

[FINAL]

Eldorado – Lugo – Mohave Series Capacitor Project

Burrowing Owl Management and Passive Relocation Plan

Prepared for
Southern California Edison
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Applicable agencies
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Acronyms and Abbreviations

| | |
|---------|--|
| BLM | Bureau of Land Management |
| BOMPRP | Burrowing Owl Management and Passive Relocation Plan |
| CAISO | California Independent System Operator |
| CDFG | California Department of Fish and Game |
| CDFW | California Department of Fish and Wildlife |
| CEQA | California Environmental Quality Act |
| CPUC | California Public Utilities Commission |
| FESA | Federal Endangered Species Act |
| FRED | Field Reporting Environmental Database |
| kV | Kilovolt |
| MBTA | Migratory Bird Treaty Act |
| MM | Mitigation Measure |
| NBMP | Nesting Bird Management Plan |
| NDOW | Nevada Department of Wildlife |
| NEPA | National Environmental Policy Act |
| NPS | National Park Service |
| OPGW | Optical ground wire |
| Project | Eldorado-Lugo-Mohave Series Capacitor Project |
| SCE | Southern California Edison |
| TSP | Tubular steel pole |
| USFWS | U.S. Fish and Wildlife Service |

1 Introduction

Southern California Edison (SCE) will implement this Burrowing Owl Management and Passive Relocation Plan (BOMPRP or the Plan) as needed to minimize impacts to burrowing owls (*Athene cunicularia*) during construction of the proposed Eldorado-Lugo-Mohave Series Capacitor Project (Project). The entire Project is located within the overall range of the burrowing owl, and the majority of the Project is within or near suitable habitat for the species (Insignia Environmental 2017).

This Plan is prepared to be complementary to similar documents addressing protected biological resources during construction of the Project. For example, the Nesting Bird Management Plan (NBMP) includes requirements related to nesting bird surveys, monitoring, and reporting. Because of the unique concerns associated with burrowing owls, this Plan provides supplementary detail to the information in the NBMP.

1.1 Project Description

1.1.1 Project Purpose Statement

SCE is a public utility that provides electric service to a population of approximately 15 million people within an approximately 50,000-square-mile service area that encompasses 180 cities throughout Southern California. SCE's Project was approved by the California Independent System Operator (CAISO) following recommendations for approval as a policy-driven upgrade through the CAISO's Transmission Planning Process. As a policy-driven upgrade, the purpose of the Project is to integrate renewable generation and relieve area deliverability constraints. The capability of the existing infrastructure is limited by the existing series capacitors and terminal equipment and needs to be upgraded to meet the Project objectives by increasing the import capability of the existing transmission lines. These upgrades have been approved as CAISO policy-driven upgrades in the 2012-2013 and 2013-2014 Transmission Plans.

1.1.2 Project Overview

This Project will increase capacity and power flow between SCE's existing Eldorado, Lugo, and Mohave Substations to safely deliver renewable power to the Los Angeles Basin from the Eldorado and Mohave Substations. SCE's Proposed Project would:

- Construct 2 new 500-kilovolt (kV) mid-line series capacitors (i.e., the proposed Newberry Springs Series Capacitor and Ludlow Series Capacitor) and associated equipment.
- Provide 2 communication paths between the series capacitor sites.
 - Install approximately 2 miles of overhead and 700 feet of underground telecommunications facilities as one path to connect the proposed series capacitors to SCE's existing communication system.
 - Install approximately 2 miles of underground telecommunications facilities as a second communication path to connect the series capacitors to SCE's existing communication system.

- Provide station light and power to the proposed series capacitors by extending and/or rerouting existing lines to create approximately 2 miles of overhead and 700 feet of underground 12 kV distribution circuits. (The new distribution poles would support overhead telecommunication facilities as well as the electric distribution lines.)
- Construct 3 new fiber optic repeater facilities (Barstow, Kelbaker, and Lanfair) within the Lugo-Mohave right-of-way.
- Install distribution lines for light and power at the 3 proposed fiber optic repeater sites.
- Install underground telecommunications facilities from existing transmission structures to the Barstow, Kelbaker, and Lanfair fiber optic repeater sites.
- Address 16 potential overhead clearance discrepancies at 14 locations by:
 - Relocating, replacing, or modifying existing transmission, subtransmission, and distribution facilities at approximately 12 locations along the Eldorado-Lugo, Eldorado-Mohave, and Lugo-Mohave 500 kV transmission lines to address 14 of the overhead clearance discrepancies. Tower modifications would include raising 9 towers up to approximately 18.5 feet by inserting new lattice-steel sections in tower bodies.
 - Performing minor grading at 2 locations along the Lugo-Mohave 500 kV transmission line to address 2 of the overhead clearance discrepancies.
- Install approximately 232 miles of optical ground wire (OPGW) (approximately 59 miles on the Eldorado-Mohave transmission line and approximately 173 miles on the Lugo-Mohave transmission line, and approximately 3 miles of underground telecommunications facilities in the vicinity of the Mohave substation).
- Modify and strengthen the ground wire peak of existing suspension towers where OPGW splices would occur. (Some of these towers would also require minor modifications to the steel in the tower body.)
- Install approximately 2,000 feet of underground telecommunications facilities within the existing Lugo, Mohave, and Eldorado substations.
- Within Lugo Substation, perform modifications on the existing series capacitors and install new terminating equipment and remove 2 existing tubular steel poles (TSP) and install 2 new TSPs on the Eldorado-Lugo and Lugo-Mohave 500 kV transmission lines.
- Within the Eldorado substation, perform modifications on the existing series capacitors and upgrade the terminal equipment on the Eldorado-Lugo 500 kV transmission line.
- Within the Mohave substation, replace existing series capacitors on the Lugo-Mohave 500 kV transmission line and install new terminal equipment on the Eldorado-Mohave and Lugo-Mohave 500 kV transmission lines.
- Install (if necessary) cathodic protection on approximately 60 miles of SoCalGas's natural gas pipelines parallel to SCE's Lugo-Mohave 500 kV transmission line and on other pipelines as needed.

