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Environmental Assessment

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Oberon Renewable Energy Project

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1.0 INTRODUCTION

1.1 Introduction

The Bureau of Land Management (BLM) has prepared this Environmental Assessment (EA) and draft Land Use Plan Amendment (LUPA) pursuant to the National Environmental Policy Act of 1969 (NEPA, 42 U.S.C. Section 4321), Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] Parts 1500–1508)[1], Department of the Interior NEPA Regulations (43 CFR Part 46), and BLM NEPA Handbook H-1790-1, for the Oberon Renewable Energy Project proposed by IP Oberon, LLC (the Applicant), a subsidiary of Intersect Power, LLC. BLM would need to consider a project-specific LUPA to the California Desert Conservation Area (CDCA) Plan, as amended, because the Oberon Renewable Energy Project may not comply with all of the Conservation and Management Actions (CMAs) to the CDCA Plan, as amended by the Desert Renewable Energy Conservation Plan (DRECP) LUPA (see Section 1.6, Conformance with Land Use Plans, Laws, Regulations, and Policies).

This EA evaluates the environmental effects of constructing, operating, maintaining, and decommissioning a 500-megawatt (MW) solar photovoltaic (PV) electricity generating station, battery energy storage facility, electrical substation, possible on-site groundwater well, generation intertie (gen-tie) line, and associated access roads on BLM-managed land in Riverside County, California (the project) (see Figure 1-1, Project Vicinity) as well as an associated draft LUPA to facilitate approval of the project. All figures referenced in this EA are provided in EA Appendix D. A summary of consultation/coordination and a list of preparers of the EA are included in EA Chapter 4 and EA Appendix C, respectively.

1.1.1 Agency Roles and Responsibilities

The BLM received a Standard Form-299 (SF-299) application from the Applicant for the project, which the BLM serialized as CACA-58539. The Applicant has also submitted an application to the Colorado River Basin Regional Water Quality Control Board (RWQCB) who will issue Waste Discharge Requirements (WDRs) for activities that could result in the discharge of dredged or fill material to waters of the state pursuant to the State Water Resources Control Board's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*. The BLM is preparing this EA as the lead agency under the NEPA. The RWQCB is preparing a separate Environmental Impact Report (EIR) as the lead agency responsible for environmental review of the project in compliance with the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq.

1.1.2 Desert Renewable Energy Conservation Plan

The EA tiers to the DRECP Final Environmental Impact Statement (FEIS) (see Section 1.5, Tiering and Incorporation by Reference). The DRECP is a collaborative, interagency landscape-scale planning effort covering 22.5 million acres in seven California counties—Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego. The DRECP has two primary goals. One is to provide a streamlined process for the development of utility-scale renewable energy generation and transmission in the deserts of southern California consistent with federal and state

[1] The CEQ regulations implementing NEPA were updated in 2020, including changes to 40 CFR 1500.1. Because the NEPA process leading to this EA began with submittal of an application to BLM on September 5, 2019, this EA has been completed under the NEPA regulations in place prior to the 2020 update. *See* 40 CFR 1506.13 (2020).

renewable energy targets and policies. The other is to provide for the long-term conservation and management of special-status species and desert vegetation communities, as well as other physical, cultural, scenic, and social resources within the DRECP Plan Area using durable regulatory mechanisms. DRECP planning decisions are "designed to both provide effective protection and conservation of important desert ecosystems, while also facilitating the development of solar, wind and geothermal energy projects in those unique landscapes." The DRECP LUPA and supporting FEIS, identified lands within the California desert that would be appropriate for conservation and lands that would be appropriate for renewable energy development, called Development Focus Areas (DFA). The FEIS supporting the DRECP Record of Decision (ROD) comprehensively evaluated utility-scale renewable energy development in the California desert including the DFA where the project is located. The FEIS considered impacts to all resources potentially impacted by renewable development. It included Conservation and Management Actions (CMAs) designed to reduce the effects of development on sensitive resources as well as highlighting other types of mitigation that might be required to further reduce impacts.

When evaluating the project in this EA, if the BLM determines that the project or an alternative would result in any new significant impact not disclosed in the DRECP FEIS, then the BLM would prepare a project-specific EIS before authorizing the project. If the BLM determines there are no new significant impacts, then the BLM expects to issue a Finding of No New Significant Impact (FONNSI) documenting the reasons why implementation of the selected alternative would not result in significant environmental impacts that were not previously analyzed and disclosed in the DRECP FEIS. As described in EA Chapter 3, the BLM found that the conditions and environmental effects described in the DRECP FEIS are still valid and the EA addresses any exceptions (43 CFR § 46.140).

1.2 Project Location

The project would be located in the central part of the Chuckwalla Valley in Riverside County, north of Interstate 10 (I-10) and adjacent to the community of Lake Tamarisk in Desert Center, California. The elevation of Chuckwalla Valley ranges from less than 400 feet above mean sea level (amsl) at Ford Dry Lake to approximately 1,800 feet amsl west of Desert Center and along the upper portions of the alluvial fans that surround the valley perimeter. The surrounding mountains rise to over 3,000 feet amsl.

The area encompassed by the project application contains approximately 5,000 acres of public land administered by BLM, and the project footprint would occupy approximately 54% of that area. The 500 kilovolt (kV) gen-tie line would run south across I-10 to connect into the existing Southern California Edison (SCE) Red Bluff Substation (see Figure 1-1 in EA Appendix D). The project is located within BLM's CDCA Planning Area, and within a DFA designated by the DRECP LUPA.

The topography of the project site generally slopes downward toward the northeast at gradient of less than 1%. Ground surface elevations at the project site itself ranges from approximately 643 feet amsl in the northeast 754 feet amsl in the southwest. Vegetation within project area is mostly creosote bush scrub. There are two primary natural vegetation communities (creosote bush scrub and desert dry wash woodland) as well as one distinct natural habitat type (desert pavement). One vegetation community (desert dry wash woodland) is identified by BLM and the California Department of Fish and Wildlife (CDFW) as sensitive.

Anthropogenic features and land use near the project site include agricultural, residential, renewable energy, energy transmission, historical military operations, and recreational development. There are several solar facilities in the DFA in various stages of development, including operational (Desert Sunlight, Desert Harvest, Palen Solar Projects), under construction (Athos Project), or under environmental review (Arica and Victory Pass Solar Projects). A legal description of the project area is included in the Plan of Development (POD) Appendix B, which is in EA Appendix F (POD).

1.3 Purpose and Need

1.3.1 BLM's Purpose and Need

BLM's purpose is to respond to the IP Oberon, LLC, a subsidiary of Intersect Power, LLC, request under Title V of the Federal Land Policy and Management Act of 1976 (FLPMA) (43 U.S.C. Section 1761(a)(4)) for a right-of-way (ROW) grant to construct, operate, maintain, and decommission a solar PV facility on public lands, while taking into consideration BLM's multiple-use mandate, and otherwise complying with FLPMA, the BLM ROW regulations, Energy Act of 2020 [Consolidated Appropriations Act of 2021, Division Z, TITLE III, Subtitle B, Section 3102, 116 P.L. 260, 134 Stat. 1182 (December 27, 2020), now codified at 43 U.S.C. § 3001 et seq.][2], and other applicable federal laws, as well as the need to promote the policy objectives (Executive Order 14008) described below. The need for this action is established by the BLM's responsibility under Section 501 (a)(4) of FLPMA, which authorizes the BLM to issue ROW grants on public lands for systems for generation, transmission, and distribution of electric energy.

Executive Order 14008, issued January 27, 2021, "Tackling the Climate Crisis at Home and Abroad" directs the Secretary of the Interior to identify steps that can be taken to increase renewable energy production on public lands and manage federal lands to support robust climate action (see sections 204 and 207). Furthermore, California State Senate Bill 100 requires 60 percent renewable energy portfolio standard by 2030.

1.3.2 Decision to be Made by BLM

The BLM Authorized Officer will review the Proposed Action (described in Section 2.3 as Alternative 2) and other alternatives and decide whether to deny the Applicant's application, approve the application, or approve the application with modifications. The BLM may include any terms, conditions, and stipulations it determines to be in the public interest and may modify the proposed use or change the route or location of the proposed facilities (43 CFR 2805.10(b)(1)). This decision will be an implementation decision. Furthermore, the BLM will decide as a land use planning decision whether to amend the CDCA Plan, as amended, as described below.

[2] Energy Act of 2020, Subtitle B (Natural Resources Provision), section 3104. National goal for renewable energy production on Federal land. Requires the Secretary to set national goals for wind, solar, and geothermal energy production on Federal land no later than September 1, 2022. The Secretary shall seek to permit at least 25 GW of electricity from wind, solar, and geothermal projects by 2025.

1.4 Scoping and Issues

1.4.1 Issues for Detailed Analysis

BLM has considered input received during internal and external scoping under NEPA, as well as during review of site-specific issues and resources affected. The BLM and RWQCB held a combined NEPA and CEQA virtual public scoping meeting on April 13, 2021. In total, the following 15 different entities submitted comment letters during the scoping period:

- Native American Heritage Commission
- South Coast Air Quality Management District
- California Department of Fish and Wildlife
- Metropolitan Water District of Southern California
- U.S. Environmental Protection Agency
- Joshua Tree National Park
- Desert Tortoise Council
- Southern California Association of Governments
- Eagle Crest Energy Company LLC
- Center for Biological Diversity, Sierra Club, California Native Plant Society, and National Audubon Society
- Western Watersheds Project and Basin & Range Watch
- Defenders of Wildlife / California Native Plant Society / California Wildlife Coalition / Natural Resources Defense Council / Audubon Society
- Colorado River Indian Tribes
- S. Daniel McLeod
- Christina Stuart

Concerns expressed by the public and agencies on the purpose and need and potential impacts of the project at the scoping meeting and during the NEPA and CEQA scoping periods included the following: aesthetic/visual resources, cultural resources, existing or planned land uses, solid waste, public health and safety, environmental justice, transportation and traffic, hazards, biological resources, water resources, air resources, soils, mitigation measures, indirect and cumulative impacts, project alternatives, agency permits, and consultation (see EA Appendix I, Scoping Summary Memo). Scoping comments stated that the proposed project does not conform with the DRECP and would require a plan amendment, due to noncompliance with CMAs. Commenters requested that the EA consider an alternative that would not require a LUPA, would avoid the sand transport corridor, and would avoid desert tortoise critical habitat.

1.4.2 Issues Eliminated from Detailed Analysis

The following resources were considered but eliminated from detailed analysis:

Table 1-1. Issues Eliminated from Detailed Analysis

Resource	Rationale
Back Country Byways	There are no designated Back Country Byways that would be affected by the project.
Caves and Karst	No caves or karst are located within or adjacent to the project area.
Farmlands	There are active and fallow agricultural land uses on private lands north and east of the project area. No farmlands are located within the project site. Cumulative groundwater use and supply are discussed in EA Section 3.14, Water Resources, as well as POD Appendix O (Water Supply Assessment).
Fisheries	No fisheries are near the project area.

Table 1-1. Issues Eliminated from Detailed Analysis

Energy	The project will generate renewable energy and no other types of energy resources are available in the project area.
Livestock Grazing	No grazing allotments are near the project area.
National Trails	No National Scenic and Historic, or Recreational Trails are near the project area.
Public Health and Safety	No meaningful effects to public health and safety are anticipated during the construction, operation, and decommissioning of the project. The project would abide by all federal, state, and local regulations regarding public health and safety. The Vegetation Treatment PEIS analyzed the risk of herbicide application to public health and safety. Risks from the use of herbicides were evaluated in the Human Health Risk Assessment prepared for the PEIS (see Human Health and Safety in Chapter 4, and Appendix B). Risks to both workers and to the public from the use of herbicides currently available or proposed for use by the BLM were analyzed. Additionally, the selected herbicides are not indicated to pose a health risk when applied at the typical application rate. With the use of the identified application protocols, taking into consideration the generally low toxicity of these herbicides, restricted use select treatment areas, and the non-routine access of these areas by maintenance workers and the general public, the presence of residual herbicide in soil and airborne dust would not present a negative adverse health risk. Mitigation measures are included to require unexploded ordnance training and general work environmental training to further reduce effects associated with normal and unusual (emergency) health and safety conditions (see EA Appendix H). IP Oberon, LLC, and InDepth Corporation have prepared an Unexploded Ordnance (UXO) Hazard Mitigation Plan that includes proposed assessment, training, and UXO Recognition, Avoidance and Reporting Procedures (see Appendix BB in EA Appendix F). Effects due to Valley Fever are addressed under Air Quality.
Traffic	The effects of the project on would be addressed through local and state requirements. EA Appendix F (POD) includes a traffic management study which identified traffic constraints during construction. Mitigation measures are included to reduce traffic constraints (see Appendix H). Travel management for the region and specific route closures are addressed under Recreation (EA Section 3.8).
Waste (Hazardous and Solid)	Construction and operations of the project would result in solid wastes and would be addressed by following existing federal and state laws. See EA Appendix G for the regulatory framework pertinent to waste. Solid wastes would be recycled whenever feasible as required by state law. Construction and operations of the project would result in minor amounts of hazardous wastes (oils and other fossil fuels) and would be addressed by following existing federal and state laws. Broken or otherwise damaged solar panels would be stored and recycled as noted in the POD (EA Appendix F). The BLM requires a Waste Management Plan for all construction activities on its land per Best Management Practices.

Table 1-1. Issues Eliminated from Detailed Analysis	
Wild and Scenic Rivers	No wild and scenic rivers are near the project area.
Wild Horses and Burros	No wild horses and burro management areas are near the project area.
Wilderness Study Area and Lands with Wilderness Characteristics	No Wilderness Study Areas are near the project area. There are no lands managed to protect wilderness characteristics located within a DFA.

1.5 Tiering and Incorporation by Reference

This EA tiers from the following environmental impact statements completed at the BLM state or national level.

2015 DRECP Final Environmental Impact Statement (FEIS). This EA tiers to the 2015 DRECP FEIS (BLM, 2015). As described in Section 1.1.2, the DRECP FEIS analyzed the impacts of constructing, operating, and decommissioning solar projects throughout the CDCA and in the DFA in eastern Riverside County, where the project is located. BLM's objectives for the DRECP, as reflected in the LUPA (September 2016), are to:

- Conserve biological, physical, cultural, social, and scenic resources.
- Promote renewable energy and transmission development, consistent with federal renewable energy and transmission goals and policies, in consideration of state renewable energy targets.
- Comply with all applicable federal laws, including the BLM's obligation to manage the public lands consistent with the FLPMA's multiple use and sustained yield principles, unless otherwise specified by law.
- Comply with Congressional direction regarding management of the CDCA in Section 601 of FLPMA, including to "[p]reserve the unique and irreplaceable resources, including archaeological values, and conserve the use of the economic resources" of the CDCA (FLPMA 601[a][6]; 43 United States Code [U.S.C.]1781(a)(6).
- Identify and incorporate public lands managed for conservation purposes within the CDCA as components of the National Landscape Conservation System (NLCS), consistent with the Omnibus Public Land Management Act of 2009 (Public Law 111-11) ("Omnibus Act").
- Amend land use plans consistent with the criteria in FLPMA and the CDCA Plan.
- Coordinate planning and management activities with other federal, state, local, and tribal planning and management programs by considering the policies of approved land resource management programs.
- Ensure that the BLM land use plan is consistent with state and local plans to the maximum extent consistent with federal law.
- Make some land use allocation decisions outside the DRECP area but within the CDCA, including Visual Resource Management Classes, land use allocations to replace multiple use classes, and NLCS designations.

The DRECP FEIS considered impacts to all resources potentially impacted by renewable development. The FEIS included CMAs designed to reduce the effects of development on sensitive resources as well as highlighting other types of mitigation that might be required to further reduce impacts. The DRECP FEIS presented the public with a clear understanding of the types of direct, indirect, and cumulative effects caused by solar development, including on sensitive habitats such as those found in the project site. Appendix C of the POD reviews all applicable CMAs and discusses how the Proposed Action and alternatives would comply with each. The proposed project's compliance with the CMAs is discussed in Section 1.6.

Because the proposed project may require a project-specific LUPA to the CDCA Plan since it may not comply with all the required CMAs, BLM is consulting with the United States Fish and Wildlife Service (USFWS) under a separate consultation process under Section 7 of the Endangered Species Act and is not tiering to the DRECP Biological Opinion (see EA Chapter 4, Consultation and Coordination).

2009 Westwide Energy Corridor (WWEC) Final Programmatic Environmental Impact Statement (PEIS) and Record of Decision. The WWEC PEIS evaluated potential impacts associated with the proposed action to designate corridors on federal land in eleven Western States (Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming) for oil, gas and hydrogen pipelines and electricity transmission and distribution facilities. The BLM and USFS signed RODs in January 2009 amending their respective land use plans and designating Section 368 energy corridors as the preferred location for development of energy transport projects on lands managed by the BLM and USFS. The RODs also identified interagency operating procedures to expedite the permitting process; to provide coordinated, consistent interagency management procedures for permitting ROWs within the corridors; and to identify mandatory requirements for future projects.

The Oberon gen-tie line would be sited within Section 368 Federal Energy Corridor 30-52 designated by the WWEC Final PEIS and ROD.

2007 and 2016 Vegetation Treatments Using Herbicide on Bureau of Land Management Lands in 17 Western States Programmatic EISs. Finally, this EA also tiers to the 2007 Vegetation Treatments Using Herbicide on Bureau of Land Management Lands in 17 Western States Final PEIS, as well as the 2016 Final Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on Bureau of Land Management Lands in 17 Western States Final PEIS. The 2007 PEIS analyzed the effects from 14 herbicide active ingredients that were identified by the BLM as effective in treating certain types of vegetation, and the 2016 PEIS incorporated the 2007 PEIS by reference and analyzed an additional three herbicide active ingredients. The 2007 Final PEIS and 2016 Final PEIS documents address a wide range of issues, including the effect of these herbicides on the health of humans, vegetation, fish and wildlife, livestock, and wild horses and burros. The Final PEIS documents also consider water quality and Native American use of resources and evaluate the cumulative impact of herbicide use by the BLM and other landowners in the West.

The Vegetation Treatment Final PEIS ROD included Standard Operating Procedures (SOPs) associated with chemical control applications (BLM, 2007a). SOPs are the management controls and performance standards required for vegetation management treatments. These practices are intended to protect and enhance natural resources that could be affected by future vegetation treatments. The SOPs are listed in EA Appendix B and are incorporated by reference. These SOPs will

be followed to ensure that risks to human health and the environment from herbicide treatment actions will be kept to a minimum.

In addition to SOPs, the Vegetation Treatment PEIS ROD identified mitigation measures to avoid potential adverse environmental effects caused by vegetation treatment activities using herbicides (BLM, 2007b, pages 2-4 through 2-6). These measures are also incorporated by reference. The SOPs and mitigation measures ensure that all practicable means to avoid or minimize environmental harm have been adopted by the BLM.

SOPs noted by the PEIS (BLM, 2007a, page 2-7) for managing noxious weeds and invasive plants include, but are not limited to, the following:

- Take actions to prevent or minimize the need for vegetation control, whenever and wherever feasible, considering the management objectives of the site.
- Use effective nonchemical methods of vegetation control wherever feasible.
- Use herbicides only after considering the effectiveness of all other potential methods.

The PEIS considered several management objectives when determining appropriate treatment of an infestation:

- Containment to prevent weed spread from moving beyond the current infestation perimeter;
- Control to reduce the extent and density of a target weed;
- Eradication to completely eliminate the weed species including reproductive propagules (this is usually only possible with small infestations); and
- Restoration of native plant communities and habitats using native species that are adapted to the project site to compete with invasives. (PEIS page 2-7)

Through this process, the BLM has approved the use of various herbicides in 17 western states (BLM, 2007b). Information Bulletin No. 2014-069 (BLM, 2014) lists the currently approved herbicides for use on BLM lands. The Vegetation Treatment PEIS ROD was filed September 2007.

1.6 Conformance with Land Use Plans, Laws, Regulations, and Policies

The project would comply with all applicable statutes and regulations. The regulatory framework relevant to the various resource areas affected by the project is identified in EA Appendix G.

The solar PV facility site and integrated battery storage system, as well as associated electrical infrastructure, are located on BLM-administered public lands within a DFA designated by the DRECP LUPA (DRECP; 2016). The DRECP amended the CDCA Plan to allow for development of solar energy generation and appurtenant facilities on public lands in this specific area as part of a DFA (see Figure 1-2, DRECP Context). Consistent with the DFA definition, the project area has been designated under FLPMA as suitable for renewable energy development and energy accessory uses.

Solar projects in a DFA that comply with CMAs specified in the DRECP LUPA do not require a land use plan amendment for development. However, the project as proposed by the Applicant would not comply with all the CMAs specified in the DRECP. As described below, a project-specific Plan Amendment to the CDCA may be required for the Proposed Action alternative to account for modifications to:

- CMA LUPA-BIO-RIPWET-1;
- CMA LUPA-BIO-3;
- CMA LUPA-BIO-SVF-6;
- CMA LUPA-BIO-IFS-4.

The text of the four aforementioned CMAs and a discussion of project compliance with each CMA are included below.

- **CMA LUPA-BIO-RIPWET-1 (Riparian and Wetland Vegetation Type CMA).** The riparian and wetland vegetation types and other features listed in Table 17 will be avoided to the maximum extent practicable except for allowable minor incursions (see Glossary of Terms for "avoidance to the maximum extent practicable" and "minor incursion") with the specified setbacks.

Riparian and Wetland Vegetation Types or Features	Setback[1]
Riparian Vegetation Types[1]	
Madrean Warm Semi-Desert Wash Woodland/Scrub	200 feet
Mojavean Semi-Desert Wash Scrub	200 feet
Sonoran-Coloradan Semi-Desert Wash Woodland/Scrub	200 feet
Southwestern North American Riparian Evergreen and Deciduous	0.25 miles
Southwestern North American Riparian/Wash Scrub	0.25 miles
Wetland Vegetation Types[1]	
Arid west freshwater emergent marsh	0.25 miles
Californian Warm Temperate Marsh/Seep	0.25 miles
Other Riparian and Wetland Related Features	
Managed Wetlands[2]	0.25 miles
Mojave River[3]	0.25 miles
Undifferentiated Riparian land cover[4]	200 feet

[1] Setbacks are measured from the edge of the mapped riparian or wetland vegetation or water feature per LUPA-BIO-3.

[2] Setback is from managed wetlands including USFWS Refuges, state managed wetlands, and duck clubs in Imperial Valley. *See* specifications for the Salton Sea below.

[3] Setback is measured from the edge of mapped riparian or edge of Federal Emergency Management Agency (FEMA) 100-year floodplain of the Mojave River, whichever is further from the center line of the Mojave River channel.

[4] Undifferentiated "Riparian" land cover includes portions of major river courses (Mojave River and Colorado River) within the main channels where riparian vegetation groups were not mapped.

For minor incursion (see "minor incursion" in the Glossary of Terms) to the DRECP riparian vegetation types, wetland vegetation types, or encroachments on the setbacks listed in Table 17, the hydrologic function of the avoided riparian or wetland communities will be maintained.

Minor incursions in the riparian and wetland vegetation types or other features including the setbacks listed in Table 17 will occur outside of the avian nesting season, February 1 through August 31, or otherwise determined by BLM, USFWS, and CDFW if the minor incursion(s) is likely to result in impacts to nesting birds.

Compliance with CMA. The project area contains areas of desert dry wash microphyll woodland that are classified under the DRECP LUPA as Semi-Desert Wash Woodland/Scrub areas

(BLM, 2015). CMA LUPA-BIO-RIPWET-1 requires that a 200-foot setback be established for Semi-Desert Wash Woodland/Scrub areas. While the Applicant designed the project to minimize impacts to woodland areas, the project, as proposed, may not comply with the requirement for a 200-foot setback along such areas and if so would require a LUPA to the CDCA Plan, as amended.

- **CMA LUPA-BIO-3 (Resources Setback Standards).** Resource setbacks (*see* Glossary of Terms) have been identified to avoid and minimize the adverse effects to specific biological resources. Setbacks are not considered additive and are measured as specified in the applicable CMA. Allowable minor incursions (see Glossary of Terms), as per specific CMAs do not affect the following setback measurement descriptions. Generally, setbacks (which range in distances for different biological resources) for the appropriate resources are measured from:
  - The edge of each of the DRECP vegetation types, including but not limited to those in the riparian or wetland vegetation groups (as defined by alliances within the vegetation type descriptions and mapped based on the vegetation type habitat assessments described in LUPA-BIO-1).
  - The edge of the mapped riparian vegetation or the Federal Emergency Management Agency (FEMA) 100-year floodplain, whichever is greater, for the Mojave River.
  - The edge of the vegetation extent for specified focus and BLM sensitive plant species.
  - The edge of suitable habitat or active nest substrates for the appropriate focus and BLM Special-Status Species.

  Compliance with CMA. If the project does not comply with the requirement for a 200-foot setback along desert dry wash woodland and if it would require a LUPA for CMA LUPA-BIO-RIPWET-1, then the project would also not comply with CMA LUPA-BIO-3 (Resource Setback Standards), which generally discusses resource setbacks addressed in individual CMAs.

- **CMA LUPA-BIO-SVF-6**. Microphyll woodland: impacts to microphyll woodland (see Glossary of Terms) will be avoided, except for minor incursions (see Glossary of Terms).

  Compliance with CMA. The project would have a long-term impact to approximately 60 acres of microphyll woodland that would be developed with solar panels. If this disturbance is considered to be minor incursion by BLM, the project would comply with this CMA, because otherwise the solar panels, substation, and BESS have been designed to avoid desert dry wash woodland. If BLM determines that the impact does not qualify as minor incursion, then a LUPA would be required.

- **CMA LUPA-BIO-IFS-4.** In areas where protocol and clearance surveys are required (see Appendix D), prior to construction or commencement of any long-term activity that is likely to adversely affect desert tortoises, desert tortoise exclusion fencing shall be installed around the perimeter of the activity footprint (*see* Glossary of Terms) in accordance with the Desert Tortoise Field Manual (USFWS, 2009) or most up-to-date USFWS protocol. Additionally, short-term desert tortoise exclusion fencing will be installed around short-term construction and/or activity areas (e.g., staging areas, storage yards, excavations, and linear facilities), as appropriate, per the Desert Tortoise Field Manual (USFWS, 2009) or most up-to-date USFWS protocol.

- Exemption from desert tortoise protocol survey requirements can be obtained from BLM, in coordination with USFWS, and CDFW as applicable, on a case-by-case basis if a designated biologist determines the activity site does not contain the elements of desert tortoise habitat, is unviable for occupancy, or if baseline studies inferred absence during the current or previous active season.
- Construction of desert tortoise exclusion fences will occur during the time of year when tortoise are less active in order to minimize impacts and to accommodate subsequent desert tortoise surveys. Any exemption or modification of desert tortoise exclusion fencing requirements will be based on the specifics of the activity and the site-specific population and habitat parameters. Sites with low population density and disturbed, fragmented, or poor habitat are likely to be candidates for fencing requirement exemptions or modifications. Substitute measures, such as on-site biological monitors in the place of the fencing requirement, may be required, as appropriate.
- After an area is fenced, and until desert tortoises are removed, the designated biologist is responsible for ensuring that desert tortoises are not being exposed to extreme temperatures or predators as a result of their pacing the fence. Remedies may include the use of shelter sites placed along the fence, immediate translocation, removal to a secure holding area, or other means determined by the BLM, USFWS, and CDFW, as applicable.
- Modification or elimination of the above requirement may also be approved if the activity design will allow retention of desert tortoise habitat within the footprint. If such a modification is approved, modified protective measures may be required to minimize impacts to desert tortoises that may reside within the activity area.
- Immediately prior to desert tortoise exclusion fence construction, a designated biologist (*see* Glossary of Terms) will conduct a clearance survey of the fence alignment to clear desert tortoises from the proposed fence line's path.
- All desert tortoise exclusion fencing will incorporate desert tortoise proof gates or other approved barriers to prevent access of desert tortoises to work sites through access road entry points.
- Following installation, long-term desert tortoise exclusion fencing will be inspected for damage quarterly and within 48 hours of a surface flow of water due to a rain event that may damage the fencing.
- All damage to long-term or short-term desert tortoise exclusion fencing will be immediately blocked to prevent desert tortoise access and repaired within 72 hours

Compliance with CMA. The Applicant proposes to conduct desert tortoise clearance surveys in a limited area (up to 350 acres) outside of the desert tortoise activity period (see description in EA Section 2.3.3). Therefore, the Applicant is seeking a variance to the USFWS protocol and an exemption from BLM, as allowed in DRECP CMA LUPA-BIO-IFS-4, in order to comply with the CMA. As allowed in the CMA, the BLM State Director will determine whether to allow an exemption to modify this CMA without requiring a LUPA.

In summary, in order to consider approving the project as proposed by the Applicant, the BLM is considering a site-specific amendment to the CDCA RMP and the DRECP LUPA that would provide a variance from CMAs LUPA-BIO-RIPWET-1, LUPA-BIO-3, and LUPA-BIO-SVF-6 to

allow construction within 200 feet of certain Semi-Desert Wash Woodland/Scrub areas and limited panel development in Semi-Desert Wash Woodland/Scrub. The BLM is also analyzing two alternatives (Alternative 3, the Land Use Plan Compliant Alternative, and Alternative 4, Resource Avoidance Alternative) that would modify the project to fully comply with CMA LUPA-BIO-RIPWET-1, LUPA-BIO-3, and LUPA-BIO-SVF-6 such that it would not require a site-specific amendment to the CDCA Plan.

With the exceptions noted above, the Proposed Action would comply with all applicable DRECP CMAs (see EA Appendix H).

The Oberon 500 kilovolt (kV) gen-tie line would also be sited within the Section 368 Federal Energy Corridor 30-52, as established by the WWEC PEIS and ROD (2009), which amended BLM land use plans to establish utility corridors for electrical transmission and other utility infrastructure. Corridor 30-52 was not identified as a corridor of concern (see also POD Appendix W, ROW Corridor Conflict Analysis, in EA Appendix F). Therefore, the project would comply with the WWEC ROD.

In addition to the CDCA, as amended, and WWEC Plans, the Northern and Eastern Colorado Desert Coordinated Management (NECO) Plan also amended the CDCA Plan and includes management of travel routes within the project area. The project would close BLM open routes but would not preclude travel through the area because there are multiple redundant routes in the area, and therefore, would be compatible with the NECO Plan amendments and DRECP CMAs (see Section 3.8, Recreation).

2.0 ALTERNATIVES

The Applicant proposes to construct, operate, maintain, and decommission the Oberon Renewable Energy Project, which would consist of a 500 MW solar PV electricity generating station, battery energy storage system, electrical collector lines and substation, gen-tie line, and associated access roads, on BLM-managed land in Riverside County, California. The project would advance national policy priorities articulated in the DRECP LUPA, the Energy Policy Act of 2020, and various Executive Orders (see EA Section 1.3) to develop renewable energy resources on public lands while protecting other public land resources and the environment by locating such development on lands containing the fewest resource conflicts.

The proposed project would be located near Desert Center and would interconnect to SCE's existing Red Bluff Substation via a new 500 kV gen-tie line. The Applicant plans to collocate the Oberon gen-tie line with the proposed Easley Solar and Green Hydrogen project gen-tie line. Pursuant to 43 CFR §§ 2805.15(b) and 2805.14(b), the BLM may require other ROW holders to collocate with the Oberon solar facilities, should the BLM decide to issue IP Oberon, LLC, a ROW. Construction of the project would occur over approximately 15 to 20 months, concluding in or before the fourth quarter of 2023.

For solar energy development facilities, the BLM issues a ROW grant for a period of 30 years (plus the initial partial year of issuance) (43 CFR § 2801.9(d)(3)). At that time, the project owner may choose to renew the ROW grant for an additional 5 to 20 years or more based on the useful life of the project. At the end of the project's useful life, or at the end of the ROW grant, if it is not renewed, the solar facility and associated components would be decommissioned and the land returned to its pre-project contours. The Applicant would reclaim and revegetate to a level the

BLM authorized officer deems acceptable at the time of decommissioning. In addition, the Applicant proposes an offsite habitat mitigation package to offset loss of habitat due to the project (see POD Appendix AA in EA Appendix F).

The project application area covers approximately 5,000 acres of BLM-administered land (see Figure 2-1, Project Area, in EA Appendix D). The solar and battery storage facilities would be developed within this area, but the development footprint would occupy less than 2,700 acres to allow for siting considerations and avoidance measures. All of the lands within the project application area are within the CDCA Planning Area, and within a DFA designated by the DRECP LUPA. SF-299 applications for the BLM-administered land included in the project were submitted to the BLM in April 2019 and August 2019.

Various ROWs have been granted to other developers or are pending within portions of the proposed BLM ROW for the project, as detailed in EA Chapter 3.1 (see Figure 2-2, Desert Center Solar Projects). BLM will notify the other holders of ROWs in the area of the Oberon application that might affect their existing ROW, and BLM will consider the recommendations from the other holders (43 CFR § 2807.14). The Applicant will also work closely with other ROW holders and applicants in the area in coordination with BLM staff to consolidate ROWs and minimize and avoid conflicts to the extent commercially feasible (see POD Appendix W in EA Appendix F).

2.1 Background

The original POD for the Oberon Renewable Energy Project (CACA-58539) encompassed approximately 6,500 acres of BLM-administered land and was submitted to BLM in May 2020. Concurrently, biological resource surveys were conducted, as well as other feasibility constraint analyses (i.e., ROW acquisition, utility corridor needs, sensitive receptors, DRECP CMA compliance, etc.). This process resulted in revisions to the project as it is now defined in Section 2.3, Alternative 2: Proposed Action.

Biological surveys of the proposed project's main project area identified areas of desert dry wash woodland, synonymous to blue palo verde (*Parkinsonia florida*)–ironwood (*Olneya tesota*) (microphyll) woodland alliance, dispersed among the dominant Sonoran creosote bush scrub habitat. As discussed in Section 1.6, DRECP CMAs LUPA-BIO-RIPWET-1, LUPA-BIO-SVF-6, and LUPA-BIO-3 require solar energy development projects to avoid habitat of this kind to the maximum extent practicable, with a specified setback of 200 feet under CMA LUPA-BIO-RIPWET-1. According to the DRECP LUPA glossary, "maximum extent practicable" means that "implementation of the CMA is required unless there is no reasonable or practicable means of doing so that is consistent with the basic objectives of the activity." Therefore, in coordination with BLM and USFWS, the Applicant refined the development footprint to avoid desert dry wash woodland areas by imposing a minimum 50-foot and average of 134-foot (rather than 200-foot) buffer between such areas and the nearest solar panels. After the 50-foot buffer was imposed, the Applicant combined some of the nearby avoidance areas to create larger swaths of higher quality dry wash woodland. To offset this acreage, less than 60 acres of the smaller "fingers" of DDWW were added to the solar panel development footprint.

Along the southern boundary of the solar facility and within the project fence line, there is also an area of desert tortoise designated critical habitat (approximately 600 acres). This area is located north of I-10 and within the Chuckwalla Desert Tortoise Critical Habitat Unit (CHU), but not

within the Chuckwalla Area of Critical Environmental Concern (ACEC) or within a Tortoise Conservation Area as identified in the DRECP (see Figure 2-1, Project Area). DRECP CMA LUPA-BIO-COMP-1 requires compensation for impacts to desert tortoise critical habitat at a 5:1 ratio. The Applicant initially proposed to compensate the desert tortoise critical habitat at a 2.5:1 ratio given its location and the lesser quality of the desert tortoise habitat in this area compared to the lands included in the proposed offsite habitat mitigation package (see Section 2.3.2). In response to concerns raised by conservation groups during scoping, the Applicant revised its proposal to compensate for desert tortoise critical habitat at the 5:1 ratio specified in CMA LUPA-BIO-COMP-1.

Solar panel development areas were sited 300 feet to the north of I-10 to reduce impacts to the Section 368 designated utility corridor and to designated desert tortoise critical habitat along the southern project boundary. Further modification to project design to avoid known historic properties based on the results of cultural resources surveys was also incorporated into the project. These changes to the project area reduced the area proposed for development to approximately 2,700 acres, as shown on Figure 2-1, Project Area (EA Appendix A).

2.2 Alternative 1: No Action Alternative

Under the No Action Alternative, the BLM Authorized Officer would deny the Applicant's ROW request. Construction of a solar generating and integrated energy storage facility and associated infrastructure, including the 500 kV gen-tie line and offsite mitigation package and upgrades by SCE to Red Bluff Substation would not occur. Furthermore, the CDCA Plan would not be amended.

The analysis of this alternative discusses existing conditions as well as what would be reasonably expected to occur in the foreseeable future if the Oberon Renewable Energy Project is not constructed. The land would initially remain undeveloped, and the site would remain an allocated DFA. The BLM would continue to manage the land under its current plan as a DFA.

If energy that would have been produced by the proposed project is not replaced with provided from renewable sources, the alternative energy projects could result in greater emissions from, for example, the burning of fossil fuels. Such replacement projects would not contribute to meeting state or federal GHG reduction goals.

Because the project site is located within a DFA near an existing substation with available capacity for additional energy transmission, if the project were not constructed, a different solar developer may apply to for a right-of-way to construct a similar solar project at this location.

2.3 Alternative 2: Proposed Action

2.3.1 General Facility Description, Design, and Operation

The Applicant proposes to build a 500 MW solar PV generation and integrated energy storage facility that would include several million solar panels grouped into arrays that would generate electricity directly from sunlight and convey the electricity to a single point at the project substation. From the project substation, the proposed gen-tie line would transmit the energy to the regional electricity grid through the SCE Red Bluff Substation (see Figure 2-3, Solar PV and BESS Power Flow Diagram).

The POD, included as Appendix F of the EA, contains the full details of all activities proposed including construction, operation, maintenance, and termination (including decommissioning). The proposed components of the project are summarized as follow and shown in Figure 2-1, Project Area, and Figure 2-6, Proposed Fencing Plan:

- **2,700-acre solar facility** within a 5,000-acre project application area. Types of panels that may be installed include thin-film panels, crystalline silicon panels, or any other commercially available PV technology. The proposed panel mounting system will depend on the PV panels ultimately selected but is expected to be single-axis trackers with a portrait module orientation. Either mono-facial or bi-facial modules could be used, and modules would either be mounted as single panels or stacked two high.
- **Direct current (DC) underground electricity collection system** from panels via combiner boxes located throughout the PV arrays to inverters that convert the DC electricity to alternating current (AC) electricity.
- **Inverter-transformer stations** for each 2 to 5 MW increment of generation, containing up to 6 inverters, a transformer, a battery enclosure, a switchboard 8 to 11 feet high, a shade structure (depending on meteorological conditions), and a security camera at the top of an approximately 20-foot, un-guyed wood or metal pole.
- **34.5 kV medium voltage collection system** linking the PV modules to the on-site substation. The 34.5 kV collection system would be underground with some segments potentially overhead on wood poles (30 to 60 feet tall) (see Figure 2-4 in EA Appendix D).
- **On-site electric substation yard** located within a 20-acre area centrally located on the project site. Electrical transformers, switchgear, and related substation facilities would transform 34.5 kV medium-voltage power from the project's delivery system to the 500 kV gen-tie system.

  As shown in Figure 2-1 (Project Area), a secondary substation and battery energy storage system location option, in addition to the central location, has been retained for analysis on approximately 45 acres in the southeastern area of the project site. Only one substation and BESS yard would ultimately be constructed, and the location would be selected by the applicant based on final design. Should the southeastern substation location be constructed, the 500 kV gen-tie line would be substantially shorter, no crossings of existing and proposed gen-tie lines would be required, and solar panels would be constructed within the unused 175-foot gen-tie corridor adjacent to existing ROWs and outside of desert dry wash woodland (with a minimum 50-foot buffer). The selected substation and battery storage location option and supporting gen-line would be determined during final engineering based on SCE's interconnection requirements and the crossing agreement requirements of other solar project gen-tie lines. The Applicant is currently coordinating with existing and pending ROW holders in the area.
- **500 kV gen-tie transmission line** would be located within one 175-foot ROW, running approximately 4 miles across the project site and then 0.5 miles southeast from the solar facility, across BLM-administered land, to the SCE Red Bluff Substation (see Figure 2-5, Typical 500 kV Gen-Tie Line Structures). Figure 2-1 shows two gen-tie route options for its approach into Red Bluff Substation. The exact location of the gen-tie line will be determined during final engineering based on SCE's interconnection requirements and the locations of other solar project gen-tie lines. The Applicant is currently coordinating with existing and

pending ROW holders in the area to minimize potential ROW conflicts and discuss crossing agreements, if needed. The project gen-tie lines would be constructed with either monopoles, lattice steel structures, or H-frame poles in coordination with BLM and in accordance with VRM BMP 6.3.8 from BLM's Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands (2013). Gen-tie structures would be on average 120 feet tall, with a maximum height up to approximately 200 feet for dead-end structures crossing I-10 and near the Red Bluff Substation.

- **Upgrades to SCE Red Bluff Substation** would be required by SCE at the point-of-change-of-ownership (POCO) structure adjacent to the Red Bluff Substation and within the existing substation fence line to accommodate interconnection of the Oberon 500 kV gen-tie line.
- **Battery energy storage system (BESS)** (25 acres near the project substation yard) utilizing an AC-coupled battery or other similar storage system housed in electrical enclosures and capable of storing up to 500 MW of power for up to 4 hours.
- **Operations and maintenance (O&M) building** (3,000 square feet) for project security, employee offices, and parts storage. The O&M building would be approximately 15 feet high at its tallest point.
- **Supervisory Control and Data Acquisition System (SCADA) and telecom facilities** to allow remote monitoring of facility operation and/or remote control of critical components. The fiber optic or other cabling typically would be installed in buried conduit within the access road, leading to a SCADA system cabinet centrally located within the project site or a series of appropriately located SCADA system cabinets constructed within the O&M building. External telecommunications connections to the SCADA system cabinets could be provided through wireless or hard-wired connections to locally available commercial service providers.
- **12 kV electrical distribution line** would supply electricity to the O&M building and substation via a new overhead or underground 12 kV distribution line from the existing SCE distribution system adjacent to the solar facility site.
- **Meteorological (MET) data collection system** with up to 15 MET stations throughout the solar facility. Each MET station would be up to 10 feet tall with multiple weather sensors.
- **Perimeter fencing** would be installed around the boundary of the developed areas using chain link perimeter fences up to 6 feet high, topped with one foot of three strand barbed wire, or as dictated by BLM specifications, and in compliance with electrical codes. The fence would be set approximately 10 to 100 feet (average of 20 feet) from the edge of the arrays. Desert tortoise exclusion fencing would be constructed along the bottom of the security fence in some Project areas. Other Project areas are proposed to incorporate a gap at the bottom of the security fence to allow for wildlife passage during long-term operations. Security fencing would also be installed along segments of BLM Open Route DC379 where it traverses desert dry wash woodland areas outside of the project development footprint to prevent the public from entering these areas of higher-quality desert tortoise habitat (see Figure 2-6, Proposed Fencing Plan).
- **Nighttime security lighting** constructed in coordination with California Department of Transportation (Caltrans) to ensure compliance with exterior lighting regulations along I-10. Nighttime lighting would be limited to areas required for operation, safety, or security, and would be

directed away or shielded from major roadways or possible outside observers on adjacent properties. Lighting would be controlled by switches, motion detectors, etc., to light the areas only when required. Portable lighting may be used occasionally and temporarily for maintenance activities during operations.

- **Site security system** includes infrared security cameras, motion detectors, and/or other similar technology to allow for monitoring of the site through review of live footage 24 hours a day, 7 days a week. Such cameras or other equipment would be placed along the perimeter of the facility and/or at the inverters.
- **Newly constructed access roads** from SR-177/Rice Road and throughout the interior of the project limits. Ingress/egress would be accessed via locked gates located at multiple points. It is anticipated that there would be solar facility entrances off Rice Road to both the east and west, as well as along Orion Road to access the northern project area, as well as an entrance to each fenced development area. Main access roads would be approximately 20 feet wide[3] and the gates would be 24 feet wide. Internal perimeter roads surrounding the solar panel areas within the development fence lines would also be 20 feet wide. Access and perimeter roads would be surfaced with gravel, compacted dirt, or another commercially available surface. The driveway aprons off of Rice Road as well as approximately 100 feet of roadway (or as dictated by Caltrans) would be paved to prevent trackout.

The Applicant is in negotiations to purchase a private inholding within the center of the project site. Should the property be acquired in advance of project construction, the current property owner would not need separate dedicated access east from SR-177 to the property. If the portion of the approved gen-tie ROW for the Eagle Mountain Pumped Storage Project that overlaps the Oberon Project application area is moved outside of the Oberon application area, then solar panels may be developed in this area (see Figure 2-1, Project Area).

Water Requirements. It is anticipated that a total of up to 700 acre-feet of water would be used for dust suppression (including truck wheel washing) and other purposes during the 15- to 20-month construction timeframe. Water would be provided by an onsite or off-site groundwater well or trucked from an off-site purveyor. Regardless of the source, the water would be drawn from the Chuckwalla groundwater basin (see POD Appendix O, Water Supply Assessment). During construction, restroom facilities would be provided by portable units serviced by licensed providers.

During the operation and maintenance phase, water would be required for panel washing and maintenance, and for substation restroom facilities located adjacent to the O&M building. The associated leach field would not be located within 0.25 mile of any drinking water well. During operation, the project would require the use of approximately 40 acre-feet annually for panel washing (up to four times per year) and other uses. No wastewater would be generated during panel washing as water would be absorbed into the soil or would evaporate.

O&M Phase Wildlife Friendly Fencing. During operation, the Applicant proposes to modify some of the solar development area fencing to allow some wildlife movement throughout the area. Where wildlife friendly fencing is proposed, cattle fencing would be installed across undeveloped open desert dry wash woodland segments along BLM Open Route DC379 to discourage people

[3] Entrance access road may be wider depending on Caltrans traffic safety/travel management requirements.

from disturbing those high value habitat areas. Wildlife friendly fencing is further described in Section 2.3.4.

2.3.2 Off-Site Habitat Mitigation

In accordance with DRECP CMA LUPA-BIO-COMP-1, impacts to specified biological resources, including native habitat and designated critical habitat, are to be compensated by the Applicant. The Applicant has retained Wildlands to compile and manage the project's mitigation package.

The off-site compensation package consists of a total of approximately 6,800 acres comprised of numerous mitigation parcels ranging from 20 to 640 acres primarily located in the Colorado Desert, as well as the Mojave Desert, within Imperial, Riverside and San Bernardino Counties. The mitigation properties are largely private inholdings within public conservation landscapes, including Wilderness Areas and ACECs. As required by DRECP CMA LUPA-BIO-COMP-1, all compensation for the impacts to desert tortoise critical habitat will be in the same critical habitat unit (CHU) as the impact (Chuckwalla Desert Tortoise CHU). The specifics of the proposed mitigation package are found in POD Appendix AA in EA Appendix F (POD).

