
Draft Subsequent Environmental
Impact Report

Revised McCullough- Victorville Transmission Lines 1 and 2 Upgrade Project

JULY 2026

STATE CLEARINGHOUSE NO.: 2024040144

Prepared by:



ENVIRONMENTAL PLANNING AND ASSESSMENT

111 North Hope Street, Room 1044
Los Angeles, California 90012

Prepared with assistance from:

DUDEK

225 South Lake Avenue, Suite M210
Pasadena, California 91101

Table of Contents

SECTION	PAGE NO.
Acronyms and Abbreviations.....	ACR-i
1 Executive Summary.....	1-1
1.1 Introduction.....	1-1
1.2 Document Organization	1-1
1.3 Project Background and Overview.....	1-3
1.3.1 Project Background	1-3
1.3.2 Project Location	1-3
1.3.3 Project Description	1-4
1.3.4 Project Objectives	1-4
1.4 Areas of Known Controversy/Issues to be Resolved	1-5
1.5 Summary of Environmental Impacts.....	1-5
1.6 Alternatives to the Revised Project	1-6
1.6.1 Alternative 1 – 2024 Approved Project (No Project)	1-6
1.6.2 Alternative 2 – Reduced Helicopter Use (No Helicopter Use Near Residences)	1-6
2 Introduction	2-1
2.1 CEQA Overview and Purpose of this SEIR	2-1
2.2 Project Background.....	2-2
2.2.1 History of Transmission Line Right-of-Way.....	2-2
2.2.2 Approved McCullough-Victorville Transmission Lines 1 and 2 Project and the 2024 Certified EIR.....	2-3
2.2.3 2024 EIR Public Review and LADWP Certification	2-3
2.3 Compliance with CEQA	2-4
2.3.1 Environmental Procedures.....	2-4
2.3.2 Notice of Preparation and Early Consultation.....	2-4
2.3.3 Incorporated by Reference.....	2-5
2.4 References.....	2-5
3 Project Description.....	3-1
3.1 Project Location.....	3-1
3.2 Project Overview	3-2
3.3 Environmental Setting.....	3-3
3.3.1 CEQA Baseline.....	3-3
3.4 Project Objectives.....	3-4
3.5 Project Design.....	3-4
3.5.1 Project Alignment.....	3-5
3.5.2 Transmission Tower Design	3-5

3.6	Project Construction	3-6
3.6.1	Construction Schedule	3-6
3.6.2	Workers and Equipment.....	3-7
3.6.3	Construction Process.....	3-7
3.6.4	Construction Techniques.....	3-14
3.6.5	Best Management Practices	3-15
3.7	Project Operations.....	3-20
3.8	Revised Project and Approved Project Comparison Summary	3-20
3.9	Intended Uses of this SEIR	3-20
3.10	Required Approvals	3-21
4	Environmental Analysis.....	4-1
4.1	Aesthetics	4.1-1
4.1.1	Existing Conditions.....	4.1-1
4.1.2	Regulatory Framework.....	4.1-2
4.1.3	Thresholds of Significance	4.1-3
4.1.4	Impacts Analysis	4.1-4
4.1.5	Mitigation Measures.....	4.1-6
4.1.6	Significance Conclusions.....	4.1-6
4.1.7	Cumulative Effects.....	4.1-6
4.1.8	References	4.1-7
4.2	Air Quality.....	4.2-1
4.2.1	Existing Conditions.....	4.2-1
4.2.2	Regulatory Framework.....	4.2-14
4.2.3	Thresholds of Significance	4.2-20
4.2.4	Impacts Analysis	4.2-21
4.2.5	Mitigation Measures.....	4.2-45
4.2.6	Significance Conclusion	4.2-46
4.2.7	Cumulative Effects.....	4.2-47
4.2.8	References	4.2-49
4.3	Biological Resources	4.3-1
4.3.1	Regulatory Framework.....	4.3-1
4.3.2	Existing Conditions.....	4.3-13
4.3.3	Thresholds of Significance	4.3-61
4.3.4	Impacts Analysis	4.3-62
4.3.5	Mitigation Measures.....	4.3-80
4.3.6	Significance Conclusions.....	4.3-93
4.3.7	Cumulative Effects.....	4.3-93
4.3.8	References	4.3-94
4.4	Cultural Resources	4.4-1
4.4.1	Existing Conditions.....	4.4-1

4.4.2	Regulatory Framework.....	4.4-4
4.4.3	Thresholds of Significance	4.4-5
4.4.4	Impacts Analysis	4.4-6
4.4.5	Mitigation Measures.....	4.4-10
4.4.6	Significance Conclusions.....	4.4-14
4.4.7	Cumulative Effects.....	4.4-14
4.5	Noise	4.5-1
4.5.1	Existing Conditions.....	4.5-1
4.5.2	Regulatory Framework.....	4.5-3
4.5.3	Thresholds of Significance	4.5-7
4.5.4	Impacts Analysis	4.5-7
4.5.5	Mitigation Measures.....	4.5-19
4.5.6	Significance Conclusions.....	4.5-21
4.5.7	Cumulative Effects.....	4.5-21
4.5.8	References	4.5-23
4.6	Paleontological Resources.....	4.6-1
4.6.1	Existing Conditions.....	4.6-1
4.6.2	Regulatory Framework.....	4.6-4
4.6.3	Thresholds of Significance	4.6-7
4.6.4	Impacts Analysis	4.6-7
4.6.5	Mitigation Measures.....	4.6-9
4.6.6	Significance Conclusions.....	4.6-10
4.6.7	Cumulative Effects.....	4.6-10
4.6.8	References	4.6-11
4.7	Tribal Cultural Resources.....	4.7-1
4.7.1	Existing Conditions.....	4.7-1
4.7.2	Regulatory Framework.....	4.7-3
4.7.3	Thresholds of Significance	4.7-4
4.7.4	Impacts Analysis	4.7-5
4.7.5	Mitigation Measures.....	4.7-7
4.7.6	Significance Conclusions.....	4.7-7
4.7.7	Cumulative Effects.....	4.7-7
5	Other CEQA Considerations	5-1
5.1	Effects Found Not to Be Significant	5-1
5.1.1	Aesthetics.....	5-1
5.1.2	Agriculture and Forestry Resources.....	5-6
5.1.3	Energy.....	5-9
5.1.4	Geology and Soils	5-11
5.1.5	Greenhouse Gas Emissions	5-14
5.1.6	Hazards and Hazardous Materials	5-20

5.1.7	Hydrology and Water Quality	5-28
5.1.8	Land Use and Planning.....	5-31
5.1.9	Mineral Resources.....	5-35
5.1.10	Noise.....	5-36
5.1.11	Population and Housing	5-37
5.1.12	Public Services.....	5-37
5.1.13	Recreation.....	5-39
5.1.14	Transportation.....	5-40
5.1.15	Utilities and Service Systems	5-44
5.1.16	Wildfire	5-47
5.2	Significant and Unavoidable Environmental Effects	5-50
5.3	Significant Irreversible Changes.....	5-50
5.4	Growth-Inducing Impacts	5-51
5.5	References.....	5-54
6	Alternatives.....	6-1
6.1	Introduction.....	6-1
6.1.1	Discussion of Previously Considered Alternatives from the Certified 2024 EIR.....	6-1
6.2	Project Objectives.....	6-2
6.3	Environmental Impacts of the Revised Project.....	6-3
6.4	Alternatives Considered but Rejected.....	6-4
6.4.1	Alternative Site (New Transmission Line Right-of-Way).....	6-4
6.4.2	Paving Access Roads Alternative	6-6
6.4.3	No Blasting Alternative	6-7
6.4.4	Undergrounding Transmission Lines Alternative	6-8
6.4.5	Partial Preservation Alternative	6-10
6.4.6	Replacement in Place Alternative.....	6-10
6.4.7	Reduced Helicopter Use (No Helicopter Use for Tower Construction).....	6-12
6.5	Alternatives Under Consideration.....	6-14
6.5.1	Alternative 1 – 2024 Approved Project (No Project)	6-14
6.5.2	Alternative 2 - Reduced Helicopter Use (No Helicopter Use Near Residences).....	6-18
6.6	Environmentally Superior Alternative	6-21
6.7	References.....	6-22
7	List of Preparers.....	7-1

FIGURES

3-1	Project Location	3-23
3-2A	Project Alignment.....	3-25
3-2B	Project Alignment.....	3-27
3-2C	Project Alignment.....	3-29

3-3	Representative Portion of MCC-VIC Line 1 (Shifted Segment)	3-31
3-4A	Transmission Tower Structures.....	3-33
3-4B	Transmission Tower Structures.....	3-35
3-4C	Transmission Tower Structures.....	3-37
3-4D	Transmission Tower Structures.....	3-39
4.2-1	State 1-Hour and 8-Hour O3 Concentration Trend – Mojave Desert Air Basin	4.2-10
4.2-2	National and State 3-Year Average PM ₁₀ Statistics – Mojave Desert Air Basin.....	4.2-11

EXHIBIT

I	Diagram of Project Construction Activity Progress and Change in Distance to Receptor	4.5-11

TABLES

1-1	Summary of Environmental Impacts.....	1-8
3-1	Transmission Tower Heights	3-6
3-2	Construction Duration.....	3-7
3-3	Revised Project Disturbance Area.....	3-11
3-4	Anticipated Line Crossings	3-17
4-1	Geographic Area for Cumulative Impacts.....	4-3
4-2	List of Cumulative Projects.....	4-3
4.2-1	San Bernardino County Portion of the Mojave Desert Air Basin - Attainment Classification	4.2-9
4.2-2	Local Ambient Air Quality Data	4.2-13
4.2-3	Ambient Air Quality Standards	4.2-16
4.2-4	Mojave Desert Air Quality Management District Daily Air Quality Significance Thresholds.....	4.2-21
4.2-5	Revised Project Construction Scenario Assumptions – Annual Average.....	4.2-23
4.2-6	Revised Project Construction Scenario Assumptions – Maximum Day.....	4.2-27
4.2-7	Estimated Annual Average Construction Criteria Air Pollutant Emissions – Unmitigated	4.2-34
4.2-8	Estimated Maximum Daily Construction Criteria Air Pollutant Emissions – Unmitigated	4.2-35
4.2-9	Estimated Annual Average Construction Criteria Air Pollutant Emissions – Mitigated.....	4.2-36
4.2-10	Estimated Maximum Daily Construction Criteria Air Pollutant Emissions – Mitigated	4.2-37
4.3-1	Summary of Vegetation Communities and Land Cover Types Within the California Segment of the Project Area	4.3-14
4.3-2	Special-Status Plant Occurrence Probabilities in the Project Area	4.3-23
4.3-3	Special-Status Wildlife Occurrence Probabilities in the Project Area	4.3-34
4.3-4	Desert Tortoise Observations and Sign Identified in the Survey Area in 2025 and 2026	4.3-48
4.3-5	Summary of Potential Jurisdictional Aquatic Resources in the Jurisdictional Delineation Survey Area.....	4.3-61
4.3-6	Approved Project Impacts to Sensitive Vegetation Communities	4.3-75
4.3-7	Revised Project Impacts to Sensitive Vegetation Communities.....	4.3-75

4.4-1	Historical Resources within the Revised Project Area	4.4-3
4.5-1	Population Density and Associated Ambient Noise Levels	4.5-2
4.5-2	Land Use Compatibility for Community Noise Environments.....	4.5-5
4.5-3	Sound Levels of Typical Construction Equipment.....	4.5-9
4.5-4	Predicted Construction Noise Levels per Activity Phase at Nearest Receptors (Unmitigated)	4.5-12
4.5-5	Predicted Construction Noise Levels per Activity Phase at Nearest Receptor (Mitigated).....	4.5-14
4.5-6	Highest Predicted Construction Noise Level Compared to Ambient Noise Levels.....	4.5-15
4.5-7	Vibration Velocities for Typical Construction Equipment	4.5-18
5.1.3-1	Construction Petroleum Demand.....	5-10
5.1.5-1	Estimated Annual Construction Greenhouse Gas Emissions	5-17
5.1.14-1	Construction Trip Generation	5-42
6-1	Comparison of Impacts.....	6-22

APPENDICES

A	Notice of Preparation and Scoping Comments
B	Air Quality, Energy, and Greenhouse Gas Emissions Calculations
C	Biological Resources Technical Report
D	Confidential Class I Cultural Resources Record Search Report
E	Noise and Vibration Worksheets
F	Confidential Paleontological Resources Review

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
"2024 EIR" or "certified EIR"	2024 Environmental Impact Report
AAQS	ambient air quality standard
ACEC	Areas of Critical Environmental Concern
AG	Agriculture
ANFO	ammonium nitrate fuel oil
ATCM	Airborne Toxic Control Measure
BCC	Birds of Conservation Concern
BenMAP	EPA Benefits Mapping and Analysis Program
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
BMP	best management practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CDCA	California Desert Conservation Area
CDFW	California Department of Fish and Wildlife
CDNCL	California Desert National Conservation Lands
CDNPA	California Desert Native Plants Act
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGP	Construction General Permit
CHU	Critical Habitat Unit
CMA	Conservation Management Action
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DPM	diesel particulate matter
DRECP	Desert Renewable Energy Conservation Plan

