CDFW. (2016b). *Wildlife Habitats–California Wildlife Habitat Relationship System*. Retrieved May 2016 from http://www.dfg.ca.gov/biogeodata/cwhr/wildlife_habitats.asp#Tree.
- CDFW. (2018a) *California Natural Diversity Database: Special Vascular Plants, Bryophytes, and Lichens List*. Retrieved January 2018 from <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/spplants.pdf>.

- CDFW. (2018b). *Natural Communities List*. Retrieved February 8, 2018 from <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline>.
- Charlet, D.A., Damar, N.A., and Leary, P.J. (2014). *Vegetation database for land-cover mapping, Clark and Lincoln Counties, Nevada: U.S. Geological Survey, Data Series 827, 18 p.* Retrieved February 2016 from <http://dx.doi.org/10.3133/ds827>.
- City of Boulder City. (2015a). *Boulder City Master Plan*. Retrieved April 2016 from <http://www.bcnv.org/DocumentCenter/Home/View/129>.
- City of Boulder City. (2015b). *City Code*. Online. Retrieved July 2016 from http://www.sterlingcodifiers.com/codebook/index.php?book_id=417.
- City of Hesperia. (2010). *Hesperia General Plan*. Retrieved April 2016 from <http://www.cityofhesperia.us/DocumentCenter/View/3459>.
- City of Hesperia. (2017a). *Hesperia, California – Code of Ordinances*. Retrieved December 12, 2017 from https://www.municode.com/library/ca/hesperia/codes/code_of_ordinances.
- Clark County. (2015a). *Comprehensive Plan*. Retrieved July 2016 from <http://www.clarkcountynv.gov/comprehensive-planning/advanced-planning/Documents/1.6%20PRINT%20COMP%20PLAN%20WITH%20ATTACHMENTS%20FOR%20POSTING%2023%20NOV%202015.pdf>.
- Clark County. (2015b). *Clark County, Nevada – Code of Ordinances*. Retrieved December 12, 2017 from https://www.municode.com/library/nv/clark_county/codes/code_of_ordinances.
- CNPS. (2001). *CNPS Botanical Survey Guidelines*. Retrieved March 1, 2017 from http://www.cnps.org/cnps/rareplants/pdf/cnps_survey_guidelines.pdf.
- CNPS. (2017). *Inventory of Rare and Endangered Plants of California*. Retrieved March 1, 2017 from <http://www.rareplants.cnps.org/>.
- CNPS. (2018). *A Manual of California Vegetation Online*. Retrieved March 1, 2018 from <http://vegetation.cnps.org/>.
- County of San Bernardino. (2007). *2007 General Plan*. Retrieved April 2016 from <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>.
- Desert Tortoise Council. (1999). *Guidelines for Handling Desert Tortoises During Construction Projects*. Retrieved June 2016 from <http://www.deserttortoise.org/documents/DTChandlingguidelines99.pdf>
- Jennings, W. Bryan. (1997). *Habitat Use and Food Preference of the Desert Tortoise, Gopherus agassizii, in the Western Mojave Desert and Impacts of Off-Road Vehicles*. Retrieved May 2016 from <http://www.tortoise-tracks.org/wptortoisettracks/habitat-use-and-food->

preferences-of-the-desert-tortoise-gopherus-agassizii-in-the-western-mojave-desert-and-impacts-of-off-road-vehicles/.

Kochert, M.N., K. Steenhof, C.L. McIntyre, and E.H. Craig. (2002). *Golden Eagle (Aquila chrysaetos)*, *The Birds of North America Online* (A. Poole, Eds.). Retrieved July 10, 2015 from <http://bna.birds.cornell.edu/bna/species/684>.

National Weather Service. (2007). Retrieved April 2016 from <http://www.nws.noaa.gov/>.

Natureserve. (2015). *Aquila chrysaetos*. Retrieved April 2016 from <http://explorer.natureserve.org/servlet/NatureServe?searchName=Aquila+chrysaetos>.

NDEP. (2017). *Clean Water Act Section 401 - Water Quality Certification*. Retrieved December 12, 2017 from <https://ndep.nv.gov/water/rivers-streams-lakes/401-certification>.

NDOW. (2016). *Laws and Regulations*. Retrieved July 2016 from <http://www.ndow.org/laws/>.

NNHP. (2017). *Species Lists*. Retrieved December 27, 2017 from <http://www.heritage.nv.gov/species/lists.php>.

San Diego Zoo Global. (2002). *Desert Bighorn Sheep, Ovis Canadensis*. Retrieved April 2016 from http://library.sandiegozoo.org/factsheets/bighorn_sheep/bighorn.htm.

SCE. (2009). *Proponent's Environmental Assessment, Eldorado-Ivanpah 220 kV Transmission Project, Volume 1*. Retrieved December 12, 2017 from [http://www.cpuc.ca.gov/environment/info/ene/ivanpah/PEA%20\(Volume1\).pdf](http://www.cpuc.ca.gov/environment/info/ene/ivanpah/PEA%20(Volume1).pdf).

Shuford, W. D., and Gardali, T., editors. (2008). *California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California*. Retrieved April 2016 from <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=10420&inline>.

Thomson, J.R., P.W. Mueller, W. Fluckiger, & A.J. Rutter. 1984. The Effect of Dust on Photosynthesis and its Significance for Roadside Plants. Online. <https://www.rosemonteis.us/files/references/045708.pdf>. Site Accessed April 4, 2018.

U.S. Department of the Interior, Mojave Desert Ecosystem Program. (2016). *Vegetation – Central Mojave Desert* [ds166]. Retrieved January 2016 from <https://map.dfg.ca.gov/metadata/ds0166.html>.

USFWS. (1996). *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*. Retrieved March 1, 2017 from http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/Listed_plant_survey_guidelines.PDF.

USFWS. (2010). *Preparing for Any Action that May Occur within the Range of the Mojave Desert Tortoise (Gopherus agassizii)*. Retrieved September 12, 2016 from

https://www.fws.gov/carlsbad/PalmSprings/DesertTortoise/DT%20Pre-project%20Survey%20Protocol_2010%20Field%20Season.pdf

USFWS. (2013). Formal Programmatic Consultation under Section 7 of the Endangered Species Act for Effects to Threatened and Endangered Species and their Critical Habitat that May Occur as a Result of Actions Proposed by the Southern Nevada District Office, Bureau of Land Management.

USFWS. (2016). *The National Wetlands Inventory*. Retrieved April 2016 from <http://www.fws.gov/wetlands/NWI/index.html>.

USFWS. (2017). Biological Opinion for Activities in the California Desert Conservation Area.

USFWS. (2018). *Information, Planning, and Consultation System Online*. Retrieved January 4, 2018 from <http://ecos.fws.gov/>.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. (1988-1990). *California's Wildlife*. Vol. I-III. California Department of Fish and Game, Sacramento, California.