2.3.3 Construction of Facilities

Construction is anticipated to occur over an approximately 15- to 20-month period, depending on Power Purchase Agreement (PPA) and financing requirements. The on-site workforce is expected to reach a peak of approximately 530 individuals, with an average construction-related onsite workforce of 320 individuals. In addition, an estimated 80 roundtrips per day would be required to deliver materials and equipment to the project site. Materials deliveries during construction would travel up to 150 miles one way between their source and the project site. Water for construction-related dust control and operations would be obtained from one or more of several potential sources, including an on-site groundwater well, an off-site groundwater well, or trucked deliveries from an off-site water purveyor.

Flagging operations at site access points may be implemented during construction if and when traffic control needs are either identified through monitoring traffic operations during construction or determined to be required during construction stage planning (see POD Appendix Q in EA Appendix F).

Construction equipment would operate between 7:00 a.m. and 7:00 p.m. Monday through Friday for up to a maximum of 8 hours per piece of equipment, daily. Weekend and nighttime construction work are not expected to be required, but may occur on occasion, depending on schedule considerations.

All field personnel would complete a desert tortoise education program prior to any fieldwork and would comply with all stipulations and measures developed by the BLM and USFWS. All on-site personnel would also receive Worker Environmental Awareness Program (WEAP) training, addressing not only desert tortoise and other sensitive species protocols, but all applicable best management practices (e.g., hazardous material handling, speed limits, no firearms/pets, etc.).

A Fire Management and Prevention Plan has been prepared for construction, operation, maintenance, and decommission of the facility (see POD Appendix V in EA Appendix F). During construction, standard defensible space requirements would be maintained surrounding any welding or digging operations.

Pre-Construction & Construction Activities. Construction would begin with pre-construction surveys and staking/flagging, geotechnical evaluations (if not completed under a separate permit), construction of the main access road, installation of security fencing around the solar facility developed area (including desert tortoise exclusion fencing installation and clearance surveys described below, clearing and construction of a laydown yard and staging areas, site grading and preparation, construction of the O&M building, parking area, and pad mounts for inverters/transformers. Construction would follow with the installation of temporary power, construction of on-site roads, construction of the project substation, and assembly and installation of panel blocks and wiring.

Early Desert Tortoise Exclusion Fencing and Clearance Surveys. The Applicant proposes to install, as early as January 2022, desert tortoise exclusion fencing in conjunction with security fencing around a portion of the project under a Limited Notice to Proceed, which includes the project substation, a laydown area, and one solar PV block for a total of up to approximately 350 acres. Due to schedule constraints, desert tortoise clearance surveys for this limited area would occur outside of the desert tortoise activity period. Therefore, the Applicant is seeking a variance to the USFWS protocol, as allowed in by DRECP CMA LUPA-BIO-IFS-4. The exact location of the solar PV block is being determined based on biological resources survey results and in consultation with BLM and USFWS (see Appendix F in the Biological Resources Technical Report [POD Appendix F in EA Appendix F]).

In preparation for the early fencing work, desert tortoise surveys at 5-meter transects would be performed during the fall 2021 active season to determine the extent and location of desert tortoise activity in the project area planned for early fencing as well as a 150-m buffer. To supplement the surveys and minimize disturbance to individual desert tortoise in the surrounding area, cameras would be installed to remotely monitor desert tortoise activity and determine how and where desert tortoise are using the Oberon site. Performing surveys and installing cameras in the active season just prior to the proposed early fencing activity would ensure that desert tortoises are identified during the early fencing installation and clearance surveys, and that the project would comply with the intent of CMA LUPA-BIO-IFS-4.

Following completion of desert tortoise fence installation, (anticipated January 2022) DETO clearance surveys would be performed in accordance with the USFWS protocol outside of its recommended survey timing (prior to April). By installing the dual fencing in early 2022 and conducting necessary clearance surveys, including collapsing of burrows, prior to breeding seasons for burrowing owl and desert kit fox, would minimize potential impacts to these species.

Surveys would be led by biologists experienced with the Chuckwalla Valley, and the special-status species listed below. In addition to detecting any special-status species that may be present within the fenced area, the surveys will also inform the need for potential exclusion buffers and monitoring for individual species. Surveys would consist of 100 percent visual coverage using pedestrian belt transects spaced at 5-meter intervals. An additional 500-foot (150 meter) buffer outside the project boundary will also be surveyed with pedestrian belt transects spaced at 10 meters apart to identify any potentially active burrows or complexes that may be indirectly affected by future construction activities. The type of sign prioritized during the clearance survey would include the following:

- Desert tortoise: live individuals, potential burrows, scat, and carcasses
- Desert kit fox and American badger: live individuals, complexes/dens (marked as either inactive, potentially active, active), and scat

- Burrowing owl: live individuals, burrows (marked as inactive, potentially active, active), white wash, pellets, and feathers
- No special-status plants have been identified in the areas proposed for early DETO fence installation.

Any burrows or den complexes identified during this survey would be classified as inactive, possibly active, or active. A burrow/den complex within the project site that is classified as inactive (no sign of special-status species) and confirmed to be unoccupied would be excavated. Inactive burrows within the buffer zone would be excavated only if it would be directly impacted by construction activities, such as burrows/den complexes just outside project boundaries that may become occupied at a later date. Excavation and backfilling techniques would be conducted in accordance with standard desert tortoise burrow excavation protocols (USFWS, 2009). Burrows or den complexes that are potentially active or active with live individuals inside will be further observed per the requirements of species-specific management plans. After the first pass of the pre-construction clearance survey is complete, at least two additional 100 percent visual coverage pass on transects perpendicular to the first, would occur. If no live tortoises or active tortoise sign is observed after two successive passes, the clearance survey would be complete.

In the event that a live desert tortoise is observed within the fenced area during clearance surveys, additional steps would be taken to protect any live desert tortoise observed. If the live desert tortoise is above ground, it would be observed without handling until it returns to its burrow. A live desert tortoise within its burrow may be temporarily penned without until the active tortoise season when it is appropriate for tortoise translocation per management plans as approved by USFWS and BLM. A similar pen may be erected for a natal kit fox den if it were detected during clearance surveys within the fenced area. Passive camera stations at burrows installed in fall 2021 would help to anticipate potential wildlife issues that may occur.

If necessary, desert tortoise and other wildlife would be removed from the fenced areas and relocated in accordance with species specific management plans and protocols. Qualifying cacti would be flagged for removal and relocation prior to solar facility construction. Species relocation areas would be established in consultation with USFWS and BLM staff, and tortoises would be handled in accordance with a desert tortoise management and translocation plan and in compliance with DRECP CMAs.

Project Substation Yard and 500 kV Gen-Tie Line. After the desert tortoise exclusion fencing is installed, the substation yard would be excavated for the transformer equipment and control building foundation and oil containment area. The site area for the substation would be graded and compacted to an approximately level grade. Concrete for foundations would be brought on-site from a batching plant in Blythe or would be batched on-site as necessary. The substation yard would be surrounded by an up-to 6-foot high chain link galvanized metal fence topped with one foot of barbed wire.

Foundations for the overhead 500 kV gen-tie line structures (poles and/or towers) would have a 30- to 40-foot diameter, would be excavated to a depth of 40 feet or more, and would be installed with steel and concrete for the footings, subject to final engineering. A 3-phase 500 kV bundled set of conductors would be strung between the structures, and the line would be equipped with a ground wire and a telecommunications fiber-optic cable. During stringing of the conductor, pull and tensioning temporary work areas may be required outside of the 175-foot ROW (but within the surveyed site and buffer areas). The temporary disturbance area for each structure is 200 feet by

200 feet on the generally flat terrain of the project site. The average size of pull and tension sites is 600 feet long by 200 feet wide; however, angle poles sites can increase to 1,000 feet by 200 feet. SCE would also install any required upgrades to Red Bluff Substation during gen-tie line construction to allow for gen-tie line interconnection.

The Applicant would use existing roads to the extent feasible and would construct spur roads from existing roadways, as needed, to access each gen-tie line structure. South of I-10, the gen-tie line would be accessed from the Corn Springs Road exit using existing roads to the SCE Red Bluff Substation. Any new spur roads would typically have circle-type turnaround areas averaging 450 square feet around each structure location. In some instances, the turnaround area would remain as a permanent feature.

Solar Facility Site Preparation. Mass grading would not be required on the project site, because of the generally flat topography and solar PV technology. Substation, BESS, O&M facility, limited solar panel areas, and internal and external road locations would require mowing and grubbing vegetation and light grading and compacting soil. Inverter station locations would require light grubbing. The solar array areas would require mowing and rolling of woody vegetation to a height of 12 inches in an effort to preserve vegetation and provide for better and faster post-construction site revegetation. In some locations, root balls would need to be removed, which would require light grading. Woody vegetation, such as palo verde trees, that are in areas adjacent to infrastructure where it does not impact solar panel performance would be partially cut, leaving the lower trunk intact to allow regrowth of branches and leaves. The site cut and fill would be approximately balanced; minimal import/export would be necessary, as described in the POD Section 2.2 (EA Appendix F). On-site pre-assembly of trackers would take place in a staging area within the solar facility site.

PV Panel System, O&M Building, and Distribution Line Construction. Construction of the O&M building and distribution line connection would be part of the initial solar facility development in tandem with the beginning of PV module construction. The construction activities associated with the distribution line would be similar to the medium voltage collector lines. The site of the O&M building would be cleared and graded prior to installation of a concrete foundation.

The PV modules would be manufactured at an off-site location and transported to the project site. Panels would be arranged in strings with a maximum height of up to 8 feet. Panel faces would be minimally reflective, dark in color, and highly absorptive. The project may use a variety of PV technologies including, but not limited to, cadmium telluride panels, crystalline silicon panels, or copper indium gallium diselenide panels. None of the panels being considered contain materials that are classified as hazardous wastes. The chemicals within PV modules are highly stable and would not be available for release to or interaction with the environment. If a panel is broken during construction or operation, the pieces would be cleaned up completely and returned to the manufacturer for recycling.

The structures supporting the PV module arrays would consist of steel piles or screws (approximately 10 feet apart), which would be driven into the soil using a hydraulic rock hammer attachment on the boom of a rubber-tired backhoe excavator or a similar pneumatic technique. For a single-axis tracking system, piles typically would be installed to a reveal height of approximately 4 to 6 feet above grade.

Where excavations are required, the majority of proposed construction activities would be limited to less than 6 feet in depth: However, some excavations, such as those undertaken for the installation of collector poles and gen-tie dead-end structures, would be required to reach depths of up to approximately 35 feet or more.

Inverters, Transformers, Electrical Collector System, and BESS Installation. Panels would be electrically connected in panel strings using wiring secured to the panel racking system. Final sections would be connected to the inverters via an underground stub. Underground cables would be installed in conduits to convey the direct current (DC) electricity from the panels to combiner boxes located throughout the PV arrays, from where it would go to inverters to convert the DC to alternating current (AC). The output voltage of the inverters would be stepped up to the collection system voltage of 34.5 kV by pad mounted transformers located in proximity to the inverters. The 34.5 kV collection cables would primarily be buried underground within the solar facility with some segments potentially installed overhead on wood poles. Trenches for the collector lines would be run from the inverters to the onsite substation.

Electrical inverters would be placed on steel skids, elevated as necessary with steel piles to allow for runoff to flow beneath the inverter structures. The PV array system, collector system, inverters, and substation equipment would be tested prior to commencement of commercial operations.

Medium-voltage (34.5 kV) cabling connecting inverters to the 34.5 kV/500 kV substation would be installed either underground, or overhead along panel strings in a CAB[4] system to avoid the need for underground cabling and trenching. At the end of panel strings, cables would be combined and routed overhead on wood poles roughly 30 to 50 feet high, depending on voltage.

Underground cables would be installed using direct bury equipment and/or ordinary trenching techniques, which typically include a rubber-tired backhoe excavator or trencher. An underground 34.5 kV line would likely be buried at a minimum of 36 inches below grade, but could go as deep as 6 feet and be installed using horizontal drilling to avoid environmental resources. Shields or trench shoring would be temporarily installed for safety to brace the walls of the trench, if required based on the trench depth. After the excavation, cable rated for direct burial would be installed in the trench, and the excavated soil would be used to fill the trench and then compressed to 90 to 95 percent maximum dry density, subject to final engineering.

For any overhead 34.5 kV line, pole foundations would be excavated to an average depth of approximately 10 feet. Installation would consist of the following basic steps:

- Deliver new pole to installation site;
- Auger new hole using line truck attachment to a depth of up to 35 feet and include concrete supports depending on final engineering;
- Pour concrete foundation;
- Install bottom pole section by line truck, crane, or helicopter; and
- Install top pole section(s) by line truck, crane, or helicopter, if required.

[4] Cambria Association for the Blind and Handicapped produces overhead cable management systems comprised of cable trays, hooks, and other devices. The sale of CAB Products helps support its services to persons with disabilities.

Once poles are erected, the conductor would be strung moving from one pole to the next using a wire truck, crane, and/or helicopter, plus a splicing rig and puller located at conductor pull and tension sites at the end of the power line interconnection alignment. Each conductor would be pulled into place at a pre-calculated sag and then tension-clamped to the end of each insulator using sag cat and static truck/tensioner equipment. The sheaves and vibration dampers and accessories would be removed once installation is complete.

The proposed BESS area would be cleared and graded, as the storage facility must be nearly level. Site preparation also would include construction of drainage components to capture and direct stormwater flow around the BESS facility. Once the concrete foundations are in place for the BESS, the batteries, inverters, and other electrical equipment would be mounted and installed. Equipment would be delivered to the site on trucks.

Construction Site Stabilization, Restoration, and Wildlife Monitoring. Following the completion of major construction, temporarily disturbed areas would be revegetated pursuant to an Vegetation Management Plan that would be approved prior to construction (see POD Appendix M). The Vegetation Management Plan addresses the revegetation of sites to be temporarily disturbed during construction or other project activities; salvage of native cactus from BLM-administered lands prior to construction; and on-site vegetation management during project O&M to minimize adverse effects on native vegetation, soils, and habitat. Where necessary, native re-seeding or vertical mulching techniques to alleviate compaction would be used. However, it is anticipated that many species will regenerate post-construction due to preservation of desert vegetation during the construction phase. At the conclusion of restoration activities, and if determined beneficial by USFWS and BLM biologists, any previously relocated plants and wildlife would be reintroduced to the project site and monitored for safety and health in accordance with the Vegetation Management Plan (POD Appendix M in EA Appendix F).

Waste Generation and Removal. Construction sites within the project area would be kept in an orderly condition throughout the construction period by using approved enclosed refuse containers. No open burning of construction trash would occur. All vegetation that may interfere with equipment would be trimmed and removed using manual, non-mechanical means or sprayed with an approved herbicide, as necessary.

Waste would be stored in a locked container within a fenced and secure temporary staging area, which would be within the project development footprint in the general vicinity of the on-site substation yard and would convert to permanent parking and storage adjacent to the O&M building following construction. As there would be regulated hazardous materials onsite, storage procedures would be dictated by a Hazardous Materials Plan that would be developed prior to construction. Spill prevention measures and secondary containment would be implemented as part of the project where warranted. The use, storage, transport, and disposal of hazardous materials used in construction of the facility would be carried out in accordance with federal, state, and county regulations. Material Safety Data Sheets for all applicable materials present on-site would be made readily available to on-site personnel.

Construction waste materials would be sorted on-site throughout construction and transported to appropriate waste management facilities. Recyclable materials would be separated from non-recyclable items and stored until they could be transported to a designated recycling facility in accordance with recycling standards and regulations at the time of completion of construction. It is anticipated that at least 20 percent of construction waste would be recyclable, and 65 percent of

those materials would be recycled. Wooden construction waste (such as wood from wood pallets) would be sold, recycled, or chipped and composted. Other compostable materials, such as vegetation, could also be chipped and spread on-site or composted off-site.

Ground Disturbance. Table 2-1 provides the details of the ground disturbance required by construction and operation of the solar and BESS facility, gen-tie line, and access roads on BLM and private land. Ground disturbance estimates will be updated upon final engineering.

Table 2-1. Disturbance Estimate for Oberon Renewable Energy Project

Component	Short-Term Disturbance (acres)	Long-Term Disturbance (acres)
Solar & BESS Facility	0	~2,700
34.5 kV Lines (outside solar facility fenceline)	23	0
12 kV Distribution Line	1.7	0.002
500 kV Gen-tie Line (monopole structures)	18	0.6
Conductor Pull & Tensioning Sites (outside of structure erection areas)	11.9	0
Guard Structures at Road/Line Crossings	1.8	0
Spur Roads	0	0.04
Access Roads (outside solar facility fenceline)	0	0.9
TOTAL	**56.4 acres**	**2,702 acres**

Ground Disturbance Assumptions

- Should the southeastern substation location be developed, then the unused 500 kV gen-tie corridor from the central substation option (approximately 80 acres) would be developed with solar panels. Likewise, should the Eagle Crest gen-tie line be relocated outside of the Oberon application area, then this area (approximately 60 acres) may also be developed with solar panels.
- Permanent disturbance at each 500 kV pole location would be ~0.03 acre. Up to approximately 20 gen-tie structures would be located on BLM-administered land within a 175-foot ROW.
- Span length for the 500 kV line would vary from 400 to 2,200 feet.
- Temporary structure erection is 200 feet by 200 feet (~0.9 acre) at each structure location.
- Temporary pull and tension sites: 600 feet long by 200 feet wide (~2.8 acre); Angle poles sites: 1,000 feet long by 200 feet wide (~4.6 acre) Temporary disturbance for pull and tensioning generally extends past each dead-end or angle structure. Necessary for conductor stringing equipment and placement of wire reels (approximately 8 wire pulling sites are needed, 5 of which are angle poles). For all but 4 angle structures, temporary disturbance for pull and tensioning would occur within the 175-foot ROW or extend into the solar facility development footprint.
- New spur roads would typically have circle-type turnaround areas averaging 450 square feet around each structure location.
- Guard Structures: 100 feet wide by 100 feet long (~0.23 acre). Placed on either side of existing roads, crossings of existing lower voltage distribution or transmission lines, or other obstacles to maintain vertical clearance during construction activities only (approximately 8 guard structures needed).
- Temporary trench width per 34.5 kV line: Assumes worse-case scenario of underground construction of approximately 10,000 feet of 34.5 kV lines with 100-foot-wide corridor, which would be dependent on the number of circuits.
- Overhead 34.5 kV and 12 kV poles (20-inch diameter) assume 2.2 square feet of permanent disturbance. Temporary disturbance for 12 kV line off of the solar facility: 50 feet x 50 feet (2,500 square feet) per pole (30 poles) or an underground trench within an existing roadway.
- Existing roadways would be used access to the gen-tie line and solar facilities development areas. Two solar facility entrances would be constructed off of Rice Road/SR-177 to the east and west, and possibly from Orion Road. Spur roads along the east-west gen-tie route would be utilized to the extent feasible to access development areas south of BLM Open Route DC379. Assumes 2,000 feet of 20-foot-wide access roadway construction total in the project area outside of the development fencelines. Entrance access road may be wider depending on traffic safety/travel management requirements.
- Spur roads: 450 square feet (0.01 acre); required to access all structures.

In addition, POD Appendix G (Jurisdictional Delineation) in EA Appendix F (POD) includes the location of and quantification of jurisdictional waters within the Oberon Project site, which would be incorporated into future site design, impact calculations, and the permitting process.

Herbicide and Pesticide Use Proposal. Weed control activities would include both mechanical and targeted herbicide control methods, as necessary. Mechanical control activities would include

hand trimming with a chainsaw outside of the desert tortoise active season. Non-motorized trimmers would be used in the vicinity of known sensitive wildlife and during the desert tortoise active season.

Herbicides may be necessary to control the spread of noxious weeds and other non-native invasive plant species following construction as part of an integrated pest management strategy. Control would involve the targeted use of BLM-approved herbicides to control weed populations when manual control methods are not successful in managing the spread of invasive plants, but only as reviewed and approved by USFWS and BLM biologists. All weed control using herbicides and adjuvants would be conducted with chemicals approved by BLM in California and in a manner that corresponds with manufacturer application rates and use.

The process for treatments would be characterized in an Integrated Weed Management Plan (IWMP) (see POD Appendix L) followed by a Pesticide Use Proposal (PUP) for specific chemical treatments, both approved by the BLM. The Plan of Development (EA Appendix F) and the draft IWMP (POD Appendix L), copied in EA Tables 2-2 and 2-3, identify the herbicides proposed for use on the project site, all of which are listed in the current List of BLM-Approved Herbicides. Likewise, Tables 2-2 and 2-3 also identify the maximum and prescribed rates of herbicide application. Herbicides would be applied to foliage using backpack sprayers. Aerial spraying and truck-mounted spray rigs would not be utilized.

Table 2-2. Herbicides Proposed for Oberon Renewable Energy Project

Active Ingredient	Trade Name	Manufacturer	EPA Reg. #	Formulation
Herbicides				
Clopyralid	Transline	Dow	62719-259	Liquid
Chlorsulfuron	Layer Telar XP	DuPont	432-1561	Extruded Pellet, Dry flowable
Glyphosate	Roundup Custom	Monsanto	524-343	Liquid
	Roundup PROMax	Monsanto	524-579	Liquid
Imazapyr	Polaris	Nu Farm	228-480	Liquid
Triclopyr	Garlon4	Dow AgroSciences	62719-40	Liquid
Adjuvants				
Non-ionic surfactant (NIS)	Activator 90	Loveland	CA#34704-50034	Liquid
Modified Seed Oil	MSO	Loveland	CA#34704-50067	Liquid
Herbicides				
Clopyralid	Transline	Dow	62719-259	Liquid
Chlorsulfuron	Telar XP	DuPont	352-654	Extruded Pellet, Dry flowable
Glyphosate	Roundup Custom	Monsanto	524-343	Liquid
	Roundup PROMax	Monsanto	524-579	Liquid
Imazapyr	Polaris	Nu Farm	228-534/536	Liquid
Triclopyr	Garlon4	Dow AgroSciences	62719-40	Liquid
Adjuvants				
Non-ionic surfactant (NIS)	Activator 90	Loveland	CA#34704-50034	Liquid
Modified Seed Oil	MSO	Loveland	CA#34704-50067	Liquid

Table 2-3. Maximum and Prescribed Rates of Herbicide Application in the Project Area

	Maximum Application[2] Rate/Acre/Year		Prescribed Application[3] Rate/Acre	
Herbicide[1]	**Product**	**AI/AE**	**Product**	**AI/AE**
Round-Up Custom	256 oz. (2 gallons)	8.0 lbs. a.e.	3 quarts	2 lbs. a.e.
Round-Up PROMax	224 oz. (1.75 gallons)		2.67 quarts	
Transline	1.33 pints	0.5 lb. a.e.	15 oz.	0.35 lb. a.e.
Polaris[4]	6 pints	1.5 lbs. a.e.	1.33 pints	0.3 lb. a.e.
Telar XP	3.0 oz.	0.141 oz. a.i.	1 oz.	0.047 oz. a.i.
Garlon4	2.0 gal/ac	8.0 lbs. a.e.	0.5 gal/ac	2.0 lbs. a.e./ac
MSO,[5] when used, will be used at a concentration of 1% volume/volume in each tank mixture.				
Activator 90, when used, will be used at a concentration of 0.5% v/v in each tank mixture.				

1 - Choice of prescription will depend on site constraints, target species, and time of year. Treatments will be directed foliar. Over a 3- to 5-year period, as much as 13,500 acres may be treated. This represents all acreage in the Proposed Action area on Bureau of Land Management lands (2,700 acres) being treated each year for up to 5 years.
2 - Maximum total application amount per year based on active ingredient.
3 - Maximum amount per application event; multiple applications may occur in a year, if needed to control weeds, until maximum annual application amount is reached.
4 - Polaris (Imazapyr) will be used only in disturbed habitat.
5 - Either "MSO Concentrate" from Loveland or "Hasten" from Wilbur Ellis is recommended.

a.e. Acid Equivalent
a.i. Active Ingredient
ac Acre
gal Gallon
lbs Pounds

2.3.4 Operation and Maintenance of the Facility

Upon commissioning, the project would enter the operation phase. The solar modules at the site would operate during daylight 7 days a week, 365 days a year. During operations, up to 10 permanent staff could be on the site at any one time for ongoing facility maintenance and repairs. Alternatively, approximately 2 permanent staff and 8 project operators would be located off-site and would be on call to respond to alerts generated by the monitoring equipment at the project site. Security personnel would be on-call. The staff would be sourced from nearby communities in Riverside County and San Bernardino County. The O&M building would house the security monitoring equipment, including security camera feeds for monitoring the project 24 hours per day.

The project site maintenance program would be largely conducted onsite during daytime hours, but panel washing could occur in the early morning or evening to minimize the time panels would be offline during daylight hours. Maintenance typically would include panel repairs; panel washing (up to 4 times per year); maintenance of transformers, inverters, energy storage system, and other electrical equipment as needed; road and fence repairs; and weed management in compliance with the BLM-approved IWMP (see POD Appendix L in EA Appendix C). On-site vegetation would be managed to ensure access to all areas of the site and to screen project elements as feasible. The Applicant would recondition roads approximately once per year or as needed, such as after a heavy storm event that may cause destabilization or erosion.

O&M vehicles would include pickup and flatbed trucks, forklifts, and loaders for routine and unscheduled maintenance and water trucks for solar panel washing. Large heavy-haul transport equipment may be brought to the solar facility infrequently for equipment repair or replacement.

Fire Safety During Operation. Solar arrays and PV modules are fire-resistant, as they are constructed largely out of steel, glass, aluminum, or components housed within steel enclosures. In a wildfire situation and depending on panel design, the panels would be rotated and stowed in a panel-up position. The rotation of the tracker rows would be controlled remotely via a wireless local area network. Fire safety and suppression measures, such as smoke detectors and extinguishers, would be installed and available at the O&M facility, if required by BLM.

A Fire Management and Prevention Plan will be prepared in coordination with the BLM Fire or other emergency response organizations to identify the fire hazards and response scenarios that may be involved with operating the solar facility. This would include information on response to accidents involving downed power lines or accidents involving damage to solar arrays and facilities.

O&M Phase Wildlife Friendly Fencing. The Applicant proposes to install modified fencing that would allow some wildlife movement throughout the area during operation. Over a portion of the project site shown in Figure 2-6 (EA Appendix A), temporary desert tortoise exclusion fencing would be modified or reconfigured after construction but not before vegetation is substantially reestablished within the array areas in accordance with the Revegetation Plan. This would allow desert tortoise and other wildlife passage through portions of the project site for the life of the project. In these areas, the security fence would leave a 6- to 8-inch gap between the lower fence margin (rail or mesh) and the ground. The bottom of the fence fabric (chain link or similar material) would be wrapped upward so that no sharp edges are exposed along the lower fence margin. It is anticipated that reptiles, birds, and small and medium sized mammals would easily pass through the fence gap, but that larger animals, including mule deer, coyote, and desert bighorn sheep would be excluded by the presence of the security fence. For wildlife able to cross through the site, wildlife friendly fencing would help long-term viability of these linkage populations and contribute to maintaining the function of the linkage in compliance with CMA LUPA-BIO-13. Where wildlife friendly fencing is proposed, cattle fencing would be installed across undeveloped open desert dry wash woodland segments along BLM Open Route DC379 to discourage people from disturbing those high value habitat areas.

O&M safety practices, including worker training and biological monitoring of nesting, burrowing, or denning wildlife, would be implemented to maximize long-term safety of desert tortoises and other wildlife present at the site. In addition, BLM is conducting a separate before-after/control-impact (BACI) scientific research study at several solar project sites, including the Oberon site, to enhance public, solar industry, and agency knowledge of how desert wildlife interact with an operating solar facility, resulting in potential recommendations for best practices or design features and adaptive management.

2.3.1 Termination and Rehabilitation

The facility's equipment has a useful life of 30 to 50 years. At the end of the initial PPA's contract term of approximately 10 to 25 years, the project could still be able to generate power. At that time, the facility would likely be optimized to increase the plant's efficiency by swapping out inverters for more efficient units, and potentially swapping out some of the facility's PV modules. Ground disturbing work would not be necessary for these optimization activities. The project would

be offline for several weeks or months during optimization activities, but could subsequently continue delivering electricity to the wholesale market for many decades. A ROW renewal would be sought from BLM, as necessary. Long-term operations would be the same as described above.

At the end of the ROW grant or the project's useful life if the initial 30-year term is extended, the solar arrays and gen-tie line would be decommissioned and dismantled per a BLM-approved Closure and Decommissioning Plan. Decommissioning activities would require equipment and a workforce similar to that of construction but would be substantially less intense. During decommissioning, the solar panels would be removed and placed in secure transport containers for storage, and transported to another facility for reuse, material recycling, or disposal in accordance with regulations in effect at the time of closure. With current technology, over 90 percent of a PV system is recyclable with the glass, metallic, and PV film components easily separated by mechanical and chemical processes for remanufacturing into new panels or other products. It is estimated that 100 percent of copper components would be recycled and approximately 50 percent of aluminum and other components would be recycled. Following removal of the above-ground and buried project components, the site would be restored to its pre-solar facility conditions, subject to BLM policy at the time of decommissioning.

2.4 Alternative 3: Land Use Plan Compliant Alternative

Under the Land Use Plan Compliant Alternative, the 200-foot buffer required by DRECP CMA LUPA-BIO-RIPWET-1 and LUPA-BIO-3 around desert dry wash (microphyll) woodland would be observed. No solar panels would be developed in desert dry wash woodland in accordance with CMA LUPA-BIO-SVF-6. Therefore, a plan amendment authorizing a 50-foot buffer with a small amount of disturbance to desert dry wash woodland may not be required. Installation of desert tortoise fencing and clearance surveys outside of the desert tortoise activity season would be requested under all action alternatives. In order to perform this work outside of the desert tortoise activity season, a variance by USFWS and an exemption by BLM would be required, as may be allowed in CMA LUPA-BIO-IFS-1 at the discretion of the BLM State Director, so not to trigger a LUPA.

A 200-foot setback would remove a net of approximately 600 acres from the proposed development footprint (see Figure 2-7). To partially compensate for the exclusion of land within the 200-foot desert dry wash setback, the Land Use Plan Compliant Alternative would include installation of solar panels within the utility corridor area north of and adjacent to I-10, where the Proposed Action includes a 300-foot setback from the I-10 freeway to help preserve the Section 368 utility corridor. This alternative would result in less land being available for power generation, reducing the project's capacity to 75 percent of the electricity that would be produced under the Proposed Action (375 MW compared to 500 MW).

Furthermore, under the Land Use Plan Compliant Alternative, long-term desert tortoise exclusion fencing would be installed around the project development footprint, including all solar panel, substation, and BESS development areas. This fencing would remain for the life of the project, through construction and O&M. Fencing would maximize desert tortoise safety during O&M activities, but would bar desert tortoise and other wildlife from the project footprint. Permanent exclusion fencing would also exclude or minimize desert kit fox and other wildlife within the solar facility. No fencing would be installed along public roads at desert dry wash woodland crossings (i.e., non-development areas within the project area) to allow continued public and recreational access.

Finally, due to the size of its development footprint, this alternative would include permanent conservation and protection of approximately 5,400 acres of compensatory mitigation habitat.

2.5 Alternative 4: Resource Avoidance Alternative

The Resource Avoidance Alternative would maximize avoidance of biological resources. It would be similar to the Land Use Plan Compliant Alternative in terms of its avoidance with a 200-foot setback from desert dry wash woodland, which would eliminate the need for a plan amendment to excuse compliance with DRECP CMA LUPA-BIO-RIPWET-1, CMA LUPA-BIO-SVF-6, and CMA LUPA-BIO-3. Installation of desert tortoise fencing and clearance surveys outside of the desert tortoise activity season would be requested under all action alternatives. In order to perform this work outside of the desert tortoise activity season, a variance by USFWS and an exemption by BLM would be required, as is allowed in CMA LUPA-BIO-IFS-1 at the discretion of the BLM State Director so not to trigger a LUPA.

Alternative 4 would also exclude development in designated desert tortoise critical habitat and multi-species linkage corridor (see Figure 2-8). Avoidance of desert tortoise critical habitat and multi-species corridor is not required by the DRECP LUPA. Removing desert tortoise designated critical habitat and the multi-species linkage corridor at the eastern end of the project area from development would eliminate approximately 1,100 acres from the project, which would result in the project being able to produce only 300 MW of solar generation.

Under the Resource Avoidance Alternative, approximately 1,800 acres of compensatory habitat in accordance with DRECP compensation ratios would be purchased and protected compared to 6,800 acres under the Proposed Action; all other aspects of the mitigation would be the same as described in Alternative 2, except for total acreage.

2.6 Summary of Alternatives

Table 2-4 provides a summary of the four alternatives analyzed in EA Chapter 3.

Table 2-4. Summary of Alternatives Evaluated

Alternative	Description	Footprint (acres)	34.5 kV Collector Lines Temporary Disturbance (acres)[1]	Capacity (MW)	Portion of Application Area Not Developed	Desert Tortoise Critical Habitat within Develop-ment Footprint (acres)	Desert Pavement within Develop -ment Footprint (acres)	Compensatory Mitigation Acquired (acres)
Alternative 1: No Action Alternative	• No construction of solar facility, BESS, gen-tie line, and associated components	0	0	0	100%	0	0	0
Alternative 2: Proposed Action	• Avoids most DDWW with minimum 50-foot buffer and average 134-foot buffer (LUPA required). • Impacts from solar panels to ~60 acres of DDWW. • Setback from designated utility corridor north of I-10. • Wildlife friendly fencing. • Cattle fencing installed across undeveloped DDWW corridors along BLM Open Route DC379.	~2,700	23	500	46%	>700	~70	~6,800

Table 2-4. Summary of Alternatives Evaluated

Alternative	Description	Footprint (acres)	34.5 kV Collector Lines Temporary Disturbance (acres)[1]	Capacity (MW)	Portion of Application Area Not Developed	Desert Tortoise Critical Habitat within Develop-ment Footprint (acres)	Desert Pavement within Develop -ment Footprint (acres)	Compensatory Mitigation Acquired (acres)
Alternative 3: Land Use Plan Compliant Alternative	• Avoids DDWW with minimum 200-foot buffer, except minor incursion (no LUPA required). • No setback by I-10 in designated utility corridor and designated critical habitat for desert tortoise. • No wildlife-friendly fencing (desert tortoise exclusion fencing during O&M). • No cattle fencing along segments of BLM Open Route DC379.	2,100	30	375	58%	~630	~30	~5,400

Table 2-4. Summary of Alternatives Evaluated

Alternative	Description	Footprint (acres)	34.5 kV Collector Lines Temporary Disturbance (acres)[1]	Capacity (MW)	Portion of Application Area Not Developed	Desert Tortoise Critical Habitat within Develop-ment Footprint (acres)	Desert Pavement within Develop -ment Footprint (acres)	Compensatory Mitigation Acquired (acres)
Alternative 4: Resource Avoidance Alternative	• Avoids DDWW with a minimum 200-foot buffer, except minor incursion (no LUPA required). • Entirely avoids the multi-species linkage corridor. • Avoids all designated critical habitat for desert tortoise. • Setback from designated utility corridor (due to overlap with desert tortoise critical habitat). • No wildlife-friendly fencing (desert tortoise exclusion fencing during O&M). • No cattle fencing along segments of BLM Open Route DC379.	1,600	11	300	68%	0	~10	~1,800

1 - Estimated temporary ground disturbance (pending final engineering) for the underground 34.5 kV collector lines outside of the solar and BESS facility development footprint varies based on the distance and location of the fenced development areas. Assumes a length of approximately 10,000 feet for the Proposed Action, 12,900 feet for the Land Use Plan Amendment Alternative, and 4,900 feet for the Resource Avoidance Alternative. Access road and 500 kV gen-tie line disturbance outside of the solar and BESS facility development footprint would be the same between the three action alternatives.

2.7 Alternatives Considered but Eliminated from Detailed Analysis

2.7.1 Private Land Alternative

An alternative that would develop the solar facility on private lands was not considered further, because it is considered speculative and infeasible based on the number of landowners whose agreement would be required to establish a reasonably consolidated amount of acreage and the fact that the Applicant does not have any site control.

In addition, another site may have environmental impacts equal to or greater than the proposed site, which is surrounded by proposed and approved solar generation projects and located on BLM-administered land that is within the DRECP DFA, and thus, targeted for renewable energy development. Due to the discontinuous nature of the parcels additional gen-tie line interconnections would be required. Using nearby private lands would not reduce the effects of the Proposed Action, because such lands are farther from Red Bluff Substation so would require a longer gen-tie line. Multiple longer gen-tie lines would increase impacts associated with their construction and introduce more widespread visual impacts.

Westlands Solar Park. The primary constraint with using brownfields or unused agricultural land is the limited brownfields and unused agriculture land available for solar projects with the ability to interconnect into the State's electricity grid. On other solar projects, Westlands Solar Park has been suggested as an appropriate area for utility-scale solar. The Westlands Solar Park began construction of the first phase of solar development in 2020 and this area will likely continue to develop additional solar projects. While this region could develop up to two thousand MW of solar energy over a 12-year time horizon for a total of approximately 5 million megawatt hours (5,000 gigawatt hours) per year (WWD, 2017), it would not develop sufficient renewable energy to meet all the State's renewable needs. The California 2020 Integrated Energy Policy Report Update estimated the current generation from solar PV to be 15,800 gigawatt hours and projected it to increase to between 34,900 to 47,300 gigawatt hours by 2030 (CEC, 2021). This projected demand is more than Westlands could produce. Additionally, a solar project at Westlands is not feasible for IP Oberon, LLC, because it would not meet its interconnection requirements at the Red Bluff Substation, where it holds a queue position and additional capacity remains.

Considering a private land alternative goes beyond the purpose and need of this NEPA document, which is to respond to the Applicant's proposal to develop solar energy projects on public lands. The BLM lacks jurisdiction to authorize a solar project on private lands. This alternative was not considered further.

2.7.2 Federal Land Alternative

Similar to the project, an alternative site elsewhere on BLM-managed lands would involve the construction, operation, maintenance, and decommissioning of an up to 500 MW solar facility and 500 kV gen-tie line. This alternative would be located within the East Riverside DFA less than 15 miles from the Red Bluff Substation, because IP Oberon, LLC, has interconnection requirements at the Red Bluff Substation, where it holds queue position and additional capacity remains. It is also assumed that this alternative would require a BLM ROW Grant to allow for the construction and operation of solar facilities within BLM-managed lands.

The Federal Land Alternative on BLM-managed lands would not likely reduce any potentially significant impacts from the proposed project, as the project site has undergone extensive refinements to avoid sensitive resources (see Section 2.1) and is located on BLM-administered land surrounded by proposed and approved solar generation facilities as well as I-10 and is in close proximity to the Red Bluff Substation, resulting in a short 0.5-mile gen-tie line. This alternative would likely have impacts similar to those of the proposed site for many resource elements, such as air quality and traffic. However, it is likely to have more severe biological and visual resource impacts, as it would likely have a longer gen-tie line, could be within the sand transport corridor, and/or could be located closer to Joshua Tree National Park. Also, it may not be feasible to find an alternative site on BLM-managed lands, because most of the land within the DFA is already in use, proposed for other solar energy projects, or within mountainous areas. Lands outside the DFA have already been preliminarily screened and determined to be more likely to have greater environmental impacts. Site control is also an issue, given that the Western Solar Plan, DRECP and BLM Rents and Bonds Policy require a competitive auction to secure land within SEZs/DFAs and BLM has yet to conduct one for sites in Riverside County. The Federal Land Alternative would not present significant environmental advantages over the proposed project and has potential feasibility issues associated with site control; therefore, it has thus been eliminated from consideration.

2.7.3 Full Build Alternative

Most often, when an agency is considering a utility solar project, the agency reviews the location proposed for the project, identifies the most substantial impacts, and develops a reduced footprint alternative to avoid these locations. To meet the requirements of the CDCA Plan, as amended by the DRECP, this process was completed prior to defining the Proposed Action and resulted in the removal of approximately 3,800 acres from the original ROW application (see Section 2.1, Background). The larger sized project would have allowed for additional flexibility when siting the 500 MW project within the project site or could have accommodated more MW. While the amount of MW proposed for construction at the project site has not changed with the smaller footprint, the MW hours are fewer than originally proposed. This is because the proximity of the solar panels under the smaller footprint increases shading and other technical constraints compared with a more widespread layout.

The full build alternative would have greatly increased impacts to desert dry wash woodland, desert tortoise habitat, and wildlife connectivity habitat. Additionally, solar panels would be developed adjacent to I-10 further restricting the utility corridor in desert tortoise critical habitat, and a greater number of prehistoric cultural resources would be directly affected. Given that this alternative would have much greater environmental impacts and would comply with the DRECP CMAs to a less extent than the project, this alternative was eliminated from consideration.

2.7.4 Alternative Solar Technologies

The following alternative solar technologies have been screened and are recommended for elimination from detailed analysis since they are considered infeasible.

- **Solar Power Tower Technology.** Solar power tower technology is a concentrating solar power (CSP) technology that uses a flat mirror "heliostat" system that tracks the sun and focuses solar energy on a central receiver at the top of a high tower. The focused energy is used to heat a transfer fluid to 800 to 1,000 degrees Fahrenheit (˚F) to produce steam and run

a center power generator. The transfer fluid is super-heated before being pumped to heat exchangers that transfer the heat to boil water and run a conventional steam turbine to produce electricity. Solar power tower systems can store heated fluids to deliver electricity even when the sun is not shining. In areas of high solar insolation potential (i.e., desert environments), the land required to develop a CSP power tower facility is comparable to that required for a PV project of equal output.

This alternative was eliminated from consideration because no meaningful reduction in impacts would occur under this alternative technology and the visual impact would be greater due to the height of the towers. In addition, due to the extent of the facility and the height of the power towers as well as a greater potential for glare, air safety impacts to the Desert Center Airport would be potentially greater under this alternative. It has also been suggested that, due to a phenomenon known as "solar flux," power tower projects pose a greater risk to avian species by creating an invisible zone where the concentrated solar energy focused on the towers can singe feathers and interfere with flight. The fact that the nearby Palen Solar Energy Project was previously evaluated as a solar power tower project and struggled to secure approvals due to these same impacts before switching to PV solar technology further supports the conclusion that this technology is not feasible in this area given the regulatory approvals that it would likewise struggle to secure.

- **Solar Parabolic Trough Technology.** Parabolic trough technology is another CSP technology that uses large, U-shaped (parabolic) reflectors (focusing mirrors) that have fluid-filled pipes running along their center, or focal point. The mirrored reflectors are tilted toward the sun and focus sunlight on the pipes to heat the heat transfer fluid inside, similar to the solar power tower technology. The hot fluid is then used to boil water, which makes steam to run conventional steam turbines and generators.

  Solar trough fields have stringent grading requirements, as parabolic trough arrays must be almost level along their length, and grades perpendicular to the troughs are generally benched to 2 percent or less. Therefore, most of the proposed solar facility site would need to be graded and scraped free of vegetation. Use of solar trough technology would also likely require engineered drainage channels along the facility boundary to intercept any offsite surface flows and convey them around and past the site for discharge.

  Therefore, as with solar power tower and other CSP technologies, parabolic trough technology has been eliminated from consideration because it would have the potential for more severe impacts than the proposed solar PV technology. These impacts would include more dramatic degradation of visual resources (due to use of mirrors), more extensive ground disturbance, increased industrial construction for the turbines and power blocks, and use of potentially hazardous heat transfer fluids.

- **Distributed Solar Technology.** There is no single accepted definition of distributed solar technology. The 2011 Integrated Energy Policy Report by the California Energy Commission defines distributed generation resources as "(1) fuels and technologies accepted as renewable for purposes of the Renewables Portfolio Standard; (2) sized up to 20 MW; and (3) located within the low-voltage distribution grid or supplying power directly to a consumer." Distributed solar facilities vary in size from a few kilowatts to tens of MWs but do not require transmission to get to the areas in which the generation is used.

A distributed solar alternative would consist of PV panels that would absorb solar radiation and convert it directly to electricity. The PV panels could be installed on residential, commercial, or industrial building rooftops, parking lots or areas adjacent to existing structures, such as substations. To create a viable alternative to the proposed project, there would have to be sufficient newly installed panels to generate up to 500 MW of capacity, which would be similar in size to the proposed project.

Although there is potential to achieve up to 500 MW of distributed solar energy throughout the greater California area, the limited number of existing facilities and location of BLM-administered lands make it unlikely to be feasible or present environmental benefits. Although the type of panel to finally be used for the proposed project is not yet known, rooftop systems typically consist of less efficient fixed-tilt systems that may not be oriented optimally towards the sun, meaning that developers would need to use more surface area for the project if constructed on a rooftop instead of on the ground. The transaction costs of obtaining use of multiple rooftops, the complexity of mobilizing construction crews across multiple projects including the transporting and deployment of construction materials in a less efficient manner, the additional work needed to prepare rooftops to support a solar installation, and the need to develop the agreements to secure the same amount of PV-produced electricity can make this type of alternative infeasible.

To the extent that distributed generation projects might have fewer impacts on certain resources because they do not require substations and transmission facilities, this illustrates that distributed generation projects cannot meet one of the fundamental objectives of a utility-scale solar project: to provide renewable energy to utility off-takers and their customers. Rooftop systems that are not connected to the utility side of the electric grid only generate power for on-site consumption. At the same time, the difficulties in supplying a comparable amount of MWs of clean energy to the public through the utility sector has its own set of impacts due to failure to offset the impacts of counterpart fossil fuel energy sources.

Challenges associated with the implementation of a distributed solar technology include widely varying codes, standards, and fees; environmental requirements and permitting concerns; interconnection and integration of distributed generation; and inefficiencies. Furthermore, the significant barriers to consolidating power generated through a distributed network of sites would make it unlikely that the project could achieve its storage goals and provide energy when the sun is not shining. As a result, this technology was eliminated from detailed analysis as an alternative to the proposed project.

2.7.5 Alternative Renewable Energy Technologies

Alternative renewable energy technologies, such as wind, geothermal, biomass, tidal and wave power technologies, have been eliminated from consideration, because they are not within the Applicant's area of expertise and so would not be technically or economically feasible for the Applicant to implement.

2.7.6 Conservation and Demand-Side Management

This alternative is not technically feasible as a replacement for the proposed project because California utilities are already required to achieve aggressive energy efficiency goals. Even if additional energy efficiency beyond that occurring in the baseline condition may be technically pos-

sible, it is speculative to assume that energy efficiency alone would achieve the necessary greenhouse gas reduction goals. With population growth and increasing demand for energy, conservation and demand management alone is not sufficient to address all of California's energy needs. Furthermore, conservation and demand-side management would not by themselves provide the renewable energy required to meet the California renewable energy goals, a stated project objective. Moreover, affecting consumer choice to the extent that would be necessary for a conservation and demand-side management solution would be beyond the BLM, Regional Water Quality Control Board, and/or the Applicant's control. For those reasons, conservation and demand-side management has been eliminated from detailed analysis.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

3.1 Introduction to the Analysis

This section describes the affected environment—the present conditions and trend of elements of the human environment that may be impacted by implementing one of the alternatives. This section then describes, relative to that baseline, the environmental consequences to each resource that would result from implementing each of those alternatives. That discussion analyzes the anticipated direct, indirect, and cumulative effects.[5] The effects analysis considers use of CMAs to reduce the effects. Where the CMAs themselves do not reduce the effects, other mitigation measures that would avoid or reduce adverse effects are considered.