Acronym/Abbreviation	Definition
ECA	Essential Connectivity Area
EIR	Environmental Impact Report
ERMA	Extensive Recreation Management Area
EPA	U.S. Environmental Protection Agency
FESA	federal Endangered Species Act
FICON	Federal Interagency Committee on Noise
FLPMA	Federal Land Policy and Management Act
FTA	Federal Transit Administration
GHG	greenhouse gas
GHGRP	Greenhouse Gas Reduction Plan
GWP	global warming potential
HAP	hazardous air pollutant
HCP	Habitat Conservation Plan
HIA	health impact assessment
ips	inches per second
JD	jurisdictional delineation
LADWP	Los Angeles Department of Water and Power
L _{dn}	day-night sound level
L _{eq}	equivalent sound level
L _{max}	maximum instantaneous noise level
LUPA	Land Use Plan Amendment
LUST	leaking underground storage tank
MBTA	Migratory Bird Treat Act
MDAB	Mojave Desert Air Basin
MDAQMD	Mojave Desert Air Quality Management District
MSHCP	Multiple Species Habitat Conservation Plan
MT	metric ton
mya	million years ago
NAAQS	National Ambient Air Quality Standards
NCCP	Natural Community Conservation Plan
NCL	National Conservation Land
NEMO	Northern and Eastern Mojave Desert Management Plan
NOP	Notice of Preparation
NRHP	National Register of Historic Places
OHV	off-highway-vehicle
PM _{2.5}	fine particulate matter
PM ₁₀	coarse particulate matter

Acronym/Abbreviation	Definition
PPV	peak particle velocity
PRC	Public Resources Code
PRMMP	paleontological resources monitoring and mitigation plan
ROW	right-of-way
RPS	Renewable Portfolio Standard
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SEIR	Subsequent Environmental Impact Report
SJVAPCD	San Joaquin Valley Air Pollution Control District
SR	State Route
SRA	state responsibility area
SRMA	Special Recreation Management Area
TAC	toxic air contaminant
TCR	Tribal Cultural Resource
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VHFHSZ	very high fire hazard severity zone
VMT	vehicle miles traveled
VOC	volatile organic compound
WEMO	West Mojave Plan
WJTCA	Western Joshua Tree Conservation Act

INTENTIONALLY LEFT BLANK

1 Executive Summary

This section provides a summary of the Draft Subsequent Environmental Impact Report (SEIR) for the revised McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (revised project). The California Environmental Quality Act of 1970 (CEQA) statutes (California Public Resources Code Section 21000 et seq., as amended) and its implementing guidelines (California Code of Regulations Title 14, Section 15000 et seq., referred to herein as the “CEQA Guidelines”) require environmental impact reports (EIRs) to contain a brief summary of the proposed project and its consequences. The summary must include each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect; areas of controversy known to the lead agency including issues raised by agencies and the public; and issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects (CEQA Guidelines Section 15123). In accordance with these requirements, this section provides a summary of the revised project and of revised project impacts, lists mitigation measures and alternatives, and describes areas of known controversy/issues to be resolved.

1.1 Introduction

The purpose of this SEIR is to evaluate and disclose the potential environmental impacts of the revised project as compared to the previously approved McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (approved project). The Los Angeles Department of Water and Power (LADWP) is the lead agency responsible for preparing this SEIR in accordance with CEQA.

The EIR for the approved project (State Clearinghouse No. 2024040144) was certified by the Board of Water and Power Commissioners in October 2024 (referred to herein as the “2024 EIR” or “certified EIR”). This SEIR evaluates the environmental impacts of the revised project in comparison to the approved project and determines whether the 2024 EIR retains adequate informational value on the assessment of environmental impacts, or whether the revised project would result in new significant environmental impacts or a substantial increase in the severity of previously identified significant impacts such that new or revised mitigation measures may be required. Any environmental impacts associated with the revised project that were not adequately addressed in the 2024 EIR are evaluated in this SEIR.

This SEIR has been prepared in accordance with CEQA Guidelines Section 15162 (Subsequent EIRs and Negative Declarations). The differences between the revised project and the approved project are generally summarized in Section 3.8 in Chapter 3, Project Description of this SEIR. Due to the proposed changes, the revised project may result in new significant environmental effects and/or a substantial increase in the severity of previously identified significant effects. As such, an SEIR is the appropriate document to wholly address the revised project’s proposed changes and potential project-related environmental effects.

1.2 Document Organization

This SEIR is organized as follows:

Chapter 1, Executive Summary, summarizes the conclusions of the environmental analysis and provides an overview of the revised project and the revised project alternatives analyzed in the SEIR. This section includes a table summarizing the significance conclusions for the revised project’s potentially significant environmental issue areas and any associated mitigation measures proposed to lessen or avoid each significant impact.

Chapter 2, Introduction, serves as an introduction to the SEIR, introducing the revised project, providing background, and discussing the applicable environmental review procedures.

Chapter 3, Project Description, provides a thorough description of the revised project setting, objectives, and characteristics (including design, construction, and operation), as well as a summary comparison between the revised and approved project, intended uses of the SEIR, and a list of required approvals.

Chapter 4, Environmental Analysis, describes the potential environmental impacts of the revised project, as well as proposed mitigation measures to reduce or avoid any potentially significant impacts. The discussion in Chapter 4 is organized into the seven environmental issue areas listed below. (All other impact areas were determined by LADWP to not have the potential to result in any significant effects on the environment and are discussed in Chapter 5, Other CEQA Considerations, of this SEIR.)

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Noise
- Paleontological Resources
- Tribal Cultural Resources

For each environmental issue area, the analysis and discussion are organized into the following subsections (as applicable):

- **Existing Conditions** – This subsection provides information describing the existing setting within or surrounding the revised project alignment and/or right-of-way with a focus on conditions and resources that are relevant to the environmental issue area.
- **Regulatory Framework** – This subsection describes the laws, regulations, ordinances, plans, and policies applicable to the environmental issue area and the revised project.
- **Thresholds of Significance** – This subsection identifies a set of thresholds by which the level of impact is determined.
- **Impacts Analysis** – This subsection provides an evaluation of potential impacts of the revised project and a comparison to the impacts of the approved project and conclusions of the 2024 EIR. The analysis in this subsection determines whether the 2024 EIR retains adequate informational value on the assessment of environmental impacts, or whether the revised project would result in new or substantially different significant environmental impacts such that previously approved mitigation measures would be eliminated or revised, or whether new mitigation measures are required.
- **Mitigation Measures** – This subsection identifies potentially feasible mitigation measures that would avoid or substantially reduce significant adverse impacts.
- **Significance Conclusions** – This subsection provides significance conclusions for each of the checklist questions addressed in the section. The potential significance conclusions are as follows: no impact, less than significant impact, less than significant impact with mitigation, or significant and unavoidable impact.
- **Cumulative Effects** – This subsection includes an evaluation of the potential cumulative impacts of the revised project in combination with identified related projects.
- **References** – This subsection includes a list of all references cited within the preceding discussion and analysis.

Chapter 5, Other CEQA Considerations, addresses environmental issue areas that were determined by LADWP to not have the potential to result in any significant effects on the environment. Additionally, this chapter discusses any potential significant environmental effects that cannot be avoided, potential significant irreversible environmental changes that may result from implementation of the revised project, and any potential growth-inducing impacts associated with the revised project.

Chapter 6, Alternatives, includes an analysis of a reasonable range of feasible alternatives to the revised project in accordance with Section 15126.6 of the CEQA Guidelines. Alternatives are analyzed that would feasibly attain most of the basic objectives of the revised project but would avoid or reduce any of the significant effects of the revised project. The comparative merits of each alternative are evaluated when compared to the revised project, and an environmentally superior alternative is identified in compliance with CEQA Guidelines Section 15126.6(e)(2).

Chapter 7, List of Preparers, gives names and contact information of those responsible for preparing the SEIR and/or technical appendices.

1.3 Project Background and Overview

1.3.1 Project Background

The approved project assessed in the 2024 EIR proposed making general improvements and upgrades to the McCullough-Victorville Transmission Lines 1 and 2 (MCC-VIC Lines 1 and 2) to retrofit the transmission lines to be able to carry an increased electrical capacity of 570 kilovolts. This would have been accomplished through maintenance and rehabilitation of access roads, reinforcing or replacing tower structural steel members for approximately 1,508 towers, complete tower replacement for approximately 153 towers, tower raising for towers with ground-to-clearance violations (along with any subsequent power line re-tensioning required), replacing conductors, ground wires, insulators, and associated hardware assemblies, and adding grounding at every tower along the alignment.

During detailed design and engineering inspections after approval of the approved project, the conditions of the existing towers were determined to be substantially worse than what was determined during initial assessments for the approved project. Based on these findings, LADWP determined that almost all the towers associated with MCC-VIC Lines 1 and 2 were in need of critical replacement. Additionally, the upgrade must ensure secure transmission for the reasonably foreseeable future (e.g., approximately 50 years). Thus, the design plan of the approved project has changed since LADWP's certification of the 2024 EIR and a revised version of the approved project has been identified. The revised project proposes complete replacement of approximately 1,750 transmission towers associated with MCC-VIC Lines 1 and 2 (as opposed to maintenance and/or rehabilitation of a majority of existing towers), along with complete replacement of the existing conductors. Under the revised project, the capacity of the new lines would be 575 kilovolts (slightly greater than that of the approved project). The revised project is the subject of this Draft SEIR.

1.3.2 Project Location

Both the approved and revised projects involve modifications to the existing MCC-VIC Lines 1 and 2. MCC-VIC Lines 1 and 2 are two parallel, high voltage transmission lines that extend approximately 162 miles across the Mojave Desert from Boulder City in Clark County, Nevada to the Victorville Switching Station in Victorville within San Bernardino County, California. MCC-VIC Lines 1 and 2 are located within an existing, approved LADWP transmission

line right-of-way (ROW) that largely crosses undeveloped state and federal lands, including lands under the jurisdiction of California State Lands Commission and the Bureau of Land Management. It is noted that this ROW for MCC-VIC Lines 1 and 2 is situated within the larger Boulder Corridor, which is discussed in Chapter 2, Introduction.

1.3.3 Project Description

MCC-VIC Lines 1 and 2 consist of approximately 875 steel-lattice transmission towers per line. The revised project proposes to completely remove and replace the approximately 1,750 existing transmission tower structures as well as both transmission lines with two new parallel overhead transmission lines within the existing ROW to increase their overall capacity.¹

The revised project would include many of the same types of construction activities as the approved project, including removal and replacement of existing transmission tower structures; increasing transmission tower height to address ground-to-clearance violations; replacement of conductors, ground wires, insulators, and associated hardware assemblies; conductor re-tensioning; and maintenance and rehabilitation of access roads. However, the revised project would include these same activities at greater intensities than the approved project, based on the expanded scope of transmission tower replacements.

As stated above, the revised project would include the erection of new transmission towers and foundations to replace the existing transmission towers to be demolished. While the revised project's general area of impact would remain largely the same as under the approved project, approximately 95 miles of the existing Line 1 alignment (including the centerline) would shift southeast approximately 110 feet. All other Line 1 and Line 2 transmission towers would be offset linearly by a maximum of 300 feet but would maintain the existing centerline. Furthermore, the potential scale of construction activity anticipated for the revised project represents a change from the approved project as disclosed in the 2024 EIR.

1.3.4 Project Objectives

The underlying purpose of the revised project is to accommodate incoming energy resources along the West of River Path 46 transmission corridor in order to help LADWP achieve state and local requirements for greenhouse gas reductions and an increased renewable energy portfolio, and to conduct infrastructure replacement to ensure the continued safe and reliable operation of MCC-VIC Lines 1 and 2. The additional delivery capacity of 475 megawatts to the City of Los Angeles resulting from the revised project would contribute over 15% toward LADWP's Renewable Portfolio Standard as part of LADWP's commitment to be 100% carbon-free by 2035, which is 10 years ahead of the state's target.

The revised project's objectives are provided below.

1. Reduce the environmental impacts associated with greenhouse gas emissions and create a more sustainable environment.
2. Assist LADWP in meeting Renewable Portfolio Standard goals by increasing LADWP's transmission capacity by 475 megawatts.
3. Meet LADWP's future electrical energy demands.

¹ The transmission tower count discussed herein includes all structures to be replaced, including those in Nevada. However, the focus of the environmental review in this document is on the California segment, pursuant to CEQA.

4. Allow interconnection and expanded transmission of renewable energy along the West of River Path 46 transmission corridor.
5. Increase LADWP's system reliability and flexibility in the utilization of renewable energy sources.
6. Enable the delivery of renewable energy.
7. Minimize the environmental disturbance of transmission upgrades by constructing improvements within an existing ROW, avoiding sensitive resources, and minimizing the number of new access routes, to the extent feasible.
8. Increase delivery capacity with upgraded energized lines on an aggressive schedule (by 2028–2029) to comply with Western Electric Coordinating Council mandates.
9. Bring transmission tower structures into compliance with North American Electric Reliability Corporation Federal Energy Regulatory Commission ground-to-conductor clearance requirements.

Aside from the addition of Objective Nos. 8 and 9, the revised project's objectives are the same as those of the approved project.

1.4 Areas of Known Controversy/Issues to be Resolved

A Notice of Preparation (NOP) and/or scoping period are not required in connection with the decision to prepare an SEIR (Public Resources Code Section 21166; CEQA Guidelines Section 15162). Thus, an NOP has not been prepared specifically for this SEIR. However, an NOP for the certified 2024 EIR was prepared in accordance with CEQA Guidelines 15082 and published on April 1, 2024. The public review period for the NOP began on April 1, 2024, and ended on May 1, 2024. During the 30-day public review period of the NOP, LADWP held a scoping meeting on April 17, 2024. Several agencies and organizations submitted comment letters during the NOP scoping process, and those comments can be found in Appendix A1, Notice of Preparation, of this SEIR. Additionally, upon completion and finalization of the 2024 Draft EIR, the Draft EIR was circulated for the CEQA-mandated 45-day public review period, which began on June 27, 2024, and ended on August 12, 2024. In accordance with CEQA Guidelines Section 15085, a Notice of Completion was filed with the State Clearinghouse on June 27, 2024. LADWP received written comments from two agencies on the 2024 Draft EIR, which are included in the 2024 Final EIR (incorporated by reference into this document and available here: <https://ceqanet.lci.ca.gov/2024040144/3>).