1.2 Lead, Cooperating, and Consulting Agencies

1.2.1 Lead Agencies

Lead agencies have discretionary approval over the Project and are responsible for reviewing aspects of the measures documented in this Plan. The California Public Utilities Commission (CPUC) is California's lead agency responsible for compliance with the California Environmental Quality Act (CEQA) for Project areas on non-federal lands. The CPUC issued an Initial Study/Mitigated Negative Declaration for the Project under CEQA. The Bureau of Land Management (BLM) Desert District Office is the federal lead agency responsible for compliance with NEPA for the Project areas on federal lands.

1.2.2 Cooperating Agencies

Because the Project also crosses the Mojave National Preserve, the National Park Service (NPS) elected to participate as a cooperating agency for the environmental review of the Project. Although the existing transmission lines associated with the Project also cross lands administered by the Bureau of Reclamation and the Department of Defense, the NPS represents the only federal cooperating agency at this time.

1.2.3 Consulting Agencies

Consulting agencies are public agencies, other than the lead agencies, that may provide guidance or information needed to satisfy the requirements of the measures contained in this Plan. Consulting agencies for select mitigation measures listed in Table 1 include U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and Nevada Department of Wildlife (NDOW).

1.3 Regulatory Setting

There are a number of federal and state regulations that afford varying degrees of protection for birds and their nests. The applicable regulations and permits are summarized below. Section 1.4 lists mitigation measures, which together with regulations, provide the regulatory and permitting framework with which Project activities must comply.

1.3.1 Federal Regulations

1.3.1.1 National Environmental Policy Act

Title I of NEPA (42 United States Code Section 4321) requires federal agencies to incorporate environmental considerations in their planning and decision-making processes. Federal agencies are to prepare detailed statements, Environmental Impact Statements, and Environmental Assessments assessing the environmental impact of and alternatives to federal actions with the potential to significantly affecting the environment. Title II of NEPA established the Council on Environmental Quality (40 Code of Federal Regulations Parts 1500-1508) to oversee NEPA implementation by ensuring that federal agencies meet their obligations under NEPA, overseeing federal agency implementation of the environmental impact assessment process, and issuing regulations and other guidance to federal agencies regarding NEPA compliance.

The BLM, with the NPS as a federal cooperating agency, analyzed the Project's impacts under NEPA through an Environmental Assessment and issued a Finding of No Significant Impact. This analysis included

documentation of how the Project would comply with BLM and NPS land management planning and included mitigation measures that would address potential impacts of the Project and ensure that impacts would be less than significant.

1.3.1.2 Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) is a law implemented as a result of treaties with Great Britain (on behalf of Canada), Mexico, the U.S.S.R. (now Russia), and Japan that makes it unlawful, except as formally permitted, to take (pursue, hunt, take, capture, or kill) migratory birds except under permits for special situations such as imminent threat to human safety or scientific research. The law currently applies to more than 1,000 species, including most native birds, and covers the destruction or removal of active nests of those species. These protections apply regardless of whether other entitlements are in place, such as approvals under CEQA.

1.3.1.3 Bureau of Land Management Special-Status Species Policy

The BLM's Manual 6840 – Special-Status Species Management sets policies for managing species listed under the Federal Endangered Species Act (FESA) and species proposed or candidates for listing. Manual 6840 also requires that each State Office director designate BLM Sensitive species, which are defined, in summary, as species with the potential to eventually require listing under FESA that may also be affected by BLM actions. Consideration of BLM Sensitive species in agency decisions and land management actions has the potential to preclude the need for eventual FESA listing. Burrowing owls are listed as Sensitive by the BLM in Nevada and California.

1.3.2 State of California Regulations

1.3.2.1 California Fish and Game Code

Sections 3503, 3503.5, 3505, 3513, 3800, 3801.6—Birds

These California Fish and Game Code sections protect all birds, birds of prey, and all nongame birds, as well as their eggs and nests, for species that are not already listed as fully protected and that occur naturally within the state. Section 3503.5 specifically states that it is unlawful to take any raptors (e.g., hawks, owls, eagles, and falcons), or their nests and eggs. This BOMPRP will be implemented in compliance with Section 3503.5.

In most cases, issues that will arise during construction of the Project will be associated with species protected under the MBTA and the California Fish and Game Code sections pertaining to native birds. Therefore, the management strategies presented in this Plan focus on those species protected under these regulations.