3.1.1 Cumulative Scenario

The following information regarding past, present, and reasonably foreseeable actions for cumulative effects applies to all alternatives, and for all resource impacts discussed below. Reasonably foreseeable future actions are those for which there are existing decisions, funding, formal proposals, or which are highly probable, based on known opportunities or trends. Tables 3.1-1 and 3.1-2 include the list of all foreseeable projects on private and BLM-administered land in the Desert Center and Blythe region, which encompasses the East Riverside DFA identified in DRECP. These projects are shown on Figure 3.1-1, Cumulative Projects.

[5] Direct effects are those caused by the action and occurring at the same time and place. Indirect effects are those caused by the action but occurring later or in a different location. Cumulative effects result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.

Table 3.1-1. Past and Present Projects or Programs in the Area of Potential Impacts

ID	Project Name; Agency ID	Location	Ownership	Status	Acres	Project Description
1	West-wide Section 368 Energy Corridors	Riverside County, parallel to I-10	BLM, DOE, U.S. Forest Service	Approved by BLM & USFS, additional review of Region 1 ongoing	N/A	Designation of corridors on federal land in the 11 western states, including California, for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities (energy corridors). One of the corridors (Corridor 30-52) runs along the southern portion of Riverside County, including the project site.
2	Blythe PV Project	Blythe	Clearway Energy	Operational	200	21 MW solar PV project located on 200 acres outside of Blythe, California, 35 miles east of the project.
3	McCoy Solar Project	Blythe	NextEra	Partially operational	8,100	An up to 750 MW solar PV project located primarily on BLM administered land about 13 miles north of Blythe. Includes a 16-mile gen-tie line. 250 MW began operation in June 2016, but it does not have a schedule for the remaining 500 MW.
4	Genesis Solar Energy Project	North of I-10, 25 miles west of Blythe and 27 miles east of Desert Center	NextEra	Operational	1,950	250 MW solar trough project north of the Ford Dry Lake. approximately 20 miles east of the Oberon Project. Project includes six-mile natural gas pipe-line and a 5.5-mile gen-tie line to the Blythe Energy Center to Julian Hinds Transmission Line, then east on shared transmission poles to the Colorado River Substation.
5	Blythe Solar Power Project	Blythe	NextEra	Operational	4,100	A 485 MW solar PV project located 2 miles north of I-10 and 8 miles west of the City of Blythe on BLM land. A 230 kV gen-tie line connects the solar energy generating facility to the SCE Colorado River Substation.
6	Desert Sunlight Solar Project	6 miles north of Desert Center	NextEra	Operational	4,400	A 550 MW solar PV project located on BLM land approximately 2 miles northwest of the Oberon site. The project includes a 230 kV transmission line that extends south from the site to interconnect with the Red Bluff Substation
7	SCE Red Bluff Substation	Southeast of Desert Center	SCE	Operational	75	220/500 kV substation to interconnect renewable projects near Desert Center to the Devers–Palo Verde (DPV) transmission line. The Oberon site is located less than 0.5 mile north of the substation.

Table 3.1-1. Past and Present Projects or Programs in the Area of Potential Impacts

ID	Project Name; Agency ID	Location	Ownership	Status	Acres	Project Description
8	Devers–Palo Verde No. 1 Transmission Line	Palo Verde, Arizona, to Devers Substation near Palm Springs	SCE	Operational	N/A	Existing 500 kV transmission line parallel to I-10- from Arizona to the SCE Devers Substation, near Palm Springs. DPV1 loops into the SCE Colorado River Substation which is located 10 miles southwest of Blythe. The DPV1 line is approximately 0.5 mile south of the Oberon site.
9	Devers–Colorado River Transmission Line	From Blythe to Devers Substation near Palm Springs	SCE	Operational	N/A	Existing 500 kV transmission line parallel to the I-10 from the SCE Colorado River Substation to the Devers Substation. ROW requires 130 feet on federal, State, and private land. The DPV1 line is approximately 0.5 mile south of the Oberon site.
10	Blythe Energy Project Transmission Line	From Blythe to Julian Hinds Substation	Blythe Energy, LLC	Operational	N/A	Existing 230 kV transmission line approximately 0.5 mile south of the Oberon site.
11	SCE Colorado River Substation	Blythe	SCE	Operational	90	A 500/230 kV substation located east of Blythe, approximately 35 miles east of the Oberon site. Includes 108 -foot-high dead-end structures. Outdoor night lighting is designed to illuminate the switchrack when manually switched on.
12	NRG Blythe II	Blythe	Clearway Energy	Operational	150	20 MW solar PV facility that came online in spring 2017 and is located approximately 35 miles east of the Oberon Project
13	Desert Harvest Solar Project	North of Desert Center	EDF-RE	Operational	1,208	A 150 MW solar PV project located immediately south of the Desert Sunlight project and northwest of the Oberon Project. The gen-tie route would parallel the existing Desert Sunlight line to interconnect with the existing SCE Red Bluff Substation and would cross the Oberon Project area.
14	Palen Solar Project	East of Desert Center	EDF-RE	Operational (first phase)	3,400	A 500 MW PV project located 11 miles east of Desert Center and the Oberon site on BLM land. Includes a 6-mile gen-tie line into the Red Bluff Substation.

1 - The data shown on Figure 3.1-1 for the Development Focus Areas, ACECs, and NLCS was taken from the DRECP Final EIS.
Source: Riverside County, 2019; BLM, 2021.

Table 3.1-2. Probable Future Projects in the Area of Potential Impacts

ID	Project Name; Agency ID	Location	Ownership	Status	Acres	Project Description
A	Desert Southwest Transmission Line	118 miles primarily parallel to the Devers–Palo Verde 500 kV line	Imperial Irrigation District	Final EIR/EIS prepared in 2005, approved by the BLM in 2006	N/A	Approximately 118-mile 500 kV transmission line from a new substation near the Blythe Energy Project to the existing Devers Substation located 10 miles north of Palm Springs, California. The ROW is approximately 0.5 mile south of the Oberon Project.
B	Palo Verde Mesa Solar Project	East of Blythe, near the Neighbors Boulevard	Renewable Resources Group	Approved by Riverside County in August 2017	3,250	A 465 MW PV solar plant on 50 parcels totaling 3,250 acres, primarily on agriculture land. Gen-tie line is approximately 11.8 miles to the Colorado River Substation, approximately 35 miles east of the Oberon Project.
C	Eagle Mountain Pumped Storage Project	Eagle Mountain iron ore mine, north of Desert Center	Eagle Crest Energy Company	FERC License issued June 2014. Project approved by BLM in August 2018.	90	1,300 MW pumped storage project located approximately 10 miles northwest of the Oberon Project and designed to store off-peak energy to use during peak hours. The off-peak energy would be used to pump water to an upper reservoir. The water is released to a lower reservoir through an underground electrical generating facility.
D	Desert Quartzite Solar	South of I-10, 8 miles southwest of Blythe	Desert Quartzite LLC (First Solar)	Approved by BLM in January 2020 and Riverside County in October 2019.	3,770	A 450 MW solar PV facility with a project substation, access road, and transmission line, all located on BLM-administered land east of the Oberon Project.
E	Crimson Solar Project	South of I-10, 8 miles southwest of Blythe	Sonoran West Solar Holdings, LLC (Recurrent Energy)	Approved by BLM in May 2021 (CACA 51967) and CDFW in June 2021.	2,500	An up to 350 MW solar PV project located on BLM-administered land. The project would interconnect to the SCE Colorado River Substation approximately 35 miles east of the Oberon Project.
F	Blythe Mesa Solar Project	East of Blythe	Blythe Mesa Solar II, LLC	Approved by Riverside County in May 2015. Gen-tie approved by BLM in August 2015, updated ROW approved in August 2020 (CACA 053213).	3,600	Up to 485 MW solar PV project located outside Blythe on private land. The gen-tie line would cross BLM land to reach the SCE Colorado River Substation, approximately 35 miles east of the Oberon Project.

Table 3.1-2. Probable Future Projects in the Area of Potential Impacts

ID	Project Name; Agency ID	Location	Ownership	Status	Acres	Project Description
G	Athos Renewable Energy Project	In Desert Center	SoftBank Energy	Approved by Riverside County and BLM in 2019 (CACA 57730); Construction underway.	3,400	A solar PV project located on private land in unincorporated Riverside County adjacent to the northern boundary of the Oberon site. Portions of the gen-tie line would cross public land to reach the SCE Red Bluff Substation.
H	Easley Solar & Green Hydrogen Project	Northeast of Desert Center	IP Land Holdings, LLC	Entering review by BLM. SF-299 filed (CACA 57822).	9,825 (application area); ~7,500 (currently available for development)	The project on BLM land adjacent and north-northeast of the Oberon site would generate and store up to 650 MW of solar PV energy. The project would include a green hydrogen electrolyzer to convert water into hydrogen gas and oxygen.
I	Ten West Link Transmission Line	From the Colorado River Substation in Blythe, California, west to Tonopah, Arizona	Abengoa Transmission & Infrastructure, LLC, and Starwood Energy Group Global, Inc.	Approved by BLM in November 2019 (AZA 036819). Under review by the California Public Utilities Commission.	N/A	The proposal is to build a 500 kV transmission line from Tonopah, Arizona, to Blythe, California. It would span 114 miles, with all but 17 miles of the line would be in the Arizona counties of Maricopa and La Paz with the remainder in Riverside County, California, approximately 35 miles east of the Oberon Project.
J	Victory Pass Solar Project	4.5 miles east of Desert Center, adjacent to north side of I-10	Clearway Energy Group, LLC	Under review by BLM 2021 (CACA 56477).	1,800	The project located adjacent to Oberon Project to the east on BLM land would generate 200 MW of solar energy and include up to 200 MW of battery storage. A shared overhead 230 kV gen-tie line with the Arica Solar Project would connect to Red Bluff Substation.
K	Arica Solar Project	Adjacent to north side of Victory Pass project, 5 miles east-northeast of Desert Center	Clearway Energy Group, LLC	Under review by BLM 2021 (CACA 56898).	2,000	The project on BLM-administered land north east of the Oberon site would generate 265 MW of solar energy and include up to 200 MW of battery storage. A shared overhead 230 kV gen-tie line would connect to Red Bluff Substation.

Source: Riverside County, 2019; BLM, 2021.

3.1.2 IWMP and Pesticide Use Proposal for Construction, Operations and Maintenance

This EA analyzes the alternatives and potential environmental effects of the proposed Integrated Weed Management Plan (IWMP; see POD Appendix L) and Pesticide Use Proposal (EA Appendix B). As discussed in EA Section 1.5, this EA tiers to BLM's *Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States Final Programmatic Environmental Impact Statement (PEIS)* (June 2007) as well as the *Final Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on Bureau of Land Management Lands in 17 Western States Final PEIS (2016)*, which analyze the impacts of using chemical control methods (herbicides) to treat weeds and manage vegetation on public lands (Section 1.5). The Vegetation Treatment PEISs identify impacts to the environment associated with herbicide use, appropriate best management practices, standard operating procedures (SOPs), mitigation measures, and conservation measures for avoiding or minimizing adverse impacts. This EA evaluates integrated pest management[6] methods for invasive species control including the following, which is described in detail in Section 2.3.3:

- **Chemical –** Herbicides are chemicals that kill or injure plants. Herbicides can be categorized as selective or non-selective. Selective herbicides kill only a specific type of plant, such as broad-leaved plants, while non-selective herbicides kill all types of plants.
- **Manual –** Manual treatment involves the use of han d tools and hand-operated power tools to cut, clear, or prune herbaceous and woody species. Treatments include cutting undesired plants above the ground level; pulling, grubbing, or digging out root systems of undesired plants to prevent sprouting and re-growth; cutting at the ground level or removing competing plants around desired species; or placing mulch around desired vegetation to limit competitive growth.

3.2 Issue 1: Air Quality and Greenhouse Gas Emissions

3.2.1 Affected Environment

The Oberon Renewable Energy Project would be located within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) in the Mojave Desert Air Basin (MDAB). The Air Quality Technical Report (AQTR) provides input regarding the air basin, regulations, thresholds of significance, and impacts (see POD Appendix R in EA Appendix F, POD).

Criteria Air Pollutants. Air quality is determined by measuring ambient concentrations of air pollutants. Criteria pollutants are those described in the Clean Air Act for which acceptable levels of exposure can be determined and for which health-based standards have been set. The criteria pollutants are ozone, respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. Reactive organic gases (ROG), including volatile organic compounds (VOC), are regulated as precursors to ozone formation. The Riverside County portion of the MDAB is in non-attainment for ozone and PM10 under the California Ambient Air Quality Standards. The MDAB is in attainment with the National Ambient Air Quality Standards for all criteria pollutants (see POD Appendix R, AQTR) and generally enjoys good air quality.

[6] Integrated Pest Management – a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks (DOI Departmental Manual 517).

Greenhouse Gas Emissions: The so-called "greenhouse effect" that allows heat radiated from the Earth's surface to warm the atmosphere affects global climate through the presence of naturally occurring greenhouse gases (GHGs). The greenhouse effect is driven mainly by water vapor, aerosols, carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Human activity directly contributes to emissions of GHGs. Globally, the presence of GHGs affects temperatures, precipitation, sea levels, ocean currents, wind patterns, and storm activity. The primary observed changes in California's climate include increased annual average air temperatures, more frequent extremely hot days and nights, and increased severity of drought. Impacts to physical systems affected by warming temperatures and changing precipitation patterns show decreasing snowmelt runoff, shrinking glaciers, rising sea levels, and increasing fire severity. Impacts to terrestrial, marine, and freshwater biological systems are resulting in changes to habitat, architecture, and food supply, with the potential to impact human well-being (OEHHA, 2018).

Modeling shown by Cal-Adapt, from the Geospatial Innovation Facility at University of California, Berkeley indicates that the project area could experience higher annual average maximum temperatures, greater numbers of extreme heat days, and longer dry spells in the mid-century to end-of-century periods.

Valley Fever. Valley Fever (coccidioidomycosis) is an illness caused by the inhalation of soil dwelling Coccidioides fungus spores. The Coccidioides fungus lives in the top 2 to 12 inches of soil and dirt. The fungus is common in many parts of California, mainly in the Central Valley and in desert or dry areas (CDPH, 2013). There was an average of under 6 cases of reported Valley Fever in Riverside County during the period of 2011 – 2017 (CDC, 2020). The spores are released into the air by soil disturbing activities where they are available to be inhaled. Valley Fever is not transmitted directly from person to person. Valley Fever is potentially serious; in California more than 1,000 people are hospitalized and around 80 people die from Valley Fever every year (CDPH, 2020).

3.2.1 Direct and Indirect Environmental Effects

All construction- and operation-related emissions are quantified based on the best available forecast of activities. This analysis uses the California Emissions Estimator Model (CalEEMod; version 2016.3.2) software developed by the California Air Pollution Control Officers Association (CAPCOA). This is the most recent version of the CalEEMod software, and it relies upon mobile source emission factors from the Air Resources Board (ARB) OFFROAD inventory and EMFAC2014 models. Where project-specific design features are not yet defined, default and typical settings from CalEEMod are used. Default emission factors used in this analysis appear in the CalEEMod User's Guide Appendix D (October 2017). Details on the construction activity assumptions, emission factors, and resulting quantities of emissions output by CalEEMod appear in the POD Appendix R in EA Appendix F.

Alternative 1: No Action Alternative

Under the No Action Alternative, construction and operation of the solar facilities, gen-tie line, and associated infrastructure would not occur and therefore no air emissions would be generated through construction, operation, or decommissioning. Because soil disturbance would not occur, there would be not increased risk of Valley Fever spores being released and associated illness. It would not result in any direct, indirect, or cumulative impacts to air quality or GHG emissions. If the energy needs that would be met by the development of this Project are not met by comparable

renewable energy supplies; however, the development of other conventional energy resources could result in greater emissions from, for example, the burning of fossil fuels.

Likewise, other projects or linear facilities could potentially be developed at this location as the land is designated as a DFA. Any future project at this location would likely have similar air quality and GHG impacts to the project and would be subject to its own environmental analysis under NEPA.

Alternative 2: Proposed Action

Air Quality

General conformity with de minimis thresholds (40 CFR Part 93, Subpart B, et seq.) may be used in the characterization of an air quality impact for NEPA purposes[7]. Because the Riverside County portion of the MDAB has federal designations of unclassifiable/attainment for all pollutants, including ozone (with NOx and VOC as precursors) and PM_{10}, federal agency actions are not subject to Clean Air Act general conformity review requirements. Because no general conformity emissions thresholds specifically apply in the Riverside County portion of the MDAB, this analysis instead compares the emissions of implementing the Proposed Action to the de minimis thresholds for NOx, VOC, and PM_{10} that would apply in the nearby Salton Sea Air Basin portion of the SCAQMD jurisdiction. These criteria air pollutant rate thresholds are: 25 tons per year of NOx or VOC; 70 tons per year of PM_{10} or $PM_{2.5}$; and 100 tons per year for CO and SOx. This meets DRECP CMA LUPA-AIR-3 and CMA LUPA-AIR-4.

Tables 3.2-1 and 3.2-2 shows that levels of emissions of criteria air pollutants from the development of the Proposed Action would not exceed any annual emissions thresholds and are unlikely to cause any new violation of the ambient air quality standards (see AQTR, POD Appendix R in EA Appendix F).

Specifically, Table 3.2-1 summarizes the annual emissions within each of the calendar years of anticipated construction, without potential mitigation, assuming construction commences in early 2022. Table 3.2-2 summarizes the annual emissions within each of the calendar years of anticipated construction, including mitigation for dust control practices (MM AQ-1) and off-road equipment engine standards (MM AQ-2).

Table 3.2-1. Oberon Project: Construction, Annual Emissions without Mitigation

	Annual Emissions, per calendar year (ton/year)					
Calendar Year	**VOC**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
2022	2.54	18.44	20.36	0.07	15.98	3.51
2023	0.89	4.22	7.99	0.03	4.47	0.93
Maximum Annual Emissions, without Mitigation	**2.54**	**18.44**	**20.36**	**0.07**	**15.98**	**3.51**
Annual Emissions Thresholds for NEPA Purposes	**25**	**25**	**100**	**100**	**70**	**70**

Source: Table AQ-5 in POD Appendix R.

[7] 40 CFR 93 § 153 defines de minimis levels, that is, the minimum threshold for which a conformity determination must be performed, for various criteria pollutants in various areas. The phrase "de minimis" means "of minimum impact," thus, qualification for de minimis means there would be no significant contamination of the air.

Table 3.2-2. Oberon Project: Construction, Mitigated Annual Emissions

	Annual Emissions, per calendar year (ton/year)					
Calendar Year	**VOC**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
2022	1.49	6.60	22.79	0.07	6.46	1.71
2023	0.62	1.60	8.30	0.03	2.36	0.58
Maximum Annual Emissions, Mitigated	**1.49**	**6.60**	**22.79**	**0.07**	**6.46**	**1.71**
Annual Emissions Thresholds for NEPA Purposes	**25**	**25**	**100**	**100**	**70**	**70**

Source: Table AQ-6 in POD Appendix R.

Construction equipment and on-road vehicle traffic associated with construction would create exhaust emissions from fuel combustion, and particulate matter from ground disturbing activities. Wind erosion of surfaces exposed during ground disturbance and activities on paved or unpaved surfaces can cause fugitive dust emissions.

During construction, the emissions created would be intermittent and variable because construction would occur in phases. Pollutants would be emitted from several individual pieces of equipment widespread over the site. Concentrations of hazardous air pollutants and toxic diesel particulate matter (DPM) emissions from mobile sources and equipment are greatly reduced by distance, such that a separation of 1,000 feet normally allows sensitive land uses to avoid high levels of DPM concentrations (ARB, 2005). Due to this, the localized ground-level concentrations of criteria air pollutants and other toxic air contaminants would not be likely to reach substantial or adverse levels. To reduce such concentrations further still, all activities would comply with Mitigation Measures (MMs) AQ-1 (Fugitive Dust Control Plan) and AQ-2 (Control On-Site Off-Road Equipment Emissions) to meet SCAQMD Rule 402 (Nuisance) and Rule 403 (Fugitive Dust), see full text of measures in EA Appendix H. MM AQ-1 would also meet CMA LUPA-AIR-5. Since there are a small number of workers (no more than 10) during operation for ongoing maintenance, operation-related emissions would be minor and limited.

As shown in Table 3.2-1, the Proposed Action would not exceed any annual emissions thresholds derived from general conformity regulations, which also serves to meet CMA LUPA-AIR-1. The emissions shown in Table 3.2-1 are well within the assumptions of estimated construction-phase emissions included in the analysis in the DRECP FEIS Section IV.2.3.2.1, Table IV.2-3.

The nearest federal Class I area is the boundary of the Joshua Tree National Park, which is approximately 5 miles away from the nearest boundary of the project site. Under Section 162(a) of the Clean Air Act., federal Class 1 areas have special air quality protections to preserve visibility in areas such as National Parks and Monuments. Temporary and potentially adverse impacts to visibility at the Class I area could occur due to construction-related emissions. The source of emissions during construction would occur near the ground level, so dust emissions would have a limited ability to affect distant vistas, and emissions would be dispersed across the project site so impacts to Class I areas would be minimal. Implementation of MM AQ-1 would further reduce any fugitive dust. The Proposed Action would not trigger any requirements in the federal Prevention of Significant Deterioration permitting program, which addresses visibility impairment due to stationary sources in the region.

Valley Fever. There is a potential that construction activities such as grading, excavation, and construction vehicle traffic, could loosen and stir up soil containing Coccidioides fungus spores, exposing workers and the public to contracting Valley Fever. Ways to reduce the risk of Valley

Fever include: avoiding exposure to dusty air or dust storms, preventing dirt or dust from becoming airborne by wetting or use of palliatives, and if working at a dusty site, use of an N95 or equivalent mask or respirator (CDPH, 2013). Construction activities for the project would be subject to stringent dust control requirements (including SCAQMD Rules 402 and 403). Implementation of MM AQ-1 (Fugitive Dust Control Plan) and MM HAZ-2, (Worker Environmental Awareness Program) would reduce the potential for workers and the public to contract Valley Fever due to exposure to substantial concentrations of dust which may contain Coccidioides fungus spores.

Herbicide Use. State and local air quality regulatory agencies do not have specific regulations for manual, mechanical, or herbicide treatment methods. The Vegetation Treatment PEIS provided a detailed analysis of potential air quality impacts associated with the application of herbicides (pages 4-5 through 4-13). According to this analysis, the potential impacts from herbicide applications on local and regional air quality would be minor and did not require mitigation. Only herbicides included in the Vegetation Treatment PEIS would be used. The Vegetation Treatment PEIS ROD identified SOPs for air quality (See EA Appendix B).

Nonregulated herbicides would not be used. All applications would occur in compliance with EPA label instructions. Application of herbicides will be suspended when wind velocity exceeds 10 mph during application of liquids or 15 mph during application of granular herbicides.

Greenhouse Gas Emissions

The project would cause GHG emissions due to fossil-fuel consumption during construction, operation, and decommissioning, and due to the effects of land use conversion. The operation of the project would produce electricity from renewable resources, which could displace the need to produce electricity from fossil fuel resources. If the electricity from the project displaces electricity produced from fossil fuels, then the amount of GHGs emitted over the 30-year life of the project from construction, plus the loss of carbon sequestration due to land use conversion, would be far less than the GHGs from power production by conventional resources (see AQTR, POD Appendix R in EA Appendix F).

The proposed Oberon Renewable Energy Project would produce up to about 1.3 million megawatt-hours (MWh) each year for end-use by California's customers. The volume of production is based on the generating capacity of 500 MW for Oberon at a capacity factor of 30 percent, which is typical for a solar PV system in eastern Riverside County. The electricity produced by the project avoids the need to produce electricity from California's flexible natural gas-fired resources or the need to otherwise import electricity to California. This would avoid GHG that could otherwise be emitted by fuel-burning generators at a rate of approximately 484,000 MT per year, after accounting for line losses based on an avoided emissions displacement factor of 0.379 MT of CO_2 per MWh (AQTR, POD Appendix R in EA Appendix F).

The amount of GHGs emitted over the 30-year or more life of the project from construction, plus the loss of carbon sequestration due to land use conversion, would be far less than the GHGs from power production by conventional fossil fuel resources. Accordingly, the project would contribute towards achieving GHG emissions reduction targets.

Alternative 3: Land Use Plan Compliant Alternative

The Land Use Plan Compliant Alternative would remove approximately 600 acres from the proposed development footprint. Peak daily rate of emissions during construction depends on peak

day workforce and peak day fleet of equipment. If those are scaled down under a Land Use Plan Compliant Alternative, then resulting emissions would be scaled down as well. It is assumed that this alternative would use either the same or a slightly reduced level of construction and operation workforce and equipment as the Proposed Action. Construction equipment and on-road vehicle traffic associated with construction would create exhaust emissions from fuel combustion, and particulate matter from ground disturbing activities and wind erosion of surfaces exposed during ground disturbance.

The Land Use Plan Compliant Alternative would use a similar amount of fencing for the project, but exclusion fencing would be used during O&M instead of passage fencing, which would not change the workforce, equipment, and fencing material during construction. Because the exclusion fencing would remain in place for the life of the project, there would be no mobilization of a workforce or equipment to create wildlife-friendly fencing during operations as would occur under the Proposed Action.

The overall air quality and GHG emissions generated through construction activities would not exceed any annual emissions thresholds, including the SCAQMD thresholds for criteria pollutants and GHG emissions. For the Land Use Plan Compliant Alternative, the associated direct, indirect, and cumulative effects to air quality and GHGs would be like those of the Proposed Action, although the net decrease in GHG emissions would be substantially less than the decrease in GHG emissions from the Proposed Action. The Land Use Plan Compliant Alternative would produce 75% of the energy of the Proposed Action. Therefore, the avoided GHG that could otherwise be emitted by fuel-burning generators, would be 75% of the rate of the Proposed Action which had a rate of approximately 484,000MT a year. The Land Use Plan Compliant Alternative thus could have avoided GHG at a rate of approximately 363,000 MT per year.

Alternative 4: Resource Avoidance Alternative

The Resource Avoidance Alternative would remove approximately 1,100 acres from the proposed development footprint. As discussed under the Land Use Plan Compliant Alternative, this alternative would use either the same (over a shorter duration) or a somewhat reduced level of construction and operation workforce and equipment as the Proposed Action. If peak day workforce and fleet equipment were scaled down, then resulting emissions would be scaled down as well. Because the exclusion fencing would remain in place for the life of the project, there would be no mobilization of a workforce or equipment to create wildlife-friendly fencing during operations as would occur under the Proposed Action. Construction equipment and on-road vehicle traffic associated with construction would create exhaust emissions from fuel combustion, and particulate matter from ground disturbing activities and wind erosion of surfaces exposed during ground disturbance. The overall air quality and GHG emissions generated through the construction activity would not exceed any annual emissions thresholds. For the Resource Avoidance Alternative, the associated direct, indirect, and cumulative effects to air quality and GHG would be like those of the Proposed Action and the Land Use Plan Compliant Alternative, although the net decrease in GHG emissions would be substantially less than the decrease in GHG emissions from the Proposed Action or the Land Use Plan Compliant Alternative. The Resource Avoidance Alternative would produce 60% of the energy of the Proposed Action. Therefore, the avoided GHG that could otherwise be emitted by fuel-burning generators, would be 60% of the rate of the Proposed Action which had a rate of approximately 484,000MT a year. The Resource Avoidance Alternative thus could have avoided GHG at a rate of approximately 290,400 MT per year.

3.2.2 Cumulative Effects

For air quality, the geographic scope of cumulative effects includes consideration of regional air emissions across the entire MDAB, including overlapping construction of the nearby Arica and Victory Pass Solar Projects. The incremental contribution of the proposed solar facility would be reduced through implementation of Mitigation Measures AQ-1 (Fugitive Dust Control Plan) and AQ-2 (Control On-Site Off-Road Equipment Emissions). Construction emissions would not cause substantial long-term cumulative impacts because the construction-related criteria air pollutant emissions would be mitigated and would cease with completion of the 18-month duration of work, and the incremental contribution of the project to the cumulative air quality impact would be reduced to the extent feasible during construction.

As noted in the DRECP FEIS Section IV.25.3.2 (p. IV.25-32), cumulative renewable projects would create construction dust and exhaust emissions from construction equipment and vehicles. This increase could violate or contribute to an existing violation of air quality standards, which would be an air quality impact during the limited or short-term phases of construction. Any cumulative project would require environmental permitting and would comply with applicable DRECP CMAs (CMAs LUPA-AIR-1 to -5) and likely incorporate mitigation measures to reduce the short- and long-term air emissions and thus would not conflict with applicable air quality plans.

GHG emissions are inherently a cumulative concern with a cumulatively global scope. The evaluation of GHG impacts demonstrated that the project would result in a long-term net reduction of GHGs through avoided fossil-fuel burning. Likewise, DRECP FEIS Section IV.25.3.3 (p. IV.25-36) concludes that potential renewable energy projects permitted under the DRECP would facilitate the GHG emissions reductions that California expects to achieve by generating electricity from renewable energy resources rather than fossil fuel technologies. The construction-phase emissions related to the proposed project would likely occur concurrently with other cumulative projects in the Mojave Desert Air Basin and would contribute to the adverse effects of other cumulative projects to result in a cumulative significant impact to air quality. Because construction-related criteria air pollutant emissions would be mitigated and would entirely cease after construction, within an approximately 15- to 20-month duration of work, the construction emissions would not cause substantial long-term cumulative impacts. The incremental contribution of the proposed project to the cumulative air quality impact would be reduced to the extent feasible during construction and would not be cumulatively considerable.

3.3 Issue 2: Cultural Resources

3.3.1 Affected Environment

Information presented in this section was gathered from a review of five Oberon Renewable Energy Project reports that present the results of: a record search (Thomas et al., 2020); archaeological inventories, the evaluation of resources for the National Register of Historic Places (NRHP), and a geoarchaeological study (Knabb et al., 2021); an indirect effects study (Ramos et al., 2021); an ethnographic literature review (Potter, 2020); and an ethnographic assessment (Bengston, 2021).

The BLM defined the Area of Potential Effects (APE) for direct effects (direct effects APE) and the APE for indirect effects to historic properties and cultural resource identification efforts in consultation with consulting parties and consistent with Stipulation IV(A) of the DRECP Programmatic Agreement (PA). The direct effects APE totals 5,018 acres, including: the solar PV electrical

generating and storage facility; a 175-foot-wide gen-tie corridor, areas for all pull and tensioning sites; access roads; and all laydown and staging areas. There is no buffer on the project solar arrays. The maximum depth to be excavated for the project components will not exceed 40 feet below the current ground surface.

The APE for indirect effects to historic properties is dictated largely by the low vertical profile of the proposed facility and topographical features surrounding the project. The maximum height of the solar panels for the project would be 8 feet, and the maximum height of the gen-tie and sub-station towers would not exceed 200 feet. The indirect effects APE is a 1-mile-wide extension of the direct effects APE, totaling 16,156 acres with a variety of private and public landowners.

The BLM determined a one-mile indirect APE radius is sufficient because the area of Proposed Action is surrounded by similar development that is approved or under construction. Because similar industrial infrastructure already exists within the viewshed of resources identified in the indirect APE, the contribution of similar projects would not be apparent past 1 mile from the Direct APE.

A BLM Class I records search and literature review was conducted to compile and synthesize existing information about all previously recorded cultural resources within the APE. BLM defined the Records Search Area to be a 1-mile-wide area surrounding the direct effects APE, encompassing approximately 16,156 acres. Results of the records search indicate a total of 37 previous archaeological inventories have been conducted between 1977 and 2019 within the Record Search Area. Twenty-one of these studies included portions of or intersect with the direct effects APE. The records search also identified 372 previously recorded cultural resources (198 archaeological sites, 8 buildings, 6 structures, 6 objects, 2 districts and 152 isolated occurrences) in the Records Search Area. These isolated occurrences are generally composed of single or small numbers of historic period artifacts (e.g., metal cans, shell casings, and bottle glass) or prehistoric lithics or ceramic sherds.

The Class III cultural resources inventory identified 182 cultural resources in the direct effects APE including 171 archaeological sites and 11 built-environment resources. The prehistoric archaeological sites include 15 rock rings/cleared circles, 32 artifact scatters, and 1 habitation site. The historic-era archaeological resources include 46 refuse deposits, 22 rock features, and 55 WWII-related sites. Eleven historic-era built-environment resources are present in the direct effects APE. These consist of 4 roads, 4 survey markers, 1 building, and 1 earthen mound. The roads include segments of U.S. Route 60/70, Rice Road/SR-177, and Mecca-Blythe Highway.

The direct effects APE lies within the boundaries of the Desert Training Center/California-Arizona Maneuver Area (DTC/C-AMA). The DTC/C-AMA was established in the 1940s to prepare U.S. troops for possible deployment to North Africa. DTC/C-AMA sites in the project vicinity are remnant features of the Chuckwalla Valley Maneuver Area, which saw 10 separate training events in 1942. BLM has determined several sites associated with the DTC/C-AMA eligible for the NRHP. Of the site types identified within the DTC/C-AMA, the direct effects APE contains maneuver areas, campsites, and their constituent features such as foxholes, fighting positions, tank tracks, refuse deposits, and associated dispersed artifacts. The BLM is currently working on a NRHP Multiple Properties Documentation Form (MPDF) for the DTC/C-AMA Discontiguous District. However, this process is still underway and at this point BLM cannot evaluate any individual resources as contributing or non-contributing elements to the proposed Discontiguous District.

The 182 resources in the direct effects APE were evaluated to determine if they qualify for listing in the NRHP. Of those, 1 built environment resource and 4 archaeological sites were determined or recommended eligible for listing on the NRHP, as listed in Table 3.3-1. At the time of publication BLM's determinations of NRHP eligibility have not been presented to the SHPO and other consulting parties.

Table 3.3-1. Cultural Resources within the Direct Effects APE Eligible for the NRHP

Site #	Site Type	NRHP Eligibility	Project Elements
33-015095, CA-RIV-9385	Desert Center Town Dump (1900s-1960s)	Determined eligible under Criterion D with SHPO Concurrence (2013)	Solar Field
33-018392, CA-RIV-11904	DTC/C-AMA Refuse scatter	Determined Eligible under Criterion A with SHPO Concurrence (2012)	Solar Field
P-33-021071, CA-RIV-10916	Prehistoric rock ring	Recommended Eligible, Criteria A and D (current project)	Transmission Line
P-33-023675	DTC/C-AMA 496th Medium Ordnance Company Camp	Recommended Eligible, Criteria A and D (current project)	Solar Field
33-017766, CA-RIV-9857H	Historical Segment of U.S. Highway 60/70	Determined eligible under Criterion A with SHPO Concurrence (2011)	Solar Field

A geoarchaeological assessment of the direct effects APE using satellite imagery, historical aerial imagery, geological information, and field reconnaissance was conducted. This information was used to create a site sensitivity model for the direct effects APE which indicates that a small portion of the project area (23 percent) has a moderate-to-high potential for subsurface archaeological resources, and therefore a moderate potential for post-review discoveries (Knabb et al., 2021, Appendix F).

A study of the indirect effects APE (Ramos et al., 2021) was prepared using data from the Class I study and the ethnographic literature review. This study identified 8 previously recorded historic properties: Coco-Maricopa Trail Segment D (CA-RIV-053T), the Desert Center Café and Associated Structures and Buildings (33-005717), the 18th Ordinance Battalion Campsite (CA-RIV-9481H), and AE-3752-064H, U.S. Highway 60/70 (CA-RIV-9857H), the Ragsdale House (33-006832), North Chuckwalla Mountains Petroglyph District (CA-RIV-1383), and the North Chuckwalla Mountains Quarry District (CA-RIV-1814).

An ethnographic assessment was conducted in order to identify places of tribal cultural and religious importance within or near the Oberon Project area. Fourteen tribes were contacted. Eight of these tribes requested to participate in the ethnographic assessment. Thirteen of the places of traditional cultural and religious importance discussed below were identified during the literature review of ethnographic overviews and ethnographic assessments for previous projects. A brief description of these previously identified places is presented below.

- **Alligator Rock**. Located within the Alligator Rock ACEC. The boundary of Alligator Rock ACEC contains multiple trails and archaeological sites that are said to be associated with Alligator Rock and are contributing elements to its significance.

- **Chuckwalla Spring.** First documented in 1948 as a habitation site with possible petroglyphs, ceramics, lithics, trails, and hearths at Chuckwalla Spring. The spring, associated trails, petroglyphs, and additional archaeological features are considered contributing elements to the site's significance.
- **Coco-Maricopa Trail**. A well-traveled trade and travel corridor that connected the Colorado River areas to the California Coastal area in the Los Angeles Basin. The trail was used by ancient indigenous people through the Spanish occupation into modern time as a paved highway system.
- **Corn Spring**. First recorded as an archaeological site in 1927 and was listed on the NRHP in 1998 as a Native American ceremonial site. The site consists of Corn Spring itself as well as multiple archaeological features such as petroglyphs, trails, corn horticultural, and associated artifacts.
- **Dragon Wash**. First recorded as a petroglyph site in 1948. Contributing elements of this site consist of the wash, prayer seat, petroglyphs, and associated artifacts.
- **Ford Dry Lake**. Encompasses about 20,350 acres that include an ephemeral lake, trails, possible cremations, temporary camps, resource processing sites, and numerous archaeological artifacts and features.
- **Long Tank Locality**. A natural feature where an unnamed wash from the Chuckwalla Mountains cuts through a granite outcrop creating an 82-foot-long crevice with four deep depressions called tanks. Long Tank Locality is located within the Alligator Rock ACEC.
- **McCoy Spring**. Consists of extensive petroglyphs, trails, cleared rock circles, rock rings, and various artifacts and features.
- **North Chuckwalla Mountain Quarry District**. Consists of associated trails, archaeological artifacts, and features. The site was listed on the NRHP in 1981.
- N**orth Chuckwalla Mountains Petroglyph District.** Located north of Corn Spring and southwest of San Pascual Well Locality. The site was originally listed on the NRHP in 1981 and was revised in 2007. The site consists of 158 petroglyphs panels in five loci. Associated features include temporary camps, rock rings, cleared circles, trails, bedrock milling features, flaked lithics, groundstone, and ceramic artifacts.
- **Palen Dunes/Palen Lake**. Located within an ACEC and includes an ephemeral lake, trails, possible cremations, and various archaeological artifacts and features.
- **Salt Song Trail**. Path that leads to the afterlife which is traveled by some of the tribes native to the region it travels through, including the Chemehuevi and Southern Paiute. This trail is metaphysical, but it is associated with specific topographic features as well as spiritual places.
- **San Pascual Well Locality**. First documented during the Romero-Estudio expedition across the Colorado Desert in 1823-1824. It is culturally important to Native Americans and thought to be located on private land and has not been relocated during field verification attempts.

In addition, information for two places of tribal, cultural, or religious importance—Eagle Mountain and the Chuckwalla Valley Cultural Landscape—were obtained from interviews with members and correspondence from the participating tribes.

- **Eagle Mountain**. A Cocopah Indian Tribal elder said that Eagle Mountain figured prominently in their oral traditions about the afterlife.
- **Chuckwalla Valley Cultural Landscape.** Tribal members from two of the contacted tribes, the Cocopah Indian Tribe and Soboba Band of Luiseño Indians, described the vicinity as being culturally significant. The information provided did not describe specific places with boundaries within the study area.

Participants in the current ethnographic assessment did not provide any additional data for most of the potential places of traditional cultural and religious importance. In addition, previously documented data were not specifically confirmed or denied. Therefore, it was not possible to evaluate the identified places of traditional cultural and religious importance regarding NRHP-eligibility because of a lack of information from the participating tribes. The Chuckwalla Valley and the surrounding mountain ranges could be considered a Traditional Cultural Property (TCP). A TCP is an historic property that is eligible for inclusion in the NRHP because of its association with cultural practices or beliefs of a living community that: (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. However, the participating tribes have not provided enough information to analyze the Chuckwalla Valley and the surrounding mountain ranges for eligibility to the NRHP.

The BLM has specific policy on traditional cultural properties and their identification (BLM Manual 8110.22 D). According to this policy, TCPs can be found to meet NRHP eligibility criteria and thus should be located, described, and evaluated at the same stage in the Section 106 compliance process as the field inventory for historic properties. TCPs must meet one or more NRHP criteria in order to be determined eligible for the NRHP (BLM Manual 8110.31, Identifying and Evaluating Cultural Resources). According to BLM policy, traditional cultural properties are specific, definite places that figure directly and prominently in a particular group's cultural practices, beliefs, or values, when those practices, beliefs, or values (i) are widely shared within the group, (ii) have been passed down through the generations, and (iii) have served a recognized role in maintaining the group's cultural identity for at least 50 years. The BLM has made a reasonable and good faith effort to identify and evaluate TCPs potentially affected by the proposed project.

The BLM acknowledges that tribes have expressed their views and concerns about the importance and sensitivity of specific cultural resources to which they attach religious and cultural significance. Tribes have also expressed the view that these resources are connected to the broader landscape within and near the proposed Project area. However, the cultural landscape discussed in project consultation is not sufficiently defined at this point in time for the BLM to analyze it as a historic property under Section 106 of the National Historic Preservation Act (NHPA) or as cultural resources under NEPA for the proposed project.

The Council for Environmental Quality's NEPA regulations require the BLM to obtain information if it is "relevant to reasonably foreseeable significant adverse effects," if it is essential to a reasoned choice among alternatives," and if "the overall cost of obtaining it is not exorbitant" (40 CFR 1502.21 [b]). As noted above, the ethnographic assessment was the attempt to gain additional information on TCPs and potential impacts to any identified TCPs including the broader landscape. The BLM has determined that, for the current project, the cost of obtaining the information required to attempt to identify a landscape level TCP in accordance with Department of the Interior (DOI)/BLM Section 106 NRHP and NEPA policy and standards would be exorbitant. The cost

and effort also go beyond the reasonable-and-good-faith-effort standard under the Section 106 regulations at 36 CFR 800.4(b)(1).

3.3.2 Direct and Indirect Environmental Effects

This section describes and evaluates the direct and indirect effects to historic properties under Section 106 of the NHPA and direct and indirect impacts to more broadly defined cultural resources under NEPA, related to the Oberon Renewable Energy Project (Proposed Action), the Land Use Plan Compliant Alternative, the Resource Avoidance Alternative, and the No Action Alternative.

Alternative 1: No Action

The No Action Alternative would not result in any new construction and/or operational activities or any new associated ground-disturbing activities. The impacts to historic properties and significant cultural resources associated with the Proposed Action would not occur under the No Action Alternative. Although the project site would not be developed, the impacts to cultural resources may only be delayed. Other projects or linear facilities could potentially be developed at this location, because it is located in land designated as a DFA. Any future project at this location would be subject to its own NEPA process under the DRECP LUPA.

Alternative 2: Proposed Action

Direct Impacts

Ground-disturbing activities associated with the construction, operation and maintenance and closure and decommissioning of the Proposed Action would have a direct impact on cultural resources by damaging and displacing artifacts, diminishing site integrity and altering the characteristics that make the resources historically significant.

The area of both temporary and permanent disturbance is approximately 2,700 acres for the solar facility, substation, and BESS, with an additional 90 acres associated with the gen-tie line. Five historic properties are in the Direct APE and are potentially subject to direct effects. Direct impacts to the Desert Center Town Dump (33-015095, CA-RIV-9385), DTC/AC-AMA Refuse scatter (33-018392, CA-RIV-11904), a prehistoric rock ring (P-33-021071, CA-RIV-10916), DTC/C-AMA-C 496th Medium Ordnance Company Camp (P-33-023675), and U.S. Highway 60/70 (33-017766, CA-RIV-9857H). None of these resources are within the area of temporary and permanent disturbance for this alternative. MM CUL-9 (Flag and Avoid) which would protect these resources from destruction through avoidance. This is consistent with the DRECP EIS which notes that solar projects can potentially impact all types of cultural resources (DRECP EIS Section IV.8.2.1 page IV.8-4).

The BLM may must follow 43 CFR 7.33 et seq. (Subpart B) to determine that certain materials are not or are no longer of archaeological interest and therefore not considered archaeological resources. For those materials that are determined to not be archaeological resources under 43 C.F.R. 7.33, the BLM land manager may determine appropriate conservation measures for those resources.

There is the potential for unknown buried archaeological resources to be encountered during ground disturbing activity that would be required for construction of the Proposed Action. Inadvertent disturbance or destruction of an unidentified archaeological resource could damage or

destroy the resource or change its context. If the currently unidentified archaeological resource were determined to be eligible for listing in the NRHP, the Proposed Action activities could result in an adverse effect.

The Tribes consulted by BLM have consistently placed a high value on the entire project landscape and the resources, including resources that are not individually eligible for inclusion on the NRHP, that make up Tribes' cultural footprint on the land. As noted, at the end of the Ethnographic Assessment, none of the participating tribes provided information with specific places with boundaries within the study area or identified any new TCPs within the study area; therefore, the project will not directly or indirectly impact TCPs. However, defining the geographic scope of these resources and further assessing the impact of development within that scope under existing legal frameworks that require evidence of significance has been elusive. This is consistent with the DRECP FEIS, which notes that while renewable projects may impact TCPs and landscapes, but the BLM lacks data on cultural landscapes or TCPs so the DRECP FEIS addressed them qualitatively (Section IV.8.1.1, page IV.8-2). Mitigation Measure CUL-2 includes a Tribal Participation Plan that while not directly addressing TCPs, would invite the Tribes to observe the project's construction and attempt to limit effects to resources.

Herbicide Use. Treatment does not involve ground disturbance outside of areas already cleared for construction. The use of herbicides can provide benefits from reduction in invasive plants that are poisonous or displace native plant species traditionally used by Native Americans. Herbicides proposed for use are essentially harmless to human receptors.

The Vegetation Treatment PEIS provided a detailed analysis of potential cultural resources impacts associated with the application of herbicides (pages 4-146 to 4-152). Mitigation measures were identified in the Vegetation Treatment PEIS (pages 2-42 and 4-152). The Vegetation Treatment PEIS identified SOPs for cultural and paleontological resources (see EA Appendix B).

This action would not result in greater impacts than previously disclosed in the PA/FEIS or Vegetation Treatment PEIS. Herbicide application would occur consistent with applicable SOPs. There is no potential for new or modified impacts that have not been disclosed in prior environmental documentation.

Overall, the proposed Project would have no adverse direct effects or significant direct impacts to historic properties.