The public comments, questions, and concerns that were received for the 2024 EIR generally pertained to the following topics:

- The need for transportation permits from the County of San Bernardino County Department of Public Works
- Potential impacts to biological resources along the transmission line ROW during construction
- Potential impacts to tribal cultural resources

All the issues and concerns raised in previous comments have been fully addressed and analyzed in this SEIR.

1.5 Summary of Environmental Impacts

The revised project's potential environmental impacts are summarized at the end of this chapter in Table 1-1. This table contains a summary of the potentially significant impacts addressed in Chapter 4, Environmental Analysis, of this SEIR, as well as the impact determinations for other environmental topics that were previously addressed in

the Initial Study and determined to (1) not have any significant environmental effects resulting from the revised project and (2) require no further detailed analysis in the SEIR.² Table 1-1 also includes a list of the proposed mitigation measures that are recommended in response to the project's potentially significant impacts, as well as a determination of the level of significance of the impacts after implementation of the recommended mitigation measures.

1.6 Alternatives to the Revised Project

The CEQA Guidelines Section 15126.6 requires consideration and discussion of alternatives to the proposed project in an EIR. Several alternatives, including alternate project locations, were considered but rejected from consideration in this SEIR. A review of those alternatives and the reasons for rejecting them is provided in Chapter 6 of this document. Two alternatives, including the 2024 Approved Project (No Project) alternative, are reviewed in detail in Chapter 6 of this document and are summarized below.

1.6.1 Alternative 1 – 2024 Approved Project (No Project)

Alternative 1 (i.e., the “no project” alternative) assumes the revised project would not proceed as discussed in Chapter 3, Project Description, of this SEIR. Rather, the approved project—as described and analyzed in the certified 2024 EIR—would be carried forward. As discussed therein, the approved project would upgrade MCC-VIC Lines 1 and 2 to increase their capacity from their current rating of 500 kilovolts to approximately 570 kilovolts. The approved project would consist of reinforcing/replacing damaged structural members (including foundation components) for approximately 86% of existing transmission towers; removing and replacing approximately 14% of the existing transmission towers/foundations within the footprints of existing transmission tower sites; raising transmission towers to mitigate ground clearance violations; modifications and/or replacement of existing insulators and hardware assemblies; replacing conductors and ground wire; re-tensioning conductors; and repairing/retrofitting existing main access roads and spur roads. All work areas would be limited to the existing ROW and existing access/spur roads. No transmission tower relocations or alignment shifts would be required under the approved project.

1.6.2 Alternative 2 – Reduced Helicopter Use (No Helicopter Use Near Residences)

Under Alternative 2, light-duty helicopters would not be used for conductor pulling and tensioning activities in ROW areas within the vicinity of residences (specifically, the areas in the vicinity of transmission tower locations MCV1_151-4 and MCV1_139-6 through MCV2_140-2). Instead, trucks and other ground equipment would be used to haul the conductor between towers. This would require new, direct, and unencumbered temporary spur roads within the ROW from tower-to-tower along the segments of the alignment within the vicinity of residences. Should rock impede the development of these spur roads, blasting or pile driving may be necessary to construct the road for equipment access. Using this on-the-ground technique would thus expand the construction disturbance area and could extend the schedule for conductor pulling and tensioning activities along these segments by four to six

² An Initial Study was prepared for the approved project in April 2024. The Initial Study is available here: <https://ceqanet.lci.ca.gov/2024040144>. Most issue areas determined to be less than significant (or have no impact) in the Initial Study are addressed in Chapter 5, Other CEQA Considerations of this SEIR. However, due to changes in circumstances and/or proposed changes under the revised project, some of these issue areas were determined to have the potential to result in a significant impact (such as issues related to noise, vibration, and scenic resources within a state scenic highway), and thus are analyzed in further detail within Chapter 4 of this SEIR.

times relative to the schedule for the revised project. Under this alternative, it is assumed that heavy-duty helicopters would still be used for structure removals/installations and conductor pulling and tensioning activities in the more remote, difficult-to-reach areas along the ROW. Additionally, light-duty helicopters would still be utilized for conductor pulling and tensioning activities along the rest of the alignment. Operational activities for Alternative 2 would be generally the same as those identified for the revised project.

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
Aesthetics			
Would the project have a substantial adverse effect on a scenic vista?	Less than significant	No mitigation measures are required	Not applicable
Would the project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Less than significant	No mitigation measures are required	Not applicable
In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Less than significant	No mitigation measures are required	Not applicable
Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Less than significant	No mitigation measures are required	Not applicable
Agriculture and Forestry Resources			
Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	Less than significant	No mitigation measures are required	Not applicable
Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?	Less than significant	No mitigation measures are required	Not applicable

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	No impact	No mitigation measures are required	Not applicable
Would the project result in the loss of forest land or conversion of forest land to non-forest use?	No impact	No mitigation measures are required	Not applicable
Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	Less than significant	No mitigation measures are required	Not applicable
Air Quality			
Would the project conflict with or obstruct implementation of the applicable air quality plan?	Potentially significant	MM-AQ-1. Fugitive Dust Controls. Comply with all applicable Rules and Regulations of the Mojave Desert Air Quality Management District (MDAQMD), including, but not limited to Rules 401 (Visible Emissions), 402 (Nuisance), and 403 (Fugitive Dust). To ensure compliance with these Rules and Regulations, the Los Angeles Department of Water and Power (LADWP) shall prepare and submit a Dust Control Plan to the MDAQMD for approval. The Dust Control Plan shall document the best management practices (BMPs) that will be implemented during project construction to prevent, to the maximum extent practicable, wind and soil erosion. BMPs that will be included in the Dust Control Plan shall include, but are not limited to, the following:	Significant and unavoidable

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ Signage compliant with Rule 403 (Attachment B) shall be erected at each project site entrance prior to the commencement of construction. ▪ Use a water truck to maintain moist disturbed surfaces and actively spread water during earthwork to minimize visible fugitive dust emissions. If the project site has exposed sand or fines deposits, or if the project exposes such soils through earthmoving, chemical stabilization or covering with a stabilizing layer of gravel will be required to eliminate visible dust/sand from the sand/fines deposits. ▪ All vehicle speeds on unpaved roads shall be limited to 15 miles per hour. ▪ All perimeter fencing shall be wind fencing or the equivalent, to a minimum of four feet of height or the top of all perimeter fencing. The project Applicant shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. This wind fencing requirement may be superseded by local ordinance, rule, or project-specific biological mitigation prohibiting wind fencing. ▪ All maintenance and access vehicular roads and parking areas shall be stabilized with chemical dust suppressants sufficient to eliminate visible fugitive dust from vehicular travel and wind erosion. The project Applicant shall take actions to prevent project-related track out onto paved surfaces and clean any project-related track out within 24 hours. All other disturbed earthen surfaces within the project area shall be stabilized by natural or irrigated vegetation, compaction, chemical, or other means sufficient to prohibit visible dust from wind erosion.	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		Obtain MDAQMD permits for any miscellaneous process equipment that may not be exempt under MDAQMD Rule 219 including, but not limited to, internal combustion engines with a manufacturer's maximum continuous rating greater than 50 brake horsepower. MM-AQ-2. Exhaust Controls. During project construction, all internal combustion engines/construction equipment greater than 50 horsepower operating on the project site shall meet U.S. EPA-certified Tier 4 Final emissions standards. LADWP and/or its designated construction contractor shall include this requirement in applicable bid documents, purchase orders, and contracts with successful contractors. Successful contractors must demonstrate the ability to supply the compliant construction equipment for use prior to any ground-disturbing and construction activities. An exemption from these requirements may be granted in the event that LADWP and/or its designated construction contractor documents that equipment with the required tier is not reasonably available and corresponding reductions in criteria air pollutant emissions are achieved from other construction equipment. For example, if a Tier 4 Final piece of equipment is not reasonably available at the time of construction and a lower tier equipment is used instead, other pieces of equipment with engines less than 50 horsepower could be upgraded to Tier 4 or replaced with an alternative-fueled (not diesel-fueled) equipment to offset the emissions associated with using a piece of equipment that does not meet Tier 4 Final standards. Before an exemption may be considered by LADWP, LADWP and/or its designated construction contractor shall be required to demonstrate that at least	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		two construction fleet owners/operators in the High Desert and San Bernardino County Region were contacted and that those owners/operators confirmed Tier 4 Final equipment could not be located within the High Desert and San Bernardino County Region.	
Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	Potentially significant	See MM-AQ-1 and MM-AQ-2 .	Significant and unavoidable
Would the project expose sensitive receptors to substantial pollutant concentrations?	Potentially significant	See MM-AQ-1 and MM-AQ-2 .	Significant and unavoidable
Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less than significant	No mitigation measures are required	Not applicable
Biological Resources			
Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	Potentially significant	MM-BIO-1. Western Joshua Tree Census, Permitting, and Avoidance. LADWP shall implement the mitigation measure below. <i>Western Joshua Tree Conservation Act Census.</i> In sections of the Project Area within which western Joshua tree has been documented (i.e., between MCV1_156-1 and MCV2_155-1 to the Victorville Switching Station), an individual stem or trunk of western Joshua tree including dead trees must be mapped by a certified arborist who shall conduct a census within the Project Area and a 50-foot buffer (census area) per the Western Joshua Tree Conservation Act census instructions. The certified arborist shall systematically search the entire census area using parallel transects for all western Joshua trees and their locations using high-accuracy (<1-meter [approximately 3-foot]) GPS technology. Additionally, the	Less than significant