1.3.2.2 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation

The CDFW's 2012 Staff Report on Burrowing Owl Mitigation describes CDFW's comprehensive conservation and mitigation strategy for the species. CDFW determined that reversing declining population and range trends for burrowing owls will require implementing more effective conservation actions including developing more rigorous burrowing owl survey methods; working to improve the adequacy of impacts assessments; developing clear and effective avoidance and minimization measures; and developing mitigation measures to ensure impacts to the species are effectively addressed at the

project, local, and/or regional level. The 2012 Staff Report (California Department of Fish and Game [CDFG] 2012) takes into account the California Burrowing Owl Consortium’s Survey Protocol and Mitigation Guidelines (California Burrowing Owl Consortium 1993) and supersedes the survey, avoidance, minimization, and mitigation recommendations in the earlier 1995 Staff Report.

1.3.3 State of Nevada Regulations

1.3.3.1 Nevada Revised Statutes

Chapter 503 (Hunting, Fishing and Trapping; Miscellaneous Protective Measures)

Nevada Revised Statutes 503.620 affirms in state law the protections provided under the federal MBTA for migratory birds, including their parts, eggs, and nests.

1.4 Measures and Conditions from Environmental Documents and Permits

The mitigation measures and conservation measures addressed in this Plan are listed in Table 1.

Implementation of these measures is a commitment of the Applicant. Additional mitigation measures will be added to updates of this Plan as appropriate.

| Table 1 Mitigation Measures and/or Conservation Measures Addressed | |
|--|--|
| Measure | Description |
| CPUC Mitigation Measures | |
| BR-11: Conduct surveys and avoidance for burrowing owl. | <p>Burrowing owl surveys shall be conducted in accordance with the most current CDFW guidelines in Appendix D of the Staff Report on Burrowing Owl Mitigation (CDFG 2012; or updated guidelines as they become available) in all potential habitat, regardless whether or not the previous assessment identified burrows. SCE shall take measures to avoid impacts to any active burrowing owl burrow within or adjacent to a work area. The default buffer for a burrowing owl burrow is 300 feet for ground construction, and 300 feet horizontal and 200 feet vertical for helicopter construction. Effectiveness of the buffer area will be monitored, and adjustments will be made if necessary. The Nesting Bird Management Plan (Mitigation Measure BR-10) will specify a procedure for adjusting this buffer, if needed. Binocular surveys may be substituted for protocol field surveys on private lands adjacent to the project site only when SCE has made reasonable attempts to obtain permission to enter the property for survey work but was unable to obtain such permission.</p> <p>If active burrowing owl burrows are located within project work areas, SCE may passively relocate the owls by preparing and implementing a Burrowing Owl Passive Relocation Plan, as described below. SCE shall prepare a draft Burrowing Owl Passive Relocation Plan for review and approval by CPUC and BLM in consultation with CDFW and USFWS prior to the start of any ground-disturbing activities. SCE may not initiate burrowing owl passive relocation prior to finalization of the Plan and approval by CPUC and BLM. No active relocation shall be permitted. No passive relocation of burrowing owls shall be permitted during breeding season, unless a qualified biologist verifies through non-invasive methods that an occupied burrow is not occupied by a mated pair, and only upon authorization by CDFW. The Plan shall include, but not be limited to, the following elements:</p> <ul style="list-style-type: none"> • Assessment of Suitable Burrow Availability. The Plan shall include an inventory of existing, suitable, and unoccupied burrow sites within 500 feet of the affected project work site. Suitable burrows will include inactive desert kit fox, ground squirrel, or desert tortoise burrows that are deep enough to provide suitable burrowing owl nesting sites, as |

| Table 1 Mitigation Measures and/or Conservation Measures Addressed | |
|--|---|
| Measure | Description |
| | <p>determined by a qualified biologist. If two or more suitable and unoccupied burrows are present in the area for each burrowing owl that will be passively relocated, then no replacement burrows will need to be built.</p> <ul style="list-style-type: none"> • Replacement Burrows. For each burrowing owl that will be passively relocated, if fewer than two suitable unoccupied burrows are available within 500 feet of the affected project work site, then SCE shall construct at least two replacement burrows within 500 feet of the affected project work site. Burrow replacement sites shall be in areas of suitable habitat for burrowing owl nesting, and subject to minimal human disturbance and access. The Plan shall describe measures to ensure that burrow installation or improvements would not affect sensitive species habitat or any burrowing owls already present in the relocation area. The Plan shall provide guidelines for creation or enhancement of at least two natural or artificial burrows for each active burrow within the project disturbance area, including a discussion of timing of burrow improvements, specific location of burrow installation, and burrow design. Design of the artificial burrows shall be consistent with CDFW guidelines (CDFG 2012; or more current guidance as it becomes available) and shall be approved by the CPUC, BLM, CDFW, and USFWS. • Methods. Provide detailed methods and guidance for passive relocation of burrowing owls, outside the breeding season. An occupied burrow may not be disturbed during the nesting season (generally, but not limited to, February 1 to August 31), unless a qualified biologist determines, by non-invasive methods, that it is not occupied by a mated pair. Passive relocation would include installation of one-way doors on burrow entrances that would let owls out of the burrow but would not let them back in. Once owls have been passively relocated, burrows will be carefully excavated by hand and collapsed by, or under the direct supervision, of a qualified biologist. • Monitoring and Reporting. Describe monitoring and management of the replacement burrow site(s) and provide a reporting plan. The objective shall be to manage the relocation area for the benefit of burrowing owls, with the specific goal of maintaining the functionality of the burrows for a minimum of two years. Monitoring reports shall be available to the CPUC and BLM on a weekly basis. |
| BLM Mitigation Measures | |
| BLM BR-12 | A Burrowing Owl Passive Relocation Plan shall be prepared and implemented. Pre-construction western burrowing owl surveys will be conducted according to California Department of Fish and Wildlife guidelines, and SCE will avoid burrowing owl habitat impacts as feasible or implement mitigation measures per California Department of Fish and Wildlife guidelines. |