Implementation of MM CUL-1 through MM CUL-10 would address direct effects to known historic properties and post-review discoveries. These measures include:

- MM CUL-1 Retain a Cultural Resources Specialist
- MM CUL-2 Prepare and Implement a Plan for Archaeological Monitoring, Tribal Participation, Post-Review Discovery and Unanticipated Effects Plan
- MM CUL-3 Develop and Implement Cultural Resources Environmental Awareness Training
- MM CUL-4 Archaeological Monitoring
- MM CUL-5 Post-Review Discovery and Unanticipated Effects
- MM CUL-6 Cultural Resources Monitoring Report and Cultural Resources Report
- MM CUL-7 Long Term Management Plan
- MM CUL-8 Identification of Human Remains
- MM CUL-9 Flag and Avoid
- MM CUL-10 Compensatory Mitigation for Cumulative Effects

See EA Appendix H for the full text of mitigation measures that would be implemented on BLM-administered public land.

Indirect Impacts

Information presented in this section was gathered from a review of reports that presented the results of a record search (Thomas et al., 2020), an ethnographic literature review (Potter, 2020) and an indirect effects study (Ramos et al., 2021). The BLM defined the indirect effects APE to be a 1-mile buffer around the direct effects APE. The assessment was conducted for the project using key observation points (KOPs) onto which a simulation of the project design was added. The one-mile indirect APE radius is smaller than that used to assess the impacts of similar projects, because that area of the Proposed Action is largely surrounded by similar development that is proposed, approved, under construction, or existing. The effects assessment focuses on visual impacts, since auditory (noise) and atmospheric (dust and other air pollution) impacts.

The indirect effects analysis emphasized previously recorded historic properties and resources culturally sensitive to Tribes. Eight previously recorded historic properties are located in the in the indirect effects APE. The indirect effects assessment found: (1) No Adverse Effect to the Coco-Maricopa Trail Segment D (CA-RIV-053T), the Desert Center Café and Associated Structures and Buildings (33-005717), the 18th Ordinance Battalion Campsite (CA-RIV-9481H), and AE-3752-064H (DTC/AC-AMA Refuse scatter and features), because the proposed Oberon Project components would add in-kind intrusions to an already highly developed and modified setting along the I-10 corridor that crosses the valley floor, and which is limited in scenic value; (2) No Effect to U.S. Highway 60/70 (CA-RIV-9857H) and the Ragsdale House (33-006832), because setting is not a critical element of integrity for these resources, so viewshed effects are not considered relevant to the NRHP eligibility status of the historic property; and (3) No Effect to North Chuckwalla Mountains Petroglyph District (CA-RIV-1383) and the North Chuckwalla Mountains Quarry District (CA-RIV-1814), because setting is not an important element of integrity under Criteria C and D, respectively, and the viewshed changes presented by the proposed project would not impact the eligibility status of these resources.

Six resources identified within the indirect APE described above appear to be culturally sensitive to Tribes, based on previous studies and ongoing consultations: Alligator Rock, Coco-Maricopa Trail, North Chuckwalla Mountain Quarry District, North Chuckwalla Mountains Petroglyph District, Salt Song Trail, and the Chuckwalla Valley Cultural Landscape. However, the BLM has not found sufficient information through tribal consultation or through relevant ethnographic, historical studies, and identification efforts to evaluate whether any the cultural resources within the APE meet the BLM Manual 8110.22D criteria to qualify as traditional cultural properties.

Overall, the Proposed Action would have no adverse indirect effects or significant indirect impacts to these resources.

Alternative 3: Land Use Plan Compliant Alternative

Direct and Indirect Impacts

The Land Use Plan Compliant Alternative would limit developable land based on DRECP CMAs that protect desert dry wash woodland and establish a 200-foot buffer where no construction would occur.

The direct effects of this alternative would be similar to those described for the Proposed Action. However, the 2,100-acre area that would be directly impacted by project activities is approximately 600 acres smaller than the 2,700 acres of the Proposed Action. Five historic properties are in the direct effects APE and are potentially subject to direct effects. Direct impacts to the Desert Center Town Dump (33-015095, CA-RIV-9385), DTC/AC-AMA Refuse scatter (33-018392, CA-RIV-11904), a prehistoric rock ring (P-33-021071, CA-RIV-10916), DTC/C-AMA-C 496th Medium Ordnance Company Camp (P-33-023675), and U.S. Highway 60/70 (33-017766, CA-RIV-9857H). None of these resources are within the area of temporary and permanent disturbance for this alternative. Implementation of MM CUL-9 (Flag and Avoid) would protect these resources from destruction through avoidance. Overall, adverse direct effects and significant direct impacts under this alternative would be the same as the Proposed Action.

In addition, fewer as yet unidentified historical properties, as predicted by the geoarchaeological study, may be damaged during ground disturbing activities. Direct impacts to newly identified resources would be addressed through implementation of MM CUL-2 (Prepare and Implement a Plan for Archaeological Monitoring, Tribal Participation, Post-Review Discovery and Unanticipated Effects Plan.).

Eight previously recorded historic properties are located in the in the indirect effects APE. Overall, similar to the proposed project, this alternative would have no adverse indirect effects or significant indirect impacts to these resources.

Alternative 4: Resource Avoidance Alternative

Direct and Indirect Impacts

The Resource Avoidance Alternative would be similar to the Land Use Plan Compliant Alternative but would also prevent development in desert tortoise designated critical habitat and the multi-species linkage corridor. Removing desert tortoise designated critical habitat and the multi-species linkage corridor at the eastern end of the project area from development would eliminate approximately 1,100 acres from the project, which would result in the project being able to produce only 300 MW of solar generation and battery storage.

The direct effects of this alternative would be similar to those described for the Proposed Action. However, approximately 1,600 acres within the fenceline is approximately 1,100 acres smaller than the approximately 2,700 acres of the Proposed Action. Five historic properties are in the direct effects APE and are potentially subject to direct effects. Direct impacts to the Desert Center Town Dump (33-015095, CA-RIV-9385), DTC/AC-AMA Refuse scatter (33-018392, CA-RIV-11904), a prehistoric rock ring (P-33-021071, CA-RIV-10916), DTC/AMA-C 496th Medium Ordnance Company Camp (P-33-023675), and U.S. Highway 60/70 (33-017766, CA-RIV-9857H). None of these resources are within the area of temporary and permanent disturbance for this alternative. Implementation of MM CUL-9 (Flag and Avoid) would protect these resources from destruction through avoidance. In addition, fewer as yet unidentified historical properties would be damaged during ground disturbing activities. Direct impacts to newly identified resources would be addressed through MM CUL-2 (Prepare and Implement a Plan for Archaeological Monitoring, Tribal Participation, Post-Review Discovery and Unanticipated Effects Plan). Overall, adverse direct effects and significant direct impacts from this alternative would be the same as for the Proposed Action.

Eight previously recorded historic properties are located in the in the indirect effects APE. Overall, similar to the Proposed Action and Land Use Plan Compliant Alternative, this alternative would have no adverse indirect effects or significant indirect impacts to these resources.

3.3.3 Cumulative Effects

The regulations implementing Section 106 of the NHPA contemplate close coordination between the NEPA and NHPA processes (36 CFR 800.8), and expressly integrate consideration of cumulative concerns within the analysis of a proposed action's potential direct and indirect effects by defining "adverse effect" to include "reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative" (36 CFR 800.5(a)(1)). As discussed above, the record search and intensive pedestrian survey identified five historic properties in the direct effects APE.

Fifty-five historic-era resources were identified within the direct effects APE of the proposed Oberon Project that are associated, or thought to be associated, with DTC/C-AMA, a historic district. While these resources are not eligible for listing on the NRHP individually, impacts to these resources due to the Oberon Project contributes in a small but measurable way to cumulative impacts to the DTC/C-AMA. This is consistent with the DRECP FEIS Section IV.25.3.8 (page IV.25-79), which noted that there would be cumulative effects to known resources, and specifically called out the military camps associated with the DTC/C-AMA. Cumulative impacts to the DTC/C-AMA would be addressed through implementation of MM CUL-10 (Compensatory Mitigation for Cumulative Effects), which would address the loss of data potential through cumulative impacts.

Eighty-one prehistoric resources were identified within the direct effects APE of the proposed Oberon Project. While these resources are not eligible for listing on the NRHP individually, impacts to these resources due to the project contributes in a small but measurable way to cumulative impacts to our understanding of the ancient past in the Chuckwalla Valley. In addition, the Proposed Action, in conjunction with the other solar projects in the area (see Tables 3.1-1 and 3.1-2), would also contribute to cumulative indirect effects on prehistoric historic properties North Chuckwalla Mountains Petroglyph District (CA-RIV-1383), the North Chuckwalla Mountains Quarry District (CA-RIV-1814) and Coco-Maricopa Trail Segment D (CA-RIV-053T). While no significant indirect impacts were identified for the Oberon Project, the project nonetheless contributes in a small but measurable way to the cumulative impacts to these resources. This is consistent with the DRECP FEIS which identified cumulative impacts to prehistoric resources, and noted impacts to prehistoric trails and sacred sites (DRECP FEIS Section IV.25.3.8, page IV.25-80). Cumulative impacts to these prehistoric resources would be addressed through MM CUL-10 (Compensatory Mitigation for Cumulative Effects.).

3.4 Issue 3: Fuels and Fire

3.4.1 Affected Environment

The presence of highly flammable vegetation and a warm, arid climate makes southern California prone to wildfire (County of Riverside, 2019). Factors influencing wildfire behavior and magnitude include vegetation structure, fuel conditions, climate, and the source of ignition. Weather is one of the most significant biophysical factors affecting wildfire behavior. The summer months of California are arid and warm, with very little precipitation. Drought and Santa Ana Occurrences

(SAOs) are conditions native to southern California that drive wildfires. SAOs are dry winds that flow east to west through the mountain passes in southern California. These winds are most common September through May and can increase fire risk due to the dryness of the winds and the speed at which they can spread a flame across the landscape (NOAA, 2021). The fire potential for Riverside County is typically greatest from August to October, when dry vegetation coexists with SAOs (County of Riverside, 2019). Due to vegetation conditions and SAOs, the fire danger for Riverside County is considered extremely high.

The project area is rural, open space, with sparse population and vegetation. Vegetation communities at the site are generally limited to scattered creosote brush scrub and dry desert wash woodland. Sonoran creosote bush is the primary vegetation type in the Proposed Action area, and it is not fire-adapted. Fire, especially repeated wildfire, is harmful to these plant communities and tends to deplete the native woody shrubs that characterize and dominate these communities, allowing their replacement by exotic weedy annual plants (BLM, 2018).

According to the California Department of Forestry and Fire Protection (CAL FIRE), the project would not be located within any Fire Hazard Severity Zones (FHSZ) due to a lack of dense flammable vegetation and steep slopes (CAL FIRE, 2020). The Riverside County General Plan Safety Element identifies areas with rugged topography and flammable vegetation as being susceptible to fire hazards; however, it maps very high FHSZ in Local, State, and Federal Responsibility Areas only within the western portions of the County, generally to the east of I-10.(County of Riverside, 2019). The project site is mapped in Moderate FHSZ in Local and Federal Responsibility areas. Riverside County Fire Department and BLM Fire and Aviation Program would likely provide wildfire protection to the project (BLM, 2020). As stated in the Oberon Fire Management and Prevention Plan (POD Appendix V), BLM is responsible for responding to wildfires located within BLM Direct Protection Areas in conjunction with the Riverside County Fire Department (RCFD) and California Department of Forestry and Fire Protection (CALFIRE) as applicable, for the project. Additionally, POD Appendix V includes fire protection responsibilities and fire prevention and suppression protocols to be followed by on-site personnel to prevent and respond to fires during construction, operation, and maintenance.

3.4.1 Direct and Indirect Environmental Effects

Wildfire hazards associated with the project are evaluated based on landscape characteristics and the project's ability to start or exacerbate wildfires. Discussion of potential existing hazards is based on review of the location of the project on CAL FIRE maps to determine its location within FHSZs. Although the project would not be located in a very high or high FHSZ, the potential for wildfires is still present due to the electrical components of the project and presence of petroleum fuel sources for equipment. This analysis identifies design features and compliance obligations under existing safety procedures, standards, and regulations that would mitigate the risk of wildfire associated with the project.

Alternative 1: No Action Alternative

There would be no construction or operational activities under the No Action Alternative. Therefore, there would be no new or increased risks related to fuels and fire and no direct, indirect, or cumulative impacts from the alternative. Other projects or linear facilities could potentially be developed at this location as the land is designated as a DFA. Any future project at this location

would likely have similar fuels and fire impacts to the project and would be subject to its own environmental analysis under NEPA.

Alternative 2: Proposed Action

As discussed in DRECP FEIS Section IV.22.2.1 (page IV.22-5) construction equipment and flammable materials, combined with adding people in remote areas with vegetation, could increase wildland fire hazards. Wildfires could be caused by construction workers smoking, refueling and operating vehicles and other equipment, or spilling fuels on paved roadways. There is also a potential for a wildfire to start during operation and maintenance activities from similar activities, including activities related to herbicide and pesticide application. A project-related fire could escape initial containment and pose a hazard to lives of personnel and nearby residents and to private property. Other direct impacts of wildfire include mortality of plants and wildlife and loss of forage and cover. Post-fire recovery is highly variable depending on factors such as burn location, intensity, and post-fire plant succession.

The project will implement fire safety measures and a Fire Plan (see POD Appendix V) that complies with BLM and County of Riverside fire regulations. Implementation of Mitigation Measure FIRE-1 specifies what elements would need to be included in the Fire Plan to ensure the impact is less than significant and the project would comply with DRECP CMA DFA-VPL-BIO-FIRE-1. See Appendix H for the full text of the mitigation measure.

Vegetation on the site is already scarce, and complete vegetation clearance would not be required. Vegetation would be disked under, mulched or composted, and retained on site within the solar field, roadways, and areas around the O&M building. Reduction of vegetation would further reduce the availability of flammable fuels around the Proposed Action.

The project would include a BESS capable of storing up to 500 MW of power for 4 hours. If provided, the BESS would be housed in electrical enclosures and buried electrical cable. The project could use any commercially available battery technology, including but not limited to lithium ion, flow, lead acid, sodium sulfur and sodium or nickel hydride. Battery systems would require air conditioners or heat exchangers and inverters. The BESS would comply with the current California Fire Code (CFC), which governs the code requirements to minimize the risk of fire and life safety hazards specific to battery energy storage systems used for load shedding, load sharing and other grid services (Chapter 12 Section 1206 of the 2019 CFC). In accordance with the CFC, the battery enclosure and the site installation design are all required to be approved by the State Fire Marshal.

If applicable, the BESS would be certified to UL 9540, the standard associated with control, protection, power conversion, communication, controlling the system environment, air, fire detection and suppression system related to the functioning of the energy storage system. The battery would be tested to UL 9540A, a test method intended to document the fire characteristics associated with thermal event or fire and would confirm that the system will self-extinguish without active fire-fighting measures. The system would be designed, such that, during a fire event, the results of the UL 9540A test would show that any internal fire is contained within the enclosure and not spread to the other parts of the facility. The results of this test are used to inform facility safety system design and emergency response plans which would be shared with first responders. If applicable, the system would use a chemical agent suppressant-based system to detect and suppress fires. If smoke or heat were detected, or if the system were manually triggered, an alarm would sound, horn strobes would flash, and the system would release suppressant, typically FM-200, NOVEC

1230 or a similar clean agent[8] from pressurized storage cylinders. However, final safety design would follow applicable standards and would be specific to the battery technology chosen, including, but not limited to, National Fire Protection Association 855 (standard for the Installation of Stationary Energy Storage Systems) and Section 1206 of the California Fire Code. Implementation and compliance with these design and safety regulations would reduce the effects such that they would be insignificant.

Alternative 3: Land Use Plan Compliant Alternative

The Land Use Plan Compliant Alternative would avoid desert dry wash woodland with a 200-foot buffer, which maintains some habitat connectivity, but would impact the designated utility corridor due to the addition of solar panels within the corridor. This change, however, would not change the fuel and fire conditions near the project. The footprint of the project would be reduced by approximately 600 acres, and the capacity would decrease to 375 MW. This alternative would have similar impacts to the Proposed Action and would also comply with the federal and state requirements and standards applicable to the Proposed Action.

Alternative 4: Resource Avoidance Alternative

The Resource Avoidance Alternative would avoid desert dry wash woodland with a 200-foot buffer, and avoids the multi-species habitat linkage, and includes a setback from the designated utility corridor. The footprint of the project would be reduced by approximately 1,100 acres, and the capacity would decrease to 300 MW. However, the fuel and fire conditions near the project would not change. This alternative would have similar impacts to the Proposed Action and would also comply with the federal and state requirements and standards applicable to the project.

3.4.2 Cumulative Effects

DRECP FEIS Section IV.25.3.22 (page IV.25-106) states that construction activities permitted under the DRECP and expanded areas of development would increase the interface of wildlands and development. Renewable energy facilities could increase the potential for wildland fire hazards through clearing of vegetation, the use of hazardous materials, and the introduction of people, equipment, and vehicles into remote areas. The difficulty of extinguishing fires in solar panel fields could spread fires more quickly. Mitigation would require a Fire Management and Protection Plan to reduce the impact.

Given the sparsely vegetated landscape and its low potential to ignite and facilitate wildfires, the greatest potential for cumulative impacts relating to wildfire hazards would primarily be from projects in their construction phase in close vicinity to the Proposed Action. The available CAL FIRE Incident Data (2013 to 2020) was reviewed for the Desert Center region and no incidents were noted in the region. This supports the conclusion that the risk of wildfire in the region, and particularly the project site, is low. As concluded in the DRECP FEIS (Section IV.25.3.22), cumulative projects would be required to comply with fire hazard policies and prepare and implement their own fire management plan. Therefore, the Oberon Project in combination with the nearby solar projects' impacts would not result in cumulative effects.

[8] Clean agents, including inert gases, are commonly used to suppress fires in machinery and electrical equipment, including occupied spaces, because they do not damage components and are considered safe for people and the environment.

3.5 Issue 4: Lands and Realty

3.5.1 Affected Environment

The BLM's Lands, Realty, and Cadastral Survey Program manages a variety of public land transactions, which includes ROW authorizations. A ROW grant is an authorization to use a specific piece of public land for a specific project, such as electric transmission lines, communication sites, roads, trails, fiber optic lines, canals, flumes, pipelines, and reservoirs. (BLM, 2021)

The project is located on BLM-administered land within a DFA. The project area is surrounded primarily by BLM land, some scattered rural residences, agricultural operations, other proposed or operational solar projects, and transmission lines. The Chuckwalla Valley Raceway is located northeast of the project and the Joshua Tree National Park (JTNP) is located approximately 6 miles north of the Proposed Action.

Nearby projects include the operating Desert Sunlight Solar Farm, Desert Harvest Solar Project, and Palen Solar Project; the under-construction Athos Renewable Energy Project; and the proposed Arica and Victory Pass Solar Projects and the Easley Solar and Green Hydrogen Project. The FERC- and BLM-approved Eagle Mountain Pumped Storage Project is north of Desert Center. These projects have existing or proposed gen-tie line connections to the SCE Red Bluff Substation.

The project ROW grant would be subject to valid existing rights. Other valid existing rights include collocated transmission lines, which do not conflict with the project, since the shared transmission line ROWs would be managed to meet all applicable regulations and final crossing agreements. The BLM retains the right to require common use of ROWs for compatible uses, including facilities or access routes and the right to change terms and conditions of grants as a result of changes in legislation, regulation, or as otherwise necessary to protect public health or safety or the environment.

The project's gen-tie line would cross BLM-administered public lands within the DFA. The gen-tie line would cross into the Chuckwalla ACEC where the existing Red Bluff Substation is located, just south of I 10. The gen-tie line would be sited within Sections 62 to 68 of Corridor 30-52, part of the Section 368 Federal Energy Corridor established by the WWEC Final PEIS and ROD, and also within the overlapping CDCA Utility Corridor K.

3.5.1 Direct and Indirect Environmental Effects

Evaluation of potential land use conflicts that may result from the project was based on a review of relevant planning documents, including the CDCA Plan and Amendments, and a review of the proposed solar facilities site and surrounding area. The focus of the land use analysis is on land use conflicts that would result from implementation of the project. Land use conflicts are identified and evaluated based on existing or authorized land uses, land uses proposed as part of the project, land use designations, and standards and policies related to land use.

Alternative 1: No Action Alternative

The No Action Alternative would not develop the gen-tie line or require new construction and/or operational activities. It would not cross or be adjacent to any existing or proposed ROW and no direct, indirect, or cumulative impacts would occur. If the Proposed Action were not constructed, it is extremely likely that a different solar developer would apply to construct solar generation in

this location given that it is a DFA under the DRECP and the renewable energy objectives discussed in EA Chapter 1. Any development on the site in lieu of the project would be subject to its own NEPA review.

Alternative 2: Proposed Action

The Proposed Action is located entirely on BLM-administered land, within a DFA and crosses into the Chuckwalla ACEC. The East Riverside DFA allows utility scale renewable energy development, including gen-tie lines, without a land use plan amendment if the project complies with the relevant CMAs. The gen-tie line would cross into the Chuckwalla ACEC within an existing designated utility corridor where it would connect to the existing Red Bluff Substation. All applicable DRECP CMAs for the Chuckwalla ACEC would be implemented, including the ground disturbance CMAs.

Prior to ROW grant approval, the Applicant is required to coordinate with any valid existing ROWs or other conflicting rights to ensure the project does not impact these rights, and must bear the cost of this coordination. This includes coordinating the construction of the gen-tie lines with construction of other approved projects. The Applicant has started this coordination process, in consultation with the BLM, by submitting documentation to the various existing and planned land users to ensure the gen-tie line does not infringe on their existing rights. A ROW Corridor Conflict Analysis is included in POD Appendix W (see EA Appendix F, POD). As part of the process, BLM will notify the other holders of ROWs in the area of the Oberon application that might affect their existing ROW, and BLM will consider the recommendations from the other holders (43 CFR § 2807.14).

There is not a feasible way to connect the project to the Red Bluff Substation that avoids ACECs, because the substation is located within an ACEC. Approximately 500 feet of the 500 kV gen-tie line would be within the Chuckwalla ACEC and would require short-term and long-term ground disturbance for an access road, transmission pole(s), and operation and maintenance activities. The impacts would be limited to the existing utility corridor. The proposed gen-tie line would be consistent with the CDCA as amended by the DRECP LUPA, and its CMAs for ground disturbance within the ACEC, such as CMA ACEC-DIST-2 (DRECP LUPA, page 174), which includes specific ground disturbance mitigation for the acres of impacts to the ACEC unit would be required.

The project is located on federal land; however, the BLM's ROW program objectives include being consistent with local land use policies wherever possible. Local land use policies have been reviewed. The project would be consistent with Riverside County's policies to promote alternative energy supply sources and provide solar opportunities. There are minor inconsistencies with some local land use policies regarding distribution lines and development guidelines that have been analyzed in the CEQA process. The project's inconsistences with Riverside County General Plan Land Use Element (LU) Policies 14.4, 14.5, 21.1, 21.3, 26.1, and 26.3; Circulation Element (C) Policy 25.2; and Desert Center Area Plan (DCAP) Policy DCAP 2.3 are not considered significant given the absence of scenic resources on the project site, the project's consistency with the applicable BLM Visual Resource Management objective, the renewable energy development and energy infrastructure trends already established in the Chuckwalla Valley, and the visual consistency of the project features with other existing (and under construction) solar generation and electric transmission facilities in the immediate project area.

The project has been designed to avoid all proposed, approved, and existing ROWs across the project site and it would not conflict with the land uses in the area, including other solar projects and gen-tie lines. The southeastern substation and gen-tie options may be utilized by the Applicant

as needed based on engineering and negotiations with other ROW holders to ensure there would be no conflicts. The project would not result in an alteration of the present or planned use of the area. Closure of BLM Open Routes is discussed in Section 3.8, Recreation.

Alternative 3: Land Use Plan Compliant Alternative

Both this alternative and the Proposed Action would be located in a DFA under DRECP, which is an area targeted for renewable energy development. Under the Land Use Plan Compliant Alternative, no LUPA to the CDCA would be required for development.

The footprint of the project would be reduced by approximately 600 acres, but the level of renewable energy generated would decrease to 375 MW. The route and configuration of the gen-tie line would be the same as under the Proposed Action and so, as noted above, would be consistent with the CDCA as amended by the DRECP LUPA, and its CMAs for ground disturbance within an ACEC. Because the proposed gen-tie route and potential crossings would be the same under all action alternatives, similar coordination would be required with other pending and existing ROW holders.

However, under this alternative the proposed 300-foot setback from the I-10 freeway would not occur and the solar facility fenceline would abut the Caltrans ROW, which would cause a greater encroachment into the designated utility corridor blocking access within the corridor north of I-10 and creating a potential lands and realty conflict.

Alternative 4: Resource Avoidance Alternative

Like the Proposed Action and Land Use Plan Compliant Alternative, the Resource Avoidance Alternative would be located in a DFA under DRECP LUPA. The Resource Avoidance Alternative would also be similar to the Land Use Plan Compliant Alternative, as it would fully comply with the DRECP CMAs and no LUPA to the CDCA would be required for development. The Resource Avoidance Alternative would also avoid the multi-species habitat linkage and include a setback from the designated utility corridor. The footprint of the project would be reduced by approximately 1,100 acres.

The route and configuration of the gen-tie line would be the same as under the Proposed Action and so would be consistent with the CDCA as amended by the DRECP LUPA, and its CMAs for ground disturbance within an ACEC. Because the proposed gen-tie route and potential crossings would be the same under all action alternatives, similar coordination would be required with other pending and existing ROW holders.

3.5.2 Cumulative Effects

The cumulative scope for lands and realty for the proposed project would include eastern Riverside County from Desert Center to Blythe, due to the similar uses and users of the land. Nearby projects are primarily solar developments and transmission lines. Implementation of the project and other renewable energy projects in the area would preclude other development and uses of that land until the end of those projects' lifetimes. This presence of these projects could affect land use opportunities on lands within eastern Riverside County in the CDCA plan area. Potential effects could include access conflicts or conflicts with various gen-tie line routes connecting with the Red Bluff Substation. The DRECP FEIS Section IV.13.3.2.1 (page IV.13-12) notes that utility-scale renewable development in DFAs could interfere with or require modifications to existing BLM land use authorizations and that it could exclude other land uses, close existing open routes, and fragment

large blocks of public lands. It also notes that development in DFAs could impact non-energy users of public, state, and private lands. The analysis notes that strategies to reduce these impacts could require consolidating access and other supporting infrastructure and retaining legal access to public lands surrounding the renewable energy facilities to avoid creating areas inaccessible to the public. Because the project would share access routes and consolidate their gen-tie with others, they would be following these strategies. Nonetheless, the DRECP FEIS notes that solar facilities could result in long-term impacts to existing BLM land use authorizations (page IV.13-13). While BLM identified impacts to other uses from renewable development in the DFAs, the DRECP LUPA still identifies these areas, as appropriate for renewable development.

3.6 Issue 5: Noise and Vibration

3.6.1 Affected Environment

Historically, noise surveys conducted for the Riverside County General Plan found locations along I-10 to be exposed to noise over 60 dBA Ldn (Day-Night Average Sound Level), for any location within approximately 750 feet of the I-10 centerline, and over 65 dBA Ldn, for locations within approximately 350 feet of the I-10 centerline. For other major highways, the 60 dBA traffic noise contour was projected to be approximately 410 feet from the centerline (Riverside County, 2008). Locations along SR-177 are exposed to lower noise levels. Data collected for SR-177 in the Desert Center area shows roughly 2,800 vehicles daily and 7.5 percent of the baseline traffic as trucks (Caltrans, 2016); with this mix of baseline traffic, the existing 60 dBA Ldn contour is approximately 230 feet from the centerline of SR-177 (Riverside County, 2019).

The setting for noise also includes the private Desert Center Airport and Chuckwalla Valley Raceway, which offers use of the track for a fee and hosts motor sports events primarily on weekends. The raceway is located near the Desert Center Airport, which is infrequently used. The Desert Center Airport is a private airport owned by Chuckwalla Raceway that is available to racetrack users. The 5,300-foot-long asphalt runway is in fair condition and is in daily use for airplane, helicopter, and skydiving operations (Chuckwalla Valley Raceway, 2021). Prior to establishment of the Chuckwalla Valley Raceway in 2010, the Riverside County Airport Land Use Compatibility Plan Policy Document (2004) showed an average of fewer than one aircraft operation per day at the Desert Center Airport, and the 55 dBA CNEL noise contour is limited to the immediate vicinity of the runway (Riverside County, 2004; AirNav, 2021).

Because few human-induced sources of noise occur around the project aside from those noted above, the noise environment is generally serene and quiet. In 2009, ambient noise levels were measured at two isolated locations east of the proposed project.[9] For these residences more than 1.5 miles from I-10, the daytime average noise levels were found to be 43 dBA Leq (Equivalent Continuous Sound Level), and nighttime average noise levels were 34 dBA Leq (CEC, 2010). Since establishment of the Chuckwalla Valley Raceway in 2010, daytime average noise levels would peak on weekends. Regardless, because of the remote nature of the project site, additional ambient noise measurements are not needed.

[9] These locations (one of which was previously a residence) are located on land that is part of the approved Athos Renewable Energy Project and were conducted prior to establishment of the Chuckwalla Valley Raceway in 2010.

Noise Sensitive Receptors. In the Riverside County Noise Ordinance and Noise Element, "noise-sensitive" land uses include but are not limited to residences, passive recreation areas, schools, hospitals, rest homes, places of worship, and cemeteries (Riverside County, 2015).

The proposed project site is primarily surrounded by uninhabited open space and agriculture and is adjacent to the alignments of SR-177 and I-10. Project facilities would occupy approximately 2,700 acres within an overall site of 5,000 acres.

As shown on Figure 3.6-1 (Noise Sources and Sensitive Receptors), the nearest occupied residences in Desert Center are within a mobile home park located at 43551 Ragsdale Road, and these receptors would be approximately 500 feet (150 meters) southwest of the nearest proposed solar facility development area and 800 feet north of I-10. Other Desert Center area residences are along SR-177 (Rice Road), at Black Binder Road, approximately one-quarter mile north of the nearest proposed solar facility development area. Homes in the Lake Tamarisk community would be over 2,000 feet (610 meters) northwest of the nearest proposed solar facility development area.

3.6.1 Direct and Indirect Environmental Effects

Analysis of noise and vibration levels was performed through quantitative estimates of expected noise levels, review of agency policies and regulatory requirements, and qualitative analyses for issues that do not readily lend themselves to quantitative evaluation. Quantitative analyses were prepared to address noise and vibration from use of construction equipment on site, noise from construction-related traffic, and noise from facility operations.

Alternative 1: No Action Alternative

The No Action Alternative would not develop the solar facility and gen-tie line, and it would avoid all new construction and/or operational activities. It would not result in any change in ambient noise levels or generate noise from any new sources. Therefore, the No Action Alternative would have no noise impacts.

Other projects or linear facilities could potentially be developed at this location as the land is designated as a DFA. Any future project at this location would likely have similar noise and vibration impacts to the project and would be subject to its own environmental analysis under NEPA.

Alternative 2: Proposed Action

Siting. The Proposed Action is consistent with *County of Riverside General Plan* (2015) Noise Element Policy N 1.2 by concentrating facilities near SR-177 and I-10 and adjacent to other noise-producing land uses such as the Desert Center Airport and Chuckwalla Valley Raceway. The gen-tie segments would be adjacent to other existing facilities and should be consistent with existing ambient noise levels during operation.

During Construction. Construction of the project would use equipment such as trucks, light-duty vehicles, backhoes, loaders, excavators or trenchers, forklifts, cranes, compactors, and drill rigs or augers. The activity likely to cause the highest noise levels at the site would be installation of steel piles for supporting PV structure. Maximum intermittent noise levels near steel pile installation activities are up to 90 dBA Lmax (Maximum Sound Level) and 83 dBA Leq at 50 feet. For activities other than pile installation, typical maximum intermittent noise levels near the equipment would vary up to 84 dBA Lmax and 81 dBA Leq at 50 feet. Because sound fades over distance,

the noise levels caused by typical activities within the project development areas would be substantially lower when experienced at locations distant from the project site boundaries, and construction noise levels would be 64 dBA Leq at the nearest occupied residences in Desert Center, and no more than 53 dBA Leq at 2,000 feet away, the distance to the Lake Tamarisk community. Since sound is quantified logarithmically, it is not additive, and the noise would be barely noticeable above baseline.

Construction noise would result in a perceptible, but temporary, increase in daytime environmental noise, nearby to the solar facility and along the traffic routes. The construction activities would only intermittently affect any one location. Nighttime traffic noise levels would not change notably with construction that occurs mostly in the daytime, and construction-related traffic would not cause the overall day-night noise level to be in excess of any standards established in the local general plan or noise ordinance. This is consistent with DRECP FEIS Section IV.21.3.2 (page IV.21-21), which notes that construction renewable energy technologies and transmission would result in increases in short-term noise levels in the vicinity of the developments and that receptors around these lands would be exposed to short-term noise impacts from construction activities. Mitigation Measures (MMs) N-1 (Construction Restrictions), N-2 (Public Notification Process), and N-3 (Noise Complaint Process) would ensure that construction activities outside of daytime hours would be limited to light-duty equipment and vehicles, and notification and complaint resolution processes would be established (see POD Appendix H for the full text of all mitigation measures.) Any variance to construction hours authorized by Riverside County in accordance with MM N-1 will be provided to the BLM, and public notification in accordance with MM N-2 will inform the nearby residents and visitors of the updated construction hours and duration of the variance.

During Operation. The solar generating facility would be primarily active and operational during daytime hours. However, the pad-mounted inverters-transformer stations' cooling systems and the BESS equipment could operate outside of daylight hours. The overall noise levels caused by these units would be subject to the 45 dBA Lmax standard of the Riverside County Noise Ordinance that applies at the boundary of any nearby occupied property. No occupied properties or residences would be located within 2,000 feet of the proposed O&M building, BESS facilities, or 500 kV substation and gen-tie line. MM N-4 (Noise Performance Standard) will be implemented to ensure that all the project alternatives, including any activities related to herbicide and pesticide application, comply with the Noise Ordinance for the residential receiving land uses nearest to the final inverter-transformer station locations. The impact of operation noise relative to applicable community noise standards would be less than significant with implementation of mitigation.

Vibration. During construction, the impact or vibratory pile drivers used for installing steel piles would have the greatest radius of potential ground borne vibration impacts and could result in vibration that is perceptible and potentially annoying for occupants within 100 feet of the source. No occupied residential structures would be nearer than 500 feet to the proposed project facilities. At this distance, construction vibration would not be felt by residences at a level considered annoying Project-related vibrations would not cause adverse physical effects to structures, because no structures susceptible to damage are known to be nearby. During operation, there would be no sources of potential vibration that could be perceptible in the surrounding area.

Alternative 3: Land Use Plan Compliant Alternative

The Land Use Plan Compliant Alternative would avoid desert dry wash woodland with a 200-foot buffer, which would maintain some habitat connectivity but impact the designated utility corridor. The footprint of the project would be reduced by approximately 600 acres, and the capacity would decrease to 375 MW. As with the Proposed Action, the Land Use Plan Compliant Alternative would have the potential to generate noise levels in excess of applicable standards, and implementation of the Health, Safety, and Noise Plan would minimize impacts (see POD Appendix S in EA Appendix F). This alternative would install solar panels within the utility corridor area north of and adjacent to I-10, where the Riverside County General Plan found elevated levels in the existing noise environment. By introducing construction and operation noise to areas adjacent to I-10, this alternative would create greater short- and long-term noise effects in an area of existing elevated noise levels, when compared with the Proposed Action. The nearest occupied residences in Desert Center and the Lake Tamarisk community would experience similar noise impacts under this alternative as they would under the Proposed Action.

Alternative 4: Resource Avoidance Alternative

The Resource Avoidance Alternative would avoid desert dry wash woodland with a 200-foot buffer and would avoid the multi-species habitat linkage and critical habitat. This reduced footprint creates a setback from the designated utility corridor along I-10. As with the Proposed Action and Land Use Plan Compliant Alternative, the Resource Avoidance Alternative would have the potential to generate noise levels in excess of applicable standards, and implementation of requirements in the Health, Safety, and Noise Plan would minimize impacts (see POD Appendix S in EA Appendix F). This alternative would create fewer short- and long-term noise effects in the area of existing elevated noise levels adjacent to I-10, and this alternative would introduce construction and operational noise to areas with existing low ambient noise levels. The nearest occupied residences in Desert Center and the Lake Tamarisk community would experience similar noise impacts under this alternative as they would under the Proposed Action.

3.6.2 Cumulative Effects

Noise sources attributable to multiple projects may cause adverse effects within approximately one mile of a construction site including truck routes, but the region of greatest influence is typically within 0.5 miles. The Proposed Action would be built near other projects within the geographic scope for noise and vibration. The noise and vibration effects of the equipment used for construction of the proposed solar facility and gen-tie line may overlap spatially and temporally with other similar projects, such as with construction of the Arica and Victory Pass Projects, which, if approved, would likely have an overlapping construction schedule. This is consistent with the analysis in DRECP FEIS Section IV.25.3.21 (page IV.25-103) which notes that cumulative projects, in particular in the Desert Center region, could result in cumulative noise during construction. Cumulative noise impacts would be reduced through compliance with local laws and regulations, implementation of typical mitigation, and implementation of the Health, Safety, and Noise Plan (POD Appendix S) to protect sensitive receptors from noise and implement feasible noise controls.

Cumulative renewable energy projects and other development that is subjected to the environmental permitting process would have a detailed analysis of noise and land use conflicts as part of the project-level environmental review. The permitting process normally requires each project to comply with local standards and to avoid noise-related land use conflicts. This means that all projects,

including the proposed project, would need to comply with the local community noise standards, such as the Riverside County Noise Ordinance. Additional mitigation may be applied to the cumulative projects through environmental permitting by lead agencies.

The only sources of noise associated with solar facility operations that could combine with the cumulative projects to result in a potential cumulative impact near sensitive receptors would be employee vehicles accessing the site. Given the limited number of employees during operations of the proposed project and the nearby cumulative projects, the cumulative operational noise impact would not be cumulatively significant.

Cumulative effects due to groundborne vibration would occur only if there were sources of the vibration within 200 feet of the boundaries of the proposed project site and cumulative project sites. No existing residences occur near enough to the proposed project site boundaries or the cumulative projects sites to experience cumulative vibration effects. The areas of potential overlap of cumulative project construction-related vibration would not be likely to create a cumulative vibration impact at any residences in the area of the proposed project, and no cumulative effects would be likely from groundborne vibration.

Given compliance with noise standards, implementation of mitigation, the areas of potential overlap of noise and vibration and cumulative project construction-related effects would not be likely to create a cumulative noise or vibration impact at residences near the Proposed Action, and no cumulative effects would be likely from noise or vibration.

3.7 Issue 6: Paleontology

3.7.1 Affected Environment

A Paleontology Resource Assessment (POD Appendix E in EA Appendix F; "Paleontology Assessment") was prepared for the project (PaleoWest, 2020). The Paleontology Assessment included review of published geologic and paleontological literature, records reviews, and a field survey, and provides the information summarized here.

Literature Review. The Jennings 1967 Salton Sea 250,000 scale geologic sheet was reviewed for the Paleontology Assessment, and four geologic units were identified as mapped underlying the project area: Quaternary alluvium (Qal), Pleistocene nonmarine conglomerate (Qc), Pleistocene Ocotillo Conglomerate (Qco), and Mesozoic granitic rocks (gr) (Jennings, 1967; PaleoWest, 2020). A search of the peer-reviewed paleontology literature of the Chuckwalla Valley identified no records (PaleoWest, 2020). Similarly, a query of both the FaunMap and MioMap curated at the University of California Museum of Paleontology identified no Neogene or Quaternary fossil localities in all of Chuckwalla Valley (PaleoWest, 2020).

Records Review. Records searches were conducted at pertinent local and regional museum repositories for paleontological localities; searches were conducted at the Natural History Museum of Los Angeles County (NHMLAC), the San Bernardino County Museum (SBCM), the San Diego Natural History Museum (SDNHM), and the Western Science Center (WSC). Only one vertebrate fossil locality (a single artiodactyl ilium fragment) was identified within the project boundaries, identified by the WSC record review. Outside of the project boundary, additional fossil localities were identified in the project vicinity within the Chuckwalla Valley. The NHMLAC identified two localities within quaternary alluvium and several localities with the Pinto Formation in the general project area.

Field Survey. A pedestrian survey was conducted of the project area between September 16 and October 16, 2020, by PaleoWest to visually inspect for exposed fossils in areas of proposed disturbance and to evaluate geologic exposures for their potential to contain preserved fossil material in the subsurface. No fossils were encountered during the course of the multi-week paleontological field survey (PaleoWest, 2020). Although the alluvial (Qal) unit has been highly fossiliferous in other nearby projects within the Chuckwalla Valley, this project is closer to the Chuckwalla Mountain front and is situated on alluvial fan sediments as opposed to the alluvial valley sediments. Quaternary alluvial fan sediments are inherently low for potential fossil yield due to the nature of their formative gravity and high energy environment.

Geology. As mapped by the Jennings 1967 map (see Figure 3.7-1, Geologic Units), the project site is underlain by alluvium (Qal) and conglomerate units (Qc and Qco). Alluvium (Qal) is mapped as underlying most of the site; Pleistocene vertebrate fossils have been identified from non-alluvial fan facies of the Quaternary alluvium of the valley bottom. The conglomerate units (Qc and Qco) are mapped across portions of the east and southeast parts of the project site and, due to their coarse grain size and nature of deposition, are not expected to produce any fossil resources (PaleoWest, 2020). Granitic rock exposures in the project area are mapped as small, isolated outcrops and as a larger faulted pluton south of I-10 and the southern project boundary (Jennings, 1967); however, granitic rock may be shallowly located beneath the surficial Quaternary deposits. Based on the field survey mapping, the project area is underlain by alluvial fan debris flows and sheetwash deposits from the Chuckwalla Mountains to the south. The field reconnaissance revealed that the conglomerate units mapped by Jennings within the project boundary (Qc and Qco) are far more extensive than originally mapped and actually occupy much of the southern part of the project area. The unit mapped in the project area as Ocotillo Conglomerate (Qco) by Jennings was revealed to be composed of active alluvial fan facies that are dissected by modern ephemeral washes and should more likely be mapped as Quaternary alluvial fan. The western end of the site is underlain by alluvial deposits (Qal) consisting of debris flow and sheetwash materials deposited on alluvial fans. The surficial geology at the project site was determined to be dominated by active modern and Holocene age sedimentary deposits (PaleoWest, 2020).

Paleontological Sensitivity. The BLM uses the Potential Fossil Yield Classification (PFYC) system for paleontological resource assessment system. The PFYC system classifies geologic units based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts, with higher class numbers indicating higher potential, (BLM, 2015). Due to the lack of fossils noted at the surface during the paleontological field survey, the likelihood of encountering surficial fossil is low; however, there is a potential for encountering fossil resources in more fossiliferous units/layers in the Quaternary alluvium below the surface during ground disturbing activities. Therefore, based on the data collected in the Paleontology Assessment the Quaternary alluvium in the project boundaries is assigned a paleontological sensitivity of PFYC 3 (moderate). The Pleistocene nonmarine conglomerates (Qc and Qco) within the project boundaries have not produced any fossil resources, nor are they expected to; therefore, they are assigned PFYC 2 (low). If encountered below the Quaternary deposits, Mesozoic granitic rocks (gr) would be assigned PFYC 1 (very low) (PaleoWest, 2020).

Based on generalized PFYC sensitivity mapping in the DRECP FEIS for the Cadiz Valley and Chocolate Mountains Ecoregion Subarea, which contains the project area, approximately 26 per-

cent of the Subarea is underlain by geologic units with a PFYC of high or very high and approximately 52 percent of the area underline by units with a PFYC of moderate or unknown (DRECP EIS Section III.10.3.2 page III.10-19). This is higher than the full DRECP area of which 18 percent had a high or very high PFYC and 53 percent had a PFYC of moderate or unknown (DRECP Section III.10.3.2 page III.10-17).

3.7.1 Direct and Indirect Environmental Effects

Most effects on paleontological resources are direct effects, damage and destruction of paleontological resources, resulting from ground-disturbing activities. Indirect effects to paleontological resources include the unauthorized collection of fossils and other paleontological resources resulting from increased access to the resources. Significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important.

Alternative 1: No Action

The No Action Alternative would not result in any new construction and/or operational activities or any new associated ground-disturbing activities at the Oberon Project site. Therefore, under the No Action Alternative there would be no direct, indirect, or cumulative impacts associated with the destruction of sensitive paleontological resources. Other projects or linear facilities could potentially be developed at this location as the land is designated as a DFA. Any future project at this location would likely have similar paleontological resource impacts to the project and would be subject to its own environmental analysis under NEPA.

Alternative 2: Proposed Action

Desktop and field studies of the area indicate that Quaternary alluvial sediments with a PFYC 3 (moderate) potential for containing significant paleontological resources may be present below the surface within the Proposed Action area. Approximately 2,401 acres with PFYC 3 (moderate) Quaternary alluvial sediments are located underlying the Proposed Action development areas; however, mass grading would not be conducted on in these areas, with most of the solar facility area only mowed and grubbed. Ground disturbance (grading and excavation) would occur associated with the construction and operation of the desert tortoise exclusion/passage fence, invertors, transformers, internal and external access roads, substation, BESS, O&M facilities, and the gen-tie line; grading and excavation for these project components within the PFYC 3 (moderate) Quaternary alluvial sediments could potentially result in damage or destruction of significant non-renewable paleontological resources. The longer of the two gen-tie route options that extends farther east (see Figure 2-1) would result in slightly more potential to impact paleontological resources as it crosses more area mapped as PFYC 3 (moderate) Quaternary alluvial sediments. The two substation potential locations would have similar potential effects on paleontological resources.

This is consistent with the findings in the DRECP FEIS Section IV.10.2 (page IV.7-10), which determined that an adverse impact on paleontological resources would occur if renewable energy development results in the loss, damage, or destruction of any unique or significant paleontological resource. Within DFAs in the Cadiz Valley and Chocolate Mountains Ecoregion Subarea the estimated potential paleontological resource impacts within units with a PFYC of high or very high (Class 4 or 5) and a PFYC of moderate or unknown (Class 3) would occur in approximately 28

percent and 71 percent, respectively, of the estimated disturbance area for renewable energy development (DRECP FEIS, Section IV.10.7.3.2.1, page IV.10-21). The DRECP FEIS Section IV.10.7.3.2.1 (page IV.10-24) concludes that monitoring of construction activities using conventional earthmoving equipment allows for mitigation of potential paleontological impacts by allowing for identification and salvage of fossils consistent with CMAs LUPA-PALEO-3 and LUPA-PALEO-4. Implementation of Mitigation Measures (MMs) PR-1 (Paleontological Resource Monitoring and Mitigation Plan), PR-2 (Worker Environmental Awareness Program [WEAP]), PR-3 (Paleontological Monitoring and Fossil Recovery) and PR-4 (Paleontological Resources Monitoring Report) consistent with the CMA requirements, would reduce potential adverse effects on paleontological resources within the areas during construction and operation of the solar facilities by ensuring that paleontological resources are properly identified through monitoring by an approved specialist during construction, training of workers, and avoided or correctly handled and collected if identified in ground disturbance areas. See EA Appendix H for full text of the Mitigation Measures.