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		size class of each tree must be determined based on measurement methods described in the census instructions (i.e., from the middle of the base of the trunk to the top of the leaf that is furthest away from the base for the entire path of growth of the tree). The western Joshua tree height classes are defined as follows: Size Class A = 0–1 meter in height; Class B = 1 meter or greater but less than 5 meters in height; and Class C = 5 meters or greater in height. Other data must be gathered in accordance with the census instructions, which include but are not limited to tree maturity, presence of flowers and/or fruit, and photos of each stem. The certified arborist shall make written recommendations to the California Department of Fish and Wildlife (CDFW) regarding western Joshua tree relocation in consideration of the Western Joshua Tree Relocation Guidelines and Protocols and shall include: ▪ Number of trees to be lethally taken (greater than 20 trees removed); ▪ Area of impacted western Joshua tree habitat within a project site (greater than 20 acres impacts); ▪ Avoidance and minimization measures proposed by LADWP to reduce project impacts to western Joshua tree; ▪ Quality of habitat on, and adjacent to, the project site (e.g., ecologically core or intact); ▪ Overall population health on the project site (e.g., declining versus stable or increasing); ▪ Whether the project is within predicted climate refugia for western Joshua tree; ▪ Extent of permanent project impacts; ▪ Density of clonal growth; and	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		Anticipated temporal impacts of a project including operation or maintenance activities, where applicable. <i>Western Joshua Tree Conservation Act Permitting.</i> If it is determined that certain western Joshua tree individuals cannot be avoided, LADWP shall apply for a Western Joshua Tree Conservation Act Incidental Take Permit (ITP) by which mitigation for take of western Joshua trees would be fulfilled through payment of the elected fees as described in California Fish and Game Code Section 1927.3 and relocation efforts deemed appropriate by CDFW pursuant to Section 1927.3, subdivision (a)(4)(A) of the California Fish and Game Code. In conformance with the reduced fee schedule prescribed for the Project Area, mitigation will consist of payment of \$1,000 for each western Joshua tree five meters or greater in height, \$200 for each western Joshua tree less than five meters but greater than 1 meter in height; and \$150 for each western Joshua tree less than 1 meter in height. Other local regulations (i.e., City of Victorville Municipal Code, Chapter 13.33 and San Bernardino County Development Code, Chapter 88.01) also require permitting or notification prior to removal of western Joshua trees. Therefore, the project must also receive written consent from the City of Victorville's Director of Parks and Recreation prior to the removal or relocation of western Joshua trees located within the City of Victorville in accordance with City of Victorville Municipal Code, Chapter 13.33, Preservation and Removal of Joshua Trees. Additionally, the LADWP shall submit an application for a Tree or Plant Removal Permit for all western Joshua trees to be removed within unincorporated areas of San Bernardino County in	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		accordance with San Bernardino County Development Code Chapter 88.01.050. <i>Western Joshua Tree Avoidance.</i> To ensure avoidance of western Joshua trees to be preserved in place, all western Joshua trees within the census area (Project Area between MCV1_156-1 and MCV2_155-1 to the Victorville Switching Station and a 50-foot buffer) for which a permit has not been attained must be clearly marked in the field prior to the start of construction. MM-BIO-2. Authorized Biologist Authority. The Authorized biologist(s) or biological monitor(s) shall have authority and obligation, to immediately stop any activity by a project proponent, LADWP staff, contractor, or subcontractor that does not comply with biological mitigation measures and/or to order any reasonable measure to avoid the unauthorized take of Mojave desert tortoise, Mohave ground squirrel, western Joshua tree, bighorn sheep, desert kit fox, burrowing owl, golden eagle, or other sensitive biological resources. The authorized biologist shall coordinate with the LADWP construction manager and environmental project manager if a stop work order is directed. MM-BIO-3. Biological Monitoring. At minimum, biological monitoring shall include the following tasks and responsibilities: ▪ The Authorized biologist(s) and/or monitor(s) shall be on site daily during project activities to conduct compliance inspections to prevent unauthorized take of Mojave desert tortoise, Mohave ground squirrel, and western Joshua tree, bighorn sheep, desert kit fox, burrowing owl, or golden eagle.	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ Enforcement of biological mitigation measures, permit conditions, and protective measures associated with project approvals. ▪ Ensure that signs, stakes, and fencing are intact. ▪ Ensure that project activities are only occurring within the direct impact footprint. ▪ Inspect all open holes and trenches daily and just prior to back-filling or covering. At the end of each workday, LADWP or its construction contractor shall place an escape ramp at each end of trenches to allow any animals that may have become trapped in the hole or trench to climb out overnight. The ramp may be constructed of either dirt fill or wood planking or other suitable material that is placed at an angle no greater than 30 degrees. If any worker discovers that special-status wildlife has become trapped, they shall notify the LADWP construction manager and environmental project manager immediately, and LADWP shall halt the project activity and notify the Authorized biologist(s) or biological monitor(s) immediately. Project workers and the Authorized biologist(s) or biological monitor(s) shall allow the individual to escape unimpeded if possible, or an appropriately permitted biologist may move the individual out of harm's way before allowing work to continue. ▪ Conduct pre-construction sweeps in areas with suitable habitat to support special-status wildlife. Supervise and conduct regular spot checks during vegetation clearing, grubbing, and grading. If permits are not necessary to handle or harass the species, flush or move wildlife from work areas ahead of	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		ground disturbance activities during pre-construction sweeps. ▪ If slow-moving and/or fossorial special-status species that do not easily flush are detected in the work area, a biologist possessing an appropriate California scientific collecting permit to handle special-status species will capture and relocate individuals to nearby undisturbed areas with suitable habitat outside of the construction area, but as close to their origin as possible. All wildlife moved during project activities shall be documented by the biologist on site. ▪ Periodically monitor the construction site to see that dust is minimized. If the Authorized biologist or biological monitor determines that dust is adversely affecting special-status species, the Authorized biologist or biological monitor shall require the construction personnel to implement best available control measures to reduce dust. Examples of such best available control measures include periodic watering of work areas, application of environmentally safe soil stabilization materials, and/or roll compaction (also required by MM-AQ-1 [Fugitive Dust Controls]). MM-BIO-4. Education Program. LADWP shall conduct an education program prior to all project activities for all employees, agents, or contractors that will be working on behalf of the LADWP in the Project Area. The education program shall include a discussion of the biology and general behavior of desert tortoise and Mohave ground squirrel and the biology of western Joshua tree; information about the distribution and habitat needs of these species; sensitivity of these species to human	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		activity; the legal status of these species under CESA, including their protected status, recovery efforts, penalties for violations; and project-specific protective measures detailed in ITPs. The education program shall consist of an in-person presentation from the Authorized Biologist or Biological Monitor and/or a digital presentation that can be accessed in the field via cellular phones, tablets, laptop computers, and/or similar portable devices. LADWP shall prepare and distribute wallet-sized cards or a fact sheet handout (hard copy or digital) detailing the information presented during the education program for workers to carry in the Project Area. In addition, a tail-gate presentation prior to surface-disturbing project activities shall also be presented by the Authorized Biologist or Biological Monitor prior to the start of any project-specific activities to identify specific on-site resources identified for avoidance during pre-activity surveys. For the education program and each tailgate presentation, LADWP shall provide interpretation for non-English speaking workers, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project Area. Upon completion of the program and after each tail-gate presentation, employees shall sign a form (hard-copy or digital) stating they attended the program and presentation and understand all protection measures. The form shall be made available to CDFW upon request. The program shall: ▪ Be developed by or in consultation with the Authorized Biologist and consist of an on-site presentation with supporting written material and/or electronic media, including photographs of special-status species, available to all participants.	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ Provide an explanation of the function of flagging that designates authorized work areas or resources marked for avoidance and specify the prohibition of soil disturbance or vehicle travel outside designated areas. ▪ Discuss general safety protocols such as vehicle speed limits (15 miles per hour), hazardous substance spill prevention and containment measures, and fire prevention and protection measures. ▪ Review avoidance, minimization, and mitigation requirements. ▪ Explain the sensitivity of the vegetation and habitat within and adjacent to work areas and proper identification of these resources. ▪ Discuss the relevant policies and plans, and the consequences of non-compliance with these acts and/or any permit conditions. ▪ Discuss the locations and types of special-status resources in the Project Area and adjacent areas and explain the reasons for protecting these resources. ▪ Inform participants that no snakes, other reptiles, mammals, birds, bats, or any other wildlife will be harmed or harassed. ▪ Place special emphasis on special-status plant and wildlife species that are known to occur in the Project Area. ▪ Provide contact information for the Authorized Biologist and instructions for notification of any vehicle wildlife collisions or dead or injured wildlife species encountered during project activities. MM-BIO-5. Delineation of Impact Boundaries. Before beginning activities that will cause impacts, the	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		contractor shall clearly delineate work area boundaries with fencing, stakes, or flags within which the impacts will take place, and in consultation with the Authorized biologist, mark or delineate where sensitive biological resources occur within the impact footprint if being avoided. All impacts outside the fenced, staked, or flagged areas shall be avoided, and all fencing, stakes, and flags shall be maintained until the completion of impacts in that area. LADWP shall avoid direct impacts to vegetation within the Mojave River corridor. MM-BIO-6. Desert Tortoise Permitting. LADWP shall obtain an Incidental Take Permit (ITP) for potential take of desert tortoise prior to impacting undisturbed desert tortoise habitat. <i>Desert Tortoise Take Authorization.</i> LADWP shall obtain take authorization federally with USFWS through Section 7 consultation or Section 10 permitting, and with the state through a California Fish and Game Code Section 2080.1 consistency determination or Section 2081 ITP from CDFW. Upon project implementation, LADWP shall adhere to any additional measures and conditions that USFWS and/or CDFW may require in the applicable take authorizations. No take of desert tortoise shall occur without authorization from USFWS and CDFW pursuant to the federal Endangered Species Act and California Endangered Species Act. <i>Desert Tortoise Compensatory Mitigation.</i> LADWP will coordinate with USFWS and CDFW to determine what portions of the project would be considered occupied desert tortoise habitat based on survey results. LADWP shall provide compensatory mitigation as determined through the consultation and permitting processes with	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		BLM, USFWS and CDFW. At minimum, LADWP shall provide compensatory mitigation for impacts to desert tortoise critical habitat in accordance with the requirements outlined in the Bureau of Land Management's Desert Renewable Energy Conservation Plan Land Use Plan Amendment (BLM DRECP LUPA). Where impacts to desert tortoise critical habitat co-occur within ground disturbance impacts within Areas of Critical Environmental Concern (ACEC) and California Desert National Conservation Lands (NCL) units that are cumulatively over their respective disturbance caps, the higher mitigation ratio applies, and the implemented mitigation is nested (mitigation for desert tortoise critical habitat fulfills the ground disturbance mitigation that is required). Compensatory mitigation shall be implemented consistent with the BLM DRECP and conditions set forth in USFWS and/or CDFW take authorizations. LADWP shall complete the required compensation in accordance with the LUPA Conservation Management Action (CMA) measure for timing of compensation activities for third party actions (LUPA-COMP-1). In addition, as outlined in the LUPA, LUPA-wide CMA measures for desert tortoise shall be implemented (LUPA-BIO-IFS-1 through LUPA BIO-IFS-9). CMAs specific to impacts within ACEC areas shall be implemented in accordance with Section 11.4.2.3 Ecological and Cultural Conservation of the LUPA. In addition to the measures outlined in the DRECP LUPA, the following protective measures shall also be implemented:	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ LADWP shall provide a sufficient number of biological monitors who are authorized by the USFWS and the CDFW to handle desert tortoises to provide adequate coverage for the active work crews. ▪ Preconstruction surveys for desert tortoise shall be conducted for each work area prior to any ground disturbance. All work areas shall be cleared by an authorized biologist within 48 hours of the onset of construction at any work location. ▪ To prevent inadvertent entrapment of tortoise or other wildlife during construction, all excavated, steep-walled holes or trenches shall be covered with tarp, plywood or similar materials at the close of each working day to prevent animals from being trapped. Ramps shall be constructed of earth fill or wooden planks within deep walled trenches to allow for animals to escape, if necessary. Before such holes or trenches are backfilled, they shall be thoroughly inspected for trapped animals. Any wildlife observed shall be removed prior to backfilling. ▪ Tortoise handling shall be prohibited except by an authorized biologist or a biological monitor who is working under the direct supervision of an authorized biologist and only when it is necessary to do so. Should it be necessary to handle a tortoise, the authorized biologist or trainee shall do so using the techniques outlined in the most current version of the Desert Tortoise Field Manual produced by USFWS. ▪ All access roads not required for construction activities shall be avoided.	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ Vehicles shall not exceed a speed of 15 miles per hour in desert tortoise habitat. ▪ Overnight parking and storage of equipment and material shall be restricted to previously disturbed areas (i.e., access roads and other disturbed areas lacking vegetation). These areas shall be marked by the biological monitor. If previously disturbed areas are not available, these activities shall be restricted to the right-of-way and shall be cleared of desert tortoises by the biological monitor prior to use. ▪ Within desert tortoise habitat, workers shall limit their activities and equipment to construction areas and routes of travel that have been flagged to eliminate adverse impacts to desert tortoises and their habitat. Cross-country travel is prohibited. All workers shall be instructed of this requirement. ▪ During proposed activities, construction personnel shall immediately report any sightings of desert tortoises within the construction zone to the biological monitor. ▪ Trash and food items shall be removed daily or placed in raven-proof containers. ▪ Within 30 days following completion of project activities, LADWP and the authorized biologist shall prepare a report that includes the following: - All tortoises encountered or moved - Any tortoise that was injured or killed or found dead by project personnel - The practical application of these proposed mitigation measures and any measures that may further the protection of the tortoise during future projects - A total of acreage disturbed by jurisdiction	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		- Site photos MM-BIO-7. Mohave Ground Squirrel Permitting. For project activities taking place in the range of Mohave ground squirrel, a permitted biologist shall develop a relocation plan for the areas assessed as highly suitable habitat and may conduct protocol level trapping surveys to determine presence. The relocation plan will be submitted to CDFW for approval prior to implementation. Mohave Ground Squirrel Incidental Take Permit. LADWP shall acquire an ITP from CDFW for the species prior to the start of project activities in areas where the habitat assessment has determined that suitable habitat is present and animals likely occur or for areas where occupancy has been confirmed. Upon project implementation, LADWP shall adhere to any additional measures and conditions set forth within the ITP. No take of Mohave ground squirrel shall occur without authorization in the form of an ITP pursuant to California Fish and Game Code Section 2081. Mohave Ground Squirrel Compensatory Mitigation. LADWP will coordinate with CDFW to determine what portions of the project would be considered occupied Mohave ground squirrel habitat based on survey results. LADWP shall provide compensatory mitigation as determined through the ITP process. Where impacts to Mohave ground-squirrel occupied habitat co-occur within ground disturbance impacts within ACEC and NCL units that are cumulatively over their respective disturbance caps, the higher mitigation ratio applies, and the implemented mitigation is nested (mitigation for Mohave ground squirrel occupied habitat fulfills the ground disturbance mitigation that is required). Compensatory	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		mitigation shall be implemented in consistency with the BLM DRECP LUPA and the ITP. MM-BIO-8. Pre-construction Surveys for Least Bell's Vireo. Prior to project activities, LADWP will conduct pre-construction surveys for least Bell's vireo in riparian habitat along the Mojave River located within 500 feet of the Project Area if Project activities commence in that area between April 10 and July 31. Prior to the start of construction, LADWP shall have a permitted or qualified biologist, as applicable, conduct three focused surveys for least Bell's vireo using the USFWS' 2001 Least Bell's Vireo Survey Guidelines survey methodology. The surveys will be conducted 28, 14, and 3 days prior to the start of construction. If a survey determines presence of least Bell's vireo, LADWP shall avoid project activities within 500 feet of the occupied habitat during the species' breeding season (April 10 through July 31). The buffer will be removed when the permitted or qualified biologist determines that the nest is no longer active. MM-BIO-9. Nesting Bird Surveys and Avoidance. If project activities take place during the avian nesting season, a preconstruction clearance survey shall be conducted by qualified biologists in areas of suitable nesting habitat, to ensure direct or incidental take does not occur during project activities. A Nesting Bird Plan will be prepared that will include the methodology for the surveys and the nest buffers for the species expected based upon the project activity occurring. The plan will be submitted to CDFW for approval. Surveys for raptor nests shall focus on potential nesting sites (e.g., cliffs, transmission line structures) within a	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		500-foot buffer around the work areas; and surveys for nesting passerines shall be conducted within 200 feet of the work areas. The clearance survey shall take place no more than 7 days prior to the commencement of project activities and may occur in conjunction with on-site monitoring for other sensitive wildlife species. If active nests containing eggs or young are found during the clearance survey, an adequate buffer area will be established by a biological monitor, within which no construction will occur to protect the active nest during the duration of the project. LADWP shall have a qualified avian biologist document species, baseline behavior, stage of reproduction, and existing site conditions including vertical and horizontal distances from proposed work areas, visual or acoustic barriers, and existing level of disturbance to avoid impacts to nesting birds, eggs, and nests, as set forth in the approved Nesting Bird Plan. The biologist shall establish an appropriate nest buffer based on the Nesting Bird Plan. The on-site biologist shall increase buffer sizes as needed if nesting individuals show signs of disturbance. The buffer zone may be decreased, at the biologist's discretion, based on the individual's sensitivity to visual or audible disturbances but shall not be decreased below 300 feet for special-status avian species or raptor species. The nest buffer area shall be avoided and demarcated in the field with flagging and stakes or construction fencing. Active nests shall be monitored until the biologist has determined the young have fledged or the project is finished. The biologist has the authority to halt or stop work if nesting individuals exhibit signs of disturbance. Established buffers shall remain until the biologist	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		determines whether the young have fledged or the nest is no longer active, or until project activities cease. MM-BIO-10. Crotch's Bumble Bee Incidental Take Permit and Surveys and Avoidance. During candidacy or if Crotch's bumble bee is listed under CESA, LADWP shall implement the mitigation measure below. <i>Incidental Take Permit.</i> LADWP shall consult with the California Department of Fish and Wildlife on obtaining an Incidental Take Permit (ITP), per California Fish and Game Code 2081, for the take of Crotch's bumble bee. The Applicant shall provide the County with a copy of the ITP, or proof that an ITP is not required. Mitigation for impacts to Crotch's bumble bee shall be fulfilled through compensatory mitigation at a minimum of 1:1 habitat replacement of equal or better functions and values to those impacted by the project, or as otherwise determined through the ITP process. LADWP shall be obligated to implement all minimization and avoidance measures conditions that are included in the ITP. <i>Pre-Construction Surveys.</i> For project activities that commence between April 1 and August 31 in areas that were assessed as having potential for Crotch's bumble bee nests, as determined during the focused surveys, pre-construction surveys will be conducted. Surveys will be conducted using the same methodology as the focused surveys, but only one survey will be conducted within seven days of the commencement of activities. If nest resources occupied by Crotch's bumble bee are detected within the construction area, no construction activities shall occur within 50 feet of the nest or a different buffer as determined by a qualified biologist through evaluation of topographic features or distribution	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		of floral resources. The buffer will be staked and the Authorized biologist(s) and/or monitor(s) will monitor the buffer and nest and include information about both in their monitoring forms. The buffer will be removed when the qualified biologist deems the nest to be inactive. MM-BIO-11. Pre-Construction Surveys and Avoidance and Minimization Measures for Special-Status Plants. Prior to project activities, LADWP shall conduct focused surveys and apply avoidance and minimization measures for special-status plants as outlined in the mitigation measure below. <i>Pre-Construction Special-Status Plant Surveys.</i> Pre-construction surveys shall be conducted within impact areas where special-status plant species have been recorded or have a moderate or high potential to occur. The surveys shall occur prior to construction and, if feasible, shall be conducted during a period when the target species would be observable and identifiable (e.g., blooming period for annuals). Surveys shall be conducted by qualified biologists according to the CNPS' 2001 Botanical Survey Guidelines; CDFW's 2018 Protocols for Surveying and Evaluating Impacts to Special Status Native Populations and Natural Communities; and USFWS' 2002 General Rare Plant Survey Guidelines. <i>Avoidance and Minimization.</i> If special-status plant species are detected during focused survey efforts described above, the full extent of the occurrence within the area shall be recorded. The location of each special-status plant occurrence shall be mapped and number of individuals for each occurrence documented. If feasible, the following measures shall be implemented:	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ Special-status plants in the vicinity of the disturbance will be temporarily fenced or prominently flagged and a buffer established around the populations to prevent inadvertent encroachment by vehicles and equipment during the activity; ▪ Viviparous foxtail cactus, Parish's club-cholla, and any other special-status cacti found during the surveys will be salvaged and relocated to unimpacted portions of the right-of-way. ▪ When feasible, seeds will be collected from desert pincushion, Rusby's desert mallow, and any other special-status annuals or perennials found during the surveys and stored in appropriate storage conditions (e.g., cool and dry), and dispersed/transplanted following the construction activity and reapplication of salvaged topsoil; and ▪ Where feasible, the top 6 inches of topsoil will be salvaged, stockpiled, and replaced as soon as practicable after project completion. Soil stockpiles shall be stabilized, consistent with the project's Stormwater Pollution Prevention Plan. The salvaged topsoil shall be redistributed and contoured to blend with surrounding grades. In the event that a federally or state-listed plant is observed during focused survey, LADWP shall consult with the applicable agency (i.e., CDFW and/or USFWS) and obtain written concurrence for measures required for federally or state-listed plant species, if observed. MM-BIO-12. Relocation of Desert Native Plants. If required, LADWP shall apply for a permit with the County of San Bernardino (County) for removal or relocation of protected native desert plants per the California Desert	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		Native Plants Act (Food and Agricultural Code, Division 23). The permit application form shall specify information outlined in the California Desert Native Plant Act Section 80114, which includes but is not limited to, the number and species of native plants to be relocated, a description of the real property from which the plants are to be removed, the destination of the native plants, and the manner in which the plants are to be salvaged. If the County deems that relocation is necessary, then, pursuant to the California Desert Native Plants Act, tags or seals issued by the County must be attached to the native plants at the time of harvesting and before transporting to their permanent relocation site(s) and must remain attached to the plant until transplanted into its ultimate destination. Transport of salvaged plants will occur as prescribed by the County. The following actions shall also be implemented to ensure successful relocation of desert native plants for which salvage is necessary: ▪ Salvaged plants shall be transplanted expeditiously to either their final on-site location or to an approved off-site area. If the plants cannot be expeditiously taken to their permanent relocation area at the time of excavation, they may be transplanted in a temporary area (stockpiled) prior to being moved to their permanent relocation site(s). ▪ Transplanted plants shall be watered prior to and at the time of transplantation. Watering of the transplanted plants shall continue for one year. MM-BIO-13. Avoidance and Minimization of Impacts to Golden Eagle. Project activities that take place adjacent	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		to areas where active or inactive golden eagle nests have been discovered shall be subject to the following: ▪ A qualified eagle biologist shall determine the nesting status of any golden eagle nest within 1 mile of any project activities. LADWP shall provide the name(s) and qualifications of each raptor biologist to the CDFW two weeks prior to project activities. ▪ No work shall occur within 1 mile of an active golden eagle nest, or a lesser distance determined by the qualified eagle biologist and approved by CDFW, during the breeding season (January 31 through August 31) unless a written determination which shows the nest is no longer active has been provided to and approved by the CDFW. Upon approval of a report showing an inactive nest, the CDFW may approve work within 1 mile of an eagle nest. ▪ If an injured golden eagle is observed within or adjacent to an active work area, all work shall immediately stop and the CDFW shall be contacted for further instructions. MM-BIO-14. Pre-Construction Burrowing Owl Surveys. A pre-construction burrowing owl survey shall be completed no more than 14 days before initiation of vegetation removal or grading activities. If ground-disturbing activities are delayed or suspended for more than 30 days after the pre construction surveys, the project work area shall be re-surveyed. If burrowing owls are located within or adjacent to an area subject to impact from a project activity, LADWP shall postpone the activity, if possible, until burrowing owls are no longer present. If postponement of impacts is not feasible due to project	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		activity urgency, LADWP shall implement the following actions to minimize impacts. ▪ LADWP shall implement measures consistent with practices identified in the CDFW's 2012 Staff Report to minimize potential impacts to burrowing owl. Measures may include, but are not limited to, the use of buffer zones, visual screens (e.g., hay bales monitored during the day and removed at night to prevent raptor perching; screens shall not exceed 4 feet in height and shall be at least 30 feet from active burrows), or other measures while project activities are occurring. ▪ Buffers will be established around occupied burrows as determined by a qualified biologist, taking into account existing vegetation, human development, and land uses in an area. The buffer zone may be increased or decreased based on the individual owl's sensitivity to visual or audible disturbances. Project activities may occur within 50 meters to 500 meters of an active burrow (based on level of disturbance). No project activities shall be allowed to encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined that occupied burrows have been vacated or the nesting season has completed ▪ LADWP shall make every effort to minimize impacts to occupied owl burrows. ▪ If LADWP proposes to relocate burrowing owls from an active burrow or if an active burrow will be impacted, a burrowing owl relocation plan shall be prepared for CDFW review and approval that will be performed outside of breeding season and after	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		fledgling independence, and any relocation shall be subject to compensatory mitigation. - Outside of the nesting season, passive owl relocation techniques approved by CDFW shall be implemented. Owls shall be excluded from burrows in the immediate project area and within a buffer zone if there is a threat to the surface or subterranean burrow structure by installing one-way doors in burrow entrances. These doors will be placed at least 48 hours prior to ground-disturbing activities. The project area shall be monitored daily for 1 week to confirm owl departure from burrows prior to any ground-disturbing activities. Compensatory mitigation for permanent loss of owl habitat will be provided following the guidance in the 2012 Staff Report. - If impacts occur to an occupied burrow or if a burrowing owl relocation plan is implemented, LADWP shall provide compensatory mitigation. Compensatory mitigation shall be implemented consistent with the recommendations in the 2012 Staff Report such that the habitat acreage, number of burrows, and burrowing owls impacted are replaced at a minimum of 1:1 in-kind habitat replacement of equal or better functions and values to those impacted by the project, or as otherwise determined through coordination with CDFW. - If take is unavoidable, then LADWP shall obtain an ITP. In addition, LADWP shall implement compensatory mitigation such that impacted occupied areas are replaced at a minimum of 1:1 in-kind habitat replacement of equal or better functions and values to those impacted by the project, or as	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		otherwise determined through coordination with CDFW during the ITP process. Additionally, LADWP will implement the above measures and conditions set forth in the ITP to avoid and minimize impacts to the species. MM-BIO-15. Desert Bighorn Sheep Incidental Take Permit and Avoidance. <i>Incidental Take Permit.</i> LADWP shall consult with the California Department of Fish and Wildlife on obtaining an Incidental Take Permit (ITP), per California Fish and Game Code 2081, for the take of desert bighorn sheep. The Applicant shall provide the County with a copy of the ITP, or proof that an ITP is not required. Mitigation for impacts to desert bighorn sheep shall be determined through the ITP process. LADWP shall be obligated to implement all minimization and avoidance measures conditions that are included in the ITP. <i>Avoidance.</i> The following will be implemented or otherwise applied as required/stipulated by CDFW 2081 permit. CDFW has provided mapping that delineates a 1-kilometer buffer around core desert bighorn sheep habitat (referred to herein as the BHS Core Habitat Polygon), within which lambing is likely to occur during the lambing season, December 31–June 30, also called the Limited Operating Period (LOP). During the LOP, LADWP shall limit aircraft flights such that a minimum altitude above ground level (AGL) of 1,500 feet is maintained over the BHS Core Habitat Polygon. In addition, loud sounds that may startle desert bighorn sheep (e.g., blasting, pile driving) shall be avoided, such that instantaneous sound levels do not exceed 90 unweighted decibels (dBZ) as measured with calibrated	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		equipment at the perimeter of the BHS Core Habitat Polygon. Outside of the LOP, aircraft flights below 1,500 feet and noise exceeding 90 dBZ should be restricted to the immediate project area where the project alignment overlaps with a 1-kilometer buffer of the desert bighorn sheep range (referred to herein as the BHS Habitat Overlap Polygon). At all times of the year, a qualified biological monitor should perform a visual survey prior to commencement of daily construction activities and before resuming activity after any cessation of work that is greater than 1 hour. If desert bighorn sheep are detected, construction activities shall immediately halt until desert bighorn sheep move more than 1 kilometer from project activity on their own accord. Monitors shall maintain the maximum feasible observation distance at all times and avoid actions that would elicit a behavioral response from desert bighorn sheep. All desert bighorn sheep observations within the BHS Habitat Overlap Polygon shall be reported, in writing, to CDFW within 24 hours of observation. MM-BIO-16. Special-Status Meso-Carnivore Avoidance and Minimization. Within 14 days prior to project activities, LADWP shall have a qualified biologist conduct a pre-construction survey within planned project work areas and a 500-foot buffer to determine if active or potential desert kit fox, American badger, or ringtail dens are present. Surveys shall attain 100% visual coverage and be conducted using 10-meter (33-foot) transects (or reduced based on topography and vegetation), to	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		determine the presence or absence of individuals, dens, and sign. If potential desert kit fox, American badger, or ringtail dens are located, LADWP shall have a qualified wildlife biologist monitor the dens using observation and tracking material and/or trail cameras over a three (3) day period to determine the status of the den. If non-natal active dens can be avoided and buffered from project activities, the biologist shall flag a minimum 100-foot disturbance-free buffer zone. A minimum 500-foot disturbance-free buffer shall be place around the natal den and maintained until juvenile independence is determined by the biologist. If the project requires encroaching within a 500-foot buffer, LADWP shall consult with CDFW. The biologist shall block inactive dens within the project work area or buffer zones that will not be directly impacted by project activities with rocks and sticks to discourage use. The biologist shall periodically check and ensure the inactive burrows remain blocked and are not occupied. The biologist shall remove the obstruction when project activities are complete. The biologist has the authority to halt or stop work in coordination with the LADWP construction manager and environmental project manager if individuals exhibit signs of disturbance. Established buffers shall remain until the biologist determines the young have dispersed or the den is no longer active, or until Project activities cease. If desert kit fox, American badger, or ringtail are proposed to be relocated from an active den or an active den will be impacted, an exclusion plan shall be prepared for CDFW review and approval that will be performed outside of breeding/pupping season and after juvenile dispersal.	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		LADWP shall implement compensatory mitigation such that the habitat acreage, number of dens, and individuals impacted are replaced at a minimum of 1:1 in-kind habitat replacement of equal or better functions and values to those impacted by the project, or as otherwise determined through coordination with CDFW.	
Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	Potentially significant	See MM-BIO-3 through MM-BIO-5 MM-BIO-17. Compensatory Mitigation for Special-Status Vegetation Communities. LADWP shall provide compensatory mitigation for permanent impacts to special-status vegetation communities at a minimum of 1:1 in-kind habitat replacement of equal or better functions and values to those impacted by the project, or as otherwise determined through coordination with CDFW. MM-BIO-6 and MM-BIO-19 would fulfill compensatory mitigation for special-status vegetation communities if impacts occur within an ACEC, NCL, or desert tortoise critical habitat.	Less than significant
Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Potentially significant	See MM-BIO-2 through MM-BIO-5 MM-BIO-18. Aquatic Resources Mitigation. Prior to project initiation, LADWP shall coordinate with the USACE, CDFW, and RWQCB (collectively the resource agencies) to determine which of the following permits for impacts to jurisdictional aquatic resources would be required: ▪ USACE Section 404 Permit ▪ RWQCB Section 401 Water Quality Certification ▪ RWQCB Waste Discharge Requirements ▪ CDFW Section 1602 Notification of Lake or Streambed Alteration	Less than significant