1.5 Applicability of Measures and Conditions

1.5.1 Timing

The measures described in this Plan and listed in Table 1 are applicable for the following periods of the Project, as shown in Table 2.

| Table 2 Timing of Applicant Proposed Measure and Mitigation Measure Applicability | | | |
|---|--------------------------------|------------------------------|---------------------------------|
| Measure | Period | | |
| | Preconstruction (Mobilization) | During Construction (Active) | Post-construction (Restoration) |
| CPUC BR-11 | ☒ | ☒ | ☒ |
| BLM BR-12 | ☒ | ☒ | ☒ |

2 Burrowing Owl Background Information

2.1 Distribution and Habitat Preferences

Burrowing owls are widespread throughout the western United States, with a disjunct population in Florida. Burrowing owls may occur almost anywhere where suitable habitat is present within their overall range.

Burrowing owl habitat can be characterized by two general factors: low-growing vegetation and the presence of pre-existing burrows. For suitable burrows to be present, habitat and soil types must also be suitable for other burrowing animals. Burrowing owls are frequently associated with agricultural areas where soft soils are often present along canals and irrigation ditches, where rodents frequently provide suitable burrows, and there is high availability of insect food. Although insects are a primary food source, burrowing owls also prey on some small rodents (Trulio and Higgins 2012).

2.1.1 Vegetation Structure

Burrowing owls strongly prefer areas with sparse or no vegetation immediately around the burrow entrance. Burrow sites may be in grassland, areas with scattered shrubs, and farmland, but are rarely in densely vegetated areas. Perches near burrows, including natural vegetation, rocks, or fenceposts, are frequently used by burrowing owls.

2.1.2 Suitable Burrows

Burrowing owls may construct their own burrows, but prefer to use and potentially modify existing burrows. Suitable burrows in the Mojave Desert may be constructed by rodents such as ground squirrels and kangaroo rats, as well as kit foxes, badgers, and desert tortoises. Because burrowing owls nearly always use pre-existing burrows, they are dependent on the presence of soils that are suitable for burrow construction by other animal species. Generally, areas with a high fraction of embedded rocks, an impermeable caliche layer, or very sandy soils can all be unsuitable for the construction of deep and stable burrow systems by any burrowing animal.

Burrows in the Mojave Desert must be deep enough to provide a thermal refugium during summer, typically with chambers approximately 3 feet below the ground surface (Johnson et al. 2010). Shallow, temporary shelters that may often be used by desert tortoises would not be suitable for occupancy by burrowing owls in the Mojave Desert, although shallow shelters may be used in areas with cooler climates (Klute et al. 2003). Additionally, burrows with multiple entrances are preferred. Outside the nesting season, burrow structure may be less important. Manmade features such as pipes and culverts may also be used as shelter outside the nesting season or as surrogate or satellite burrows at any time (Williford et al. 2009).

2.2 Nesting Behavior and Seasonal Considerations

Across their range, burrowing owls may be migratory, partial migrants (only some members of the population migrate), or year-round residents. Year-round resident burrowing owl populations are often associated with agriculture where water and food availability persists year-round and are typically in the southern part of the species' overall range (Klute et al. 2003). Consistent with the NBMP and the species' biology in the Mojave Desert, this Plan defines the burrowing owl nesting season as February 1 to

August 31. Burrowing owl young may not become independent and begin to disperse for several months after hatching, as reflected in the August 31 end date for the nesting season in the Project area.

2.3 Presence in the Project Area

The entire Project is within the overall range of the burrowing owl. However, habitat suitability varies depending on soil type and vegetation structure, and burrowing owl population density in the Mojave Desert is often relatively low. Randomized burrowing owl surveys across the Mojave Desert region found the highest population density in the western Mojave Desert (i.e., the vicinity of the Lugo Substation) and much lower densities in the eastern Mojave Desert (Wilkerson and Siegel 2011). The Project does not cross areas with irrigated agriculture, which can support high burrowing owl population densities in otherwise arid regions.

Multiple comprehensive surveys were completed during the Project’s permitting process and prior to the start of construction. The purpose of these surveys was to allow an assessment of the potential impacts of the Project for burrowing owls and other burrowing species and to provide preliminary information on where burrows are present (Section 3.2).