Herbicide treatment does not involve subsurface ground disturbance or ground disturbance outside of areas already cleared for construction, so the potential to adversely affect paleontological resources is low. The Vegetation Treatment PEIS identified SOPs for cultural and paleontological resources (see EA Appendix B). Herbicide application would occur consistent with applicable SOPs. There is no potential for new or modified impacts that have not been disclosed in prior environmental documentation.

Indirect effects include the potential for increased disturbance or theft of fossils resulting from the presence of larger numbers of people in the vicinity during construction. Implementation of MMs PR-1 through PR-4, in addition to the installation of security fencing around the perimeter of the solar facility developed area, would minimize the potential for indirect impacts to paleontological resources due to unauthorized collection of fossils and other paleontological resources from solar facility construction site.

Alternative 3: Land Use Plan Compliant Alternative

Under the Land Use Plan Compliant Alternative, solar panels would be constructed adjacent to I-10, but the setback around the desert dry wash woodland would be increased to 200 feet thus overall decreasing the acreage dedicated to solar arrays as compared to the Proposed Action, and long-term desert tortoise exclusion fencing would be in installed around the perimeter of all development areas, instead of the combination of exclusion and passage fence that would be installed for the Proposed Action. The decreased acreage dedicated to installing solar array components such as investors and transformers would decrease the acreage of disturbance of Quaternary alluvial sediments that have been assigned PFYC 3 (moderate)., resulting in a moderate reduction of the potential for damage to paleontological resources as compared to the Proposed Action. As the permanent exclusion fencing would be installed in approximately the same areas as the exclusion/passage fencing for the Proposed Action, impacts related to ground disturbance from the fencing installation would be similar to the Proposed Action. The Land Use Plan Compliant Alternative would have similar, but reduced, potential for direct, indirect, and cumulative effects to paleontological resources as compared to the Proposed Action.

Alternative 4: Resource Avoidance Alternative

The Resource Avoidance Alternative would increase the setback around the desert dry wash woodland to 200 feet and avoid desert tortoise critical habitat and the multi-species habitat linkage, thus significantly decreasing the acreage dedicated to solar arrays as compared to the Proposed Action. Only approximately 1,578 acres of PFYC 3 (moderate) Quaternary alluvial sediments underlie the development areas for this alternative as compared to the 2,401 acres that underlie the development areas of the Proposed Action. This significant decrease in acreage of PFYC 3 (moderate) Quaternary alluvial sediments in solar array development areas as comparted to the Proposed Action would substantially reduce the amount of ground disturbance related to installation of solar array components, thus resulting in a substantial reduction in the potential for damage to paleontological resources as compared to the Proposed Action. The Resource Avoidance Alterative would have similar, but substantially reduced, potential for direct, indirect, and cumulative effects to paleontological resources as compared to the Proposed Action and Land Use Plan Compliant Alternative.

3.7.2 Cumulative Effects

Other actions that would be located on the same or similar geologic units within the Chuckwalla Valley as the project are considered within the geographic scope of analysis for purposes of analyzing cumulative impacts on paleontological resources. There is a potential for paleontological resources to be impacted during ground disturbing activities associated with the project. A significant cumulative impact would occur if the impacts of multiple projects combined to result in the loss of paleontological resources that could provide information about ancient life in the Chuckwalla Valley.

As noted above, the bulk of the Chuckwalla Valley has high, very high, moderate, or unknown PFYC, and because of the moderate to very high PFYC, fossils are likely to continue to be unearthed during the construction of cumulative projects in Chuckwalla Valley. This is consistent with the DRECP FEIS Section IV.25.3.10 (page IV.15-85), which notes that because many of the cumulative projects are located near DFAs, comparable percentage of PFYC Class 3, 4 and 5 areas are likely and excavation activities could disturb, damage, or destroy fossils without first providing an opportunity to identify, study, and/or salvage them. Implementation of Mitigation Measures PR-1 through PR-4 for the Oberon Project and similar monitoring, curation, and reporting measures that likely would be required to be implemented on other major projects would minimize cumulative impacts to paleontological resources. Moreover, if significant fossils are uncovered and appropriately documented and curated during construction of major projects, there could be an overall net gain to the science of paleontology by allowing fossils that would not otherwise have been found to be recovered, identified, studied, and preserved.

3.8 Issue 7: Recreation

3.8.1 Affected Environment

The Proposed Action is in eastern Riverside County near lands that are frequently used for recreation. The types of recreation are varied as described below and in POD Appendix Z in EA Appendix F (POD). The project area has a recreational setting consistent with the BLM's Recreation Setting Characteristic Matrix (IM 2011-004) Rural Classification due to the presence of I-10, SR-177, and adjoining agricultural facilities. Some portions of the project area, particularly in the eastern portion of the project area, would be the Front Country Classification where paved roads and transmission facilities are not prevalent (BLM, 2010).

Recreational resources near the project area include a range of BLM-administered resources, including wilderness areas, campgrounds, and OHV routes. Dispersed recreation opportunities are available across BLM land use designations, including ACECs, wilderness areas, and Special Recreation Management Areas (SRMAs). ACECs and wilderness areas are described in greater detail in Section 3.11, Special Designations. The use of BLM-administered lands for recreation is typically concentrated in the cooler months from September to May, when seasonal residency and visitation to the region is highest. Nearby recreation on private land occurs on the 1,000-acre Chuckwalla Valley Raceway, approximately 1 mile north of the project area. The Desert Center Airport is a private airport owned by Chuckwalla Valley Raceway and is used for skydiving, in addition to airplane and helicopter operations.

From October 2019 to September 2020,[10] BLM-administered lands within the whole of eastern Riverside County received 318,700 visits for an estimated 402,000 or more visitor days. The bulk of these visits (303,588) were for dispersed use. The two special use areas nearest to the project, Corn Springs Campground and Desert Lily Preserve ACEC received 3,850 and 2,392 visits, respectively (BLM, 2020).

Surveys were conducted in January 2021 to assess evidence of dispersed recreational uses occurring off designated routes. Two modern campsites were identified within the central and eastern portions of the project area as identified in Figure 3.8-1. Other non-designated linear (routes, trails) or point (campsites, day-use areas) features were identified within the project area during the pedestrian survey.

Joshua Tree National Park (JTNP). The JTNP is located approximately 5 miles north of the project area. The main recreational activities offered include camping, hiking, wildlife viewing, and stargazing, especially in the eastern part of the park. The JTNP has some of the darkest nights in Southern California and was designated an International Dark Sky Park in 2017 (NPS, 2020). The JTNP had over 2 million visitors in 2019 (NPS, 2020).

Special Recreation Management Areas. A SRMA is a BLM-administered area where existing or proposed recreation opportunities and recreation setting characteristics are recognized for their importance. The Chuckwalla SRMA is over 228,000 acres and overlays the Chuckwalla Mountains Wilderness and the Corn Springs Campground. The gen-tie line goes into the Chuckwalla SRMA for approximately 500 feet, south of I-10. Portions of the Oberon Project would be visible from within portions of the Chuckwalla SRMA located south of I-10. The primary uses for this area include recreational activities that rely on motorized vehicles to access public land and uses that are compatible with resource values and recovery efforts for desert tortoise.

Off-Highway Vehicle (OHV) Routes. Recreational OHV users are particularly concerned about vehicle access in the desert. In Riverside County, OHV use on BLM-administered land is limited to designated routes. The BLM designates roads and trails as Tier I (high values for commercial,

[10] The BLM Palm Springs Field Office Provided this use data. Portions of the recreational use data for 2019 to 2020 presented here were collected during the COVID-19 pandemic which is not considered a typical year. To have a better understanding of the overall recreational use trends of eastern Riverside County and Corn Springs Campground and Desert Lily Preserve, use data from the previous 5 years were reviewed. While those data varied from year to year, the general visit numbers for eastern Riverside and dispersed recreation were similar for most years except 2015-2016, when substantially more visits were recorded (BLM, 2020). Visits to the Corn Springs Campground and Desert Lily Preserve were similar for all years except 2015-2016 when the Desert Lily Preserve received substantially fewer visits compared with the most recent year (BLM, 2020). Because the overall use trend shown in the previous 5 years did not vary widely, the most recent data are presented in this report.

recreational, casual uses, and/or to provide access to other recreation activities), Tier II (high values for recreation and other motorized access (i.e., important through routes), and Tier III (high value for motorized and nonmotorized recreational pursuits (i.e., spur routes) (DRECP EIS Section III.19.2.5, page III.19-14). A route is considered to have high significance if it provides access to other routes, historical sites, or recreational areas. Access by all types of motorized vehicles is allowed on OHV open routes, generally without restriction, while access to limited routes is subject to various limitations (BLM, 2020). According to local Law Enforcement Rangers and BLM staff, use is relatively low on routes near the project, not exceeding 300 visits per year (BLM, 2018). Nearly all of north-south trending BLM Open Routes DC377, DC425, and DC377 and within the project footprint. East-west trending Open Routes DC378, and DC379 are within the project footprint and continue east beyond the project limits. BLM Open Route DC510 is just outside of a portion of the northern edge of the site (See Figure 3.8-1.) BLM Open Routes DC372, DC510, DC425, DC377, and DC378 do not meet the definitions of the Tier I to III routes as they are rarely used and do not lead to other important recreation areas or dead end on the Oberon site. BLM Open Route DC379 would be used to access the site and is used by numerous ROW holders.

3.8.1 Direct and Indirect Environmental Effects

This section analyzes potential effects of the proposed project with regards to recreation and assesses the impacts to known recreational uses. The CDCA Plan, as amended, which includes a detailed inventory and designation of open routes for motorized-vehicle use, was reviewed to determine impacts to open routes.

Alternative 1: No Action Alternative

The No Action Alternative would not develop the solar facilities and gen-tie line or require new construction and/or operational activities. It would not result in any direct, indirect, or cumulative impacts to recreation and would not result in the closure or isolation of designated OHV routes. The lands within the DFA would remain open to future solar project or linear facilities. Any future project at this location would be subject to its own environmental analysis under NEPA.

Alternative 2: Proposed Action

During the construction and decommissioning of the Proposed Action, recreational users could be disrupted by noise, traffic, lighting, or dust. These effects would be noticed within the area of the Chuckwalla SRMA nearest the project, i.e., within 1,000 feet of I-10, for the duration of construction and decommissioning, especially construction of the southern portions of the project and of the gen-tie to SCE Red Bluff Substation. The bulk of the Chuckwalla SRMA is further from the project and the closest open route within the Chuckwalla SRMA is approximately 1,000 feet from the Oberon site and is separated from it by I-10. At this distance, noise, traffic, and dust from the project are much diminished. Because the SRMA is south of the I-10 and all infrastructure except one or two gen-tie structures would be north of the I-10, noise and traffic impacts would be limited within the SRMA and the project would comply with CMA SRMA-REC-1. The DRECP FEIS Section IV.18.2.1.2 (page IV.18-3) notes that construction results in noise, dust, and traffic that impacts recreationists such as hikers, campers, rock climbers, hunters, or birders. The DRECP LUPA includes numerous CMAs to reduce impacts to SRMAs and dispersed recreation (CMA DFA-REC-1 through -9) and CMAs LUPA-REC-6, DFA-REC-7, and SRMA-REC-1 would be applicable to the project. These CMAs are listed in EA Appendix H, but in summary, the project:

is located in an area that has substantial solar development; is not near Level 3 Recreation Facilities; would not develop renewable energy in a SRMA; and would not have residual effects to a SRMA.

The JTNP has the highest visitation of the areas listed, but the visitation is generally concentrated an estimated 20 miles from the project area, in the western half of the park, which is more accessible. For example, the nearest JTNP campground (Cottonwood Campground) is 30 miles west of the project area. The portions of the JTNP nearest to the Proposed Action are approximately 5 miles away and are unlikely to be disturbed by noise or traffic, effects of which are mostly limited to the site and immediate vicinity. Construction activities, including dust and night lighting, would be visible at 5 miles from some portions of JTNP, as describe in Visual Resources.

Neither Corn Springs and Desert Lily are immediately adjacent to the Proposed Action area and so would be less susceptible to indirect impacts. The bulk of the project would not be visible from Corn Springs and would be far away enough such that noise and traffic would not be a concern. Desert Lily would have direct views of the project at a distance of several miles. The recreation at Desert Lily is typically primitive, low-impact wildflower viewing (DRECP LUPA Appendix B, page 174), such that recreationists would be concentrating mostly on the Preserve itself, rather than on the distant landscape. Construction effects would be further reduced by mitigation measures, discussed in Section 3.2 (Air Quality), Section 3.6 (Noise and Vibration), and Section 3.13 (Visual Resources).

BLM Open Routes DC372, DC425, DC377, DC378, and DC379 cross the site. Those portions of BLM Open Routes DC372, DC377, DC378, and DC425 that are within the project boundary would be closed pursuant to the regulations at 43 CFR 8342. BLM Open Route DC378 is paralleled by two open routes: BLM Open Route DC510 approximately 0.5 miles to the north and BLM Open Route DC379, approximately 1 mile to the south. Both provide alternate east-west access in the area. Approximately 3.29 miles of BLM Open Route DC379 crosses the project east-west, but the project's footprint avoids it, and access to this route would remain, with fencing along either side of portions of the route adjacent to solar facilities. Because BLM Open Route DC379 is already used for nearby ROWs (e.g., Athos, Desert Harvest, and Desert Sunlight solar projects), the recreation experience for these routes would not change through use of the Proposed Action. BLM Open Route DC510 is outside the northern boundary of the site and would remain open. BLM Open Routes DC372, DC377, and DC425 are short north-south routes that would be closed, Each of these open routes would be truncated by fencing crossing its path. Much of the route would be inaccessible because large portions would be fenced off and there would be no alternative route outside of the project fencing to connect to what might remain of the route. As a practical matter, BLM Open Routes DC425 and DC377 would cease to exist as OHV routes because virtually all their alignment would be within fencing. These routes are not frequently used and do not appear to serve unique recreation areas as they do not lead to any specific recreation area or specific recreational activity. None of these routes meet the qualifications for Tier I, II, or III routes due to their lack of use. The only east-west passage near the site would be via BLM Open Route DC510 along the northern border of the site, connecting SR-177 to areas east of the project site, and BLM Open Route DC379 passing through the middle of the site (see Figure 3.8-1). North-south movement through the site for recreationalists would be via the desert dry wash woodlands, which would be outside of project fencing.

The routes that would be closed may access remote camping locations but are not frequently used, and the routes do not appear to serve unique recreation areas. With existing and approved solar

development in the Desert Center area, and the potential for additional solar project approvals on BLM and private lands, it is likely that already low recreational interest in the area will diminish, with visitors instead making use of the extensive Chuckwalla SRMA south of I-10 and other areas outside of the DFA.

Dispersed recreational activities would be precluded by the proposed action in areas closed by fencing as shown in Figure 2-6, including the two campsites identified during surveys in January 2021. For undeveloped, fenced portions of the proposed action, opportunities such as wildlife watching and photography may improve as habitat is protected from unauthorized uses, such as OHV use off designated routes or illegal dumping. Unfenced portions of the project area (approximately 2,300 acres or 46 percent of the area) would continue to provide opportunities for dispersed non-vehicle based recreation, most notably in the desert dry wash woodlands. As shown on Figure 3.8-1, there are many miles of open OHV routes in the area outside of the DFA (e.g., Chuckwalla SRMA) that would continue to be available to the public and that serve specific camping locations or more popular recreational activities such as rock hounding and would not be significantly impacted by any displaced use from the project area.

The Proposed Action would result in changes to the recreational setting of the project area. Adjacent to the solar development footprint, the area would have an Urban Classification due to the presence of panels, fencing, transmission infrastructure, and project facilities. The eastern portion of the project would transition to Rural Classification due to the addition of fencing throughout the project area. The proposed transmission line would be located adjacent to existing transmission lines and should not significantly contribute to changing the setting.

DRECP CMA DFA-REC-7 requires mitigation if a project would directly impact vehicle routes, such as is the case for the project. Mitigation includes the development of alternative routes to allow for continued vehicular access with proper signage or a "touring route" that circumvents the area with appropriate signage if determined appropriate by the BLM. Given the existing and proposed development in the DFA, alternative routes in the DFA would not enhance the recreation experience but the Applicant could support enhancement of a "touring route" within the Chuckwalla SRMA through enhanced signage, as determined appropriate by the BLM.

The Proposed Action would result in the loss of undeveloped areas not managed for recreation, consistent with the analysis in the DRECP FEIS Section IV.18.2.1.3 (page IV.18-3) that notes that operations of renewable energy would preclude recreational use of those areas. Given the size of nearby areas managed for recreation (over 288,000 acres in the Chuckwalla SRMA) and the minor use, if any, of the Proposed Action site for recreation, development of the Proposed Action would not result in the increased use of other designated recreational facilities.

During operation, the presence of the project would cause a visual change that could indirectly affect recreationists who are seeking a natural setting. This is of particular concern from wilderness areas or JTNP. DRECP FEIS Section IV.18.3.1 (page IV.18-14) notes that renewable energy facilities would substantially impact recreational areas that are destinations for solitary or backcountry recreation and specifically lists JTNP as one of those areas, including impacts to star gazing due to night lighting. The Desert Center area has experienced an influx of solar developments starting in 2010 and now includes over 10,000 acres of solar projects either built or under construction. The change in character from largely undisturbed desert to developed energy modified the views from nearby sensitive areas before the project was proposed. The project would require use of some lighting during the night for security purposes. It would use controlled night lighting to reduce the effect of the project on the dark sky and star gazing (see the Visual Section for additional

discussion of night lighting). Environmental Effects to Visual Resources are discussed in Section 3.13 and Special Designations in Section 3.11. Mitigation measures for Air Quality, Noise, and Visual Resources would reduce potential adverse effects to recreationists seeking a natural setting, including JTNP, which is an officially designated International Dark Sky Park (IDSP). Requirements to limit and down-focus lighting would reduce the effect on night skies.

Herbicide and Pesticide Use. The recreation impacts of pesticide use were analyzed in the PEIS (pages. 4-159 through 4-163). Implementation of the IWMP would occur within the fenced development area and/or could temporarily close portions of the gen-tie line while herbicide use is in effect to protect the public. The SOPs listed in EA Appendix B that are related to recreation would be implemented. Because the gen-tie ROW is in a designated utility corridor with low recreation use by Red Bluff Substation and other gen-tie lines, impacts from any temporary exclusion areas would be minimal.

Alternative 3: Land Use Plan Compliant Alternative

The Land Use Plan Compliant Alternative would impact the same open routes as the Proposed Action. With regard to the open routes in the project area, the difference between the Proposed Action and this alternative is that the dry wash buffer setback would leave approximately 150 feet of road open under the Land Use Plan Compliant Alternative before BLM Open Routes DC372 and DC378 encounter fencing across the routes, effectively closing them. Fencing locations crossing BLM Open Routes DC425 and DC377 would be the same as under the Proposed Action. BLM Open Routes DC510 and DC379 would remain open, as they would under the Proposed Action.

However, under the Land Use Plan Compliant Alternative, there would continue to be opportunities for dispersed recreational activities that would be precluded by the Proposed Action in areas closed by fencing (as shown in Figure 2-7), including the 2 campsites identified during surveys in January 2021. The Land Use Plan Compliant Alternative reduces the project footprint by approximately 600 acres, resulting in 2,900 acres of unfenced project area 2,900 acres (approximately 58 percent of the area).

The Land Use Plan Compliant Alternative would convert the project area to the Urban Classification for the majority of the project area. This alternative develops scattered portions of the eastern project area for solar generation so views of panels, inverters, and other facilities would be ubiquitous, similar to the Proposed Action. Although dispersed camping areas and other recreation activities would be accessible under this alternative, users may be displaced by changes to the recreational setting that make the sites less desirable, similar to the Proposed Action.

Environmental effects to Visual Resources are discussed in EA Section 3.13 and Special Designations are discussed in Section 3.11, and the same mitigation measures will apply. Overall, the Land Use Plan Compliant Alternative would have different recreation impacts than the Proposed Action because of access to more desert dry wash woodland areas for dispersed camping, wildlife watching, and other activities albeit with a less desirable recreation setting.

Alternative 4: Resource Avoidance Alternative

The footprint of the project would be reduced by approximately 1,100 acres, and the capacity would decrease to 300 MW. The Resource Avoidance Alternative would impact the same open routes as the proposed action and Alternative 3. Under Alternative 4, a segment of BLM Open Route DC377 south of BLM Open Route DC379 would remain open, but the portion of BLM Open Route DC377 north of BLM Open Route DC379 would remain fenced off. BLM Open Route

DC379 would have no fencing on its south side, where the tortoise habitat and habitat linkage are located, but fencing would remain on the north side of BLM Open Route DC379 where it passes solar facilities. BLM Open Routes DC510 and DC379 would remain open, as they would under the Proposed Action and Alternative 3. By reducing the project footprint by approximately 1,200 acres, the unfenced portions of the project area under this alternative would be 3,400 acres (approximately 68% of the area), which would continue to provide opportunities for dispersed recreation.

Environmental effects to Visual Resources are discussed in Section 3.13 and Special Designations are discussed in Section 3.11, and the same mitigation measures will apply. Overall, the Resource Avoidance Alternative would have slightly reduced recreation impacts relative to the Proposed Action and Land Use Plan Compliant Alternative because the smaller project footprint would have less effect than the other alternatives on access to the desert dry wash woodland areas for dispersed camping, wildlife watching, and other activities, which would remain open albeit with a less desirable recreation setting. The areas avoided by this design would retain their rural characteristics, and the two campsites identified by survey would still be accessible. This alternative would have the same impact to the viewshed as the Proposed Action since it would be equally visible to recreators. Overall, the Resource Avoidance Alternative would have slightly reduced recreation impacts relative to the Proposed Action because of greater access to the desert dry wash woodland areas for dispersed camping along BLM Open Route DC379 would remain open, the undeveloped areas surrounding desert dry wash woodland would be larger with a greater buffer distance, and there would be no development south of BLM Open Route DC379.

3.8.2 Cumulative Effects

The cumulative geographic scope would be the Desert Center area in the Chuckwalla Valley and nearby portions of JTNP. The cumulative effects would be additive in this area, in that they would result in direct loss of dispersed recreation and indirect impacts to the same resources. The direct loss of recreational lands by development of cumulative projects would be minimal compared with the many millions of acres available for and dedicated to recreation and low existing recreational uses of the DFA.

Cumulative loss of local desert OHV routes would occur because the Palen Project required route closures, and the proposed Arica Solar Project and this Oberon Renewable Energy Project would require route closures. However, the routes that would be closed do not lead to unique recreation resources and are minimally used. The closure of BLM-designated routes was considered in the DRECP EIS (see Section IV.19.3.2), and application of CMAs has provided continued public OHV access through the project area.

If approved, the Oberon Project would require 13 miles of route closures (BLM Open Routes DC372, DC425, DC377, and DC378). Almost 22 miles of cumulative loss of local desert OHV routes could occur because, in addition to the 13 miles of closure associated with the Proposed Action the Arica Solar Project would require 3.2 miles of closure, and the Palen Solar Project required 5.5 miles of closure. (Palen was considered a pending project in the DRECP LUPA and not subject to its requirements [BLM, 2017]). The 22 miles of routes that would be closed is less than 10 percent of the overall 306 miles of open routes in the Desert Center Area. The cumulative loss of OHV routes would be to routes that do not meet the descriptions for Tier I, II, or III. The closure of BLM-designated routes was considered in the DRECP FEIS (see Section IV.19.3.2.2, page IV.19-15), which noted that closure of large areas for renewable development would decrease the number of BLM-designated routes and impede travel and noted that mitigation could include

providing alternate replacement routes that ensure continued access to previously accessible public lands. For example, a realignment of BLM Open Route 952 was included part of the Palen Solar Project consistent with the mitigations (BLM, 2019c). The CDCA Plan, as amended by the DRECP LUPA specifies CMAs for the loss of dispersed recreation, changes to recreation character, and loss of designated routes in DFAs in CMAs DFA-REC-1, DFA-REC-2, DFA-REC-4, DFA-REC-5, DFA-REC-6, and DFA-REC-7.

As noted above, the Desert Center area already includes 10,000 acres of solar development and if all the solar projects proposed in the Desert Center area were developed, it would continue this trend and continue to change the region to Urban Classification and the vistas from nearby elevated recreational areas. As noted in the DRECP FEIS Section IV.25.3.18 (page IV.25-97), cumulative renewable projects would substantially impact recreational areas that are destinations for solitary or backcountry recreation, in particular to the visual experience. The DRECP FEIS notes this is not only true for renewable projects but also for large infrastructure projects and specifically references the Eagle Crest Pumped Storage Project in the JTNP area and that such projects would be in the viewscape of the JTNP. It notes that if cumulative projects require night lighting, this could cumulatively impact night skies and stargazing. It points out that if projects required lighting they could combine with Palen and other future renewable energy in this region and cumulatively effect stargazing from JTNP. Use of controlled night lighting would reduce the contribution of the Proposed Action to this effect.

3.9 Issue 8: Socioeconomics and Environmental Justice

3.9.1 Affected Environment

This section discusses whether implementation of the Proposed Action and alternatives would promote population growth, affect existing housing availability, alter local economic trends and employment, and/or generate social change or disruption. The geographic area of analysis includes areas within a 2-hour commute of the project, as this would be the distance that temporary workers may commute during construction.

The project is in Riverside County, the fourth most populous county in California (CA DOF, 2020). Table 3.9-1 provides a summary of the existing socioeconomic conditions for Desert Center, CA (the general location of the project) and Riverside County and San Bernardino County (counties where the construction workforce would largely be recruited).

Table 3.9-1. Existing Conditions[1] – Population, Housing, and Employment: Desert Center, Riverside County, and San Bernardino County

Location	Population	Median Household Income ($)	Housing Units		Employment[2]	
			Total Units	Vacancy Rate	Total Employed	Unemployment Rate
Desert Center	264	37,188	239	60.3%	58	0%
Riverside County	2,442,304	63,948	856,124	12.8%	969,900	10.5%
San Bernardino County	2,180,537	60,164	726,680	11.1%	853,800	10.3%

1 - Housing unit and employment data for Desert Center, and median income data are from 2018. All other data is from 2020.
2 - Accounts for population greater than 16 years of age and in Labor Force.
Source: CA DOF, 2020a; CA EDD, 2020a; CA EDD, 2020b; U.S. Census Bureau 2018a, 2018b, and 2018c.

As shown in Table 3.9-1, the Desert Center area has a high vacancy rate, which correlates with these areas providing transient and temporary housing for seasonal residents ("snowbirds"). While

the immediately local labor force provides limited construction trade workers, Riverside and San Bernardino Counties provide a strong construction labor force. [11]

In 2019, Riverside County had a higher percentage of Hispanic (50 percent) and Black or African American (7.3 percent) minority populations than the State average for that same year (U.S. Census Bureau, 2019). San Bernardino County also had a higher percentage of Hispanic (54 percent) and Black or African American (7 percent) minority populations than the State average for 2019 (U.S. Census Bureau, 2018d). The 2019 combined minority percentage for Riverside County was 66 percent versus 64 percent for the State. The population of Desert Center is predominately white and approximately 10 percent Hispanic, 2.7 percent American Indian, and 1.5 percent Black or African American (U.S. Census Bureau, 2018d). Riverside County as a whole would be considered an environmental justice population, because it is above 50 percent minority.

In 2018 the median household income in California was $71,228, which is higher than the median incomes for Desert Center and Counties of Riverside and San Bernardino (see Table 3.9-1) (U.S. Census Bureau, 2018e). Median income data shows that incomes in Desert Center are significantly lower than Riverside County as a whole. The U.S. Census Bureau also reports that in 2018, 14.3 percent of the state, 14.7 percent of Riverside County, 17.3 percent of San Bernardino County, and 7.1 percent of Desert Center are below the national poverty level.

3.9.1 Direct and Indirect Environmental Effects

This analysis is based on existing population, housing, and local workforce data. It was assumed that most construction workers would be from within Riverside County and San Bernardino County, with workers potentially coming from Imperial County and La Paz County in Arizona. It is anticipated that most of the projected construction workforce not living within one to two hours' driving distance of the project would likely seek temporary housing (such as seasonal, recreational, or occasional use housing; long-term visitor areas; and hotel and motels) during the week and return to their homes over the weekend.

The Promising Practices for EJ Methodologies in NEPA Reviews Report (the Report) by the Federal Interagency Working Group on Environmental Justice & NEPA Committee (2016) outlines methods to determine whether there is an Environmental Justice Population, such as low income or minority populations, within the study area. Both the DRECP FEIS analysis and the Oberon Project EA analysis utilized both the "50 Percent" and "Meaningfully Greater" methodologies. These methods compare the affected population with the population of a reference population; in this case, the affected population of Desert Center is compared to the reference population of Riverside County.

Alternative 1: No Action Alternative

The solar facility, BESS, gen-tie line and associated components would not be constructed or operated under the No Action Alternative. This alternative would result in no direct, indirect, or cumulative impacts to socioeconomics or environmental justice compared to the Proposed Action. It would also not provide any increased work opportunities or taxable income compared with the Proposed Action which, at peak labor, would provide over 500 construction jobs. Because renewable energy generation would not be developed, increased energy generation using fossil fuels, which has greater air quality and GHG emissions that could disproportionately affect minority or

[11] Riverside and San Bernardino Counties have over 100,000 people in the construction industry (CA EDD, 2021).

low-income communities, could occur elsewhere under the No Action Alternative. Other projects or linear facilities could potentially be developed at this location as the land is designated as a DFA. Any future project at this location would likely have similar socioeconomic and environmental justice impacts to the project and would be subject to its own environmental analysis under NEPA.

Alternative 2: Proposed Action

Construction of the project would occur within the span of approximately 15 to 20 months. The construction workforce would average about 320 employees with a maximum of about 530 employees during peak construction. Many temporary workers needed for construction of the project, including application of herbicides and pesticides over the life of the project, would be drawn from populations living within a 2-hour commute of the project site. This assumption is based on observations regarding worker commute habits during construction monitoring efforts for recent similar renewable energy and transmission projects in the California desert. Riverside County contains a significant construction and trades workforce; however, it is likely that some construction workers would come from outside a reasonable commute area (considered a 2-hour commute distance) and would seek temporary housing proximate to the work area. There are sufficient vacant housing units within the local communities (considered a 2-hour commute distance) to support the number of construction workers to the extent that the project workforce would not be considered a substantial sudden growth and pose a burden on surrounding communities. The project would not cause a shortage in available housing for existing residents in Riverside or San Bernardino Counties.

This is consistent with the DRECP FEIS Section IV.23.3.2.1 (page IV.23-25), which found that given the existing numbers of available housing units and vacancy rates within the DRECP planning area (see Section III.23, Table III.23-2) rental housing is available throughout the DRECP planning area. It would not trigger the need for new housing and would not induce a substantial permanent growth to the regional population levels. An increased demand from construction workers could affect transient housing availability for typical seasonal residents within these areas. Impacts from such a temporary change are difficult to predict given that supply and demand are based on seasonal and other unpredictable variables. The DRECP EIS Section IV.23.3.2.1 (page IV.23-25) did note that construction workforce may affect the availability of transient accommodations (hotels, motels, mobile home parks and recreational vehicle parks) near smaller desert communities, such as Desert Center.

During operations, up to 10 permanent workers would be a part of the regular O&M workforce. The project would require either 10 permanent staff members, or 2 permanent staff with 8 project operators who are located off-site and would be on-call. The small number of operational staff would not significantly increase the population in surrounding communities or substantially deplete available housing in Riverside or San Bernardino County (within a two-hour commute). Decommissioning activities would require similar equipment and workforce as construction, but would be less intensive.

Beneficial economic effects would occur from construction and operation under the Proposed Action. Local (within a 2-hour commute) spending (for example at the Chiriaco Summit) from the workforce, especially during construction, would be an economic stimulator for local businesses. Additionally, local procurement of goods and services during construction and operation and a resulting increase in tax revenues are considered beneficial to the local communities. Public

benefits include short-term increases in local expenditures, payrolls, and sales tax revenues. These would positively affect the economy at both local and regional levels.

Desert Center is not considered to have a meaningfully greater low-income population, as 7.1% are below the poverty level, compared to 14.7% in Riverside County (U.S. Census Bureau, 2018e). Desert Center's low-income population is not "meaningfully greater" than that of Riverside County; therefore, the Desert Center population is not considered a low-income population. However, the community is considerably poorer than Riverside County as a whole with an average annual income 58% of that of the county average. Desert Center is also not considered to have a minority population, as approximately 15% of the population is considered a minority, which is less than, and so not "meaningfully greater" than, 66% of Riverside County, or 38% in the State of California.

Impacts associated with the solar facility that could disproportionately affect minority or low-income populations primarily include short-term noise and air quality degradation during construction and long-term visual impacts to the overall desert landscape of the area. This is consistent with the list of potential effects noted in the DRECP FEIS Section IV.23.2.1.2 (page IV.23-10) which highlights typical environmental effects associated with construction as noise and air quality degradation. DRECP FEIS Section IV.23.3.2.1 also notes that in addition to disproportionate effects from construction, much of the electricity generated by these projects would be delivered to populations outside these areas. Noise and air quality degradation are very local, within 1 mile, and impacts would be reduced through compliance with CMAs and regulations and with implementation of mitigation. Visual resources impacts can be seen from greater distances, but become less prominent from beyond 5 miles (see Section 3.13, Visual Resources).

These impacts are not considered to directly result in adverse impacts to environmental justice populations. This determination includes the consideration of DRECP CMAs, proposed mitigation measures, and the absence of significant numbers of minority or low-income populations within 5 miles (the distance at which most environmental effects would occur). The project location was chosen due to its availability and location within a DFA, and the proximity to a substation with available capacity to deliver the energy. The DRECP FEIS Section IV.23.2.1.1, (page IV.23-9) states that site characterization within DFAs would have no common impacts with respect to environmental justice at a programmatic level. For these reasons and considering the rural and remote character of the area and the low population near the site, the solar facility would not result in any disproportionate adverse impacts on low-income or minority populations. Additionally, the project would bring jobs and other increased economic activity to the area.

The nature and magnitude of social impacts from temporary construction worker in-migration and construction activities on smaller rural communities are difficult to predict. While some degree of social disruption is likely to accompany short-term construction worker in-migration, there is insufficient evidence to predict the extent to which rural communities are likely to be affected, which population groups within each community are likely to be most affected, and the extent to which the social disruption is likely to persist beyond facility construction. The presence of construction workers and activities is expected to be most noticeable within the Desert Center area. However, it is not expected to create adverse long-term demographic shifts or social change. While local small communities (like Desert Center) host a rural lifestyle in low-populated, isolated, homogenous communities, construction would be temporary with many workers expected to commute from within the regional workforce.

Alternative 3: Land Use Plan Compliant Alternative

The Land Use Plan Compliant Alternative would result in social and economic impacts identical to those discussed under the Proposed Action, since it would not substantially alter the workforce, affect local communities, or result in any new adverse impacts relative to that alternative.

Alternative 4: Resource Avoidance Alternative

The Resource Avoidance Alternative would result in social and economic impacts identical to those discussed under the Proposed Action, since it would not substantially alter the workforce, affect local communities, or result in any new adverse impacts relative to that alternative.

3.9.2 Cumulative Effects

The geographic scope for the cumulative analysis for the project would include the surrounding cities and census designated places that are within a reasonable commute time, up to 2 hours. This geographic scope includes all the cumulative projects in eastern Riverside County. The temporal scope is the life of the project.

Short-term cumulative impacts would occur during the construction and decommissioning periods when construction schedules of multiple projects could overlap and create a demand for workers that may not be met by the local labor force, thereby inducing in-migration of non-local labor and their households. Construction of the Oberon Project could overlap with construction of other projects in the area, most likely the Arica and Victory Pass Projects. This could result in an even higher demand for workers that may not be met by the local (2-hour commute) labor force resulting in in-migration of non-local labor and their households. As the vacancy rates for housing units are moderately high in the nearby Riverside County communities there would be an ample supply of housing units to accommodate workers drawn from outside the two-hour commute area.

Because the operational workforce is minor, the project would not contribute to any cumulative impacts during operations, because they would not result in a substantial increase in population in an area that would lead to demand for housing.

Cumulative impacts associated with solar facilities that could disproportionately affect minority or low-income populations primarily include short-term noise and air quality degradation during construction and long-term visual impacts to the overall desert landscape of the area. Except for visual impacts, these effects are localized and short-term in nature during construction. Visual impacts of the project to the Desert Center area are minimal and would not contribute to the cumulative visual impacts because of the distance to the site (see Section 3.13, Visual Resources). Overall cumulative visual impacts from the renewable energy development in the area would not be borne disproportionately by the community of Desert Center, because the viewers from nearby KOPs (I-10 and nearby recreational areas) come from all over California and nearby Arizona. The Lake Tamarisk KOP (KOP 5), which represented the rural populations in and around SR-177, experienced a moderate change and would degrade the existing visual character and quality of the landscape; however, the moderate level of change would be allowed under the VRM Class IV management objective that applies to the project.

While there are no significant numbers of minority or low-income populations in Desert Center where the project impacts would primarily occur (0 to 5 miles range), there are minority and low-income populations in the greater eastern Riverside County and in the two-hour commuting area that that are near a large number of solar projects. It should also be noted that while the energy

generated by the project would tie into the nearby substation, it would be delivered to populations mostly outside of the commuting area. As noted in the DRECP Final EIS Section IV.25.3.23, several individual census tracts containing minority and low-income populations within the DRECP area, some of which are in eastern Riverside County, disproportionately bear the acreage where projects would be potentially permitted under the DRECP and cumulative impacts of the project would result in impacts disproportionately borne by minority and low income communities.

3.10 Issue 9: Soils, Geology, and Mineral Resources

3.10.1 Affected Environment

Soils. A National Resource Conservation Service (NRCS) Soil Survey Geographic (SSURGO) Soil Web Survey was not available for the project area, therefore, the NRCS national level State Soil Geographic (STATSGO) soil data for California were reviewed for the Proposed Action site (NRCS, 2016). The site is entirely underlain by one STATSGO soil association: the Vaiva-Quilotosa-Hyder-Cipriano-Cherioni association (NRCS, 2016). The Vaiva-Quilotosa-Hyder-Cipriano-Cherioni soils consist of very shallow to shallow, somewhat excessively drained, gravelly to sandy loam (loam consists of approximately equal amounts of sand, silt, and clay) formed in alluvium over shallow bedrock or hardpan (NRCS, 2021). The soils underlying the project site typically have high percentages of sand and are prone to erosion. The County of Riverside General Plan Safety Element (2019) maps the Oberon Project area as having moderate to high wind erosion susceptibility. Geotechnical evaluations conducted near the project for the Athos Renewable Energy Project (Athos) by Terracon Consultants, Inc. (2018) indicate that soil materials in the project vicinity generally consist of sand with variable amounts of silt, gravel, and cobbles, may be moderately corrosive, and are not expansive.

Desert Pavement. Desert pavement is a surface of closely packed, interlocking angular or rounded rock fragments of pebble and cobble size that protects the underlying very finely textured material from erosion (NRCS, 2016). Sones of ancient desert pavements often have a dark patina known as desert varnish. Desert varnish is the thin red to black coating found on the exposed rock surfaces in arid regions and is composed of clay minerals, oxides, and hydroxides of manganese and/or iron. Desert pavements have sparse vegetation and may also have areas of cryptogamic crust (a biologic soils crust) interspersed in the pavement mosaics. Desert pavements with varnish are visible in photos included in the Biological Technical Resources Report (BRTR; Ironwood, 2021).

The significance of desert pavement is their long-term stability. When desert pavement is disturbed and broken up, the very fine particulate matter immediately beneath the stable pavement that has accumulated by infiltration through the pavement over centuries becomes exposed to air currents. The result is high inputs of fugitive dust into the air and subsequent soil loss on site. If left undisturbed, desert pavements restrict the infiltration of water into the underlying soils and allow for desert runoff to playas near Desert Center.

On the project site, desert pavement is in the eastern portion of the project site and is often interwoven between areas of creosote bush scrub and desert dry wash woodland. The biological survey for the project (Ironwood, 2021) mapped approximately 175 acres of desert pavement within the solar facility boundary and along the gen-tie ROW, as presented in Figure 3.10-1. Approximately 71 acres of desert pavement, about 41 percent of the project's mapped desert pavement, are within areas where project ground disturbance could occur.

Sand Migration and Transport. The Chuckwalla Valley is a region of active aeolian sand erosion, migration, and deposition. Aeolian processes play a major role in the creation and establishment of sand dunes and dune habitat in the Chuckwalla Valley (East et al., 2021).. Recent studies performed by Miles Kenney at Kenney GeoScience (BLM, 2019a and 2019b) reviewed the sand corridor throughout the Chuckwalla Valley and concluded that the sand transport system relies on local sand systems, rather than systems that cross the entire Chuckwalla Valley. However, the project site is not located within any identified sand transport or migration zone and is more than a mile southwest of the Palen Lake Sand Migration Zone (SMZ) at its closest point. Active washes near the Palen Lake SMZ are important for aeolian systems as a sand source, sand transport, and stabilizing moisture; however, none of the minor washes that pass through the project site have been mapped by Kenney GeoScience as aeolian sand sources, and they are located more than a mile southwest of the SMZ.

Geologic Hazards. Geotechnical hazards in the project area are related to earthquake induced ground shaking and unsuitable soils (corrosive soil). The area will be subject to ground shaking associated with earthquakes on faults of the San Andreas fault system. Geotechnical evaluations conducted near the project for the Athos Renewable Energy Project (Athos) by Terracon Consultants, Inc. (2018) indicate that soil materials in the project vicinity may be moderately corrosive. The DRECP FEIS identified ground shaking at the principal geologic hazard in the project area (DRECP FEIS Section IV.4.2.1.3, page IV.4-5).

Subsidence. Land subsidence is a gradual settling or sudden sinking of the ground surface, generally due to petroleum or groundwater withdrawal; the largest cause of subsidence in California is from excessive groundwater pumping. Documented historic subsidence has occurred in western Riverside County due to increased groundwater pumping for agricultural and increased urbanization; however, there are no areas of documented current or historic subsidence in eastern Riverside County at or near to the project area (County of Riverside, 2019; USGS, 2021). No petroleum or natural gas withdrawals are taking place in the project area that would trigger of contribute to subsidence.

Mineral Resources. The DRECP EIS indicates that this area does not have any known significant locations of critical minerals (DRECP EIS Section III.15.2.2, Figure III.15-2 and II.15-4), but these lands are currently open to mineral leasing, geothermal leasing, or mineral material sales. A review of the BLM Mineral and Land Records System (MLRS) and the BLM Land and Records System Reports (LR2000) indicate that there are no active mining claims, mineral use authorizations, or mineral leases within the project site (BLM, 2021a and 2021b).

3.10.2 Direct and Indirect Environmental Effects

Alternative 1: No Action

The No Action Alternative would not result in any new construction and/or operational activities or any new associated ground-disturbing activities. The No Action Alternative would not expose people or structures to adverse effects involving collapsible, corrosive, or expansive soils. It would not result in increased erosion and sediment runoff, nor would it effect active sand migration and deposition. There would be no direct, indirect, or cumulative effects. Other projects or linear facilities could potentially be developed at this location as the land is designated as a DFA. Any future project at this location would likely have similar impacts to the project and would be subject to its own environmental analysis under NEPA.

Alternative 2: Proposed Action

Project Triggered Erosion. Since most of the site has nearly level to gently sloping topography, no mass grading would be required; however, many areas of the solar site would be impacted by some form of ground disturbance, including mowing, grubbing, minor grading, compaction, and excavation. Some of the areas where facilities and arrays would be located would require light grubbing for leveling and trenching. Construction would require ground disturbance for construction of the solar arrays. substation, O&M building, septic system, BESS foundations, access roads, and other features. Construction of the longer gen-tie option would require fractionally greater ground disturbance. Ground disturbing activities would expose soil and increase the potential for wind and water erosion. The DRECP FEIS identifies approximately 210,000 acres of soils with moderate to high wind erosion potential and 107,000 acres of soils with moderate to high water erosion potential within the DRECP area (DRECP FEIS Section IV.4.3.2.1 page IV.4-19). Mitigation Measures AQ-1 (Fugitive Dust Control Plan), MM-BIO 5 (Vegetation Resources Management Plan), HWQ-1 (Drainage Erosion and Sedimentation Control Plan [DESCP]), and HWQ-4 (Project Drainage Plan) would reduce impacts related to soil erosion by requiring stabilization of disturbed areas and unpaved roads during construction and operation, revegetation plans to stabilize soils in disturbed areas, provide erosion control and BMP plans, and require plans that prevent changes to site drainage that could increase water erosion. The Applicant has prepared a Dust Control Plan that includes identification of sources of fugitive dust that are anticipated to occur during construction, identifies Best Available Control Measures (BACMs) implemented during construction to reduce fugitive dust emissions, and identifies contingency control measures implemented if the BACMs are not adequately controlling fugitive dust (see POD Appendix T in EA Appendix F). Additionally, compliance with the project Stormwater Pollution Prevention Plan (SWPPP) that the Applicant has committed to preparing would also reduce potential soil erosion impacts. See EA Appendix H for the full text of the Mitigation Measures.

Once constructed, the Proposed Action O&M activities would not alter the drainage patterns on site because it would avoid the primary washes through the site and would allow sheetflow of water through the site. It would not lead to a substantial increase in erosion or loss of topsoil because they would be limited to use of the roads and would not result in additional ground disturbance. MM AQ-1 requires a Fugitive Dust Control Plan that would include restricting vehicular access to established unpaved travel paths during O&M and ensuring the paths remain stabilized, while MM HWQ-4 (Project Drainage Plan) requires a Project Drainage Plan that shows how water would traverse the project site without altering drainage patterns and leading to erosion or loss of topsoil. At the end of the project's operational lifetime, the structures and improvements would be dismantled and removed from the site. Impacts to soils during that process would be similar to those during construction, and similar mitigation would be required to reduce erosion.

Desert Pavement. Disturbance of desert pavement, and associated ancient desert varnish, in the solar facility site and along the gen-tie would result in exposure of the underlying erodible fine-grained material and would increase the potential for wind and water erosion, and the ecological loss of this soil characteristic. Undisturbed desert pavements have been found to be the lowest emitters of dust in a study of Mojave Desert soil surfaces but when the underlying soils particles are exposed due to mechanical disturbance, the fine soils below desert pavements can become the highest emitters of dust in desert landscapes (Potter, 2016). The DRECP FEIS notes that renewable energy development in the DRECP area may damage desert pavement and that specific locations of desert pavement should be mapped (DRECP FEIS Section III.4.2.2.4, page III.4-19). Desert

pavement was mapped at the project sites during the biological surveys; approximately 71 acres of desert pavement could be impacted[12] or 41% of the 175 acres of total desert pavement within the total project area. Although areas within the solar arrays would be subject to only minimal grading and would primarily be mowed and grubbed, it is assumed that the full amount of desert pavement underlying the solar arrays and other project components would be disturbed. The longer option for the gen-tie crosses a very small area of desert pavement, fractionally increasing the potential for disturbance of desert pavement over the shorter gen-tie option. The southeastern substation option would have some desert pavement in its northwest corner (see Figure 3.10-1 in EA Appendix D).