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		In addition to conditions of the above applicable permits and the RWQCB Construction General Permit Coverage/SWPPP that would be acquired for the project, LADWP shall implement practices identified below to minimize adverse impacts to streams and watersheds. ▪ Vehicles and equipment shall not be operated in ponded or flowing water. ▪ LADWP shall minimize road building and vegetation clearing within ephemeral streams to the extent feasible. ▪ Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources resulting from project-related activities shall be prevented from contaminating the soil and/or entering ephemeral streams. LADWP shall ensure that safety precautions specified by this measure, as well as all other safety requirements of other measures and permit conditions, are followed during all phases of the project. ▪ No petroleum products or other pollutants from the equipment shall be allowed to enter any state or federal jurisdictional waters under any flow. ▪ LADWP shall ensure that project activities do not impair water flow (velocity and low flow channel width). ▪ No broken concrete, debris, soil, silt, sand, bark, slash, sawdust, rubbish, or other organic or earthen material from any construction or associated activity of whatever nature shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into any waters of the U.S. or state.	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		- Stationary equipment such as motors, pumps, generators, and welders located within or adjacent to a drainage shall be positioned over drip pans. Stationary heavy equipment shall have suitable containment to handle a catastrophic spill/leak. Clean up equipment such as brooms, absorbent pads, and skimmers shall be on site prior to the start of construction. - The resources agencies will calculate and identify the final amount of required compensatory mitigation as provided by this measure prior to issuance of respective permits using the following criteria: - For any project activity that impacts a river, stream, or lake and associated fish and wildlife resources which permanently alters the physical and ecological function of the feature or installs permanent structures or materials into the areas subject to CFGC Section 1602, LADWP shall mitigate impacts to rivers, streams, or lakes at a minimum 1:1 ratio.	
Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Less than significant	No mitigation measures are required	Not applicable
Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Potentially significant	See MM-BIO-1 and MM-BIO-11	Less than significant