Surveys were conducted across the entire Project area in the spring of 2016 and the spring and fall of 2017. Those surveys were based on a preliminary design of the Project and included a buffer of variable widths (Insignia Environmental 2017). A habitat assessment for burrowing owls was conducted in the fall of 2018. The 2018 survey did not include a buffer of Project features (Insignia Environmental 2019). Botanical surveys of all Project features, including a 50-foot buffer, were repeated in the spring of 2019, but biologists would record incidental sightings of other special-status species (Insignia Environmental 2020). Surveyors recorded sightings of burrowing owls and suitable burrows with signs of past or present burrowing owl occupancy.

Surveys of the entire Project area, including a 300-foot buffer, were conducted in the spring of 2020 to support preparation of this Plan and other documents related to biological resources required prior to construction of the Project. Surveyors recorded burrowing owl signs, as well as any burrows large enough to support occupancy by burrowing owls, kit foxes, American badgers, and Mojave desert tortoises.

During those four survey periods combined, approximately 21 locations supported burrowing owls or contained suitable burrows, including several locations with multiple adjacent burrows (Table 3, listed west to east). No burrowing owls were directly observed in any survey, although potential sign (whitewash and pellets) were observed (Insignia Environmental 2019). The habitat assessment considered suitable habitat as only locations with suitable burrows present, and the Project features listed in Table 3 are the only locations in the Project area known to provide suitable habitat at the time of the survey. However, additional preconstruction surveys will determine whether suitable habitat has been created by burrowing animals in other locations (Section 3.2).

| Description | UTM E | UTM N | Survey Date | Nearest Project Feature |
|--|--------------|--------------|--------------------|--------------------------------|
| Surrogate burrowing owl burrow (culvert) | 466517 | 3802526 | October 14, 2018 | Within LZ_3 |
| Burrow with burrowing owl sign | 508649 | 3823874 | October 15, 2020 | Within M33-T1 SWA |
| Potential burrowing owl burrow | 538646 | 3833399 | October 17, 2018 | Within M53-T1 STR-BS1 |

| Description | UTM E | UTM N | Survey Date | Nearest Project Feature |
|--|--------------|--------------|--------------------|---|
| Kit fox burrow | 553591 | 3844857 | March 12, 2020 | 180 feet NW of LZ_75 |
| Desert tortoise burrow | 553647 | 3844884 | March 12, 2020 | 240 feet NW from LZ_75 |
| Potential burrowing owl burrow with sign | 557970 | 3849208 | March 28, 2017 | Within Capacitor Sites – DTWA3 |
| Potential burrowing owl burrow with sign | 558001 | 3849199 | March 28, 2017 | Within Capacitor Sites – DTWA3 |
| Complex with 3 burrows, unknown species | 558581 | 3848832 | March 12, 2020 | Within Ludlow Series Capacitor |
| Complex with 2 burrows, unknown species | 558610 | 3848728 | March 12, 2020 | Within Ludlow Series Capacitor |
| Complex with 3 burrows, unknown species | 558653 | 3848922 | March 12, 2020 | Within M69-T1 STR-AS1 |
| Complex with 5 burrows, unknown species | 558676 | 3848681 | March 12, 2020 | 70 feet SE from Ludlow Series Capacitor |
| Burrow, unknown species | 558691 | 3848691 | March 12, 2020 | 67 feet SE from Ludlow Series Capacitor |
| Complex with 2 burrows | 558758 | 3848862 | March 12, 2020 | Within Capacitor Sites – DTWA1 |
| Burrow, unknown species | 558855 | 3848940 | March 12, 2020 | 81 feet NE of LZ_83 |
| Kit fox burrow | 573802 | 3844767 | April 7, 2020 | 75 feet SW of LZ_92 |
| Potential burrowing owl burrow | 618440 | 3861085 | October 18, 2018 | Within M108-T2 SA-BS1 |
| Potential burrowing owl burrow | 678226 | 3958531 | October 16, 2018 | 15 feet W of M56-T1 SWA |
| Potential burrowing owl burrow | 681891 | 3944921 | October 16, 2018 | Within M46-T3-TP |
| Potential burrowing owl burrow | 687225 | 3942183 | October 16, 2018 | Within LZ_214 |
| Surrogate burrowing owl burrow (culvert) | 719005 | 3892179 | October 16, 2018 | Within Mohave Substation |
| Surrogate burrowing owl burrow (culvert) | 719173 | 3892152 | October 16, 2018 | 6 feet E of Mohave Substation |

3 Burrowing Owl Mitigation Approach

3.1 Roles and Responsibilities

The NBMP provides complete details on the roles and responsibilities related to protected birds for environmental personnel during the construction phase of the Project. The following additional responsibilities for these roles are specific to this Plan:

- **Environmental Coordinator:** Ensures compatibility of any burrowing owl mitigation actions, particularly construction of new artificial burrows, with other environmental concerns.
- **Lead Avian Biologist:** Confirms site suitability for replacement natural burrows or artificial burrow construction. Responds to buffer reduction requests from the Avian Biologist.
- **Avian Biologist:** Makes determinations regarding suitability of default or revised buffers around occupied burrows. Oversees excavation of any burrows that have had burrowing owls passively

excluded. Provides buffer reduction requests for work within default buffers around occupied burrows.