The DRECP CMA LUPA-SW-9 requires that if more than 10 percent of the desert pavement in the boundary area will be impacted, the erosional and ecological impacts must be considered. As noted, the primary concern would be erosion and generation of fugitive dust from exposed fine-grained sediments under the desert pavements as the desert pavements are substantially devoid of vegetation. Implementation of MMs AQ-1 (Fugitive Dust Control Plan), MM HWQ-1 (Drainage Erosion and Sedimentation Control Plan [DESCP]), MM HWQ-4 (Project Drainage Plan) and compliance with the project SWPPP would reduce erosion impacts related to disturbance of desert pavement such that the effect would be minimal. The Applicant has prepared a Dust Control Plan that includes identification of sources of fugitive dust that are anticipated to occur during construction, identifies Best Available Control Measures (BACMs) implemented during construction to reduce fugitive dust emissions, and identifies contingency control measures implemented if the BACMs are not adequately controlling fugitive dust (see POD Appendix T in EA Appendix F). Additionally, MM BIO-5 (Vegetation Resources Management Plan) would require revegetation of disturbed areas which would reduce the potential for soil erosion in areas of disturbed desert pavement during Project operation and MM BIO-6a (Compensation for Desert Dry Wash Woodland and Desert Pavement Impacts) would require a 1:1 acre compensation for this resource. With the mitigation measures, the effects to desert pavement would be minimal and meet CMA LUPA-SW-9 requirements.

Sand Migration and Transport. The project does not include any sand transport or sand migration zones, nor any washes that are aeolian sand sources, therefore the Proposed Action would not result in a loss of sand transport from development of the solar project. The Proposed Action would have no potential to impact sand migration or transport.

Geologic Hazards. The engineering and design of the Proposed Action would consider the regional and site-specific geotechnical hazards (unsuitable soils, ground shaking) to ensure project viability. The presence of unsuitable corrosive soils could potentially cause damage to Project structures. Additionally, ground shaking due to seismic events could result in damage to infrastructure through inertial effects and ground displacements. Compliance with existing regulatory requirements and implementation of geotechnical recommendations from the required geotechnical investigation, including accounting for seismic loads in designs, and report in final engineering and design would reduce impacts related to unsuitable soils and ground shaking. This is consistent with the DRECP FEIS Section IV.4.3.2.1 (page IV.4-18 and -19) which notes that the faults in the area could result in potential geologic hazard that could damage renewable energy facilities.

[12] Development of the Eagle Crest gen-tie line area with solar panels would add an additional 10 acres of disturbance to desert pavement depending on final design.

Mineral Resources. Implementation of the Proposed Action would temporarily restrict mineral exploration or extraction on this land for the life of the project, but it would not change the mineral content of the area, and mining or mineral content sales could resume after completion of the Proposed Action. Public Land Order 7818 withdrew land encumbered by the solar application from location and entry under the United States mining laws. The effects to mineral resources would be negligible. This is consistent with the DRECP FEIS Section IV.15.2.1.2 (page IV.15-2) which notes that solar development would be incompatible with and preclude most mineral development activities.

Herbicide Use. Overall, implementation of the IWMP would not adversely affect soils because invasive plants can impact soil function and reduce soil biodiversity. Invasive plants may alter soil nutrient availability for native species, alter soil constituents (e.g., soil fungi and bacteria), and slow the rate of natural plant succession. These conditions can lead to reduced native plant establishment and lower native plant densities, although removal of non-native vegetation does not increase recruitment of native vegetation.

However, herbicide use can have short-term adverse impacts on soils because herbicides can affect soil fertility and function and can kill or harm soil organisms. During application, herbicides contact soils through spills, overspray, or spray drift. Herbicides can also be transmitted to soils via plant roots. If herbicides remain active in plant tissues, they can be released into soils when plants decay. The absolute loss of plant material and soil organic matter can increase the risk of soil susceptibility to wind and water erosion and both wind and water can transport herbicides that have adsorbed to particles. Estimated soil half-life and adsorption affinity (from PEIS Table 4-7; BLM, 2007a) for herbicides under the IWMP are presented in Table 3.10-1.

Table 3.10-1. Estimated Soil Half-life and Adsorption Affinity for Active Ingredients

Herbicide	Soil Half-Life (days)	Soil Adsorption (K_{oc})
Chlorsulfuron	40	40 mL/g
Clopyralid	40	6 mL/g, ranges to 60 mL/g
Glyphosate	47	24,000 mL/g
Imazapyr	25 to 141	1,000 mL/g
Triclopyr	46	20 mL/g (salt), 780 mL/g (ester)

Source: BLM, 2007a (Table 4-7)

SOPs listed in EA Appendix B include restrictions on herbicide application in areas with steep slopes or where soils characteristics present a high risk that chemicals will migrate beyond the treatment area. The following summary of the impacts addressed in the PEIS (pages 4-16 to 4-21) assumes all applicable SOPs will be implemented (BLM, 2007a).

Chlorsulfuron. Chlorosulfuron has an average half-life of 40 days. However, the behavior of chlorsulfuron in soil is significantly affected by soil pH, including persistence, mobility, and efficacy. Acidic soil (pH below 7) can significantly reduce the half-life and efficacy. Basic soil (pH above 8 or 9) can significantly extend the half-life, efficacy, and persistence. For this herbicide, nonmicrobial hydrolysis is the primary method of degradation, and in acidic soil (low pH), nonmicrobial hydrolysis increases. Chlorsulfuron has some ability to persist and move in soil, which is increased by clay content and amount of rainfall. It is likely that in some soils dissipation rates could be slower than the reported average, including arid soils with high pH and low organic

matter. Chlorsulfuron appears to be only mildly toxic to terrestrial microorganisms, and effects are generally transient.

Clopyralid. Clopyralid is unstable in soil, and its field dissipation half-life ranges from 10 to 161 days. It is weakly adsorbed in soil; therefore, it is moderately mobile in soil, and even more so in sandy or mineral soil, or in cases with heavy rainfall. Clopyralid does not appear to bind tightly to soil and will leach under favorable conditions; however, the potential for leaching or runoff is attenuated by the apparently rapid biodegradation of clopyralid in soil. Clopyralid can be persistent in plants and can result in soil activity when plants containing clopyralid die and biodegrade, releasing clopyralid to the soil where it can again be taken up by plants. Degradation is mostly microbial. Moisture and soil temperature affect the rate of degradation.

Glyphosate. Glyphosate is a polar compound that works to kill target plant material by disrupting a plant enzyme which is not present in humans or animals. Product that is not absorbed by plant material is generally inactivated by soil adsorption. Glyphosate is water soluble, but it has a high affinity to bind to soil particles. Adsorption of glyphosate increases with increasing clay content and cation exchange capacity and decreasing soil pH and phosphorous content (BLM, 2007a, page 4-19).

Glyphosate is biodegraded by soil organisms, and many species of soil microorganisms can use glyphosate as a carbon source. Glyphosate exposure results in the inhibition of respiration and nucleic acid synthesis in plants and microorganisms (BLM, 2007a; page 4 19). Glyphosate has a typical soil half-life of 47 days and a soil adsorption of 24,000 milliliters per gram (BLM, 2007a, page 4-15).

Imazapyr. Imazapyr is water soluble, potentially mobile, and has a long half-life (BLM, 2007a, page 4-20). Imazapyr does not readily bind to mineral soils but is likely to bind relatively strongly to organic soil. In a study of the fate of imazapyr applied to a railroad ROW, most imazapyr was found in the upper 12 inches of the soil and exhibited a half-life in the range of 67 to 144 days (BLM, 2007a, page 4-20). Imazapyr may persist in soil for a prolonged period in relatively arid regions and does not bind tightly to alkaline soils with low organic matter. Thus, the potential for longer-term effects on soil organisms and downgradient systems exists. Imazapyr can "leak" from treated plants into the soil, where it remains active and can be taken up by non-target plants (BLM, 2007a; page 4-20). Imazapyr has a typical soil half-life of 25 to 141 days and a soil adsorption of 1,000 milliliters per gram (BLM, 2007a, page 4-15).

Triclopyr. Triclopyr comes in two formulations — a triethylamine salt and a butoxyethyl ester. Both formulations of triclopyr degrade to triclopyr acid in soil. Degradation occurs primarily through microbial metabolism, but photolysis and hydrolysis can be important. The average half-life of triclopyr acid in soil is 30 days; however, triclopyr can be persistent in plants. When plants containing triclopyr die and biodegrade, they may release triclopyr to the soil, where it can then be taken up by other plants. Triclopyr has a typical soil half-life of 46 days and a soil adsorption of 20 and 780 milliliters per gram for triethylamine salt and butoxyethyl ester, respectively (BLM, 2007a; page 4-15).

The Proposed Action would impact approximately 71 acres of desert pavement and/or desert varnish. These features are sensitive, but generally support little to no vegetation so invasive plant management is not expected to be required in these areas if they are undisturbed.

Manual treatment methods could disturb soil, leading to soil erosion and loss of soil quality. However, the use of herbicides and manual methods to treat vegetation will overall improve ecosystem function and health, including soil health. Accordingly, the Proposed Action will not result in adverse effects on soil.

Alternative 3: Land Use Plan Compliant Alternative

Under the Land Use Plan Compliant Alternative, the setback around the desert dry wash woodland would be increased to a minimum of 200 feet, thus decreasing the acreage of solar arrays as compared to the Proposed Action. Long-term desert tortoise exclusion fencing would be in installed around the perimeter of all development areas, instead of the combination of exclusion and passage fence that would be installed for the Proposed Action.

As most of the desert pavement on the project site is mapped near the desert dry wash woodland (see Figure 3.10-1), the increase in setback around the desert dry wash woodland would reduce the amount of desert pavement that would be disturbed for solar arrays to approximately 37.5 acres, or about 21% of the total desert pavement within the solar facility and gen-tie boundaries and as assumed in the Proposed Action all areas of desert pavement underlying the solar arrays would be disturbed during project construction. The permanent exclusion fencing would be installed in approximately the same areas as the fencing for the Proposed Action and would have similar soils impact relative to the Proposed Action. This reduction in disturbance area would generate an amount of added fugitive dust from the fine-textured exposed from under the disturbed desert pavement intermediate between Alternatives 2 and 4. The Land Use Plan Compliant Alternative would reduce the area of ground disturbance for solar arrays and associated components, thus reducing the potential for impacts related to erosion, and unsuitable (corrosive) soils as compared to the Proposed Action. As with the Proposed Action, there would be no impact related to sand migration and transport. The Land Use Plan Compliant Alternative would be subject to the same ground shaking hazards as the Proposed action, but due to the decreased acreage of solar panels for this alternative there would a slightly smaller potential for damage to project structures. Land Use Plan Compliant Alternative, therefore, would have similar, but reduced direct, indirect, and cumulative impacts relative to the Proposed Action.

Alternative 4: Resource Avoidance Alternative

The Resource Avoidance Alternative would increase the setback around the desert dry wash woodland to a minimum of 200 feet and would avoid desert tortoise critical habitat and the multi-species habitat linkage, thus significantly decreasing the acreage of solar arrays and associated components as compared to the Proposed Action. This would significantly reduce the amount of ground disturbance, and as most of the desert pavement is located in the eastern part of the project site that would be removed from development and significantly reduce the amount of disturbance of desert pavement. To be conservative, all areas of desert pavement within the solar arrays is assumed to be disturbed by project construction. Therefore, the Resource Avoidance Alternative would greatly reduce the solar array footprint and would disturb only about 18 acres of desert pavement or about 10% of the total desert pavement within the project boundaries.

The amount of erosion and fugitive dust released from this alternative would be the least of the three action alternatives, and the amount of surface disturbance would be at the initial threshold for significance established in DRECP CMA LUPA-SW-9. The Resource Avoidance Alternative would have significantly reduced potential for impacts related to erosion and unsuitable

(corrosion) soils due to its smaller footprint as compared to the Proposed Action. As with the Proposed Action, there would be no impact related to sand migration and transport. The Land Use Plan Compliant Alternative would be subject to the same ground shaking hazards as the Proposed action, but due to the decreased acreage of solar panels for this alternative there would a smaller potential for damage to project structures. The Resource Avoidance Alternative, therefore, would have similar, but reduced direct, indirect, and cumulative impacts relative to the Proposed Action and Land Use Plan Compliant Alternative.

3.10.3 Cumulative Effects

Impacts resulting from erosion triggered by a project's construction and operation are localized in nature and unlikely to extend much beyond the project boundaries and adjacent areas of solar projects except with the occurrence extreme weather events that result in substantial down-stream/downwind erosion for soil. Geologic hazards (ground shaking and corrosive soils) would be site-specific impacts for the project and each cumulative project. While ground shaking and corrosive soils could impact the project infrastructure, it would be unlikely to be damaged or destroyed in a manner that would combine with geologic hazard impacts to the adjacent project. As such, the geologic hazard impacts would not combine to result in a cumulatively significant impact.

With respect to soil resources and the potential for erosion and loss of topsoil, impacts from the project could combine with the effects from adjacent projects that would require substantial ground disturbance. The project site is adjacent to large solar projects that would require substantial ground disturbance, the Athos Renewable Energy Project (under construction), the Easley Project (proposed), and the Victory Pass Solar Project (proposed). The Athos Project started construction in January 2021, so the ground disturbance portion of the construction is likely to be complete or almost complete prior to the construction of the Oberon Project. Likewise, the Easley Project would not likely have overlapping construction. While each project's soil disturbance could result in off-site water and wind erosion, they would undergo an environmental review under NEPA and/or CEQA and would be required to abide by existing regulations such that they would have a DESCP (Drainage Erosion and Sedimentation Control Plan), Drainage Plan, a Fugitive Dust Control Plan, a SWPPP (or similar plans), and plans to stabilize and/or revegetate disturbed areas that would reduce wind and water erosion. Because disturbed soil from wind and water erosion for the project would be minimized by implementation of plans required by regulations and mitigation measures and each cumulative project would implement similar site-specific plans to reduce erosion, erosion from the project would not substantively combine with the erosion from nearby projects and would not combine to create a cumulatively substantial effect due to erosion.

In the Chuckwalla Valley, the Desert Sunlight Solar Farm, the Desert Harvest Solar Project, the Athos Renewable Energy Project, the Palen Solar Project, the Easley Solar and Green Hydrogen Project, and the Arica and Victory Pass Solar Projects have impacted or could impact desert pavement and any associated desert varnish. While mitigation for existing projects and CMAs from the DRECP LUPA for future projects would reduce the effects of each individual renewable project permitted to the extent practicable, a cumulatively substantial effect could still result. Implementation of Mitigation Measures AQ-1 (Fugitive Dust Control Plan), HWQ-1 (Drainage Erosion and Sedimentation Control Plan [DESCP]), HWQ-4 (Project Drainage Plan) and compliance with the required SWPPP would reduce erosion impacts related to disturbance of desert pavement. The Applicant has prepared a Dust Control Plan that includes identification of sources of fugitive dust

that are anticipated to occur during construction, identifies Best Available Control Measures (BACMs) implemented during construction to reduce fugitive dust emissions, and identifies contingency control measures implemented if the BACMs are not adequately controlling fugitive dust (see POD Appendix T in EA Appendix F). Additionally, MM BIO-5 (Vegetation Resources Management Plan) would require revegetation of disturbed areas which would reduce the potential for soil erosion in areas of disturbed desert pavement during project operation and MM BIO-6a (Compensation for Desert Dry Wash Woodland and Desert Pavement Impacts) would require a 1:1 acre compensation for impacts to desert pavement habitat. Implementation of these measures would reduce the project's contribution to the cumulative effect to desert pavement and associated desert varnish.

3.11 Issue 10: Special Designations

3.11.1 Affected Environment

There are multiple types of BLM special designations near the project. These include Special Recreation Management Areas (SRMAs), Areas of Critical Environmental Concern (ACECs), and Wilderness Areas. SRMAs are discussed here and in greater detail in Section 3.8, Recreation, and ACECs and Wilderness are described in this section.

The project is located on BLM-administered land designated as a DFA by the DRECP LUPA. The solar facility is not within an ACEC, but the gen-tie line would cross one ACEC, and there are six other ACECs near the project (within a 20-mile radius), see Table 3.11-1.

Table 3.11-1. Special Designation

Area with a Special Designation	Direction from Oberon Site	Distance from Oberon Project (miles)	Approximate Size (acres)
Palen-Ford Playa Dunes ACEC	Northeast, and southeast	5	41,370
Chuckwalla Desert Wildlife Management Area ACEC	South	Gen-tie enters the ACEC	514,400
Palen Dry Lake ACEC	Southeast	8	3,630
Chuckwalla Valley Dune Thicket ACEC	Southeast	20	2,270
Corn Springs ACEC	South	5	2,470
Alligator Rock ACEC	Southwest	>1	7,750
Desert Lily Preserve ACEC	North	3	2,060
Joshua Tree Wilderness	Northwest	5	549,500
Chuckwalla Mountains Wilderness	South	1	99,550
Palen-McCoy Wilderness	Northeast	9	236,490
Chuckwalla SRMA	South	>1	228,480
Corn Springs Campground	Southwest	5	9 camping units
Bradshaw Trail Back Country Byway	South	17	65 miles long

ACECs were established to address the special management needs for natural and cultural resources (BLM, 2016), and each ACEC Special Unit Management Plan outlines why it was established and what activities are allowed.

- **Palen-Ford Play Dunes ACEC** (DRECP LUPA Appendix B, page 208) management goals are to maintain the integrity of critical fringe-toed lizard habitat and critical ecological processes, namely the sand transport system and sand sources in the ACEC; prevent excessive groundwater removal that could threaten dune and playa dependent vegetation alliances; protect cultural resources related to the Palen and Ford playas; and ban activities that may result in adverse effects to landscapes or to National Register Eligible sites or artifacts.
- **Chuckwalla ACEC** (DRECP LUPA Appendix B, page 144) management goals are to protect and improve habitat for sensitive and rare ecological resources, consider and respond to climate changes and opportunities to increase ecological resilience to climate changes, reduce hazards to public safety, provide appropriate compatible public uses, maintain habitat connectivity between the Chuckwalla National Conservation Lands and Joshua Tree National Park, and protect the cultural values of the site.
- **Palen Dry Lake ACEC** (DRECP LUPA Appendix B, page 202) management goals are to protect archeological sites and provide appropriate compatible public uses.
- **Corn Springs ACEC** (DRECP LUPA Appendix B, page 165) management goals are to protect the integrity of Native American, scenic, hydrological, recreational, and ecological resources of the area and to provide appropriate compatible public uses.
- **Alligator Rock ACEC** (DRECP LUPA Appendix B, page 132) management goals are to protect and preserve cultural and spiritually important resources and provide appropriate compatible public uses and includes National Register sites for cultural resources.
- **Desert Lily Preserve ACEC** (DRECP LUPA Appendix B, page 173) management goals are to protect vegetation from impacts from anthropogenic activity and to provide appropriate compatible public uses

Approximately 500 feet of the shared gen-tie line would be located within the Chuckwalla ACEC south of I-10 within an existing utility corridor. The Chuckwalla ACEC allows for limited off-highway vehicle (OHV) use on designated routes and for the portion of the ACEC that overlaps the utility corridor, priority will be placed on land use authorizations that are consistent with the purpose of the utility corridor (DRECP LUPA Appendix B, page 151).

Under the CDCA Plan, as amended by the DRECP LUPA, the BLM manages ACECs using CMAs, ACEC-specific management disturbance caps, and ACEC Special Unit Management Plans. The ground disturbance cap is a limitation on ground disturbing activities within the ACEC and precludes approval of future discretionary ground-disturbing activities above the cap without mitigation. If new disturbance would not exceed the specified disturbance caps, no disturbance-cap mitigation is required. The portion of the Chuckwalla ACEC that the gen-tie line would cross has a 0.5% disturbance cap. The Chuckwalla ACEC is above the disturbance cap, which means that disturbance mitigation would be triggered by construction of the Oberon gen-tie line (BLM DRECP LUPA, Section II.2, 2016).

Portions of the Chuckwalla ACEC near I-10 and within a BLM designated utility corridor are classified as VRM Class III, therefore, the portion of the gen-tie line, which crosses the Chuckwalla ACEC, is subject to Class III management objectives.

The nearest wilderness areas are the BLM Chuckwalla Mountains Wilderness (1 mile south), BLM Palen-McCoy Wilderness (9 miles east), and the NPS Joshua Tree Wilderness (5 miles north). All

other wilderness areas are over 15 miles away. These areas have no developed trails, parking, or trailheads, and are generally steep, rugged mountains, thus, limiting extensive hiking or backpacking opportunities. BLM has no visitor counts for these areas. There are five nearby mountain peaks within wilderness areas which are occasionally used by the Desert Peaks Section of the Sierra Club's Angeles Chapter (BLM, 2018). Views of the project from these peaks would be limited, and would be viewed in the context of existing renewable energy development.

BLM Staff and Law Enforcement Rangers estimate about 100 to 200 hikers per year within all the wilderness areas near the project. Vehicle camping along roads that are adjacent to the wilderness areas is more popular than hiking. BLM states that up to 2,000 visitors per year use the area to RV camp near wilderness area, with associated hiking, OHV use, photography, sightseeing, and other BLM approved activities (BLM, 2018).

Recreation within wilderness areas is limited by the Wilderness Act to activities that do not degrade this wilderness character, which typically includes activities that are primitive and unconfined, and that depend on a wilderness setting, Mechanized and motorized vehicles are not permitted in wilderness areas (916 USC 1133I). The BLM regulates recreation on lands within its jurisdiction in accordance with the policies, procedures and technologies set forth in the Code of Federal Regulations (43 CFR 6300), BLM Manual 6340 (Management of Designated Wilderness Areas), and BLM's Principles for Wilderness Management in the California Desert.

3.11.2 Direct and Indirect Environmental Effects

Evaluation of potential conflicts with Special Designations was based on a review of relevant planning documents and a review of the project site and surrounding area.

Alternative 1: No Action Alternative

The No Action Alternative would not develop the solar facility and gen-tie line. It would not result in any direct, indirect, or cumulative impacts to lands with special designations or Wilderness areas.

Alternative 2: Proposed Action

ACECs. The solar facility is not located within an ACEC; the nearest ACEC is located approximately 300 feet from the fence line, south of I-10. There would be no direct impacts from the solar facility on the ACECs due to the distance between them. The solar facility would be visible from portions of the ACECs but would not conflict with the Special Unit Management Plans for the ACECs outlined in Appendix B of the DRECP LUPA (BLM, 2016). This is because, except for the Chuckwalla ACEC, the rest of the ACECs are sufficiently far from the Proposed Action that the visual resources would be minimal, and the Proposed Action would introduce infrastructure similar to what is already within the viewsheds of the ACECs. For the Chuckwalla ACEC, the ACEC Management Plan specifically manages the areas near I-10 as VRM Class III (Appendix B page 150). The project would meet this objective given the existing visual context which includes several solar projects and numerous existing transmission lines and the Red Bluff Substation in this area. See Section 3.11, Visual Resources for more discussion. No mitigation is required for the solar facility itself.

The project's gen-tie line would cross through approximately 500 feet of the Chuckwalla ACEC. As noted above, the particular subunit of the Chuckwalla ACEC that the gen-tie line would cross is over the ground disturbance cap assigned to the subunit to protect the important values of the

ACEC. The Applicant will comply with all applicable ACEC CMAs, including the ground disturbance mitigation requirements. Impacts to desert tortoise designated critical habitat occur on the location as the ACEC impacts. The required critical habitat compensation is 5:1. Mitigation for ACEC ground disturbance and designated critical habitat may be nested.[13]. Construction of the project's gen-tie line would result in ground disturbance for pole installation within this ACEC. The portion of the gen-tie line ROW within the ACEC unit is 1.5 acres, but construction of the project's gen-tie line would result in an estimated 0.25 acres of ground disturbance for one structure within this ACEC (two structures would be required for the longer gen-tie line option shown on Figure 2-1, Project Area). This is consistent with the analysis in the DRECP FEIS Section IV.4.2.1.1 (page IV.14-4) which notes that renewable energy and associated transmission could also conflict with BLM management goals and objectives to categorize, protect, and manage special designation areas. However, the magnitude of the impacts is minimal given the small amount of ground disturbance, that it is within an existing utility corridor, and that it would be surrounded by existing gen-tie lines within the utility corridor.

In accordance with CMA ACEC-DIST-2, specific ground disturbance mitigation for the acres of impacts to the ACEC unit would be required. The acreage of mitigation would depend on the acreage that is already disturbed and the acreage of new ground disturbance, but would likely result in approximately 1 acre of mitigation lands. Given the disturbance within the existing transmission corridor and the compensation for this new ground disturbance, the effects would be insignificant. As noted in the DRECP LUPA, Section II.2.1, this mitigation would provide a restoration mechanism that will, over time, improve the condition of the unit(s) and take them below their cap (BLM, 2016).

The proposed gen-tie line would run parallel to and in the vicinity of other existing, approved, and proposed gen-tie lines (Palen/Desert Harvest, Desert Sunlight, Athos, Eagle Crest, Arica/Victory Pass) that also need to enter the Chuckwalla ACEC to connect to the existing Red Bluff Substation, which is located within in the Chuckwalla ACEC. The gen-tie line would follow existing corridors, would have minimal ground disturbance, and views of the gen-tie line from within the ACEC would be limited; therefore, it would not interfere with the management goals of the ACEC that are described in EA Section 3.11.1 (Affected Environment).

EA Section 3.13, Visual Resources, describes the gen-tie line as visible but not visibly prominent, which is consistent with the Class III objective. As noted, for ROWs within the Chuckwalla ACEC, priority will be placed on land use authorizations that are consistent with the purposes of the designated utility corridor, which includes the Oberon gen-tie line.

Invasive plant management within the corridor would have no impact on sensitive resource values in the ACEC because activities would occur within the disturbed utility corridor in the area around Red Bluff Substation. Manual and chemical management activities would be localized to invasive plant populations within the corridor. Herbicide use would have a beneficial effect on ecological values in the ACEC, because it would prevent the introduction and spread of invasive plants from within the corridor into surrounding sensitive areas. It would not affect cultural or scientific values, because these activities would not occur in areas of the ACEC that support these resources.

[13] Under the DRECP LUPA, the BLM would manage ACECs using CMAs and ACEC-specific management disturbance caps. If new disturbance would not exceed the disturbance caps, no additional disturbance-cap mitigation is required.

Disturbance of Recreation Users. Recreational users of wilderness areas could be disturbed by noise, glare, fugitive dust, or traffic associated with construction activities during initial construction and eventual decommissioning. These effects may be experienced in the Wilderness areas but at a distance where impacts would be minimal. Noise or traffic impacts would not be significant due to the distance (see Section 3.6, Noise and Vibration). As stated in Section 3.2 (Air Quality and Greenhouse Gas Emissions), the source of emissions during construction would occur near the ground level and dust control mitigation would be implemented, so dust emissions would have a limited ability to affect distant vistas, and emission would be dispersed across each project site. The Wilderness Area in JTNP has much lower visitation than other more accessible parts of the JTNP that contain visitor serving facilities. Visitor use within the Wilderness Areas around the project is very light, though BLM has no visitor use counts (BLM, 2018). The environmental effects to recreation users would be reduced though the lifetime of the project by mitigation measures described in EA Appendix H.

Changing the Character of Wilderness Areas. The solar facility is located entirely on BLM-administered land, designated as a DFA. No direct loss of Wilderness would result. During operation, the presence of the project would present a visual change that could affect visitors to the Wilderness Areas perceiving the altered natural landscape. The BLM measures the attributes of wilderness character and tracks the changes to that character from development near Wilderness. Since 2010, the Desert Center area has been transformed by the development of utility-scale solar projects such as Desert Sunlight, Palen, Desert Harvest and Athos, the Chuckwalla Valley Raceway, and increased transmission infrastructure. The Proposed Action would continue this trend by increasing development by approximately 2,700 acres.

This change would be consistent with the BLM management plan for this area and consistent with the analysis in the DRECP FEIS Section IV.14.3.2.1 regarding Wilderness which identified 320,000 acres of Wilderness within 5 miles of DFAs. The DRECP FEIS noted that development in the DFAs may result in an indirect adverse effect on the viewshed, air quality, values of solitude, or other features of scenic value in Wilderness areas, and such impacts would reduce the quality of the lands with special designation and change the nature of the location. The DRECP FEIS also notes that the impacts would be minor to moderate, depending on the distance from the DFA, but that CMAs for BLM land designations would reduce impacts. As stated in Section 3.13, Visual Resources, a Night Lighting Management Plan would be implemented in accordance with Mitigation Measure VIS-1 to reduce the effect of the project on the dark sky and star gazing, both of which are important factors in a wilderness area and would be required to comply with CMAs LUPA-BIO-13 (General Siting and Design) and DFA-VPL-VRM-1 (Required Visual Resource BMPs).

Alternative 3: Land Use Plan Compliant Alternative

This alternative would have a similar impact to the viewshed as the Proposed Action, since it would be equally visible to recreationists using wilderness areas or other lands with special designations. The gen-tie line is the same as for the Proposed Action, so similar disturbance cap mitigation within the Chuckwalla ACEC would be required. The Land Use Plan Compliant Alternative would have similar impacts relative to the Proposed Action.

Alternative 4: Resource Avoidance Alternative

This alternative would have a similar impact to the viewshed as the Proposed Action, since it would be equally visible to recreationists using Wilderness areas or other lands with special designations. The gen-tie line is the same as for the Proposed Action, so similar disturbance cap mitigation within the Chuckwalla ACEC would be required. The Resource Avoidance Alternative would have similar impacts relative to the Proposed Action.

3.11.3 Cumulative Effects

Multiple solar projects in the Desert Center area are developed, proposed, or under-construction, the bulk of which are in the DFA. These projects are located on private or BLM-administered land, and none are within an ACEC, except for the gen-tie lines within existing transmission corridors. The gen-tie line would result in approximately 0.25 acres of ground disturbance within the ACEC. The project would mitigate for this new disturbance within the ACEC at a ratio of 1:1 or higher. Any gen-ties line associated with cumulative resources would also be required to mitigate new disturbance. The solar facilities would result in visual impacts to the ACECs, but these would not impact the relevant and important values and management objectives of the ACECs, due to the three existing gen-tie lines and industrial development already present in this area and because the management objective of the Chuckwalla ACEC is to allow appropriate development within the utility corridor. Visual impacts are addressed in Section 3.13.

The cumulative projects would result in similar impacts to wilderness areas as those described for the Proposed Action and other alternatives, indirect adverse effect on the viewshed, air quality, values of solitude, or other features of scenic value in wilderness areas. The cumulative amount of development in the Desert Center area would substantially change the character of the DFA by changing the landscape from natural to industrial Wilderness areas are valued for their solitude and isolation, and the change in viewshed may cause a reduction in visitation to some portions of wilderness areas, and an increase in wilderness areas use away from the Desert Center vicinity. DRECP EIS Section IV.25.3.14 (page IV.25-92) in the DRECP FEIS discusses the development on DFA lands adjacent to or near designated conservation areas, such as wilderness. The DRECP FEIS states that the development would indirectly affect the existing management goals and objectives, particularly scenic resources. Direct impacts would be minimal because the BLM works closely with developers to identify the most appropriate location of renewable energy. A large amount of Wilderness and otherwise solitary recreational resources in Eastern Riverside County and the California desert makes it unlikely that increased recreational use at another wilderness area or solitary area would change the character of another wilderness area.

3.12 Issue 11: Vegetation and Wildlife Resources

3.12.1 Affected Environment

This section of the EA summarizes the vegetation and wildlife resources at the project site as described in the *Biological Resources Technical Report, Oberon Renewable Energy Project, Riverside County, California* (BRTR), prepared by Ironwood Consulting Inc. in November 2020 (Ironwood, 2021). The BRTR is provided for reference in POD Appendix F, which is included within Appendix F of this EA.

Full coverage wildlife surveys and focused special-status plant surveys were performed in fall 2019 and spring 2020 on all portions of the project site. The survey area is larger than the proposed

disturbance areas because the boundaries were revised to meet the DRECP CMAs by minimizing impacts to desert dry wash woodland and sensitive plant species.

Vegetation and Habitat. The following vegetation types were located on the project site and provide suitable habitat for many common wildlife species as well as special-status wildlife addressed in this EA (Figure 5, Vegetation Communities, in POD Appendix F in EA Appendix F).

- **Sonoran creosote bush scrub** is the most abundant vegetation on the project site, found on well-drained, secondary soils of slopes, fans, and valleys, and is the basic creosote bush scrub habitat of the Colorado Desert.
- **Desert dry wash woodland** is a sensitive vegetation community (BLM, 2016; CDFW, 2020). It is the sub-dominant community on the project site, located throughout the site along various ephemeral drainages. It is a drought-deciduous, microphyllous (small, compound leaves) riparian scrub woodland that is found among ephemeral wash channels. It supports greater food, nesting, cover, and wildlife diversity than the surrounding desert.
- **Desert pavement** is primarily descriptive of a soil and substrate condition, covered with closely packed, interlocking angular or rounded rock fragments of pebble and cobble size that protects the underlying finer grained material from erosion (NRCS, 2016). It is sparsely vegetated with creosote bush and may also have areas of cryptogamic crust (a biologic soils crust). On the project site, desert pavement is in the eastern portion of the project site, located adjacent to and in between patches of creosote bush scrub and desert dry wash woodland.

Dry desert washes and channels on the project site are located within a closed surface hydrology basin that drains to Palen Dry Lake.

Threatened and Endangered Plants. No State or federally listed threatened or endangered plant species were observed or have the potential to occur on the project site or in the vicinity.

Other special-status plants. The BLM maintains a list of sensitive species (BLM S[14]) and manages these species to provide protections comparable to species that may become listed as State or federally threatened or endangered. The California Native Plant Society (CNPS) compiles and ranks plant species of conservation concern using the CNPS Rare Plant Ranking system in its Inventory of Rare and Endangered Plants of California (online edition, 2021).

One BLM sensitive plant, creosote bush ring (BLM S), was identified in 2 locations within the project site; one location had two rings adjacent to one another. The rings measured under 5 m in

[14]**Conservation Status**

Federal

FE = Federally listed endangered: species in danger of extinction throughout a significant portion of its range
FT = Federally listed, threatened: species likely to become endangered within the foreseeable future
FCT = Proposed for federal listing as a threatened species
BLMS = BLM Sensitive
BCC = Fish and Wildlife Service: Birds of Conservation Concern

State

SSC = State Species of Special Concern
CFP = California Fully Protected
SE = State listed as endangered
ST = State listed as threatened
WL = State watch list
CPF = California Protected Furbearing Mammal
CPGS = California Protected Game Species

diameter, averaging approximately 4 to 4.5 m. Three additional CRPR ranked species were identified in the project area: Emory's crucifixion thorn (CRPR 2B.2), desert unicorn-plant (CRPR 4), and spiny abrojo (CRPR 4.2). Emory's crucifixion thorn was observed in eight locations, primarily in the western portion of the project area in desert dry wash woodland, and additional suitable habitat is located throughout the project site along the washes. Please refer to Figure 13, Special Status Plant Observations in the BRTR (POD Appendix F in EA Appendix F) for additional information on all special-status plants.

Threatened and Endangered Wildlife. The desert tortoise (FT, ST) occurs on the project site. The southern portion of the project site is located within 817 acres of the Chuckwalla Critical Habitat Unit.

The predicted occupancy values for desert tortoise increase from the northernmost (0.0–0.1) to the southernmost (0.6–0.7) portion of project site, where values of 0.3 or above are appropriate for identifying suitable habitat in this low desert region (Nussear, 2009) (Refer to Figure 7, Noteworthy Reptile and Amphibian Observations, in the BRTR (POD Appendix F in EA Appendix F)). Values are highest near the desert tortoise conservation areas and critical habitat.

During field surveys, desert tortoise sign were observed in areas with occupancy values of 0.5 or higher. Most sign was concentrated within the eastern portion of the project site in desert dry wash woodland. There were six live observations of desert tortoises, 7 areas with desert tortoise tracks (Class 1), and sixteen confirmed or potential desert tortoise burrows (Class 1 through 4), 4 of which were active Class 1 burrows. Thirteen locations of desert tortoise remains (carcasses) were identified. Most of these remains were very old (Class 5) disarticulated bones or scutes. One Class 3 carcass was found, but may have been a different species of tortoise due to its uncharacteristic shape.

The project area provides potential migration season foraging habitat for the state-listed Swainson's hawk (ST, BCC), but is well outside the nesting range. Swainson's hawk may be found throughout the project site during migration. One individual was incidentally observed in flight during avian counts. Potential for occurrence on the project site is limited to brief overflight or migratory foraging stopovers. Please refer to Figure 7 through Figure 11 in the Oberon BRTR (POD Appendix F in EA Appendix F) for additional details on special-status wildlife.

Other Special-status Wildlife. The BRTR provides a compilation of special-status wildlife with potential to occur in the vicinity, and evaluates probability of occurrence for each species, based on vegetation, elevational and geographic ranges, and field survey results. In addition to the species identified above, the BLM Sensitive Species that are present or have potential to occur in the project site are Couch's spadefoot toad (SSC, BLM S), golden eagle (foraging only) (CFP, WL, BCC, BLM S), western burrowing owl (SSC, BLM S), and foraging bats including pallid bat (SSC, BLM S), Townsend's big-eared bat (SSC, BLM S), western mastiff bat (SSC, BLM S), western yellow bat (SSC), California leaf-nosed bat (SSC, BLM S), big free-tailed bat (SSC), and pocketed free-tailed bat (SSC). While any of these bat species may fly over the site to foraging or roosting sites, there is only limited roosting potential on the project site in the dry wash woodland habitat and in nearby areas such as freeway under-passes. One inactive bat roost was observed in an Ironwood tree cavity with guano staining.

Couch's spadefoot toad was not observed during surveys, but eight areas were identified as potential breeding habitat where water may accumulate after rainfall. Golden eagles could forage at the site at any time of year, and one eagle was observed flying over the project site. Three burrowing

owl burrows were observed; two of the burrows had a live individual and whitewash was observed at the third burrow.

Additional notable CDFW special-status wildlife present in the project site include burro deer (CPGS) and desert kit fox (CPF). Suitable burrows for American badger (SSC) were identified, but no badgers were observed.

Wildlife Movement. Accessibility between habitat areas (i.e., "connectivity") is important to long-term genetic diversity and demography of wildlife populations. In largely undeveloped areas, including the Chuckwalla Valley, wildlife habitat is available in extensive open space areas throughout much of the region, but specific barriers may impede or prevent movement, such as existing solar projects and the I-10 freeway to the south of the project site. The landscape blocks (i.e., large, relatively natural habitat areas that support native diversity) identified in the Proposed Action vicinity are the Palen–McCoy Mountains to the northeast, the Chocolate Mountains to the southwest, and Joshua Tree National Park to the west. These landscape blocks are connected by broad habitat linkages.

Potential landscape-level habitat linkages and wildlife movement corridors in the DRECP Plan area were identified (see Section III.7.8, pages III.7-228 and III.7-229). As noted in the DRECP FEIS, the location of linkages is based on several studies including the California Desert Connectivity Project, the California Essential Habitat Connectivity Project, the South Coast Missing Linkages Project, and A Linkage Design for the Joshua Tree–Twentynine Palms Connection.

Within the Cadiz Valley and Chocolate Mountains ecoregion subarea, where the project area is located, landscape-level habitat linkages cover approximately 905,000 acres as noted in the DRECP FEIS Section III.7.8 (page III.7-231). These linkage areas are primarily located along the desert valleys, providing connectivity between isolated mountain ranges within the ecoregion subarea. The project is located within the Palen McCoy Mountains–Chocolate Mountains linkage (see DRECP FEIS Figure III.7-26). Approximately 1,479 acres of the eastern portion of the project overlaps with the multiple-species linkage area identified in the DRECP LUPA (BLM, 2016).

Wildlife may move through the project area to access protected habitats in surrounding BLM ACECs (Area of Critical Environmental Concern). While the project is predominantly within the DFA, a portion of the gen-tie line is located within the Chuckwalla ACEC. In addition, several ACECs are located within approximately 5 miles of the site, including Chuckwalla, Alligator Rock, Corn Springs, Desert Lily Preserve, and Palen Dry Lake.

Seven box culvert underpass crossings, large enough to pass large mammals including burro deer, are located along I-10 adjacent to the project site to the south. An additional 10 crossings are located within 5 miles. These crossings provide connectivity and safe movement corridors between habitat to the north and south of I-10, providing an opportunity for dispersal and gene flow between wildlife populations.

While the culverts could pass bighorn sheep, known occurrences were more than 5 miles from the project vicinity. Habitat in the desert mountain ranges surrounding the project is occupied by desert bighorn sheep, and they occasionally use the valley floor habitat either for foraging (near the lower mountain slopes) or as movement routes among mountain ranges. Due to the project's location on the valley floor, near sites with comparable land uses and human activity patterns, and the lack of sign during field surveys, potential for occurrence is low.

Please refer to Figure 12, Wildlife Connectivity, in the BRTR (POD Appendix F in EA Appendix F) for further discussion.

3.12.2 Direct and Indirect Environmental Effects

The analysis is based on the biological resources observed at the proposed project site, as described in the BRTR (POD Appendix F in EA Appendix F), which considered data from CNDDB queries and recent surveys. The analysis is also based on the description of the Proposed Action and other alternatives, and the analysis presented in the DRECP FEIS (BLM, 2015).

Several meetings were held among the Applicant, wildlife agencies, and BLM biologists to discuss potential effects and applicable regulations. In addition, written and oral comments by agency biologists regarding the potential impacts to biological resources were reviewed to inform the analysis (Appendix I, Public Scoping Report).

Alternative 1: No Action Alternative

Under the No Action Alterative, the project would not be constructed. The BLM would continue to manage the proposed project site according to the existing land use designations. Effects to vegetation and wildlife resources would occur from existing legal and illegal OHV and dispersed camping across the project site. These impacts would be reduced or eliminated on the project site with construction and operation under any of the action alternatives.

Alternative 2: Proposed Action

The Proposed Action would result in direct and indirect effects to vegetation and wildlife during construction and operation of the project. The direct and indirect effects would be avoided, minimized, or offset using CMAs to reduce the effects. Where CMAs do not reduce the effects, other mitigation measures that would avoid or reduce adverse effects are considered. The full text of all mitigation measures and applicable CMAs is included in EA Appendix H.

Vegetation and Habitat

The Proposed Action would have a long-term impact on native habitats by removing or substantially altering the soils and vegetation in approximately 2,737 acres (Table 3.12-1). This is consistent with the DRECP FEIS Section IV.7.3.2.1 (page IV.7-114) which notes that approximately 52,000 acres of desert scrubs would be anticipated to be impacted by renewable development and notes that CMAs would help avoid and minimize the effects.

There are two primary natural vegetation communities (creosote bush scrub and desert dry wash woodland) as well as one distinct natural habitat type (desert pavement). One vegetation community (desert dry wash woodland) is identified by BLM and the California Department of Fish and Wildlife (CDFW) as sensitive due to the association with alluvial processes.

Long-term impacts would include vegetation removal and soil disturbance and loss in native habitats. During construction, the project would affect surrounding habitat by introducing noise and lighting, which may affect wildlife behavior in the short-term. Dust from project construction would impact wildlife and plants.

Table 3.12-1. Construction Impacts to Vegetation Communities

Cover Type	Fenced Solar Array (acres)	Gen-tie ROW (acres)	Collector Lines (acres)	Total (acres)
Dry Desert Wash Woodland	56.5	14.5	10.1	81.2
Desert Pavement	56.7	8.7	2.3	67.8
Sonoran Creosote Bush Scrub	2,536.7	62.4	11.7	2,610.8
Urban	—	1.05	—	1.05
Grand Total	2,649.9	86.7	24.1	2,760.8

While chemical control with herbicides may be necessary to control the spread of non-native invasive species following construction, their use may pose risks to native vegetation and wildlife. Use of BLM-approved herbicides would minimize risk. For details see Pesticide and Herbicide Use, below.

These direct and indirect impacts to habitat would be minimized through habitat compensation and revegetation, pre-construction surveys, management plans, and construction crew training. These measures are identified in MMs BIO-1 through BIO-6b, which require habitat compensation, revegetation of short-term impact areas, pre-construction surveys and marking of sensitive resources, management plans, and construction crew training.

The process for chemical control treatments is described in an Integrated Weed Management Plan (IWMP) (see MM BIO-4 and POD Appendix L), followed by a Pesticide Use Proposal (PUP) for specific chemical treatments, both approved by the BLM.

Revegetation of temporarily impacted areas would be conducted in accordance with a Vegetation and Resources Management Plan (MM BIO-5). Compensation for impacts to desert dry wash woodland and desert tortoise critical habitat would be mitigated at a ratio of 5:1 (MM BIO-6a and MM BIO-6b). In compliance with DRECP CMA LUPA-BIO-COMP-1, approximately 6,800 acres of habitat would have long-term protection to offset the habitat impacts under this alternative. The proposed compensation lands are within designated critical habitat and are of much higher quality than the designated critical habitat on the Oberon site, as described in the offsite habitat mitigation package.

The conditions found within the onsite and compensation sites critical habitat areas were compared using the USFWS Physical and Biological Features (PBFs) of critical habitat. PBFs are specific elements of physical or biological features that provide for a species' life-history processes and are essential to the conservation of the species. The desert tortoise PBF criteria are used by USFWS to place lands within critical habitat designation. The DRECP BO (BLM, 2016) discusses three PBFs in the context of the Chuckwalla CHU and determines that they are not measurably affected by development in the overlap part of the CHU. The BO notes the fragmentation effect of the freeway on CH and that boundaries were drawn along section lines (rather than habitat features). The BO concludes: "[b]ecause of the nature of the habitat in this area and the fact that the Bureau will require the maintenance of wildlife corridors in this area, the minor overlap of portions of the East Riverside DFA and the Chuckwalla CHU would not have a measurable effect on the ability of the CHU to support viable populations or to provide for movement, dispersal, and gene flow. The maximum acreage of overlap is approximately 4,498 acres; however, because the [BLM] (2015c, page II.3-169, CMA LUPA-BIO-13) will maintain substantial wildlife corridors in this

region, the actual amount of disturbance to Chuckwalla CHU would be substantially less." (Note that the Oberon Project design supports general wildlife movement through the area, consistent with CMA LUPA-BIO-13.)

Implementation of CMAs and MMs would reduce and offset the impacts of the proposed project.