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Potentially significant	See MM-BIO-2 through MM-BIO-6 MM-BIO-19. Ground Disturbance Mitigation. LADWP shall provide ground disturbance mitigation for impacts within Areas of Critical Environmental Concern (ACEC) and California Desert National Conservation Lands (NCL) units that are cumulatively at or above their respective disturbance caps. A portion of these impacts may co-occur with impacts to desert tortoise critical habitat. Where impacts requiring mitigation co-occur, the implemented mitigation is nested. As such, mitigation for desert tortoise critical habitat, as required in MM-BIO-6, will fulfill the ground disturbance mitigation that is required for impacts in ACECs and NCLs that co-occur with impacts to desert tortoise critical habitat. LADWP shall initiate and/or complete the required compensation at a time to be determined by the BLM and in accordance with the Land Use Plan Amendment (LUPA) Conservation Management Action (CMA) measure for timing of compensation activities for third party actions (LUPA-COMP-1).	Less than significant
Cultural Resources			
Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	Potentially significant	MM-CUL-1. Retain a Qualified Project Archeologist. Prior to project implementation, a Project Archaeologist whose training and background conforms to the U.S. Secretary of the Interior's Professional Qualifications Standards, as published in Title 36, Code of Federal Regulations, part 61 (36 C.F.R., part 61), will be retained by LADWP to oversee all cultural resources compliance for the project. The resume of the selected Project Archaeologist shall be sent to the Los Angeles Department of Water and Power (LADWP) and the U.S. Department of Interior Bureau of Land Management (BLM) for their records.	Significant and unavoidable

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		MM-CUL-2. Treatment Plan. Prior to start of construction, the Project Archaeologist shall develop and implement a Treatment Plan specific to those significant eligible resources that cannot be avoided by construction. This plan shall address the expected loss of significant archaeological data through the scientific excavation, analysis, and interpretation of the site's archaeological materials. At a minimum, the Treatment Plan shall describe the methodology proposed for archaeological excavation, transportation and storage of all archaeological material, laboratory and analysis methods, curation of archaeological material at a specified repository or repatriation of resources at the BLM's discretion, and schedule for subsequent reporting. A draft of the Treatment Plan must be submitted to LADWP and the BLM for a 30-day review and approval period. The Treatment Plan must be approved by LADWP and the BLM before construction commences. If the resource(s) subject to treatment is/are located on BLM lands, additional permitting requirements, such as obtaining an Archaeological Resources Protection Act (ARPA) permit, shall be required. MM-CUL-3. Cultural Resources Monitoring Plan. Prior to start of construction, the Project Archaeologist shall develop a Cultural Resource Monitoring Plan (CRMP or Plan) that addresses the details of all activities and provides procedures that must be followed to reduce the potential impacts to undiscovered buried archaeological resources associated with the project. A draft of the Plan must be submitted to LADWP and the BLM for a 30-day	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		review and approval period. The Plan must be approved by LADWP and the BLM before construction commences. At a minimum, the Plan shall: ▪ Describe the methodology and a program for avoiding and monitoring significant eligible cultural resources identified in a Class III Cultural Survey Report approved by the BLM that can be avoided during project construction; ▪ Require that protective fencing or other markers, be erected and maintained to protect these resources from inadvertent adverse effects during construction, at the discretion of the BLM and/or LADWP (depending on land ownership); ▪ Include maps and a narrative discussion of areas considered to be of high sensitivity for discovery of buried archaeological resources, in the event they are encountered during construction; ▪ Detail the specific protocols for monitoring construction activities in these high-sensitivity areas; ▪ Detail the methods, consultation procedures, and timelines for addressing all post-review discoveries; ▪ Identify the person(s) expected to perform monitoring tasks, their responsibilities, and the reporting relationships between project construction management and the mitigation and compliance monitoring team; ▪ Specify daily monitoring reporting and identify the forms and/or documentation that need to be completed daily during monitoring.	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		Address the authority given to the qualified archaeological monitors to temporarily halt ground disturbance during construction. If a cultural resource over 50 years of age is found (or if younger, but determined exceptionally significant by the BLM on federal lands or LADWP on private lands; or considered a unique archaeological resource under CEQA), ground disturbance shall be halted or redirected in the immediate vicinity of the discovery sufficient to ensure that the resource is protected from ground disturbance. Monitoring and daily reporting shall continue during the project's ground-disturbing activities elsewhere. Additional procedures regarding halting ground disturbance, like communication protocols and flagging the resource for avoidance plus a 50-foot buffer, to address a post-review discovery or unanticipated effects shall be described in the Plan. MM-CUL-4. Worker Environmental Awareness Program. Worker Environmental Awareness Program. Prior to the start of construction and for the duration of ground disturbance activities, the Project Archaeologist shall develop a Worker Environmental Awareness Program (WEAP). This training shall be given to all Construction Contractor staff including all subconsultants within one (1) week of employment at the project site, for all areas along the linear facilities routes, and at material show-up yards, access roads, and other ancillary areas such as staging areas. The training shall be prepared by the Project Archaeologist and may be conducted by the Project Archaeologist or designated Field Director. The Project Archaeologist shall be available (by telephone or in person) to answer questions posed by employees	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		related to the identification and protection of cultural resources. The training may be discontinued when ground disturbance is completed or suspended but must be resumed if ground disturbance resumes. Training shall include: ▪ A detailed discussion of applicable laws, and penalties under the law; ▪ Samples or visuals of artifacts that might be found in the project vicinity; ▪ A brief overview of the cultural sensitivity of the project and the surrounding area; ▪ A discussion of what such artifacts may look like when partially buried, or wholly buried and then freshly exposed; ▪ A discussion of what prehistoric and historical archaeological deposits look like at the surface and when exposed during construction, and the range of variation in the appearance of such deposits; ▪ Express instruction that only the Project Archaeologist, alternate Project Archaeologist, and supervisory cultural resource field staff have the authority to halt ground disturbance in the area of a discovery to an extent sufficient to ensure that the resource is protected from further impacts, as determined by the Project Archaeologist; ▪ Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources discovery and shall contact their supervisor and the Project Archaeologist or supervisory cultural resource field staff, and that redirection of work shall be determined by the construction supervisor and the Project Archaeologist;	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ An informational brochure that identifies reporting procedures in the event of a discovery; and ▪ A log signed by each worker indicating that they have received the training. This is a mandatory training, and all construction personnel must attend prior to beginning work on the project's sites. A copy of the sign-in sheet shall be kept ensuring compliance with this mitigation measure and will be provided to LADWP and the BLM after each WEAP training is given. MM-CUL-5. Archaeological Monitoring. Qualified archaeological monitors, overseen by a BLM-approved Field Director and the selected Project Archaeologist, shall be present for initial grading activities in undisturbed soil, in areas of high sensitivity, or within 500 feet of a known significant cultural resource. The archaeological monitor(s) shall complete daily monitoring forms. The Project Archaeologist will have the authority to increase or decrease the monitoring effort should the monitoring results indicate that a change is warranted, in consultation with LADWP and BLM. MM-CUL-6. Monitoring Report. Within six (6) months of finishing construction of the project, a Cultural Resources Monitoring Report shall be prepared and provided to the BLM and LADWP. The report shall include evidence of the required WEAP for the construction staff held during the required pre-construction meeting(s) and evidence that any artifacts have been treated in accordance with procedures stipulated in the Cultural Resources Monitoring Plan (MM-CUL-3). MM-CUL-7. Unanticipated Discoveries. During project construction, should unanticipated archaeological	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		resources be discovered during grading, foundation work, or other construction activities, all construction work occurring within 50 feet of the find shall immediately stop until the Project Archaeologist can evaluate the significance of the find and determine (in consultation with the BLM if the find is on federal land and/or LADWP's designated point of contact if the find is on private land, as appropriate) whether additional study or testing is warranted. Depending upon the significance of the find, the archaeological monitors, as directed by the Project Archaeologist, may record the find and allow work to continue. If the discovery proves significant and cannot be avoided, treatment of the resource will be conducted in accordance with the approved Treatment Plan (MM-CUL-2). During the assessment and recovery time, construction work may proceed in other areas. MM-CUL-8. Built Environment Treatment Plan. Prior to construction, LADWP will retain the services of a qualified architectural historian meeting the Secretary of the Interior's Professional Qualification Standards for Architectural History to prepare and implement a Built Environment Treatment Plan in coordination with the LADWP and the BLM. The treatment plan shall include, but is not limited to, photo-documentation, creation of a website for public research, and public interpretation of the resource in accordance with BLM Manual 8170. The treatment plan will be submitted to LADWP and the BLM for a 30-day review and approval prior to implementation and prior to the start of construction. If subsequent significant eligible built environment resources other than MCC-VIC Lines 1 and 2 are identified within the project area and avoidance is determined to be infeasible as project design is finalized,	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		the preparation and implementation of a separate treatment plan shall be required specific to the type of resource that cannot be avoided. The treatment plan shall include, but is not limited to, photo-documentation, creation of website for public research, and public interpretation of the resource. The treatment plan will be submitted to LADWP and the BLM for a 30-day review and approval prior to implementation and prior to the start of construction	
Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	Potentially significant	See MM-CUL-1 through MM-CUL-7	Less than significant
Would the project disturb any human remains, including those interred outside of dedicated cemeteries?	Potentially significant	See MM-CUL-1 through MM-CUL-7 MM-CUL-9. Treatment of Human Remains. In accordance with State of California law (Health and Safety Code Section 7050.5; Public Resources Code Section 5097.98), if human remains are found, all ground disturbing activities shall halt within 165 feet (50 meters) of the discovery. The BLM and the County Coroner shall be notified within 24 hours of the discovery. No further excavation or disturbance of the discovery or any nearby area reasonably suspected to overlie potential remains shall occur until the County Coroner has determined whether the remains are subject to its authority. The County Coroner must make this determination within two (2) working days of notification of the discovery (pursuant to Health and Safety Code Section 7050.5, subd. (b)). If the County Coroner determines that the remains do not require an assessment of cause of death and that the remains are, or are believed to be Native American, the Coroner must notify the Native American Heritage Commission (NAHC) by telephone within 24 hours, which	Less than significant