- **Biological Monitor:** Conducts preconstruction sweeps around work areas to identify occupied burrowing owl burrows and potentially suitable but unoccupied burrows. Monitors construction activities around occupied burrows, including any burrows occupied by burrowing owls as a result of passive relocation.

3.2 Preconstruction Surveys

During the construction phase of the Project in suitable habitat, and during other Project phases that involve the use of heavy equipment or have the potential to disturb burrowing owls (e.g., some remedial activities during restoration), one or more Avian Biologists will conduct preconstruction surveys to determine if any occupied burrowing owl burrows are present and would require implementation of an avoidance buffer. These surveys will be conducted within the scope of the Project's NBMP during the nesting season. Outside the nesting season, similar surveys are required to focus on detecting burrows that can be used by special-status species, including burrowing owls. Avian Biologists will also document the locations of suitable but unoccupied burrows, in the event that passive relocation is required and to address survey requirements for other special-status wildlife. Surveys will be conducted consistent with the CDFW guidelines in Appendix D of the Staff Report on Burrowing Owl Mitigation (CDFG 2012), or any more current protocols approved by the CDFW. In accordance with mitigation measures for other special-status wildlife, these surveys will be conducted no more than 7 days prior to the start of construction activities. A daily sweep will also be conducted of all work areas to ensure that no animals have moved into harm's way since the previous day or any preconstruction surveys.

Occupied burrowing owl burrows will be recorded as active nests in the Field Reporting Environmental Database (FRED), the Project's database for tracking environmental monitoring results and events. Occupied burrows will be protected as described in the following sections.

3.3 Impact Avoidance and Minimization

3.3.1 Occupied Burrows

SCE will work closely with the contractor to reduce or adjust the disturbance areas (for example, an access road, substation site, wire stringing site, etc.) in order to avoid direct and indirect impacts to occupied burrowing owl burrows as identified during the preconstruction surveys, clearance sweeps, or during the protocol focused burrowing owl surveys. The primary goal would be to avoid disturbance of active nesting burrowing owl burrows through the implementation of an environmentally sensitive area buffer. The default nesting season buffers are 656 feet on BLM land1 in California and 300 feet elsewhere. Additionally, to avoid take of burrowing owl individuals, occupied burrows identified outside the nesting season will be avoided through the implementation of a 160-foot environmentally sensitive area buffer.

If construction disturbance is to occur during the nesting season within of the avoidance buffer around occupied and/or active burrows, the following measures will be implemented, as applicable, by the qualified biologist to reduce potential indirect impacts to occupied burrowing owl burrows. If an active nesting burrow is identified, a standard environmentally sensitive area buffer will be implemented. If

¹Per Desert Renewable Energy Conservation Plan (DRECP) Land Use Plan Amendment (LUPA) Conservation Management Action (CMA) BIO-IFS-12:

avoidance is not feasible within the buffer, the buffer reduction process for special-status species in the NBMP Section 2.3.3.2 will be followed. The buffer reduction process includes agency review after a determination by the Avian Biologist that the buffer reduction is appropriate: "... the SCE EPM will submit a buffer reduction request notification to the agency(s) with jurisdiction over that portion of the Project (e.g., CPUC, BLM, or NPS). Notification will be provided a minimum of one business day prior to implementation of the reduced buffer."

Recommendations of reduced buffers will be determined by construction type, activity, and duration; natural history; individual behavior; stage of the reproductive cycle; known tolerances; and site conditions at each specific active nesting burrow. As described below, worker training, monitoring, shielding, perch installation, and construction restriction measures apply to the entire Project and would benefit burrowing owls where they occur by reducing the potential for impacts to the species.

If monitoring indicates that work activities within a reduced buffer could result in burrow abandonment, minimization measures may be implemented as appropriate. Minimization measures can include the following:

- Installing visual and noise barriers between the work area and the occupied burrow.
- Limiting the duration of work activities, especially during dawn and dusk peak activity periods.
- Using methods that generate lower noise levels.

Visual barriers can consist of chain-link fencing and shade cloth or other prefabricated products. Noise barriers could be constructed out of weed-free hay bales or solid prefabricated products designed for that purpose.

3.3.2 Unoccupied Burrows

Unoccupied burrows will be preserved in place if possible. Also, passive relocation may be required in some cases to ensure the safety of a burrowing owl, but the burrow itself may not require destruction. Vacated or unoccupied burrows on the edge of work areas, or those within work areas but in a location that could feasibly be avoided, may be preserved in place by protecting the structure of the burrow by inserting flexible plastic tubing or another easily removable filling and blocking the entrance to prevent wildlife entry. Once work activities in that location have concluded, the burrow can be cleared and left open for potential use by burrowing owls or other special-status wildlife. If an unoccupied burrow cannot be avoided, the burrow will be hand-excavated and collapsed after ensuring that no burrowing animals are present. Because of the potential to affect desert tortoises, burrow excavations for any species will be conducted according to these methods developed for the Project's Desert Tortoise Take Avoidance and Minimization Plan (Section 3.3 of that plan).