Sensitive Vegetation Communities

One vegetation community (desert dry wash woodland) is identified by BLM and CDFW as sensitive due to the association with alluvial processes. Consistent with Section IV.7.2.1.2 (page IV.7-23) of the DRECP FEIS, impacts to desert dry wash woodland would include the removal of vegetation and loss of habitat for plant and wildlife species. Ground disturbance undermines the stability of soil and biotic crusts, leading to greater potential for erosion; affects soil density and water infiltration, cutting off water supplies to plant roots; and promotes invasion by exotic plant species. These factors contribute to habitat quality for native wildlife and plant species, and disturbance can affect the ability of an area to support these species.

Approximately 81.2 acres of impacts to desert dry wash woodland would occur in the central portion of the project area within the fenced solar array (56.5 acres) plus disturbance for the collector lines, gen-tie line and access roads considered by BLM to be minor incursion (approximately 24.6 acres). Development of the solar panels in this area is not consistent with CMA LUPA-BIO-SVF-6, which requires that impacts to microphyll woodland be avoided, except for minor incursions.

A buffer of an average of 134 feet and a minimum setback of 50 feet from microphyll woodlands is proposed around the unimpacted desert dry wash woodland (approximately 2,100 acres) in the project area. This is not consistent with CMA LUPA-BIO-RIPWET-1, which requires a 200-foot setback from desert dry wash woodland to avoid and minimize adverse effects. This is not consistent with CMA LUPA-BIO-3, which requires avoidance to the maximum extent practicable, except for allowable minor incursions.

A plan amendment authorizing impacts to desert dry wash woodland and a 50-foot buffer may be required. However, BLM recognizes that with changing science and technology, there may be alternative methods to meet the purpose and objectives of the CMAs. As part of subsequent project-specific NEPA analyses, a project proponent may be able to propose alternative methods for compliance with a particular CMA. The BLM California State Director will review such requests, in collaboration with USFWS, CEC, and CDFW, and may analyze, as appropriate, whether any proposed alternative approach or design feature to avoid, minimize, or mitigate impacts: (i) meets the goals and objectives for which the CMA was established, (ii) and provides for a similar or lesser environmental impacts. Such alternate methods would be addressed as part of any subsequent project-specific approvals. [DRECP LUPA page 228. See also page 63 of the DRECP ROD for similar language.]

CMA LUPA-BIO-RIPWET-1 specifies a 200-foot setback for microphyll woodlands. The Oberon Project proposes an alternative setback of an average of 134 feet and a minimum setback of 50 feet from microphyll woodlands, with at least 10% of the project boundaries being at least 200 feet away from microphyll woodlands. The proposed smaller buffer may offer the same functional protection to the woodlands as the CMA's 200-foot buffer, because (1) the distance is great enough to protect beds and banks, preserve hydrologic function, and avoid disturbance to vegetation (including roots) and wildlife, and (2) additional protections specific to this project, including

exclusion of recreational access (including OHVs) to the protected habitat and specific project conditions to avoid O&M disturbance within the protected habitat.

Further rationale includes:

- The DRECP does not cite a scientific basis for the 200-foot buffer nor describe the reasoning for this distance; however, a buffer area is important. The purpose of the setback would be met through mitigation measures.
- The DRECP states that "Setbacks" or "Buffers" are used to prevent certain activities within the buffer area for the purpose of protecting "the function and value of the resource" (Glossary, p.14).
- The project would fence vehicles and humans out of the microphyll woodlands that are being avoided by the project, which would be protective of the function of the microphyll woodlands that are currently experiencing illegal OHV activity and other human-related disturbance to vegetation and wildlife.
- The microphyll woodlands in the Desert Center area are not identified as Important Bird Areas in the DRECP or elsewhere (DRECP FEIS Figure III.7-15), whereas many of the other DRECP areas with microphyll are identified as important bird areas, and the environmental setting in the DRECP FEIS was focused on the value of these important bird areas as they relate to microphyll woodlands.
- The purpose of the setback is to "protect the function and value of the resource," including such activities that would alter hydrology, cause spills of contaminants, and require ongoing noisy or nighttime work in the bird nesting season within 200 feet, cause dust deposition or sedimentation in the woodlands, introduce invasive plants or animals, create physical disturbance (trampling), and/or increase fire risk.
- Mitigation measures (see EA Appendix H) would ensure short-term and ongoing activities in the buffer area do not jeopardize the function of the microphyll woodlands (e.g., no noisy work within 200 feet of woodlands during nesting season, targeted weed control in the buffer area, extra water quality BMPs within the 200-foot area).
- The temporary construction activities that would occur within 200 feet of desert dry wash woodland are consistent with the definition of minor incursions[15], and the O&M for permanent features (mostly fencing and some panels) that would be within 200 feet would protected the woodlands from ongoing activities that would jeopardize their function (i.e., new mitigation measures to prevent noisy work during nesting season within 200 feet, prevent night work within 200 feet of woodlands).
- The connectivity of the larger, more functional woodlands is being preserved by the project design to protect north-south movement of wildlife through the woodland areas, which is consistent with the value of the desert dry wash woodland resource.

[15] Minor incursion is defined as small-scale allowable impacts to sensitive resources, as per specific CMAs, that do not individually or cumulatively compromise the conservation objectives of that resource or rise to a level of significance that warrants development and application of more rigorous CMAs or a LUPA. Minor incursions may be allowed to prevent or minimize greater resource impacts from an alternative approach to the activity. Not all minor incursions are considered unavoidable impacts.)

- POD Appendix AA in EA Appendix F (POD) presents the propsoed compensatory mitigation lands that would be permanently conserved under a durable conservation easement with an endowment and management plan. Therefore, the quality of the habitat, including the microphyll woodlands, is evaluated in the EA. The quality of microphyll woodlands at the project site are of substantially inferior quality to those proposed to be protected at a 5:1 ratio, so the conservation value of the impacts would be mitigated at a higher value than anticipated by the DRECP.

MM BIO-1 to MM BIO-4 require pre-construction surveys and marking of sensitive resources, management plans, and construction crew training, and would reduce direct and indirect impacts to vegetation. Impacts to desert dry wash woodland would be offset with MM BIO-6a, which requires off-site compensation for desert dry wash woodland at a ratio of 5:1. As previously described, the proposed compensation lands are within designated critical habitat and are of much higher quality than the designated critical habitat on the Oberon site, as described in the offsite habitat mitigation package.

Impacts to dry washes and desert dry wash woodland are subject to authorization by the CDFW under the California Fish and Game Code. Because dry desert washes and channels on the project site are located within a closed surface hydrology basin that drains to Palen Dry Lake, no Clean Water Act permitting requirement is expected.

Avoidance of approximately 2,100 acres of desert dry wash woodland in the project area and preservation of approximately 406 acres of off-site habitat would reduce and offset impacts to desert dry wash woodland.

Impacts of Pesticide and Herbicide Use on Vegetation. Herbicides may be used on site during construction and O&M to control the spread of noxious weeds and other non-native invasive plant species. Chemical invasive plant control would involve the targeted use of BLM-approved herbicides applied to foliage using backpack sprayers as outlined in the Integrated Weed Management Plan (IWMP) (see POD Appendix L). Pesticide use would be in accordance with an approved Pesticide Use Proposal (PUP) (see EA Section 2.3.3).

This EA tiers to BLM's *Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States Final Programmatic Environmental Impact Statement (PEIS)* (BLM, 2007), which analyzes the impacts of using chemical control methods (herbicides) to treat weeds and manage vegetation on public lands. The Vegetation Treatment PEIS identifies impacts to the environment associated with herbicide use, appropriate best management practices, standard operating procedures (SOPs), mitigation measures, and conservation measures for avoiding or minimizing adverse impacts.

Overall effects of invasive plant management on native vegetation would be beneficial. Removal of non-native species will improve suitable foraging, nesting, and migratory habitat; prevent further non-native seed dispersal from each treated area; and allow native species to recolonize.

However, herbicides can pose risks to native vegetation. Several terrestrial herbicides are non-selective and could adversely impact non-target vegetation. Accidental spills and herbicide drift from treatment areas could be particularly damaging to non-target vegetation and could reach non-target vegetation or habitat on public or private lands near treatment areas.

The impacts of pesticide use to wildlife were analyzed in the PEIS (pages 4-118 through 4-124). The proposed project would have an overall beneficial effect on wildlife (including listed and other special-status species) because it would prevent the habitat degradation and loss of native forage

that would result if invasive plants were introduced and spread in and outside of the project area. However, herbicides may pose risks to terrestrial or aquatic animal species as described in detail in the PEIS (see pages 4-118 through 4-124). Herbicides that persist on site could adversely affect animals that feed on target plants or are exposed to the herbicides (e.g., by digging or rolling in treated soil). The IWMP specifies usage parameters to prevent potential risks, including specific measures to avoid application in the vicinity of native vegetation or special-status wildlife forage plants, and to avoid overspray or spillage in any areas.

According to the Vegetation Treatment PEIS, field studies suggest that appropriate herbicide use is not likely to have significant direct toxicological effects on wildlife. Based on the analysis in the Vegetation Treatment PEIS (pages 4-118 through 4-123) and the Vegetation Treatment BA (page 2-7 through 2-22), which was based upon Ecological Risk Assessments (ERAs) from both BLM and Forest Service, risks to terrestrial wildlife from invasive plant treatments using the proposed herbicides range from no risk to moderate risk from direct spray and ingestion of contaminated vegetation or prey (BLM, 2007a). Chemicals proposed to control invasive species on the project site are BLM-approved herbicides that have been analyzed in the Vegetation Treatment PEIS (BLM, 2007). These herbicides are chlorsulfuron, clopyralid, glyphosate, imazapyr, and triclopyr, all of which are described in greater detail below. Herbicides that represent the lowest risk for negative effects to sensitive species present on site would be prioritized.

The IWMP specifies usage parameters to prevent potential risks, including specific measures to avoid application at the project site perimeters or in the vicinity of native vegetation or special-status plants, and to avoid overspray or spillage in any areas. In addition, the IWMP and EA Table 2-3 specify proposed usage and formulations of herbicides for the project and would incorporate all applicable SOPs for applying herbicides listed in EA Appendix B.

Invasive plant treatment and control would occur annually, at minimum, and would occur multiple times annually as needed and recommended by the project's Pest Control Advisor to control various invasive plants that may be present during different times of the year. Only adjuvants and herbicides approved by BLM in California would be used on BLM lands. Herbicides kill or inhibit plant growth and can be very effective in controlling many invasive plants. Different invasive plant species may require different herbicides, application rates, and times of application. Application of herbicides, as specified in the Plan, would involve controlled applications and not broadcast treatments. Chemical treatment with herbicides known to have residual toxicity, such as pre-emergents, may be used. To reduce potential indirect impacts associated with herbicide application, only the following application methods are anticipated to be used: wick (wiping onto leaves); cut stump; basal bark girdling; and foliar spot spraying with backpack sprayers or pump sprayers at low pressure or with a shield attachment to control drift, and only on days with winds not exceeding 10 mph, or with a squeeze bottle for small infestations.

The environmental risks of using herbicides would be minimized by using marker dyes to make the herbicide visible in areas where it has been applied. Marker dyes used would not have toxic environmental effects independent from the associated herbicides. Higher visibility is desirable because it allows personnel to more effectively protect themselves against contamination; prevents unintended multiple application to a particular area or plant; ensures complete coverage of the target area and plants; and informs personnel of overspray and wind-drift issues, which protects non-target plants.

- **Chlorsulfuron.** Chlorsulfuron is a selective herbicide used on perennial broadleaf weeds and grasses. Accidental direct spray or spill poses a moderate to high risk to terrestrial plants. Off-site drift of chlorsulfuron presents low to moderate risk to typical non-target terrestrial plant species and higher risk to special-status terrestrial plant species. No aerial application would occur, which would minimize risk of drift to non-target plants. Terrestrial plants are not at risk from surface runoff of chlorsulfuron. Because of its activity, chlorsulfuron should be applied at the typical rate and with buffer distances of at least 900 feet from non-target plant populations, particularly if the non-target plants are perennial and broadleaved or grasses. This herbicide may be best used at low rates and spot applications on highly aggressive species and in areas where target plants are the dominant species.
- **Clopyralid.** Clopyralid is a selective herbicide most effectively used post-emergence for the control of broadleaf weeds. Direct spray of clopyralid poses a high risk to sensitive plant species; direct spray also poses a low risk to tolerant plant species for applications at the maximum application rate. Well-directed ground applications (e.g., spot applications) conducted under conditions that do not favor off-site drift would probably have no impact on off-site plant species. Clopyralid tends to leach into the soil column with rain, where it is rapidly degraded, except in arid soils with low microbial populations. It is not readily absorbed by roots, suggesting that surface runoff is unlikely to affect off-site vegetation. Overall, effects to non-target vegetation from normal application of clopyralid are likely to be limited to sensitive plant species in or very near the treatment area, and under the Oberon IWMP, no herbicides would be used under such conditions.
- **Glyphosate.** Glyphosate is a non-selective systemic herbicide that can damage all groups or families of non-target plants to varying degrees; therefore, it may be highly effective in spot applications or in areas where a variety of invasive species dominate and where very few non-target plants exist. Glyphosate is best used in areas where bare ground is desired (e.g., around fences and structures); however, it has low residual activity, so it would not be effective for an extended period of time. Exposure via direct spray would pose a moderate to high risk to sensitive plant species and low to moderate risk to tolerant plant species. Glyphosate would be directly applied using a backpack sprayer, and little if any damage to non-target vegetation due to unintended drift is anticipated.
- **Imazapyr.** Imazapyr is used in the control of a variety of grasses, broadleaf weeds, vines, and brush species. Although post-emergence application is more effective than pre-emergence application, toxicity can be induced either through foliar or root absorption. Due to its activity, imazapyr may be highly effective in controlling aggressive invasive species that have not responded to other herbicides or treatment methods. This herbicide is particularly useful in the management of saltcedar. The risk assessment described in the PEIS (BLM, 2007) predicted a high risk to sensitive plant species and a moderate risk to tolerant species under direct broadcast spray scenarios. Off-site drift would be avoided because no aerial or broadcast sprayers would be used. Wind erosion of soil contaminated with imazapyr could lead to adverse effects to sensitive plants, particularly in relatively arid environments and where local soil surface and topographic conditions favor wind erosion. Soils in the area are prone to wind erosion where not protected by desert pavement. However, the risk assessment estimated daily soil losses from erosion to be 0.001% to 0.l% of the application rate. In relatively arid areas in which microbial degradation may be the predominant factor in the decline of imazapyr residuals in

soil, residual toxicity to sensitive plant species could last for several months to several years (estimated at 10 months to 5.5 years).

- **Triclopyr.** Triclopyr is a selective, systemic herbicide used on broadleaf and woody species. Both available formulations of triclopyr have been found to decrease the relative long-term abundance and diversity of lichens, bryophytes, and ectomychorrhizal fungi.

Herbicide usage would not result in any new adverse impacts, or impacts of greater magnitude, than those described in detail in the 2007 Vegetation Treatments PEIS (BLM, 2007) (see EA Section 1.5). Overall effects of invasive plant management on wildlife would be beneficial.

With implementation of mitigation measures, including the IWMP and the PUP, impacts to vegetation from use of herbicides would be minimized. Overall effects of invasive plant management on native vegetation and habitat would be beneficial.

Special-status Plants

Threatened and Endangered Plants

No effects to State or federally listed threatened or endangered plants would occur, as they do not occur in the project site.

Other Special-Status Plants

One BLM sensitive plant, creosote bush ring, was observed in two locations on the project site. These two occurrences would be impacted, but they are not larger than 5 meters in diameter and do not require avoidance under CMA LUPA-BIO-SVF-3.

One CRPR 2B.2 plant, Emory's crucifixion thorn, was documented on the project site in eight locations primarily in the western portion of the project area in desert dry wash woodland. Additional suitable habitat for Emory's crucifixion thorn is located along washes in the project area. No additional occurrences have been observed on the project site.

Approximately two Emory's crucifixion thorn would be removed during construction. This is consistent with the analysis in the DRECP FEIS Section IV.7.3.2.1 (page IV.7-120). While some suitable habitat would be impacted, additional habitat is present in wash areas that would be avoided and impacts to suitable habitat in the Proposed Action area would be minimized.

Because the crucifixion thorn strands were not large (less than 100 individuals), they do not have to be avoided per CMA LUPA-BIO-SVF-7. However, implementation of MM BIO-7 (Emory's Crucifixion Thorn Mitigation) would reduce this impact by one or more of several approaches, including off-site compensation and/or salvage, experimental horticultural propagation, and off-site introduction.

Special-status Wildlife

Threatened and Endangered Wildlife

Desert Tortoise. Desert tortoises and their sign (burrows, pallets, scat, and tracks) have been observed primarily in the eastern portion of the project site in desert dry wash woodland, with carcasses observed in the western portion, as presented in Section 3.12.1 (Affected Environment).

Without implementation of DRECP CMAs LUPA-BIO-IFS-4, LUPA-BIO-IFS-5, LUPA-BIO-IFS-8, and LUPA-BIO-IFS-9 and the project-specific mitigation measures in EA Appendix H,

the Proposed Action could cause mortality or injury to desert tortoises present in the project area during construction, O&M, and decommissioning activities. As allowed in DRECP CMA LUPA-BIO-IFS-4, the BLM and USFWS would need to grant an exemption or variance to conduct desert tortoise clearance surveys in a limited area (up to 350 acres) outside of the desert tortoise activity period.

Desert tortoises, eggs, or burrows could be harmed during clearing or grading activities, or tortoises could become entrapped within open trenches and pipes. Construction or O&M activities could also result in direct mortality, injury, or harassment of tortoises or loss of eggs due to vehicle strikes. Other direct effects could include individual tortoises or eggs being crushed or entombed in their burrows, disruption of tortoise behavior during construction or operation of facilities, and disturbance by noise or vibrations from heavy equipment. Desert tortoises may also be attracted to the construction area by shade beneath vehicles, equipment, or staged construction materials, or the application of water to control dust, placing them at higher risk of injury or mortality. This is consistent with the analysis in the DRECP FEIS Section IV.7.3 (page IV.7-23 and IV.7-24 for general impacts from renewable development and page IV.7-127 for impacts in the specific area of the Proposed Action) regarding impacts to desert tortoise in the Cadiz Valley and Chocolate Mountains area. By impacting desert dry wash woodland and reducing the setback to 50 feet the project is not consistent with CMAs LUPA-BIO-SVF-6, LUPA-BIO-RIPWET-1, and LUPA-BIO-3. The impacts described in the FEIS, including modification/disruption of ecological processes, removal or alteration of vegetation, and the direct loss of species or their habitat, would occur in desert dry wash woodland that was analyzed as avoided in the FEIS. A LUPA authorizing impacts to desert dry wash woodland and a 50-foot buffer would be required.

Construction and operation could create "subsidies," such as food, water, or nest sites, for common ravens or other opportunistic predators. Ravens prey on juvenile desert tortoises, contributing to an overall decline in tortoise recruitment. Other effects could include the introduction and spread of invasive weeds and increased human presence. A Raven Management Plan is included in POD Appendix I in EA Appendix F (POD). This is consistent with the analysis in the DRECP EIS Section IV.7.3.2.1 (page IV.7-155) which highlights the increased predation of listed and sensitive wildlife species, including ravens.

If the substation and BESS area option is implemented in the southeastern area of the project site, impacts to desert tortoise may be relatively greater due to construction of exclusion fencing in that area during O&M and the proximity to occupied desert dry wash woodland, in comparison to the centrally located substation/BESS option.

Direct and indirect impacts to desert tortoises would be minimized through avoidance of desert dry wash woodland habitats in areas where desert tortoise sign was primarily found, and implementation of MM BIO-9 (Desert Tortoise Protection) which is consistent with CMA LUPA-BIO-IFS-4 and -5 and requires a USFWS Authorized Biologist during construction to conduct or direct pre-construction clearance surveys for each work area, direct Biological Monitors to watch for tortoises wandering into the construction areas, check under vehicles, and examine excavations and other potential pitfalls for entrapped animals. The Authorized Biologist will be responsible for overseeing compliance with desert tortoise protective measures and for coordination with the project's Lead Biologist. The Authorized Biologist shall have the authority to halt all project activities that are in violation of these measures or that may result in take of a desert tortoise. Impacts to desert tortoise habitat and movement would be minimized with use of desert tortoise passage fencing during O&M.

No desert tortoise would be handled or relocated without authorization from USFWS and CDFW. An incidental take authorization from both agencies would be obtained to address any potential take of desert tortoise, including authorization to handle or translocate desert tortoise. Desert tortoises would be handled or translocated according to a Desert Tortoise Relocation Plan, pending approval by both agencies. As discussed in Section 2.3.3, performing surveys and installing cameras in the active season just prior to the proposed early fencing activity would ensure that desert tortoises are identified during the early fencing installation and clearance surveys, and that the project would comply with the intent of CMA LUPA-BIO-IFS-4. Due to potential take of desert tortoise (including handling a tortoise to remove it from harm's way) and a project constraint that requires an early desert tortoise fencing and exclusion schedule under a Limited NTP (see Appendix F in the BRTR [POD Appendix F]), the BLM has initiated formal consultation with USFWS under Section 7 of the federal Endangered Species Act (ESA), and the Applicant has applied to the CDFW for incidental take authorization under the California ESA (CESA) Section 2081 which requires review under CEQA.

The project would impact approximately 817 acres of the Chuckwalla CHU, including 46 acres of dry desert wash woodland. This impact is consistent with the DRECP FEIS Section IV.7.3.2.1 (page IV.7-134) which notes that approximately 8,000 acres of impacts to desert tortoise critical habitat could result from development of renewable energy and transmission including in the Chuckwalla CHU. MM BIO-6a and BIO-6b would require habitat compensation, also required by the DRECP LUPA, at a 5:1 ratio and/or desert tortoise exclusion fencing to mitigate road-effect zones which would offset the effects of the project.

Other Special-status Wildlife

Protected Birds and Bats. Special-status birds and bats use habitats in the project area, including golden eagle (foraging only) (CFP, WL, BCC, BLM S), western burrowing owl (SSC, BLM S), pallid bat (SSC, BLM S), Townsend's big-eared bat (SSC, BLM S), western mastiff bat (SSC, BLM S), western yellow bat (SSC), California leaf-nosed bat (SSC, BLM S), big free-tailed bat (SSC), and pocketed free-tailed bat (SSC). The project would directly remove foraging, nesting, and burrow habitat and indirectly impact protected birds and bats due to increased noise, dust, activity, and disturbance during project construction and operation. Impacts to raptors and golden eagles would include loss of foraging habitat. Impacts to burrowing owls could include direct mortality from mechanical crushing of individuals or burrows by vehicles and construction equipment. Bird collision and electrocution are discussed further below. This is consistent with the DRECP FEIS Section IV.7.3.2.1 (page IV.7-127), which notes birds and suitable habitat.

Implementation of MMs BIO-1 through BIO-6b, which require habitat compensation, revegetation of short-term impact areas, pre-construction surveys and marking of sensitive resources, management plans, and construction crew training, would minimize and offset adverse impacts to native vegetation, thereby minimizing impacts to bird and bat habitat. MM BIO-8 (Wildlife Protection) would minimize impacts to nesting birds through site inspections, prevention of attractants such as trash or water, hazardous material avoidance, and vehicle speed limits. MM BIO-10 requires a Bird and Bat Conservation Strategy (BBCS) that will identify potential hazards to birds and bats during construction and O&M and implement nesting bird surveys and monitoring, avoidance of nesting seasons, and documentation of bird and bat mortality during O&M. MM BIO-12 (Burrowing Owl Avoidance and Relocation) requires a relocation plan for burrowing owl.

Collision. After completion of construction and throughout the life of the project, the solar facilities and other components may present a collision or electrocution risk to birds. Collisions typically occur when the structures are not visible (e.g., power lines or guy wires at night), or are deceptive (e.g., glazing and reflective glare) or confusing (e.g., light refraction or reflection from mist). Impacts due to collision are consistent with the analysis in the DRECP FEIS Section IV.7.1.1.2 (page IV.7-10), which notes that solar structures found in large solar generation facilities mimic water bodies and create solar flux that result in collision, and Section IV.7.3.2.1 (page IV.7-158), which notes that the highest anticipated collision risk was in the Cadiz Valley and Chocolate Mountain area where the project is located.

While individual impacts to birds may be expected due to collisions with project facilities and equipment, the risk to avian populations is minimal. A collection of monitoring studies at PV solar facilities in three bird conservation regions (BCRs) in California and Nevada have documented 669 fatalities, with 54.71% being common songbirds. In contrast to new wind turbines, skyscrapers, and other tower-like structures, where hundreds of birds have died shortly after the start of operations and sometimes within a single day or night, no large mortality events have been documented at PV solar facilities (WEST, 2020). The structures that have been empirically demonstrated to result in elevated collision risk at various types of facilities (e.g., tall buildings, communication towers, wind turbines, or concentrating solar thermal towers) are not present at the project site.

Post-construction monitoring data was collected from regional Sonoran and Mojave Deserts (SMD) projects. The SMD projects annual fatality rates range from 0.08 to 2.99 birds per MW per year, with a mean of 1.31 birds per MW per year. Based on studies of the gen-ties associated with Blythe, McCoy and Desert Sunlight Solar projects, it is estimated approximately 60 birds per km per year may collide with the lines (WEST, 2020).

Using these average values, approximately 655 (1.31 x 500 MW) bird fatalities are predicted annually in the solar arrays. An additional 432 bird fatalities (60 x 7.2 km (4.5 miles)) are predicted annually along the gen-tie in an average year (WEST, 2020).

Electrocution. Large birds can be electrocuted by transmission lines if the bird's wings simultaneously contact conductors, or a conductor and a grounded structure. Configurations less than 1 kV or greater than 69 kV, such as the gen-tie line, typically do not present an electrocution potential, based on conductor placement and orientation (APLIC, 2006).

If the substation and BESS area option is implemented in the southeastern area of the site, impacts to birds due to collision and electrocution may be relatively smaller due to the shorter length of the gen-tie line, in comparison to the centrally located substation/BESS option.

MM BIO-10 requires a Bird and Bat Conservation Strategy (BBCS), which is also in compliance with CMA LUPA-BIO-17 that requires a BBCS be developed and implemented for the project. The Oberon Project BBCS is included in POD Appendix K (see EA Appendix F, POD). Implementation of MM BIO-11 (Gen-tie Lines) would require design and construction of the gen-tie line to avoid potential for electrocution and minimize potential for roosting on the structures or colliding with them. These measures would effectively minimize impacts to birds near the proposed gen-tie route. Monitoring the project for multiple years after construction will confirm whether collisions with solar and electrical infrastructure are consistent with the avian mortality numbers recorded at similar projects.

BLM Sensitive and State Protected Species. As identified in Section 3.12.1 and the BRTR, other BLM and State protected species that occur on the project site include burro deer (CPGS), and desert kit fox (CPF). Suitable burrows for American badger were identified, but no badgers were observed (SSC).

Desert kit fox and American badger would be directly and indirectly impacted by mechanical crushing of individuals or burrows by vehicles and construction equipment, habitat loss, and noise and disturbance to surrounding habitat. Impacts to burro deer would include loss of seasonal foraging or cover habitat. This is consistent with the DRECP FEIS Section IV.7.3.2.1 (pages IV.7-114 and IV.7-127) which notes impacts to desert scrubs and dune habitat and highlights that they provide habitat for burrowing owl, desert kit fox and burro deer.

Direct and indirect impacts to wildlife habitat would be minimized and compensated for through implementation of MMs BIO-1 to BIO-6b, which require habitat compensation, revegetation of short-term impact areas, pre-construction surveys and marking of sensitive resources, management plans, and construction crew training. Impacts to wildlife would be minimized through implementation of MMs BIO-8, which requires site inspections, prevention of attractants such as trash or water, hazardous material avoidance, and vehicle speed limits, and BIO-13 (Desert Kit Fox and American Badger Relocation), which require a relocation plan for these species. POD Appendix B in EA Appendix F (POD) includes a proposed Wildlife Protection and Relocation Plan.

Impacts of Pesticide and Herbicide Use on Wildlife. Herbicide application would have an overall beneficial effect for wildlife (including listed and other special-status species) because it would prevent the habitat degradation and loss of native forage that would result if invasive plants were introduced and spread in and outside of the project area. However, herbicides may pose risks to native animal species. Herbicides that persist on site could adversely affect animals that feed on target plants or are exposed to the herbicides (e.g., by digging or rolling in treated soil). The IWMP (POD Appendix L) specifies usage parameters to prevent potential risks, including specific measures to avoid application at the project site perimeters, in the vicinity of native vegetation or special-status wildlife forage plants, and to avoid overspray or spillage in any areas. In addition, the IWMP specifies proposed usage and formulations of herbicides at the project site and would incorporate all applicable SOPs for applying herbicides and BMPs listed in EA Appendix B. Applicable mitigation measures for the project would also be implemented during invasive plant management, see EA Appendix H.

According to the Vegetation Treatment PEIS (BLM, 2007a), field studies suggest that appropriate herbicide use is not likely to have significant direct toxicological effects on wildlife. Based on the analysis in the Vegetation Treatment PEIS (pages 4-118 through 4-123) and the Vegetation Treatment BA (pages 2-7 through 2-22), which was based upon Ecological Risk Assessments (ERAs) from both BLM and the U.S. Forest Service, risks to wildlife (terrestrial) from invasive plant treatments using herbicides proposed for potential use on-site would be as follows (BLM, 2007a):

- Triclopyr – Low to moderate risk from direct spray for most wildlife; low to moderate risk from ingesting contaminated vegetation or prey.
- Glyphosate – Low to moderate risk from direct spray; low to moderate risk from ingestion of contaminated vegetation or prey.
- Imazapyr – No to low risk from direct spray; no to low risk from consumption of contaminated vegetation or prey.

- Chlorsulfuron – No to low risk from direct spray; no to low risk from consumption of contaminated vegetation or prey.
- Clopyralid – No to low risk from direct spray; no to low risk from consumption of contaminated vegetation or prey.

Herbicide use would not result in adverse impacts, or impacts of greater magnitude, than those described above for special-status wildlife. Overall effects of invasive plant management on wildlife would be beneficial, improving habitat quality and native cover. With implementation of mitigation measures, including the IWMP and the PUP, impacts to wildlife from use of herbicides would be minimized.

Wildlife Movement

Development within the linkage area would reduce the available wildlife movement habitat for many species, including desert tortoise and burro deer. Construction activities could temporarily discourage wildlife from approaching the project site due to noise and disturbance. After construction, the proposed solar facilities would interfere with local-scale wildlife movement by any species unable to cross the facilities due to project fencing.

The eastern portions of the project site are within a multiple-species linkage area identified in the DRECP (BLM, 2016). Consistent with the DRECP FEIS Section IV.7.3.2.1 (page IV.7-149), the project is located in a DFA that overlaps with a portion of the desert linkage network. Section IV.7.3.2.1 (page IV.7-150) notes that up to 6,000 acres of desert linkage network could be impacted by solar development in the Cadiz Valley and Chocolate Mountains area.

CMA LUPA-BIO-13 requires projects along the edges of the biological linkages to maximize the retention of microphyllous woodlands, in order to maintain the function of the connectivity area (see POD Appendix C in EA Appendix F for the applicability of DRECP CMAs to the Oberon Project). The project would have a long-term impact on approximately 598 acres of the western portion of the 3,480-acre multiple-species linkage. The proposed project would not impact approximately 881 acres of the biological linkage within the project area, including habitat leading to freeway underpasses to maintain connectivity under the I-10.

The project would be setback 300 feet from I-10 to preserve the Section 368 utility corridor. This would also support wildlife movement north and south of the freeway and between the I-10 underpass crossings north of I-10, where the value of linkage habitat for some terrestrial wildlife species is dependent on its width.

The proposed project would include wildlife friendly fencing design for a portion of the project fence line around desert dry wash woodland, where a gap along the bottom of the fence would allow small wildlife, including desert tortoise and desert kit fox, to pass through. Revegetated areas within the wildlife friendly fence line would provide some marginal habitat to support movement within and through the site. MMs BIO-6a and BIO-6b would require acquisition and management of off-site vegetation and habitat in perpetuity to offset the long-term loss of natural vegetation and habitat on the project site, including desert dry wash woodland and critical habitat.

Once completed, the gen-tie line would have minimal effects on terrestrial wildlife movement. However, the gen-tie towers and conductors would present a collision hazard for birds, including special-status species. MMs BIO-10 and BIO-11, previously discussed, would minimize impacts to wildlife movement across the proposed gen-tie route.

Approximately 5,500 acres of high-quality, intact habitat, including hundreds of acres of desert dry wash woodland, would be permanently protected under a conservation easement under the Proposed Action.

Alternative 3: Land Use Plan Compliant Alternative

Under the Land Use Plan Compliant Alternative, desert dry wash woodland would be avoided per DRECP CMA LUPA-BIO-SVF-6, and a 200-foot setback from desert dry wash woodland would be implemented to comply with CMA LUPA-BIO-RIPWET-1 and CMA LUPA-BIO-3. The sub-station, BESS, and gen-tie line options in the Land Use Plan Compliant Alternative would be the same as for the Proposed Action.

Because the alternative would occupy the same general area and would use the same construction techniques as the Proposed Action, direct, indirect, and cumulative impacts would be qualitatively similar, including habitat removal, soil disturbance, light, noise, and dust, but with a smaller disturbance area. Approximately 600 acres of vegetation and habitat within the proposed development footprint would no longer be impacted. By increasing the buffer distance to comply with the CMA, this alternative would avoid impacts to desert dry wash woodland, and would reduce impacts to wildlife movement in the desert dry wash woodland corridors across the project site.

Impacts to special-status plants would be the same as for the Proposed Action. The risk to desert tortoise would be lessened by avoiding desert dry wash woodland, but vehicle strikes during construction could still occur. Risks would be mitigated by MM BIO-8 (Wildlife Protection), which requires vehicle speed limits, and MM BIO-9 (Desert Tortoise Protection), consistent with CMAs LUPA-BIO-IFS-4 and LUPA-BIO-IFS-5, which requires a USFWS Authorized Biologist during construction.

To offset some of the acreage loss of land not available for solar development with the 200-foot setback, the development footprint would expand towards the utility corridor north of and adjacent to I-10. This expansion into the utility corridor would reduce the acreage available for wildlife movement between freeway underpass culverts along the north side of I-10.

Under the Proposed Action, described under Alternative 2, wildlife friendly fencing would support movement for some small wildlife through the project site during O&M. In this Land Use Plan Compliant Alternative, use of exclusion fencing would protect desert tortoise, desert kit fox, and other wildlife from O&M activities (e.g., potential collisions from O&M vehicles, disturbance from solar panel maintenance, etc.); however, their movement patterns would be restricted through the site and any vegetation within the fence line would not be available for shelter or foraging. In compliance with DRECP CMA LUPA-BIO-COMP-1, approximately 5,400 acres of habitat would be permanently protected and conserved to offset the reduced habitat impacts under this alternative.

With mitigation, the impacts to biological resources would be reduced to less than significant under both the Proposed Action and the Land Use Plan Compliant Alternative. Overall, the impacts to biological resources from the Land Use Plan Compliant Alternative would be somewhat less relative to the Proposed Action, because development would be reduced and be farther from desert dry wash woodland habitat, yet the overall habitat compensation package would not be substantially reduced.

Alternative 4: Resource Avoidance Alternative

Under the Resource Avoidance Alternative, in addition to the 200-foot setback from desert dry wash woodland (as in the Land Use Plan Compliant Alternative), the development footprint would avoid desert tortoise critical habitat and the multi-species linkage corridor.

Because the alternative would occupy the same general geographic area and would use the same construction techniques as the Proposed Action, direct, indirect, and cumulative impacts would be qualitatively similar, including habitat removal, soil disturbance, light, noise, and dust, but with a smaller disturbance area than Alternative 3. Approximately 1,100 acres of the project area would no longer be impacted, including the utility corridor north of I-10.

Impacts to special-status plants would be the same as for the Proposed Action. The risk to desert tortoise would be lessened by avoiding desert dry wash woodland and critical habitat, but vehicle strikes during construction could still occur. Long-term desert tortoise exclusion fencing of the entire site would reduce risk to desert tortoise during O&M, but would restrict wildlife including special-status species from using and moving through the site, and any vegetation within the fence line would not be available for shelter or foraging. Risks would be mitigated by MM BIO-8 (Wildlife Protection), which requires vehicle speed limits, and MM BIO-9 (Desert Tortoise Protection), consistent with CMA LUPA-BIO-IFS-4 and -5, which requires a USFWS Authorized Biologist during construction.

By avoiding the utility corridor, a larger area would be available adjacent to the I-10 underpass culverts for wildlife movement as well as an increase of the desert dry wash woodland corridors across the project site.

Due to a smaller amount of habitat impacted, more than 5,000 fewer acres of habitat would be permanently protected under a conservation easement under this alternative compared to the Proposed Action. The designated critical habitat portion of the Oberon Project that would remain undeveloped under the Resource Avoidance Alternative is adjacent to I-10 and contains existing energy transmission lines.

The conditions found within the onsite and compensation sites critical habitat areas were compared using the USFWS (Physical and Biological Features (PBFs) of critical habitat. The DRECP BO (BLM, 2016) discusses three PBFs in the context of the Chuckwalla CHU and determines that they are not measurably affected by development in the overlap part of the CHU. The BO notes the fragmentation effect of the freeway on CH and that boundaries were drawn along section lines (rather than habitat features). Much of the area surrounding the project site, including portions of the designated critical habitat, is degraded and contains anthropogenic features and land uses, such as agriculture, residential, renewable energy, transmission lines, historic military operations, recreational development/limited dispersed camping, BLM designated off-highway vehicle (OHV) open routes, and the I-10 freeway.

On the other hand, the designated critical habitat portion of the Applicant's proposed compensation package is partially located within the Chemehuevi ACEC, Mojave Trails National Monument, and Piute Mountains Wilderness Area and partially located within the Chuckwalla ACEC on the Chuckwalla Bench and Smoke Tree Valley (IP Oberon, 2021, POD Appendix AA). Much of the area surrounding the proposed mitigation sites is BLM-administered lands that have enhanced protections via ACEC and Wilderness Area designations. Additionally, there are many privately owned conservation lands adjacent and proximal to the mitigation sites that have similar habitat

management goals. The remote nature of the mitigation sites has revealed very low anthropogenic impacts such as trash, OHV use, evidence of dispersed camping, or invasive species.

The Proposed Action would mitigate for approximately 700 acres of compromised desert tortoise critical habitat on the Oberon site at a 5:1 compensation ratio with much better quality critical habitat (in compliance with DRECP CMA LUPA-BIO-COMP-1). With mitigation, the impacts to biological resources would be reduced to less than significant under both the Proposed Action and the Resource Avoidance Alternative.

3.12.3 Cumulative Effects

The geographic extent for this cumulative analysis includes the desert portion of Riverside County (Palm Springs to the Colorado River) because it consists of similar habitat over large areas and encompasses regional populations of species that could be directly or indirectly affected by the Proposed Action.

As the number of solar projects and other developments increase in the region, the cumulative effects to wildlife and vegetation resources increase. This analysis considers the current and foreseeable future projects identified in Tables 3.1-1 and 3.1-2. Individually, these projects would contribute to reduced habitat availability and result in increased habitat fragmentation for both wide-ranging and localized habitat niche special-status species.

Cumulatively, these projects would total more than 30,000 acres of development if constructed and include many miles of transmission lines. Additionally, both the Victory Pass and Oberon proposed projects would be sited in the multi-species linkage area. They would both avoid most microphyll woodlands and would avoid the underpasses or have a 200-foot buffer from north-south desert dry wash woodland areas allowing the function of the connectivity area to continue.

The DRECP is a regional planning effort that includes conservation within BLM land designations as well as implementation of biological resource CMAs to reduce potential cumulative effects to natural communities. Cumulative impacts to biological resources from projects in the DRECP Plan area are analyzed in the DRECP FEIS Section IV.25.3.7 (page IV.25-53) and includes impacts to native vegetation, sensitive wildlife and their habitat. Table IV.25-5 identifies cumulative impacts to desert tortoise (less than 1%of habitat in DFAs and 88 percent in conservation). Implementation of the CMAs as part of the overall conservation strategy would reduce the adverse effects from the loss of native vegetation and impacts to sensitive plants and wildlife resulting from renewable energy development activities within DFAs.

Because the project would not be in compliance with DRECP CMA LUPA-BIO-SVF-6, CMA LUPA-BIO-RIPWET-1, and CMA LUPA-BIO-3 related to desert dry wash woodland, cumulative impacts to habitat and species would be relatively greater than those described in the FEIS, but would not affect the overall function of the desert dry wash woodland in the area for the reasons described in Section 3.12.2.

For the project, MMs BIO-1 through BIO-14 as detailed in EA Appendix H, would be implemented to minimize and compensate for its project-specific impacts as well as its contribution to regional cumulative effects to vegetation and wildlife resources. These mitigation measures, along with conservation within proposed BLM land designations and biological resource CMAs per the DRECP LUPA and FEIS, would reduce the cumulative effect to biological resources.

3.13 Issue 12: Visual Resources

3.13.1 Affected Environment

The landscape of the project is part of the Great Basin section of the Basin and Range physiographic province, a vast desert area of the western U.S. extending from eastern Oregon to western Texas. The project's region marks the transition zone between the high elevation Mojave Desert and the lower elevation Sonoran Desert. The project is located in the Chuckwalla Valley in eastern Riverside County, California. The Chuckwalla Valley is a broad, flat desert plain with scattered dry lakes and rolling sand dunes bordered by rugged mountain ranges including the Eagle Mountains to the west and north, the Coxcomb and Granite mountains to the north, the Palen Mountains to the northeast, and the Chuckwalla Mountains to the south. The rugged ridges, angular forms, and bluish hue of the mountains provide a contrast of visual interest to the flat, light-colored, horizontal landform of the Chuckwalla Valley floor. Views within Chuckwalla Valley tend to be expansive and capture a landscape that appears relatively visually intact, though dispersed energy facilities are visible.

The viewshed (the area within which the project could potentially be seen) encompasses much of the Chuckwalla Valley and the project-facing slopes and ridgelines of the surrounding mountains, including areas within Joshua Tree National Park (JTNP). Figure 3.2-1A in POD Appendix P (in EA Appendix F, POD) illustrates the visibility of the project according to a "line-of-sight" terrain model that does not account for possible vegetation or structural screening.

A notable feature of the flat desert landscape is the potential for large projects to be seen over great distances. However, due to the relatively low profile of the solar panels, the majority of viewers would be at elevations similar to that of the project, and the views would typically be limited to those of the solar fields' edges. More precisely, the typical viewing distance zone that most viewers would experience is foreground/middleground (under 5 miles) due to the relatively close proximity of I-10, SR 177, and other viewpoints. The exception would be for more elevated views (e.g., Alligator Rock, portions of JTNP, and other surrounding mountains). Elevated (or superior) views from these locations would have the potential to see "into" the array fields, which would then appear to be more visibly expansive.

There are a number of sensitive land uses and protected areas within the project's viewshed including: Desert Lily Preserve Area of Critical Environmental Concern (ACEC); Palen Dry Lake and Sand Dunes Area; Palen-McCoy Wilderness; Palen Dry Lake ACEC; Ford Dry Lake Off-highway Vehicle Area; Chuckwalla Mountains Wilderness; Alligator Rock ACEC and Desert Center; Lake Tamarisk Desert Resort; and JTNP. Potentially affected viewers include residential viewers in Lake Tamarisk Desert Resort and dispersed rural residences; recreational visitors to ACECs, wilderness areas, and open public lands; and travelers along the main transportation corridors (I-10 and SR-177).

The presently undeveloped project site is situated north of I-10 and primarily east of SR-177, though a relatively small westernmost portion of the project extends west of SR-177 to Kaiser Road. The area surrounding the site is lightly populated and consists mainly of desert scrub (largely scattered creosote bushes), lakebed, and dune landscapes that are predominantly intact throughout the Chuckwalla Valley Scenic Quality Rating Unit (SQRU). The relatively flat desert landscape has a low level of variety and distinctiveness, exhibiting limited variation in form, line, color palette, and texture that is common to the region. Although the distant mountain ranges that surround the Chuckwalla Valley provide backdrops of visual interest, the project's landscape generally

lacks in visual variety. The Chuckwalla Valley SQRU received a scenic quality rating of 12 in the 2010 *Visual Resource Inventory*, which placed it in the Scenic Quality Classification B, the lowest rating that qualifies for that classification. Scenic quality is a measure of the overall impression or appeal of an area created by the physical features of the landscape, such as natural features (landforms, vegetation, water, color, adjacent scenery, and scarcity), and built features (roads, buildings, railroads, agricultural patterns, and energy and utility facilities). These features create the distinguishable form, line, color, and texture of the landscape composition that can be judged for scenic quality using criteria such as distinctiveness, contrast, variety, harmony, and balance. The three possible scenic quality classifications are as follows:

- **Scenic Quality Class A** – Landscapes that combine the most outstanding characteristics of the region.
- **Scenic Quality Class B** – Landscapes that exhibit a combination of outstanding and common features.
- **Scenic Quality Class C** – Landscapes that have features that are common to the region.

Scenic quality along with viewer sensitivity and viewing distance zones are the three factors assessed to arrive at the appropriate VRM System Visual Resource Inventory Classification (I through IV).

The inventory noted substation and other transmission facilities under structures. However, the landscape has continued to be substantially influenced in subsequent years by cultural modifications including Red Bluff and Colorado River Substations, the Desert Sunlight and Desert Harvest solar projects and associated gen-tie lines, and the Palen and Genesis solar projects and associated gen-tie lines. Overall, the current scenic quality of the project site has developments that add variety but are discordant, promote disharmony, and would correspond to the BLM VRM Scenic Quality Classification C (low scenic value).

The majority of the project area falls within the Chuckwalla Valley (CV) Sensitivity Level Rating Unit (SLRU), but a small portion (~165 acres) of the project area near the western portion of route DC372 is within the JTNP SLRU. The SLRU rating for the CV SLRU is Moderate sensitivity due to the low ratings for type and amount of use as well as public interest. The JTNP SLRU received a High sensitivity rating for all categories except for adjacent land uses. Due to this variance, the lands within JTNP SLRU are VRI Class II, and the remainder of the project area is VRI Class III. As defined in BLM Manual H-8410-1 Visual Resource Inventory (BLM, 1986a), the VRI Class II management objective is:

> "…to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape."

The VRI Class III management objective is:

> "…to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate or lower. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape."

The VRI class values reflect the quality of the visual resource, but they are not the sole determinant of how the visual resources on the lands are to be managed. When determining VRM objectives in the RMP process, the VRI classifications are considered in concert with needed resource uses and desirable future outcomes.

Lands that would be crossed by the project are located within a DFA per the 2016 DRECP LUPA, which assigns VRM Class IV to DFAs (BLM, 2016). As defined in BLM Manual H-8410-1 Visual Resource Inventory (BLM, 1986a), the VRM Class IV management objective is:

> "…to provide for management activities, which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements in the predominant natural features of the characteristic landscape."