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		must in turn immediately notify those persons it believes to be the Most Likely Descendant (MLD) of the deceased Native American. The MLD shall complete its inspection and make recommendations within 48 hours of being granted access to the site. The MLD may recommend means for treatment or disposition, with appropriate dignity, of the human remains and any associated grave goods.	
Energy			
Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Less than significant	No mitigation measures are required	Not applicable
Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No impact	No mitigation measures are required	Not applicable
Geology and Soils			
Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:			
A. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	Less than significant	No mitigation measures are required	Not applicable
B. Strong seismic ground shaking?	Less than significant	No mitigation measures are required	Not applicable
C. Seismic related ground failure including liquefaction?	Less than significant	No mitigation measures are required	Not applicable
D. Landslides?	Less than significant	No mitigation measures are required	Not applicable

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
Would the project result in substantial soil erosion or the loss of topsoil?	Less than significant	No mitigation measures are required	Not applicable
Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Less than significant	No mitigation measures are required	Not applicable
Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	Less than significant	No mitigation measures are required	Not applicable
Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	No impact	No mitigation measures are required	Not applicable
Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Potentially significant	MM-PALEO-1. Paleontological Resources Monitoring and Mitigation Plan. The following measures shall be implemented prior to and during construction: ▪ Prior to any construction activities, a paleontological principal investigator, as defined by the Society of Vertebrate Paleontology (SVP 2010), will initiate a paleontological records search of all proposed disturbance areas. Concurrently or after the records search, the paleontological principal investigator will oversee qualified paleontological surveyors to survey areas of the project within private and state-owned lands that are underlain by geological units with moderate, high, and unknown paleontological sensitivity to assess these areas for paleontological	Less than significant

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		resources and assign paleontological sensitivity to areas that have unknown sensitivities and/or upgrade or downgrade sensitivities based on survey results. Survey requirements on federally owned lands shall be determined in consultation with the Bureau of Land Management (BLM), as federal lead agency for the project. ▪ After the pre-construction records search and survey are completed, a paleontological principal investigator will prepare a paleontological resources monitoring and mitigation plan (PRMMP) in compliance with the guidance in the San Bernardino County General Plan. The PRMMP shall include: - Planned ground disturbing construction activities that require monitoring (based on the survey and records search results) and the proposed depth of excavation into native, undisturbed sediments - Areas where paleontological resource monitoring shall take place in relation to postmiles or tower structure numbers - Geological units that might be encountered and their paleontological sensitivity - An excavation monitoring and resource recovery program, including required avoidance buffers in the event of a find - Requirements and protocol for cleaning, stabilization, and inventory of specimens - Requirements for a final monitoring report describing the monitoring results for submittal to LADWP and the designated repository (if significant fossils are recovered); and curation of specimens into a local established museum repository, such as the San Bernardino County	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		Museum and/or the Las Vegas Museum of Natural History, as appropriate ▪ The paleontological principal investigator will provide and supervise a trained paleontological or dual-qualified paleontological and cultural monitor/monitors who will be present during ground-disturbing activities at identified areas with potentially fossiliferous sediments, as outlined in the PRMMP. The monitor will be empowered to temporarily halt or redirect ground-disturbing activities to ensure avoidance of adverse impacts to paleontological resources. The monitor will be equipped to rapidly remove any large fossil specimens encountered during excavation. During monitoring, samples will be collected and processed to recover microvertebrate fossils. Processing will include wet screen washing and microscopic examination of the residual materials to identify small vertebrate remains. ▪ Upon encountering a large deposit of fossils, salvage of all fossils in the area will be conducted with additional field staff and in accordance with modern paleontological techniques. ▪ All fossils collected during the project will be prepared to a reasonable point of identification. Excess sediment or matrix will be removed from the specimens to reduce the bulk and cost of storage. Itemized catalogs of all material collected and identified will be provided to the museum repository, along with the specimens. ▪ A report documenting the results of the monitoring and salvage activities and the significance of the fossils will be prepared.	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		All fossils collected during this work, along with the itemized inventory of these specimens, will be deposited in a museum repository for permanent curation and storage.	
Greenhouse Gas Emissions			
Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than significant	No mitigation measures are required	Not applicable
Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less than significant	No mitigation measures are required	Not applicable
Hazards and Hazardous Materials			
Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less than significant	No mitigation measures are required	Not applicable
Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Less than significant	No mitigation measures are required	Not applicable
Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Less than significant	No mitigation measures are required	Not applicable
Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government	Less than significant	No mitigation measures are required	Not applicable

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			
For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	Less than significant	No mitigation measures are required	Not applicable
Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No impact	No mitigation measures are required	Not applicable
Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	Less than significant	No mitigation measures are required	Not applicable
Hydrology and Water Quality			
Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less than significant	No mitigation measures are required	Not applicable
Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	Less than significant	No mitigation measures are required	Not applicable

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:			
A. result in substantial erosion or siltation on or off site;	Less than significant	No mitigation measures are required	Not applicable
B. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;	Less than significant	No mitigation measures are required	Not applicable
C. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	Less than significant	No mitigation measures are required	Not applicable
D. impede or redirect flood flows?	Less than significant	No mitigation measures are required	Not applicable
In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?	Less than significant	No mitigation measures are required	Not applicable
Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Less than significant	No mitigation measures are required	Not applicable
Land Use and Planning			
Would the project physically divide an established community?	No impact	No mitigation measures are required	Not applicable
Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Less than significant	No mitigation measures are required	Not applicable

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
Mineral Resources			
Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	No impact	No mitigation measures are required	Not applicable
Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	No impact	No mitigation measures are required	Not applicable
Noise			
Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Potentially significant	MM-NOI-1. Construction Noise Reduction. The Los Angeles Department of Water and Power (LADWP) and/or its construction contractor shall comply with the following measures during construction: ▪ LADWP or its construction contractor shall provide written notification to noise-sensitive receptors within 700 feet of active construction areas at least 10 days prior to commencement of such activities. The notification shall include details of the schedule, duration, and progress of construction, including any planned nighttime work or helicopter operations, as well as contact information for noise-related complaints. The County of San Bernardino Land Use Services Department shall also be notified of construction activities planned to occur within 700 feet of noise-sensitive receptors, with notification also provided at least 10 days prior to commencement of such activities.	Significant and unavoidable

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ Equipment (e.g., portable generators) shall be located as far as possible from noise-sensitive receptors to minimize noise at nearby noise-sensitive receptors. ▪ Staging of construction equipment shall take place as far from noise- or vibration-sensitive land uses as practicable. ▪ All noise-producing equipment and vehicles using internal combustion engines shall be equipped with mufflers; air-inlet silencers, where appropriate; and any other shrouds, shields, or other noise reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed “package” equipment (e.g., arc-welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment. ▪ All mobile or fixed noise-producing equipment used for the project that are regulated for noise output by a local, state, or federal agency shall comply with such regulations. ▪ Idling equipment shall be kept to a minimum and moved as far as practicable from noise-sensitive land uses. ▪ Electrically powered equipment shall be used instead of pneumatic or internal-combustion-powered equipment, where feasible. ▪ Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receptors. ▪ The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		▪ If construction equipment (e.g., grader, bulldozer, roller, excavator, generator, and/or forklift) will be used at the material show-up yard in Baker CA, then a 75-foot buffer zone shall be established between construction activities and adjacent noise-sensitive receptors and/or a temporary noise barrier shall be erected with a minimum required height of 16 feet along the project boundary when noise-sensitive receptors are within 75 feet of the material show-up yard in Baker, CA. If the barrier option is selected, the barrier shall consist of any combination of the following, as determined most feasible by LADWP or its construction contractor: - A temporary solid noise barrier, constructed of 3/4-inch Medium Density Overlay (MDO) plywood sheeting or other material of equivalent utility and appearance having a surface weight of 2 pounds per square foot or greater - A temporary curtain barrier hung in place on construction fencing (the curtain barrier could also be hung on K-rails, assuming the rails have been extended to the required height based upon the activity, as specified above) - A temporary K-rail mounted sound barrier. ▪ A temporary noise barrier shall be erected with a minimum required height of 8 feet along the project boundary between the residence north of MCV1_151-4 when construction activities occur within 1,000 feet of the residence. The barrier shall consist of any combination of the following, as determined most feasible by LADWP or its construction contractor:	

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		- A temporary solid noise barrier, constructed of 3/4-inch Medium Density Overlay (MDO) plywood sheeting, or other material of equivalent utility and appearance having a surface weight of 2 pounds per square foot or greater - A temporary curtain barrier hung in place on construction fencing (the curtain barrier could also be hung on K-rails, assuming the rails have been extended to the required height based upon the activity, as specified above) - A temporary K-rail mounted sound barrier.	
Would the project result in generation of excessive groundborne vibration or groundborne noise levels?	Less than significant	No mitigation measures are required	Not applicable
For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	Less than significant	No mitigation measures are required	Not applicable
Population and Housing			
Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	No impact	No mitigation measures are required	Not applicable
Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No impact	No mitigation measures are required	Not applicable

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
Public Services			
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:			
Fire protection?	Less than significant	No mitigation measures are required	Not applicable
Police protection?	Less than significant	No mitigation measures are required	Not applicable
Schools?	No impact	No mitigation measures are required	Not applicable
Parks?	No impact	No mitigation measures are required	Not applicable
Other public facilities?	No impact	No mitigation measures are required	Not applicable
Recreation			
Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	No impact	No mitigation measures are required	Not applicable
Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	No impact	No mitigation measures are required	Not applicable
Transportation			
Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	Less than significant	No mitigation measures are required	Not applicable
Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	Less than significant	No mitigation measures are required	Not applicable

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Less than significant	No mitigation measures are required	Not applicable
Would the project result in inadequate emergency access?	No impact	No mitigation measures are required	Not applicable
Tribal Cultural Resources			
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:			
A. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	Potentially significant	See MM-CUL-1 through MM-CUL-7 and MM-CUL-9 MM-TCR-1. Native American Monitoring. Prior to any ground disturbances within the Project Area, LADWP shall enter into a contract with and retain Native American monitors designated by Tribal representatives pursuant to its AB 52 consultation efforts. These monitors shall have the same authority as the archaeological monitors for this Project. Documentation of retention shall be submitted to the BLM and kept on file with LADWP.	Less than significant
B. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of	Potentially significant	See MM-TCR-1 , MM-CUL-1 through MM-CUL-7 , and MM-CUL-9	Less than significant

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
the resource to a California Native American tribe?			
Utilities and Service Systems			
Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	No impact	No mitigation measures are required	Not applicable
Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	Less than significant	No mitigation measures are required	Not applicable
Would the project result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	No impact	No mitigation measures are required	Not applicable
Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	Less than significant	No mitigation measures are required	Not applicable
Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	Less than significant	No mitigation measures are required	Not applicable

Table 1-1. Summary of Environmental Impacts

Environmental Issue Area and CEQA Checklist Question	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
Wildfire			
Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?	Less than significant	No mitigation measures are required	Not applicable
Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Less than significant	No mitigation measures are required	Not applicable
Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	Less than significant	No mitigation measures are required	Not applicable
Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	No impact	No mitigation measures are required	Not applicable

2 Introduction

The purpose of this Draft Subsequent Environmental Impact Report (SEIR) is to evaluate and disclose the potential environmental impacts of the revised McCullough–Victorville Transmission Lines 1 and 2 Upgrade Project (revised project) as compared to the previously approved McCullough–Victorville Transmission Lines 1 and 2 Upgrade Project (approved project). The Los Angeles Department of Water and Power (LADWP) is the lead agency responsible for preparing this SEIR in accordance with the California Environmental Quality Act of 1970 (CEQA) statutes (California Public Resources Code Section 2100 et seq., as amended) and its implementing guidelines (California Code of Regulations Title 14, Section 15000 et seq.).

2.1 CEQA Overview and Purpose of this SEIR

The Environmental Impact Report (EIR) for the approved project (State Clearinghouse No. 2024040144) was certified by the Board of Water and Power Commissioners in October 2024 (referred to herein as the “2024 EIR” or “certified EIR”). This Draft SEIR evaluates the environmental impacts of the revised project in comparison to the approved project and determines whether the 2024 EIR retains adequate informational value on the assessment of environmental impacts, or whether the revised project would result in new significant environmental impacts or a substantial increase in the severity of previously identified significant impacts such that new or revised mitigation measures may be required. Any environmental impacts associated with the revised project that were not adequately addressed in the 2024 EIR are evaluated in this Draft SEIR.

This Draft SEIR has been prepared in accordance with CEQA Guidelines Section 15162 (Subsequent EIRs and Negative Declarations). CEQA Guidelines Section 15162(a) and 15162(b) are stated below:

- (a) When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:
 - (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
 - (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
 - (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
 - (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

- (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.
- (b) If changes to a project or its circumstances occur or new information becomes available after adoption of a negative declaration, the lead agency shall prepare a subsequent EIR if required under subdivision (a). Otherwise the lead agency shall determine whether to prepare a subsequent negative declaration, an addendum, or no further documentation.

The differences between the revised project and the approved project are generally summarized in Section 3.8 in Chapter 3, Project Description of this Draft SEIR. Due to the proposed changes, the revised project may result in new significant environmental effects and/or a substantial increase in the severity of previously identified significant effects. As such, an SEIR is the appropriate document to wholly address the revised project's proposed changes and potential project-related environmental effects.