Shallow burrows where the entire interior of the burrow is clearly visible may be collapsed after ensuring no eggs are present. Burrows with the interior not fully visible from the surface must be excavated in stages. Fiber optic scopes may be used to aid in visually assessing burrows before and during excavation to ensure that no take of burrowing owls occurs. In all cases, burrow excavation will be conducted as though there is potential for a desert tortoise to be present and that take of that species will also be avoided.

Burrow excavation will be conducted with hand tools. Supportive material such as wadded newspaper or other padding will be inserted into the burrow to prevent collapse. Excavation will progress in stages, with the supportive material removed and inserted deeper into the burrow, visually inspecting newly visible

parts of the burrow as appropriate. After the burrow has been fully excavated, the excavation will be refilled with the original soil.

3.4 Passive Relocation

Passive relocation will be used only in cases where temporal or spatial avoidance is not feasible, and would be limited to use either outside the nesting season or cases where non-invasive methods can verify that no eggs or young are present and the burrow is not occupied by a mated burrowing owl pair. Authorization by CDFW will be required prior to passive relocation of any burrowing owls in California. Passive relocation shall not occur when temperatures exceed 95 degrees Fahrenheit. The previous 2016, 2019, and 2020 surveys do not support a determination that passive relocation will be necessary in any location, and this Plan does not propose specific locations for passive relocation or associated recipient sites. Additionally, passive relocation will be limited to locations either where suitable or improved natural burrows are present nearby, or where land ownership and permitting requirements allow the activities required to excavate and construct an artificial burrow. No active relocation will be implemented. The subsections that follow provide a description of passive relocation techniques, should it be required.

3.4.1 Site Evaluation

If the Avian Biologist determines that disturbance to an occupied burrowing owl burrow is likely to result in harm to the burrowing owl or cause burrow abandonment, and passive relocation outside the February 1 to August 31 nesting season is under consideration, an inventory of all potentially suitable burrows within 500 feet of the occupied burrow will be completed. Suitable natural burrows will meet the following standards or be modified as described in Section 3.4.2:

- No further than 500 feet from the original location, but at least 165 feet from Project construction activities
- Not occupied by other animals that would compete for space
- Entrance and tunnel size suitable for immediate burrowing owl use
- Depth adequate to provide refuge from extreme temperatures
- Stable soil type and physical integrity of burrow is adequate
- At least two suitable natural burrows are present

3.4.2 Natural Burrow Improvements

If natural burrows are available that can be made suitable with modification, improvements will be applied to the burrows, if those improvements are necessary to increase the likelihood of detection and occupancy by the burrowing owls that would be relocated. Burrow improvements may include clearing vegetation to increase visibility around the burrow entrance, widening the burrow entrance, modifying the burrow structure, and installing perches near the burrow entrance. Any burrow modifications will be done with hand tools and only after ensuring no other sensitive wildlife are present in the burrow.

Installation of perches can increase the attractiveness of a burrow location to burrowing owls, if natural perches are not present. Perches will be installed within approximately 25 feet of the burrow, and can be as simple as a wooden stake driven into the ground, with approximately 2 feet of the stake left exposed (Johnson et al. 2010). Rock piles, sturdy branches, and other natural material can also be used. Taller perches can be more attractive to common ravens and other predators and would be avoided. Perches should not be installed in a location that forms a visual obstruction in front of the burrow entrance.

3.4.3 Burrow Construction Guidelines

If suitable natural burrows are unavailable, the location will be assessed for the potential installation of artificial burrows. Artificial burrow site selection will be based on land ownership, proximity to the occupied burrow location, accessibility by heavy equipment (if required), low vegetation surrounding the location, low risk of human disturbance, and soil suitable for excavation. At least two artificial burrows will be provided in locations where they are installed.

Artificial burrow design and construction will be consistent with the recommended method presented in Barclay (2008). This design is based on a central chamber (plastic bucket or section of a plastic drum) with at least two sections of plastic tubing to provide multiple entrances (Figure 1). The slope of the entrance tubing must be less than 27 degrees. Entrances will be protected with rocks to discourage burrowing predators. Typically, the initial excavation of a central chamber and sloping trenches is completed by a backhoe and refined with hand tools, and the burrow structure is assembled in place then buried with hand tools. Additional alternative methods are described in Johnson et al. (2010) and San Diego Zoo Institute for Conservation Research (2019). Modifications recommended in those alternative designs include a chamber design with an access point at the top, allowing for internal maintenance of the burrow.