3.13.2 Direct and Indirect Environmental Effects

The BLM's VRM System was used to assess the potential effects of the project. Under the VRM System's visual contrast rating (VCR) method (BLM, 1986b and 1984), a project and its alternatives are analyzed for their effects on aesthetic or visual resources by comparing the landscape characteristics that would be created by the project to the existing landscape characteristics and arriving at an assessment of visual contrast that would result from changes in landforms and water, vegetation, and structures. Contrast determinations were made from representative Key Observation Points (KOPs) in the field. Once the degree of anticipated contrast was determined, a conclusion on the overall level of change was made and compared to the applicable VRM Classification to determine project conformance with the established VRM class Management Objectives. The Contrast Rating Data Sheets are presented in EA Appendix P in EA Appendix F (POD).

While the effects on visual resources are almost always direct, two exceptions include: (a) the project's indirect effect of contributing to the perceived industrialization of the landscape, as discussed in Section 3.13.3 (Cumulative Effects) below and (b) the effects of increased construction vehicle traffic on regional roads (I-10 and SR-177), which is not expected to be noticed by the casual observer. To the extent that a casual observer or local resident perceives any increase in traffic, the duration of the effects would be short-term. The effects addressed in the following paragraphs should be considered direct effects unless otherwise noted.

Alternative 1: No Action

Under the No Action Alternative, project construction and associated infrastructure would not occur. Because no project would be built, and no ground disturbance would occur, the No Action Alternative would have no direct or indirect impacts on Visual Resources. Other projects or linear facilities could potentially be developed at this location as the land is designated as a DFA. Any future project at this location would likely have similar aesthetics impacts to the project and would be subject to its own environmental analysis under NEPA.

Alternative 2: Proposed Action

Construction of the Proposed Action. Construction direct effects would result from the short-term visual intrusion of equipment, materials, vehicles, and construction activities at the site of the proposed solar facilities, along new access roads, and along the gen-tie ROW. Impacts on visual resources from application of herbicides and/or pesticides would consist of the presence of vehicles during weed treatments, which would be temporary in nature. Construction would involve the use of cranes and heavy equipment, temporary storage and office facilities, and temporary laydown/staging areas. Construction activities would include site clearing and grading, assembly of

solar arrays, erection of transmission structures, conductor stringing and pulling, and site cleanup and restoration. These activities would be visible from I-10, SR-177, Desert Center, the Lake Tamarisk Desert Resort residential area, the few rural residences in the area, and the surrounding wilderness areas. Throughout the construction period, the industrial character of the activities would cause visual contrast and visual change, which would constitute adverse effects. However, these construction activities would be temporary and would not result in a substantial long-term visual effect.

Over the long term, areas of ground surface disturbance and vegetation removal (characterized by high color, line, and texture contrasts) could remain visible from various vantage points for an extended period after construction. Desert revegetation is generally of limited success. The vast majority of ground disturbance areas would be occupied by permanent facilities, and since most Foreground/Middleground views of those areas would be at similar elevations (at grade), much of the contrast associated with unnatural vegetative patterns and/or lines would be screened from view by intervening vegetation and the new facilities.

Although this longer-term visual contrast could appear prominent from some viewing locations, the resulting moderate to high levels of visual change would still be consistent with the applicable BLM VRM Class IV management objective, and thus the project would comply with CMAs LUPA-VRM-1, LUPA-VRM-2, and LUPA-VRM-3. The Class IV objective anticipates the potential for high levels of change to the existing landscape character in order to facilitate management objectives. The indirect visual effect associated with increased construction vehicle traffic on regional roads (I-10 and SR-177) is not expected to be noticed by the casual observer. To the extent that any increase in traffic is perceived, the effects would be short-term. Implementation of mitigation measures and *Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered* Lands (BLM, 2013) will reduce any short-term effects experienced by sensitive viewers.

Furthermore, the visual impact of the construction of the project is consistent with the DRECP FEIS analysis, in Section IV.20.3.2.1 (page IV.20-27) which noted that during construction, activities and equipment visible from residences, public roads, and public preserves would result in short-term diminished scenic quality for viewers.

Operation & Maintenance of the Proposed Action. VRM Contrast Rating forms for each KOP are presented in POD Appendix P (in EA Appendix F) along with a detailed discussion of each KOP, existing view photographs, and simulations of the Proposed Action.

Five KOPs were selected to provide a range of viewpoints that represent potential viewers (see Figure 3.2-1B in POD Appendix P in EA Appendix F). KOPs were located based on their usefulness in evaluating existing landscapes and potential impacts on various viewing populations. KOP locations include: (1) sensitive residential communities in close proximity to the project (Lake Tamarisk Desert Resort); (2) important recreation facilities (Alligator Rock ACEC); and (3) important travel routes (eastbound and westbound I-10 and northbound SR-177). For most KOPs, the visual simulations depict the addition of a medium- to dark-gray or blue-black, linear mass along the floor of the Chuckwalla Valley. The visual prominence of the facilities would depend on the distance of the viewers, the extent of visual screening by intervening vegetation, and the viewpoint position (at-grade or superior [elevated]). At-grade and edge-on views of the array fields (most typical and including KOPs 1, 2, 4, and 5) generally limit the view to the array field edge facing the viewer and present as a narrow, horizontal band along the valley floor. In these cases,

the form, line, and color contrasts trend toward moderate or moderate to strong with levels of visual change from moderate to high depending on viewing circumstances.

For example, KOPs 1 (on I-10) and 4 (on SR-177), immediately adjacent to the solar fields, capture a more proximal and prominent view of the solar facilities, which exhibit strong degrees of form, line, and color contrasts and a high degree of visual change. KOP 2 (on I-10) captures a foreground, prominent view of the gen-tie line as it converges on, turns to parallel, and then spans I-10. However, in this case, the solar fields appear less prominent because they are more obscured by intervening vegetation and terrain (compared to the views from KOPs 1 and 2), and the gen-tie component contributes a greater degree of contrast and visual change due to its greater visual prominence. KOP 3 is the only KOP that provides an elevated perspective of the project that enables the viewer to see "into" the solar fields, resulting in a strong degree of visual contrast and a high degree of visual change associated with increased visibility of the arrays, BESS, and substation. While a few, barely discernible breaks in the panel arrays would be visible from KOP 3, most of the undeveloped portions of the project under this alternative would be screened from view by intervening panel arrays. Although the view from KOP 5 (Lake Tamarisk Desert Resort) is partially screened by intervening vegetation, visible contrast would still range from moderate to strong, resulting in a moderate level of visual change. Should the optional substation and BESS location in the southeastern portion of the site (as shown in Figure 2-1) be selected, these facilities would be less visible from KOPs 1 and 3 and more visible from KOP 2. The findings for these KOPs are consistent with the analysis presented in the DRECP EIS (page IV.20-28), which notes that the structure, size, and industrial character of utility-scale renewable energy and transmission facilities during their operation and maintenance—as well as any associated glare, reflectivity, and lighting—would visually contrast with surrounding undeveloped land and result in long-term diminished scenic quality.

In all cases, the resulting moderate to high levels of visual change would be consistent with the applicable VRM Class IV management objective, which is the focus of the BLM's VRM System Contrast Rating Analysis as required for the NEPA analysis. The grouped siting of solar arrays near developed portions of Desert Center, SR-177, and I-10 concentrates visual impacts where existing developments and structures are visible. Fencing in the eastern and southern portions of the project area would be visible to on-site recreationists and other sensitive viewers but would largely retain the existing character of landform and vegetation. Under all alternatives, the gen-tie line will parallel existing facilities, and application of BMPs will ensure that elements of form, line, texture, and color are reduced. Implementation of mitigation measures and *Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands* (BLM, 2013) will reduce long-term effects experienced by sensitive viewers, as applicable.

It is unlikely that daytime glare from the facilities would adversely affect travelers on I-10 and SR-177, a low number of residents at Desert Center and Lake Tamarisk, and users of nearby designated wilderness and ACECs. The project would use darkly colored matte PV solar panels featuring an anti-reflective coating. Photovoltaic solar panels are designed to be highly absorptive of light that strikes the panel surfaces, generating electricity rather than reflecting light. The solar panels are also designed to track the sun to maximize panel exposure to the sun, which would direct most reflected light back toward the sun in a skyward direction. The glare and reflectance levels from a given PV system are lower than the glare and reflectance levels of steel, snow, standard glass, plexiglass, and smooth water (Shields, 2010) and are further reduced with the application of anti-reflective coatings. PV suppliers typically use stippled glass for panels as the "texturing"

of the glass to allow more light energy to be channeled/transmitted through the glass while weakening the reflected light. With the application of anti-reflective coatings and use of modern glass technology, project PV panels would display overall low reflectivity.

The greatest potential for light reflection to reach viewer locations would occur with a tracking system when the panels would be angled toward the horizon at sunrise and sunset. During these periods, the solar panels would be tilted approximately 10 degrees below a horizontal plane in the direction of the sun. Unabsorbed incoming light would reflect at approximately 20 degrees above the opposite horizon. The solar power facility would be in a broad flat valley. Potential viewers of the facility, including motorists on I-10, would be less than 20 degrees above the facility. Motorists would not be exposed to the glare at sunrise or sunset due to the low viewing angle. Residents and motorists may perceive indirect glare as an increase in color contrast in the early morning hours when the darkly colored PV panels could appear as lightly colored or white (Sullivan and Abplanalp, 2013). This indirect glare would be brief (a few minutes in the morning and evening hours) and would not cause a nuisance to residents or motorists.

Visible Night Lighting. The DRECP FEIS (Section IV.20.2.1.3) acknowledges that the need for security and safety lighting could contribute to light pollution in areas where night lighting is otherwise absent or minimal. Light impacts include skyglow, off-site light trespass, and glare, which would be addressed through implementation of CMAs LUPA-BIO-13 (General Siting and Design) and DFA-VPL-VRM-1 (Required Visual Resource BMPs). In compliance with the CMAs, lighting at the facilities would be of the minimum necessary and restricted to areas required for safety, security, and operation. Given the relatively sparse development in the surrounding area and the general lack of stationary nighttime lighting (there is considerable transient [vehicles] lighting along the adjacent I-10), the introduction of nighttime lighting would constitute a potentially significant impact. Thus, motion sensitive, directional security lights would be installed to provide adequate but controlled illumination around the substation areas, at each inverter cluster, at gates, and along perimeter fencing. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties. Additionally, a Night Lighting Management Plan would be implemented to mitigate any potential night lighting impacts for all alternatives and includes methods to reduce lighting beyond the project sites and consultation with the NPS Night Sky Program Manager. Effective implementation of a Night Lighting Management Plan would substantially minimize the potential for visible night lighting impacts.

Alternative 3: Land Use Plan Compliant Alternative

Under the Land Use Plan Compliant Alternative, the proposed development footprint (primarily solar arrays) would be reduced by approximately 600 acres. This reduction in developed acreage would be most perceptible (as visible gaps in the array fields) from I-10 where the freeway passes adjacent to the southern boundary of the project. However, this reduction in visual contrast would be offset by the increased visual contrast that would be caused by the shift of the array fields farther south (approximately 18 feet to 50 feet) and closer to I-10 under this alternative. From KOPs 1, 2, 4, and 5, the at-grade and edge-on views of the project would appear similar to the Proposed Action. From the elevated vantage point of KOP 3 on Alligator Rock, there would be more perceptible gaps in the array fields, particularly between the east-west gen-tie corridor and I-10, but due to the scale of the project, the overall level of visual change would be similar to the Proposed Action. While the overall level of visual change associated with this alternative would be consistent with the applicable BLM VRM Class IV management objective.

Alternative 4: Resource Avoidance Alternative

Under the Resource Avoidance Alternative, the proposed development footprint (primarily solar arrays) would be reduced by approximately 1,100 acres, including all of the acreage south of the common east-west gen-tie corridor. By eliminating all of the solar arrays between I-10 and the east-west gen-tie corridor, Project visibility and visual change would be substantially reduced when viewed from locations along I-10, including KOP 1. However, since the proposed gen-tie line would be retained in the proposed route, the level of visual change experienced at KOP 2 would remain high (though reduced somewhat) because the gen-tie line is the primary component contributing to the visual contrast and visual change. Also, the lands south of the common east-west gen-tie corridor would still be degraded by the proximity to the existing and proposed gen-tie facilities to the immediate north and to I-10 to the immediate south, while visual contrast along the east and west boundaries (north of the east-west gen-tie corridor) would remain similar to the Proposed Action. From the elevated vantage point of KOP 3 on Alligator Rock, there would be more perceptible gaps in the array fields, and the areal extent of the fields would appear reduced due to the elimination of panel arrays between the gen-tie corridor and I-10. However, given the scale of area still to be developed, the overall level of visual change experienced from KOP 3 would remain high.

In comparison to Alternatives 2 and 3, this alternative would result in the least amount of visual contrast and overall visual change when viewed from I-10 in close proximity to the project's southern boundary. From all other viewing areas, the visual change resulting from this alternative would appear similar to the Proposed Action.

3.13.3 Cumulative Effects

The proposed project, in combination with the 15 identified local energy projects, would contribute to cumulative visual impacts when viewed by sensitive viewing populations along I-10 and SR-177, from nearby residences, from portions of JTNP, and in the surrounding mountains and wilderness.

The DRECP FEIS Section IV.25.3.20 (page IV.25-101) states that during construction and decommissioning of renewable projects permitted under the DRECP, activities and equipment visible from residences, public roads, and public preserves would result in short-term diminished scenic quality for viewers. Many of the renewable energy projects would have similar long-term impacts as those described for the DRECP and the area near Desert Center would experience a substantial introduction of industrial projects due to the introduction of dozens of renewable projects in these areas (page IV.25-102).

The DRECP FEIS identifies JTNP as a Visually Important Management Unit in the DFA in Riverside County (DRECP Section III.20.3.1, page III.20-22) and highlights the existing highly visible projects in the DFA in eastern Riverside, specifically the Desert Sunlight Project (page III.20-22). The project's contribution to the impacts would be from the introduction of substantial visual contrast associated with discordant geometric patterns in the landscape; the introduction of large-scale, built facilities with prominent industrial character; the creation of unnatural lines of demarcation in the valley floor and inconsistent color contrasts; and from the addition of visible night lighting within the Chuckwalla Valley. For many travelers along I-10, the scenic experience would be substantially degraded due to the perceived "industrialization" of the landscape.

All alternatives utilize irregular array boundaries that replicate natural features of the landscape to varying degrees and may help reduce the project's contribution to perceived industrialization, especially where intervening tall vegetation is preserved. The project retains landscape character in some portions of the project area and retains a natural buffer between the project and the approved Athos Solar Project and proposed Victory Pass project to the east. All alternatives also create east-west connectivity with these projects that could create continuous views of solar panels past the approved Palen Solar Project. Small gaps would be perceptible to viewers north and south of the project, but other views would appear continuous due to the at-grade viewing angle.

As with the individual projects, the cumulative levels of visual change would be consistent with the applicable VRM Class IV management objective as highlighted by DRECP CMA DFA-VRM-1 (manage all DFAs as VRM Class IV to allow for industrial scale development). The substantial visual cumulative change would also be consistent with the anticipated visual change disclosed in the DRECP EIS, which noted that the industrial character of utility-scale renewable energy and transmission facilities during their operation and maintenance—as well as any associated glare, reflectivity, and lighting—would visually contrast with surrounding undeveloped land and result in long-term diminished scenic quality (DRECP FEIS Section IV.20.3.2). No additional cumulative visual impacts have been identified that were not disclosed in the DRECP FEIS.

3.14 Issue 13: Water Resources

3.14.1 Affected Environment

The Proposed Action is in the Chuckwalla Valley which is characterized by high aridity, low precipitation, hot summers, and cool winters. It is an interior enclosed drainage system, meaning there is no outlet to the ocean. In the Chuckwalla Valley all the surface drainage flows to the Palen and Ford dry lakes; drainage from the project area flows to Palen dry lake. There are no perennial streams in the Chuckwalla Valley. There are several springs in the surrounding mountains outside the Chuckwalla Valley Groundwater Basin (CVGB). None of the waters in or near the proposed project are currently listed as impaired per Section 303(d) of the Clean Water Act (CWA) (SWRCB, 2018).

The Proposed Action overlies the CVGB which covers an area of 940 square miles. Total groundwater storage in the CVGB is estimated by the California Department of Water Resources (CDWR) to be 15,000,000 acre-feet (af) (Aspen, 2020). Groundwater accounts for approximately 100 percent of the water supply in the Chuckwalla Valley. The Water Supply Assessment (WSA) prepared by Aspen (2020) (see POD Appendix O in EA Appendix F) estimated a CVGB surplus of 2,390 acre-feet per year (afy) for a normal (average) year using moderate estimates of precipitation and inflow recharge and concluded that the basin would have an overall additive surplus of 76,480 af over a 32-year period equivalent to the construction and operation life of the project. The WSA concluded that in normal year conditions the project water use would reduce the 32-year additive surplus by approximately 3 percent. The WSA also analyzed single dry year and multiple dry year scenarios for the Proposed Action and concluded that a worst case single dry year scenario would result in a deficit; however, when normal rainfall resumes this deficit would be recovered within 2 to 3 years and under the multiple dry year scenario a deficit would occur over the life of the project that could represent approximately 0.2 to 0.6 percent of the total groundwater within the basin. Calculations in the WSA based on conservative National Park Service (NPS) estimates of inflow recharge and reduced precipitation recharge indicate that in this scenario there would be

a deficit at the end of the project's life representing approximately 1.4 percent of the total groundwater within the basin (see POD Appendix O in EA Appendix F). The CVGB has a very low priority under the California Sustainable Groundwater Management Act. Groundwater extraction in the basin is not adjudicated nor managed by a Groundwater Sustainability Agency, and no groundwater management plan has been submitted to CDWR (CDWR, 2021).

Jurisdictional waters on the proposed project site are delineated for the project area in the Jurisdictional Waters Report by Ironwood (2021) (see POD Appendix G in EA Appendix F). The Jurisdictional Waters Report concluded that there were no jurisdictional waters of the U.S. on the project site. However, based on the desktop and field surveys conducted for the Jurisdictional Waters Report, RWQCB and CDFW jurisdictional waters of the State were identified on the project site consisting of unvegetated ephemeral dry washes and desert dry wash woodland habitat. The mapped washes on the alluvial fan underlying the project consist of numerous braided channels flowing to the northeast that show signs of frequent avulsion (the rapid abandonment of and the formation of new channels) due to patterns of brief, intense surface water flow, which has resulted in a network of active and inactive (abandoned) channels across the site.

Stormwater flows affecting the project are primarily from the numerous small washes originating in the Chuckwalla Mountains to the south of the project. All the unnamed ephemeral watercourses crossing the site exhibit characteristics of alluvial fans on which unconsolidated flow can inundate wide areas. Flood depths are generally (though not always) shallow resulting from the inability of the small, braided drainage channels to contain large flows. A preliminary hydrology study performed for the project area by Westwood in 2020 (see POD Appendix CC in EA Appendix F) indicated that the project site would be subject to 100-year flooding generated by the washes descending from the southern flank of the Chuckwalla Mountains with flood flow depths of less than 0.5 foot across the majority of the site, flood flow depths of 0.5 to 1 foot along and adjacent to the desert washes that cross the site in a generally south to north direction, and small areas of 1 to 1.5 feet flood flow depth within the washes (see POD Appendix CC in EA Appendix F). Most of the larger flood zones (along the larger washes) identified in the Westwood study (see POD Appendix CC in EA Appendix F) are avoided by project design; however, some solar components or facilities for the project are planned across smaller, narrower areas of potential flooding and along the edges of the larger wash flood areas.

3.14.1 Direct and Indirect Environmental Effects

Alternative 1: No Action

The No Action Alternative would not result in any new construction and/or operational activities or any new associated ground-disturbing activities. Therefore, there would be no impacts to water resources. Other projects or linear facilities could potentially be developed at this location as the land is designated as a DFA. Any future project at this location would likely have similar impacts to the project and would be subject to its own environmental analysis under NEPA.

Alternative 2: Proposed Action

Surface Water and Water Quality. Construction under the Proposed Action would require excavation and grading for the solar panels and other features. The longer of the two gen-tie options would require fractionally greater ground disturbance for construction. Grading will be minimized by the flat topography of the area and the proposed grading plan, which will minimize the required volume of earth movement. Main access to the project site would be via driveways to the east and

west off SR-177/Rice Road, which bisects the project area, and possibly from Orion Road. For construction of the gen-tie line south of I-10, the existing SCE Red Bluff Substation access road from the Corn Springs Road exit would be utilized. Therefore, aside from short segments to access each fenced development area, minimal new access roads would be required outside of the solar facility development footprint. Any access roads that would be required would be grubbed, graded, and compacted along sections not already improved, resulting in minimal disturbance to topography.

Alterations to site topography due to the site preparation would affect both RWQCB and CDFW jurisdictional waters of the State that traverse the Oberon site. Approximately 54.6 acres of RWQCB jurisdictional waters consisting of unvegetated ephemeral dry washes are located on the Oberon Project site. Streambeds on the Oberon site classified as CDFW waters of the State consist of 64.9 acres of unvegetated ephemeral dry wash and 71.5 acres of desert dry wash woodland. A breakdown of both RWQCB and CDFW jurisdictional waters of the State for Oberon Project components is presented in the Jurisdictional Waters Report (see POD Appendix G in EA Appendix F).

Surface flow patterns would be affected by alteration to jurisdictional waters of the State (unvegetated ephemeral dry washes and desert dry wash woodland) on the site which could result in increased siltation or downstream erosion. As noted, construction of the project would avoid most desert dry wash woodland in accordance with CMA LUPA-BIO-RIPWET-1, project design includes an average 134-foot buffer and minimum 50-foot buffer around the desert dry wash woodland, with the exception of a limited amount of small "finger" areas determined to have little to no habitat value once surrounded by the solar development. Changes to streambeds classified as RWQCB and CDFW jurisdictional waters of the State by the Oberon Project would require the Applicant to obtain a Lake or Streambed Alteration Agreement (LSAA) from the CDFW and a Waste Discharge Requirements (WDR) permit from the Colorado River Basin RWQCB. The LSAA and WDR may require compensatory mitigation for impacts to waters of the State. Impacts related to surface water degradation due to alterations to waters of the State would be minimized or prevented through compliance with CDFW and RWQCB regulations and permits and implementation of MM BIO-6a (Compensation for Desert Dry Wash Woodland and Desert Pavement Impacts) and BIO-6b Compensation for Desert Tortoise Habitat Impacts), MM BIO-14 (Streambed and Watershed Protection), MM HWQ-1 (Drainage Erosion and Sedimentation Control Plan (DESCP)), and MM HWQ-4 (Project Drainage Plan).

Disturbance of soil during construction could result in soil erosion and lowered water quality through increased turbidity and sediment deposition into local streams. The longer of the two gen-tie options could result in fractionally greater soil erosion. Accidental spills or disposal of harmful materials used during construction could wash into and pollute surface waters or groundwater; this would be the case under either gen-tie line option. The dry nature of the surface streams is such that should spills occur during construction, they could easily be cleaned up prior to surface water being contaminated. Groundwater is well below the maximum depth of excavation, resulting in little likelihood that groundwater could be affected from spills onto the surface during construction, additionally any spills would be contained and cleaned up promptly as required by the project HMMP (see POD Appendix X in EA Appendix F). Hazardous materials for construction equipment would be stored per the Hazardous Materials Management Plan (HMMP) and use, storage, transport, and disposal of hazardous materials will comply with all applicable regulations.

Potential threats to surface water quality during operation and maintenance include potential increases in erosion and associated sediment loads to adjacent washes, and accidental spills of hazardous materials associated with operation of equipment on site. Spills of hazardous materials

on site could have the potential to contaminate surface or ground water. Implementation of the HMMP and Mitigation Measure HWQ-1 (Drainage Erosion and Sedimentation Control Plan), compliance with regulatory requirements (see EA Appendix G, Regulatory Framework), and if determined necessary due to volumes of hazardous materials on the project site (see POD Appendix X in EA Appendix F), preparation of a Hazardous Materials Business Plan (HMBP) and site-specific Spill Prevention, Control, and Countermeasures Plan (SPCC) during project construction and operation would minimize these impacts.

Herbicides may be used on site during construction and operation and maintenance to control the spread of noxious weeds and other non-native invasive plant species and would involve the targeted use of BLM-approved herbicides applied to foliage using backpack sprayers as outlined in the IWMP (see POD Appendix L in EA Appendix F). Pesticide use would be in accordance with an approved PUP (see EA Section 2.3.3 and EA Appendix B). The water quality impacts of pesticide use were analyzed in the Vegetation Management PEIS (pages 4-24 through 4-36). As noted above, the dry nature of most of the surface streams and drainages is such that should herbicide or pesticide spills occur, these could easily be cleaned up prior to water being contaminated. If a storm were to occur during or shortly after herbicide or pesticide application, herbicides or pesticides could pollute runoff and/or surface waters and be transported off site. However, the PUP includes Standard Operating Procedures (SOPs) to reduce impacts to water quality, including restrictions on use of herbicides during or immediately after storm events. In addition, compliance with LUPA-BIO-11 of the DRECP requires herbicide management CMAs to minimize water quality impacts.

Development and adherence to a SWPPP would include BMPs to prevent and control erosion and siltation; prevent, contain and mitigate accidental spills; and prevent violation of water quality objectives or damage to beneficial uses during construction and operation. Mitigation Measure HWQ-1 (Drainage Erosion and Sedimentation Control Plan (DESCP)) requires the development of a DESCP that would address and minimize erosion impacts during construction and operation.

Decommissioning of the project is expected to result in adverse impacts related to water resources similar to construction impacts. A Closure, Decommissioning, and Reclamation Plan (POD Appendix N in EA Appendix F) is proposed to ensure public health and safety, environmental protection, and compliance with all applicable laws, ordinances, regulations, and standards, including those related to water quality.

Flooding. The Proposed Acton will be subject to minor 100-year flooding with depths of up to 1 foot along and near the desert washes that cross the project site and up to 1.5 feet in depth in small areas within the larger desert washes. Perimeter fencing for the Proposed Action could divert flood flows and substantially increase the flood potential on other property if clogged with debris normally carried by natural flood flows in the desert. Mitigation Measure HWQ-4 (Project Drainage Plan) would minimize fence-related diversions of flow by making design recommendations to prevent flow diversions and by implementing a project design which avoids most of the desert washes with larger areas of potential flooding.

Any structures placed in areas of potential 100-year flooding with depths estimated of up to 1 foot would be subject to flood damage. The solar panels will be on posts at least 4 feet above the ground. If the internal power lines are installed on poles, they could be subject to flood-related scour. The access roads, being at-grade, would require maintenance after a flood event. The central substation/BESS location is not in an area mapped as prone to flooding. Mitigation Measures HWQ-1

(DESCP) and HWQ-4 (Project Drainage Plan) would ensure that the site designs include consideration of flood flows. Mitigation Measure HWQ-5 (Flood Protection) would ensure that all structures be protected from flooding and flood-related scour.

Groundwater Supply and Quality. The Proposed Action could use water from onsite wells, truck water from nearby sources, or a combination of both. Regardless of the water supply, water would come from the CVGB because the nearby water sources all use groundwater. Construction water use is expected to be 700 acre-feet (af) total for the anticipated 15- to 20-month construction period, and an average total annual water usage during operation is estimated to be up to 40 acre-feet per year (afy) for the assumed 30 years of operation. Based on the WSA, use of water from the CVGB for the Proposed Action would be well below the estimated CVGB annual calculated surplus of 2,390 af and the additive 32-year surplus for the life of the project using the CDWR groundwater storage estimates. Dry year scenarios for the project water use indicate a short-term recoverable deficit for a worst case single dry year and a minimal deficit of 0.2 to 0.6 percent of the basin storage over the life of the project for a worst case multiple dry year scenario. However, based on the lower National Park Service estimates of baseline recharge, the CVGB is already in overdraft and the Proposed Action would contribute about 1 percent to the groundwater overdraft after the 30-year life.

Although the Proposed Action may result in a deficit in the CVGB, the projected worst-case scenario would not be a substantial increase to a deficit in the basin and would not be a substantial increase in groundwater use compared to groundwater use presented in the WSA. This is consistent with the DRECP FEIS Section IV.6.3.2 (page IV.6-20) which indicates that basins in the Proposed Action area can be characterized as stressed and groundwater use for proposed renewable energy projects would likely exacerbate depletion of water supply. A detailed discussion of the CVGB groundwater budget and groundwater use by the project is presented in the WSA (POD Appendix O in EA Appendix F, POD).

Given the distance of the project from the Colorado River, and the groundwater pumping elevation, it is unlikely that project-related groundwater extraction could affect the adjacent Palo Verde Mesa Groundwater Basin (PVMGB) and cause withdrawal of groundwater from below the Colorado River Accounting Surface. Nonetheless, because there is some uncertainty regarding an induced flow from the Colorado River, Mitigation Measure HWQ-2 (Mitigation of Impacts to the Palo Verde Mesa Groundwater Basin) would be implemented to reduce the possibility of impacts to Colorado River water by developing a plan to monitor groundwater extractions and prevent, replace, or mitigate any project-related groundwater extraction impacts to the PVMGB.

Groundwater use during the project's construction, operation, and decommissioning would cause drawdown in the immediate vicinity of the project's supply well(s) and may adversely affect operation of nearby wells. Implementation of Mitigation Measure HWQ-3 (Groundwater Monitoring, Reporting, and Mitigation Plan) would provide requirements for monitoring groundwater levels and quality and measures to mitigate adverse effects of groundwater pumping, which could include stopping water pumping until levels regulate or compensating nearby well owners if damaged or inoperable. Water monitoring reports from nearby solar projects (Desert Sunlight, Desert Harvest, and Palen) were reviewed and the monitoring reports did not find declines in groundwater levels such that additional measures were required. Impacts to nearby riparian communities (desert dry wash woodland) are not anticipated because the nearby wetlands are found primarily along the areas where water is fed by the existing I-10 berms and drainages and the riparian communities root systems are unlikely to be affected by changes in the deep groundwater levels in the area (greater than 70 feet below ground surface).

Groundwater quality impacts could occur during construction, operation, or decommissioning if contaminated or hazardous materials were accidentally released and allowed to migrate to the groundwater table. With adherence to the HMMP, the project SWPPP, and a HMBP and SPCC if required, the potential for such impacts to groundwater quality are low. Groundwater quality could be affected by sanitary wastewater from the O&M building, which would be treated and disposed of at the site using a proposed septic system and leach field. Construction and design of the project's septic system per Riverside County Department of Environmental Health permit and design requirements for wastewater treatment systems would minimize any potential impact to groundwater quality.

Alternative 3: Land Use Plan Compliant Alternative

Under the Land Use Plan Compliant Alternative the development footprint would extend south to I-10 but the setback around the desert dry wash woodland would be increased to 200 feet, thereby decreasing the overall acreage of solar arrays as compared to the Proposed Action, and long-term desert tortoise exclusion fencing would be installed around the perimeter of all development areas, instead of the combination of exclusion and passage fence that would be installed for the Proposed Action. The increased desert dry wash woodland setback would reduce the footprint of solar arrays within the larger flood zone with estimated flood flows of up to 1.5 feet, resulting in reduced potential for flooding of solar arrays near to the desert dry wash woodland. Construction, operation and maintenance, and decommissioning activities would be the same as for the Proposed Action, just slightly reduced due to the smaller solar array footprint and would have similar, but slightly reduced, potential for impacts to surface water quality, and groundwater supply as compared to the Proposed Action. Groundwater quality impacts would be the same as for the Proposed Action. The fencing would be installed in similar areas as the fencing for the Proposed Action and would have similar impacts. The Land Use Plan Compliant Alternative would have the same, but slightly reduced, direct, indirect, and cumulative impacts related to water resources as the Proposed Action.

Alternative 4: Resource Avoidance Alternative

The Resource Avoidance Alternative would increase the setback around the desert dry wash woodland to 200 feet and avoid desert tortoise critical habitat and the multi-species habitat linkage, thereby significantly decreasing the acreage of solar arrays and associated components as compared to the Proposed Action. Construction, operation and maintenance, and decommissioning activities would be the same as for the Proposed Action, but reduced compared to the Proposed Action due to the significant decrease in footprint for the solar arrays and associated components. This would result in reduced potential for impacts to surface water quality, and flooding as compared to the Proposed Action. Due to the significant reduction in acreage for this alternative, it is anticipated there would be a decrease in construction water usage for dust control approximately commensurate with the 40%reduction in solar array acreage. Groundwater quality impacts would be the same as for the Proposed Action. The Resource Avoidance Alternative would have similar, but reduced, direct, indirect, and cumulative impacts related to water resources as the Proposed Action.

3.14.2 Cumulative Effects

The Chuckwalla Hydrologic Unit, being a self-contained drainage area, comprises the geographic scope for the water resources cumulative analysis. The majority (81 percent) of the groundwater basin is BLM administered land, with an additional 7 percent in NPS and State land. Twelve percent of the groundwater basin overlays undefined/private land of which a portion is the Athos solar

project which would also use groundwater during construction. The private land in and around Desert Center and the associated water use is primarily for private use or some small amounts of agriculture. This amount of private water use was assumed in the WSA. The cumulative projects within the Chuckwalla Hydrologic Unit are mainly solar energy projects in Desert Center and their associated transmission lines with impacts similar to those described for the Proposed Action. The exception is the Eagle Pumped Storage Project that would use substantially more water than the remaining projects combined over its lifetime. There is no foreseeable residential, recreational, or industrial development that would increase the groundwater use. These cumulative projects have the potential to contribute to cumulative water resource impacts in the Chuckwalla Valley Hydrologic Unit. These impacts include potential flood diversions and damage, contamination of surface waters from construction over a far greater area, contamination of surface waters through operation of power-generating facilities, and higher groundwater use.

The Proposed Action's contribution to the cumulative impact related to surface waters and flooding would be minor. The cumulative groundwater use as described in the WSA indicates that with all cumulative projects in place, and using normal recharge estimates, the CVGB would suffer an initial overdraft of about 11,527 af in 2024, due to the higher use of water during project construction, and then begin to recover to a reduced overdraft (deficit) of 6,896 by the end of the project life, with the Oberon Project contributing approximately 1.8 percent to the ending cumulative deficit (see POD Appendix O in EA Appendix F). This is consistent with DRECP FEIS Section IV.25.3.6 (page IV.25-44), which notes that use of groundwater for the renewable energy facilities permitted under the DRECP would combine with the use of groundwater for the cumulative projects to result in a cumulative lowering of groundwater levels affecting basin water supplies and groundwater discharge. This section specifically calls out the potential for cumulative impacts due to the Eagle Crest Pumped Storage Project but notes that because the groundwater basin is potentially in overdraft, and the large use of water by this project, the impacts would remain cumulatively adverse. Further, this project, the Arica Solar Project, and the Victory Pass Solar Project would be subject to DRECP CMAs (for projects on federal land); each of the cumulative projects would be subject to mitigation measures as part of their NEPA and/or CEQA environmental reviews as needed, and all would be subject to the regulations described in the regulatory framework (EA Appendix G). All would be required to demonstrate a sustainable water supply and to implement BMPs to reduce impacts to water quality.

4.0 CONSULTATION AND COORDINATION

4.1 General Consultation and Coordination

The Proposed Action is located entirely on federal land and BLM is the lead agency under the National Environmental Policy Act (NEPA), 42 U.S.C. section 4321 et seq. Federal, state, and local agencies have been or will be consulted as part of the BLM's review of the project. Those agencies with jurisdiction will be contacted in order to obtain the necessary permits and approvals for implementation of the project.

4.2 National Historic Preservation Act Section 106 Compliance

The BLM consults with Native American tribes on a government-to-government basis in accordance with several authorities including NEPA, Section 106 of the National Historic Preservation Act of 1966 (NHPA) (54 USC 300101), as amended; the American Indian Religious Freedom Act

of 1978 (42 USC 1996), as amended; and Executive Order (EO) 13007 (May 24, 1996), concerning Indian Sacred Sites; EO 13175 (Nov. 6, 2000), concerning Consultation and Coordination With Indian Tribal Governments; the Presidential Memorandum of April 29, 1994 (59 Fed. Reg. 22951 1994); and the Desert Renewable Energy Conservation Plan (DRECP) Programmatic Agreement (2016; as described at 36 C.F.R.§800.14 (b)). The BLM's tribal consultation policy is found in the BLM 1780 Manual (Tribal Relations) and 1780-1 Handbook (Improving and Sustaining BLM-Tribal Relations).

Section 106 of the NHPA requires Federal agencies to consider the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on those undertakings. Under Section 106, an undertaking collectively refers to all projects, activities, or programs funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a federal agency, those carried out by Federal financial assistance, and those requiring a Federal permit, license, or approval.

Federal agencies must meet their Section 106 responsibilities as set forth in the regulations (36 CFR Part 800). Federal agencies must conduct the necessary studies and consultations to identify cultural resources that may be affected by an undertaking, evaluate cultural resources that may be affected to determine if they are eligible for the National Register of Historic Places (NRHP) (that is, whether identified resources constitute historic properties), and assess whether such historic properties would be adversely affected. Historic properties are resources listed on or eligible for listing on the NRHP (36 CFR 800.16[l][1]). A property may be listed in the NRHP if it meets criteria provided in the NRHP regulations (36 CFR 60.4). Typically such properties must also be 50 years or older (36 CFR 60.4[d]).

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, or association and

- That are associated with events that have made a significant contribution to the broad patterns of our history; or
- That are associated with the lives of persons significant in our past; or
- That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- That have yielded, or may be likely to yield, information important in prehistory or history.

Section 106 defines an adverse effect as an effect that alters, directly or indirectly, the qualities that make a resource eligible for listing in the National Register (36 CFR 800.5[a][1]). Consideration must be given to the property's location, design, setting, materials, workmanship, feeling, and association, to the extent that these qualities contribute to the integrity and significance of the resource. Adverse effects may be direct and reasonably foreseeable or may be more remote in time or distance (36 CFR 8010.5[a][1]).

The DRECP Programmatic Agreement (PA) establishes the process the BLM will follow to fulfill its responsibilities under Section 106 of the NHPA for site-specific, renewable energy project application decisions within the DRECP Land Use Plan Amendment area [Stipulation I(A)(2)]. The DRECP PA process was adhered to for the Oberon Renewable Energy Project.

Key aspects of the Section 106 and DRECP PA processes include the following components, which are described and compared in detail below, along with a summary of compliance by the Oberon Project.

- Consultation and Pre-Application Meeting;
- Area of Potential Effect;
- Identification Efforts; and
- Evaluations of Eligibility and Findings of Effect.

The mitigation measures for historic properties (see EA Appendix H) specify the required avoidance strategies for each resource to ensure that no known eligible resources would be adversely affected. The Oberon Project mitigation measures also require the development of a comprehensive plan to manage post-review discoveries and unanticipated effects during project construction, pursuant to DRECP PA Stipulation V(A). As no historic properties would be adversely affected by the project, no resolution of adverse effects or further steps under the DRECP PA are required for the Oberon Project at this time.

Additional details regarding the DRECP Programmatic Agreement are provided in EA Appendix G (Regulatory Framework).

4.2.1 Consultation and Pre-Application Meeting

In addition to the consulting parties defined under Section 106 (36 CFR 800.2(c)), the DRECP PA indicates that the BLM should enter into formal consultation with the State Historic Preservation Officer (SHPO) during the pre-application phase [Stipulation II(B)] and with Indian tribes and tribal organizations at the earliest stages of project planning [Stipulation II(E)]. As part of this early consultation process, the DRECP PA requires that the BLM hold a pre-application meeting with the Applicant and invite the SHPO, tribes and tribal organizations, and any other potential consulting parties prior to formal acceptance of any ROW application, and prior to initiating the NEPA review process [Stipulation III(B)(1)]. The DRECP PA also specifies when the BLM shall invite the ACHP to participate in consultation.

Oberon Project Consultation and Pre-Application Meeting Summary. Following the procedures identified in the DRECP PA, the BLM formally initiated consultation with Indian tribes, other potential consulting parties, and members of the public for the Oberon Renewable Energy Project by certified letter on June 18, 2020. Thirteen tribes or related entities were identified and invited to consult on this project. Pursuant to DRECP PA Stipulation III(B)(1), these letters included an invitation to attend the pre-application meeting for the proposed Oberon Project on July 29, 2020. Per guidance from the BLM Washington Office and the Advisory Council on Historic Preservation (ACHP), Information Bulletin 2013-020, and the Desert Renewable Energy Conservation Plan (DRECP) Programmatic Agreement (PA), the ACHP received an early notification letter (dated September 3, 2020) concerning the Oberon Project and responded on September 11, 2020, declining to participate.

Thirty-three (33) individuals attended the pre-application meeting. State and Federal agency participants included representatives from BLM, National Parks Service, U.S. Fish and Wildlife Service, California State Historic Preservation Office, U.S. Geologic Survey, California Department of Fish and Wildlife. Tribal participants included representatives from Agua Caliente Band of Cahuilla Indians, Colorado River Indian Tribes, Morongo Band of Mission Indians, Quechan,

Soboba Band of Luiseño Indians, and Twenty-Nine Palms Band of Mission Indians. Representatives of Southern California Edison, the Applicant, and the Applicant's technical consultants were also present.

4.2.2 Area of Potential Effect and Identification Efforts

The Area of Potential Effect (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. The determination of the APE and identification efforts for historic properties for the Proposed Action were consistent with DRECP PA Stipulation IV(A)(1). After the APE and identification efforts were approved, a Class I Inventory and a Class III Inventory were completed pursuant to DRECP PA Stipulation IV(B).

Oberon Project APE and Identification Efforts Summary. Pursuant to DRECP PA Stipulation IV(B) a BLM Class I record search literature review of existing cultural resources information was prepared. As required this information was used to prepare a research design, work plan and ethnographic literature review for the proposed project. These documents recommended additional resource identification efforts including: a new Class III inventory, a geoarchaeological study, a visual, auditory, and atmospheric (VAA) effects study, and an ethnographic assessment to supplement the ethnographic literature review. Pursuant to DRECP PA Stipulation IV(A)(1), in a letter dated June 18, 2020, BLM presented the proposed APE and identification efforts (as described in the research design and work plan) to all identified consulting parties. Replies were received from the Soboba Band of Luiseno Indians, the Fort Yuma Quechan Indian Tribe, and the Colorado Indian Tribes; their comments were considered in the final work plan. In a letter dated October 27, 2020, SHPO concurred with the proposed APE and identification efforts.

All of the proposed studies were completed. Consistent with Stipulation VI(B)(2) of the DRECP PA, the BLM conducted an internal peer review of the BLM Class III inventory.

4.2.3 Evaluations of Eligibility and Findings of Effect

The BLM applies the National Register of Historic Places criteria (36 CFR part 63) and DRECP PA guidance to make proposed eligibility determinations of all properties identified within the APE that have not been previously evaluated for NRHP eligibility. The evaluations are based on the results of the cultural resources studies and any information provided by Indian tribes during consultation. If the BLM determines any of the NRHP criteria are met and the SHPO/Tribal Historic Preservation Officer agrees, the property is considered eligible for the NRHP for Section 106 purposes. The NRHP eligibility criteria (Criteria A through D) are described in EA Section 3.2.

After the cultural resources are evaluated for NRHP eligibility, the BLM will apply the criteria of adverse effect. An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association (36 CFR §800.5). Consistent with Stipulation IV(C)(1)(b) of the DRECP PA, BLM provides its proposed determinations and findings to consulting parties for review and comment.

Oberon Project Evaluations of Eligibility and Findings of Effect Summary. PaleoWest evaluated 182 cultural resources in the Direct APE for NRHP eligibility using a combination of historical research and supplemental fieldwork (testing) and input received from tribes in the ethnographic

assessment. Based on the recommendations provide by PaleoWest and additional BLM analysis, BLM determined that there are 5 historic properties in the Direct APE. Adverse effects to these properties could be successfully avoided pursuant to DRECP PA Stipulation V(A). This analysis, along with the associated determinations of eligibility, findings of effect concluding that no historic properties would be adversely affected by the project, will be submitted to project-specific consulting parties and SHPO for concurrent review in a letter pursuant to DRECP PA Stipulation IV(C, D). The letter to SHPO will seek concurrence from the on the determination that the project would have no adverse effects on historic properties.

4.3 Tribal Consultation

The BLM consults with federally recognized Indian tribes on a government-to-government basis in accordance with several authorities including NEPA, Section 106 of the National Historic Preservation Act of 1966 (54 USC 300101), as amended; the American Indian Religious Freedom Act of 1978 (42 USC 1996), as amended; and Executive Order (EO) 13007 (May 24, 1996), concerning Indian Sacred Sites; EO 13175 (Nov. 6, 2000), concerning Consultation and Coordination With Indian Tribal Governments; and the Presidential Memorandum of April 29, 1994 (59 Fed. Reg. 22951 1994). The BLM's tribal consultation policy is found in the BLM 1780 Manual (Tribal Relations) and 1780-1 Handbook (Improving and Sustaining BLM-Tribal Relations).

The BLM formally initiated consultation with Indian tribes for the Oberon Renewable Energy Project by certified letter on June 18, 2020. Thirteen tribes were identified and invited to consult on this project, including:

- Agua Caliente Band of Cahuilla Indians
- Augustine Band of Cahuilla Indians
- Cabazon Band of Mission Indians
- Cahuilla Band of Mission Indians
- Chemehuevi Cultural Center
- Cocopah Indian Tribe
- Colorado River Indian Tribes
- Fort Mojave Indian Tribe
- Fort Yuma Quechan Tribe
- Morongo Band of Mission Indians
- Soboba Band of Luiseno Indians
- Torres Martinez Desert Cahuilla Indians
- Twenty-Nine Palms Band of Mission Indians

Pursuant to DRECP PA Stipulation III(B)(1), these letters also included an invitation to attend the pre-application meeting for the proposed Oberon Project. Representatives from the Agua Caliente Band of Cahuilla Indians, Colorado River Indian Tribes, Morongo Band of Mission Indians, Quechan, Soboba Band of Luiseño Indians, and Twenty-Nine Palms Band of Mission Indians attended the pre-application meeting on July 29, 2020. Representatives expressed concern regarding impacts to desert tortoise, ethnobotany, the level of NEPA review, the third-party cultural reviewer contract, and the tribal review process and timeframe.

Following the pre-application meeting, the BLM held four government to government meetings between the following consulting parties: Agua Caliente Band of Cahuilla Indians, Fort Yuma Quechan Tribe, and Soboba Band of Luiseno Indians. BLM is continuing government-to-government consultation. Letters will be sent to tribes to provide a general project update, a summary of identification and evaluation efforts, the BLM proposed determinations of NRHP eligibility, and findings of effect for the project. The DRECP PA provides for a 30-day review at that time.

The BLM continues to request that the tribes identify any issues or concerns regarding the proposed Oberon Project, including places of religious and cultural significance that might be affected. BLM's government-to-government consultation on this project is ongoing.

4.4 Endangered Species Act Section 7 Consultation

BLM consulted with U.S. Fish and Wildlife Service (USFWS) on the Oberon Project, including the solar and energy storage facility and gen-tie line as the whole of the action. BLM will submit a request to initiate formal Endangered Species Act consultation along with the Oberon Project Biological Assessment.