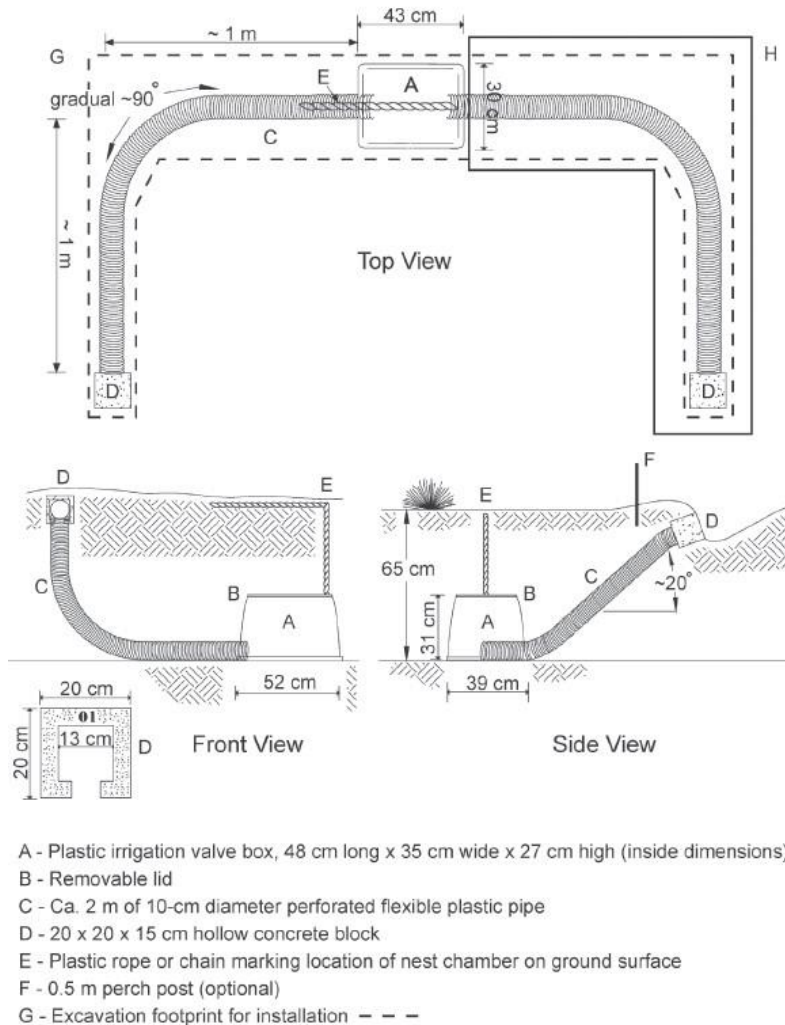


Figure 1 Example Artificial Burrow Design (Barclay 2008)

3.4.4 Relocation Process

Once suitable natural burrows have been identified and any planned burrow modifications are complete, or once construction of artificial burrows is complete, burrowing owl passive relocation will be attempted.

Passive relocation will be accomplished by installation of one-way doors on all occupied burrows, including surrogate or potential burrows, within the Project work area. One-way doors used in passive relocation can be created with a simple modification to readily available dryer vents (Clark and Plumpton 2005). After one-way door installation, burrow excavation will not proceed for at least 48 hours. Burrowing owls and any other wildlife that leave the burrow will be unable to re-enter.

Once one-way doors have been installed as part of the passive relocation process, dawn and dusk surveys will take place for the subsequent 48 hours. The goal of these surveys will be to record whether burrowing owl use is seen at the recipient burrow location. Individual burrowing owls will not be identifiable in most cases, and monitors will be unable to determine that an individual burrowing owl was subject to passive exclusion. Observations of burrowing owls will not substitute for the 48-hour waiting period, as other burrowing owls or animals could remain in the burrow.

Burrow excavation will proceed with caution and be accomplished with hand tools to avoid harm to any burrowing owls or other animals that may remain in the burrow (see also Section 3.3.2). A scope may also be used to aid in verifying that the burrow is empty. Flexible plastic tubing will be inserted if possible, to allow an escape route and prevent burrow collapse while soil over the burrow is removed. Placement of the tubing will be adjusted as needed during the excavation. If tubing cannot be inserted, other material such as packed cardboard or paper can be used to prevent burrow collapse but would require greater caution if animals are trapped in the burrow.

Burrowing owls will not be handled during the excavation process, unless necessary to prevent injury. Other animals would be handled by Biological Monitors or authorized biologists according to the Project's monitoring protocol.

3.4.5 Environmental Concerns

Construction of artificial burrows would be subject to preconstruction surveys and construction monitoring similar to other ground-disturbing activities during construction of the Project. The Environmental Coordinator will verify that no known resource concerns exist in any areas that would be affected by ground disturbance during construction of an artificial burrow before proceeding with the process of acquiring landowner permission and meeting any other permitting requirements.

3.5 Monitoring and Reporting

Monitoring of passive relocation sites will be conducted twice daily by Biological Monitors through the duration of construction activities within 300 feet of the occupied burrow. After construction has concluded, monitoring using the same approach would also be conducted during active restoration or revegetation activities on the site. Weekly monitoring reports will be provided during the passive relocation process using the reporting structure of the NBMP.

Maintenance monitoring will continue for at least 2 years on sites with artificial burrows constructed for the Project. Maintenance monitoring will include cleaning, restructuring material around burrow entrances, verifying that perches remain available, and addressing any structural issues that could affect

function of the artificial burrow. SCE may determine that removal of artificial burrows is appropriate based on lack of use during or after the monitoring period.

Site-specific summary reports will be prepared after each passive relocation attempt and will be submitted to CPUC, BLM, NPS, and CDFW or NDOW as appropriate. Relocation reports will provide descriptions of the relocation activity, mapping showing the location of the excluded burrow and nearby burrows, photographs of the excavation process and nearby burrows, and photographs of any artificial burrows. Reports will include the results of monitoring and other observations that may indicate the success of the relocation effort. Brief annual maintenance reports for artificial burrows will be provided to the same agencies.

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