2.2 Project Background

2.2.1 History of Transmission Line Right-of-Way

On December 21, 1928, Congress acted to authorize the “Boulder Canyon Act,” thereby paving the way for a public works project of massive size and far-reaching scope. Construction of the original LADWP Boulder Dam-Los Angeles Transmission Lines took place from 1933 to 1940 in association with the construction of the Boulder Canyon Project, later named Hoover Dam. Congress had previously authorized construction of Boulder Dam (i.e., the Hoover Dam) and associated works in 1928, after Los Angeles guaranteed the purchase of electricity generated from the dam. The McCullough-Victorville Transmission Lines 1 and 2 (MCC-VIC Lines 1 and 2) were built to transmit electricity at 287.5 kilovolts (kV) over approximately 162 miles, with 275 kV ultimately arriving at the receiving station in Los Angeles. In order to send the high voltage in a reliable manner, new designs for transmission towers, hardware, conductors, clamps, and lightning protection were devised. The MCC-VIC Lines 1 and 2 originally carried three electric lines each on single circuit transmission towers, specifically designed for use in the desert due to the higher probability of lightning strikes. As completed, the single circuit transmission towers were the largest in the world and, until 1952, carried the only voltage above 220 kV in the world. These single-circuit transmission towers are still the most common type of electric transmission tower.

On September 20, 1935, Right-of-Way LA 052174 was issued to LADWP pursuant to Section 5(d) of the Act of December 21, 1928 (43 Stat. 1057) for a 287-kV transmission line across public lands. In a letter dated November 14, 1978, the Bureau of Land Management California State Office approved an amendment application from LADWP to permit upgrading of the “Boulder Transmission Circuit II” from 287 kV to 500 kV between McCullough Switching Station in Nevada to Victorville Switching Station in California. In a letter dated December 14, 1978, the Bureau of Land Management Nevada State Office approved the amendment to the same right-of-way for the transmission line upgrade stating that “the action is consistent with the intent of the Boulder Canyon Act of December 21, 1928 in that the Act provides for optional use of the Boulder Transmission Line corridor resources.”

As part of the Federal Land Policy and Management Act, the California Desert Conservation Area Plan (as amended) was developed to guide management lands under the jurisdiction of the Bureau of Land Management within the area known as the California Desert, which includes the Mojave Desert, the Sonoran Desert, and a portion of the Great Basin Desert. As with the approved project, the revised project is in Corridor D (Boulder Corridor), a designated 2-mile-wide planning corridor in the California Desert Conservation Area Plan. The California Desert Conservation Area Plan identifies two 500-kV power lines (i.e., MCC-VIC Lines 1 and 2) as pre-existing lines. The revised project intends to further upgrade and maintain this critical infrastructure within the designated corridor originally granted permissions by Congress.

2.2.2 Approved McCullough-Victorville Transmission Lines 1 and 2 Project and the 2024 Certified EIR

The approved project assessed in the 2024 EIR proposed making general improvements and upgrades to the MCC-VIC Lines 1 and 2 to retrofit the transmission lines to be able to carry an increased electrical capacity of 570 kV. This would have been accomplished through maintenance and rehabilitation of access roads, reinforcing or replacing transmission tower structural steel members for approximately 1,508 transmission towers, complete transmission tower replacement for approximately 153 transmission towers, transmission tower raising for transmission towers with ground-to-clearance violations (along with any subsequent power line re-tensioning required), replacing conductors, ground wires, insulators, and associated hardware assemblies, and adding grounding at every transmission tower along the alignment.

During detailed design and engineering inspections after approval of the approved project, the conditions of the existing transmission towers were determined to be substantially worse than what was determined during initial assessments for the approved project. Based on these findings, LADWP determined that a significant number of the transmission towers associated with MCC-VIC Lines 1 and 2 were in need of critical replacement. Additionally, the upgrade must ensure secure transmission for the reasonably foreseeable future (e.g., approximately 50 years). Thus, the design plan of the approved project has changed since LADWP's certification of the 2024 EIR and a revised version of the approved project has been identified. The revised project proposes complete replacement of approximately 1,750 transmission towers associated with MCC-VIC Lines 1 and 2 (as opposed to maintenance and/or rehabilitation of a majority of existing transmission towers), along with complete replacement of the existing conductors.¹ Under the revised project, the capacity of the new lines would be 575 kV (slightly greater than that of the approved project). The revised project is the subject of this Draft SEIR.

2.2.3 2024 EIR Public Review and LADWP Certification

In June 2024, LADWP issued a Notice of Preparation (NOP) of an EIR for the approved project pursuant to CEQA. The NOP was circulated to responsible agencies and comments on the NOP were received for a 45-day period. LADWP held a virtual scoping meeting on July 18, 2024. The 2024 Draft EIR for the approved project was released for public review on June 27, 2024. A Notice of Availability was made publicly available on June 27, 2024, commencing the mandatory public review period that then concluded on August 12, 2024. The Notice of Availability was also transmitted to a mailing list of responsible agencies and other interested parties developed during the scoping period.

¹ The transmission tower count discussed herein includes all structures to be replaced, including those in Nevada. However, the focus of the environmental review in this document is on the California segment, pursuant to CEQA.

Three written comments on the 2024 Draft EIR were received during the public review period: one from the California Department of Fish and Wildlife, one from the Twenty-Nine Palms Band of Mission Indians and one from the County of San Bernardino. LADWP provided responses to the comments and prepared a Final EIR. The Final EIR was prepared in September 2024 and, in compliance with CEQA, was made available to commenting parties prior to certification. Following distribution of the Final EIR to the commenting agencies, LADWP certified the document in October 2024.

2.3 Compliance with CEQA

2.3.1 Environmental Procedures

According to the CEQA Guidelines Section 15064(f)(1) and Public Resources Code Section 21100, preparation of an EIR is required whenever a project may result in a significant effect on the environment. As stated in CEQA Guidelines Section 15063, if the lead agency can determine that an EIR will clearly be required for the project, an Initial Study is not required. LADWP has determined that the preparation of an SEIR is required; therefore, a new Initial Study has not been prepared.²

This Draft SEIR identifies and analyzes the environmental effects of the revised project to the degree of specificity appropriate to the current proposed actions, as required by Section 15146 of the CEQA Guidelines. The analysis considers the activities associated with the revised project to determine the short-term and long-term environmental effects associated with their implementation. This Draft SEIR discusses both temporary and permanent impacts and direct and indirect impacts of the revised project, in addition to any significant cumulative impacts associated with other past, present, and reasonably foreseeable future projects.

Based on significance criteria, the effects of the revised project are categorized as either “no impact,” “less than significant impact,” “less than significant impact with mitigation incorporated,” or “significant unavoidable impact.” The impacts of the revised project are also compared to the approved project to determine if there are any new or substantially more severe effects per CEQA Guidelines Section 15162(a). Mitigation measures are required for potentially significant impacts to avoid or lessen, to the extent feasible, the revised project’s significant environmental impacts. The Draft SEIR analysis takes into consideration the mitigation measures required for the approved project and determines whether those measures are still applicable to the revised project, or if any new or revised mitigation measures are required to address new or substantially more severe environmental effects.

The analysis of impacts and identification of mitigation measures are derived from technical reports that are included as technical appendices to this Draft SEIR and from other informational resources as listed in the references subsection at the end of each chapter/section of this document.

2.3.2 Notice of Preparation and Early Consultation

An NOP and/or scoping period are not required in connection with the decision to prepare an SEIR (Public Resources Code Section 21166; CEQA Guidelines Section 15162). Thus, an NOP has not been prepared specifically for this SEIR. However, an NOP for the certified 2024 EIR was prepared in accordance with CEQA Guidelines 15082 and published on April 1, 2024. The public review period for the NOP began on April 1, 2024, and ended on May 1,

² An Initial Study was prepared for the approved project in April 2024. The Initial Study is available here: <https://ceqanet.lci.ca.gov/2024040144>.

2024. During the 30-day public review period of the NOP, LADWP held a scoping meeting on April 17, 2024. Several agencies and organizations commented on the NOP, and those comments can be found in Appendix A, Notice of Preparation and Scoping Comments, of this SEIR. These include comments related to transportation, biological resources, and tribal cultural resources. All of the issues and concerns raised in the comments have been fully addressed and analyzed in Chapter 4, Environmental Analysis, of this SEIR.

2.3.3 Incorporated by Reference

The County of San Bernardino General Plan (County of San Bernardino 2014), the Airport Comprehensive Land Use Plan for the Barstow-Daggett Airport (County of San Bernardino 1992), the Bureau of Land Management California Desert Conservation Area Plan (BLM 1980), and other references were reviewed in order to assist environmental review of the revised project. These aforementioned documents are incorporated by reference (CEQA Guidelines 15150) and are available upon request.

The 2024 certified EIR is also incorporated by reference. This document is available here: <https://ceqanet.lci.ca.gov/Project/2024040144>.

2.4 References

BLM (U.S. Bureau of Land Management). 1980. *The California Desert Conservation Area Plan 1980*, as amended.

County of San Bernardino. 1992. *Airport Comprehensive Land Use Plan – Barstow-Daggett Airport*. Accessed November 2025. <https://lus.sbcounty.gov/wp-content/uploads/sites/48/Airports/BarstowDagget.pdf>.

County of San Bernardino. 2014. *County of San Bernardino 2007 General Plan*. Amended April 24, 2014. Accessed November 2025. <https://lus.sbcounty.gov/wp-content/uploads/sites/48/GeneralPlan/FINALGP.pdf>.

LADWP (Los Angeles Department of Water and Power). 2024. *McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project Environmental Impact Report*. Final. October 2024. SCH No. 2024040144. <https://ceqanet.lci.ca.gov/Project/2024040144>.

INTENTIONALLY LEFT BLANK

3 Project Description

This chapter describes the revised McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (revised project) proposed by the Los Angeles Department of Water and Power (LADWP) as the lead agency under the California Environmental Quality Act (CEQA) statutes (California Public Resources Code, Sections 21000, et seq.) and implementing guidelines (California Code of Regulations [CCR], Title 14, Sections 15000, et seq.). The revised project proposes modification to the previously approved McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (approved project), which was analyzed in an Environmental Impact Report (EIR; State Clearinghouse No. 2024040144) certified by the Board of Water and Power Commissioners in October 2024 (referred to herein as the “2024 EIR” or “certified EIR”). Section 2.2, Project Background, in Chapter 2, Introduction, of this Draft Subsequent EIR (SEIR) includes an overview of the approved project and previously certified 2024 EIR.

The purpose of this chapter is to describe the proposed revised project in a manner that will be meaningful for review by the public, reviewing agencies, and decision makers in accordance CEQA. Per the requirements of CEQA Guidelines Section 15124, a complete project description must contain the following information:

- (a) the precise location and boundaries of the proposed project, shown on a detailed map, along with a regional map of the project’s location (see Section 3.1, Project Location)
- (b) a statement of the objectives sought by the proposed project, which should include the underlying purpose of the project (see Section 3.4, Project Objectives)
- (c) a general description of the project’s technical, economic, and environmental characteristics, considering the principal engineering documentation and supporting public service facilities (see Section 3.5, Project Design, 3.6, Project Construction, and 3.7, Project Operation)
- (d) a statement briefly describing the intended uses of the environmental impact report, including a list of the agencies that are expected to use the EIR in their decision making, a list of permits or other approvals required to implement the project, and a list of related environmental review and consultation requirements imposed by federal, state, or local laws, regulations, or policies (see Sections 3.9, Intended Uses of this SEIR, and 3.10, Required Approvals)

In accordance with Section 15124 of the CEQA Guidelines, the description of a project “should not supply extensive detail beyond that needed for evaluation and review of environmental impacts.” This chapter of the Draft Subsequent EIR (SEIR) includes the required information, as listed above.

3.1 Project Location

Both the approved and revised projects involve modifications to the existing McCullough-Victorville Transmission Lines 1 and 2 (MCC-VIC Lines 1 and 2). MCC-VIC Lines 1 and 2 are two parallel, high voltage transmission lines that extend approximately 162 miles across the Mojave Desert from Boulder City in Clark County, Nevada to the Victorville Switching Station in Victorville within San Bernardino County, California. MCC-VIC Lines 1 and 2 are located within an existing, approved LADWP utility right-of-way (ROW) that largely crosses undeveloped state and federal lands, including lands under the jurisdiction of California State Lands Commission and the Bureau of Land Management (BLM). It is noted that this ROW for MCC-VIC Lines 1 and 2 is situated within the larger Boulder Corridor, which is discussed in Chapter 2, Introduction.

As with the approved project, the revised project is divided into the Nevada segment, which runs for 24 miles from the McCullough Substation to Line 1 Tower 27-5 (MCV1_27-5) and Line 2 Tower 26-7 (MCV2_26-7) at the California Border, and the California segment, which runs for 138 miles from MCV1_27-6 and MCV2_27-1 to the Victorville Switching Station.¹ Figure 3-1, Project Location, and Figure 3-2, Project Alignment, show the entirety of the existing MCC-VIC Lines 1 and 2 transmission line alignments at different levels of detail.

Within this document, the term “ROW” will be used to refer to the LADWP ROW where the existing and proposed MCC-VIC Lines 1 and 2 are located. The term “alignment” or “project alignment” will be used to generally refer to the existing or proposed MCC-VIC Lines 1 and 2 centerlines. The ROW has a consistent width of approximately 720 feet along the entire length of the project alignment in California and incorporates all permanent existing and proposed transmission line structures and hardware associated with MCC-VIC Lines 1 and 2 (e.g., transmission towers, conduit) as well as most of the spur roads to access each transmission tower work area. The term “project area” will be used to refer to the ROW and its vicinity.

3.2 Project Overview

MCC-VIC Lines 1 and 2 consist of approximately 875 steel-lattice transmission towers per line. Instead of completing various construction activities along the parallel transmission lines, including as needed replacement of conductor, transmission tower modifications, transmission tower replacement, and transmission tower raising (as proposed under the approved project), the revised project proposes to completely remove and replace the approximately 1,750 existing transmission tower structures² as well as both transmission lines with two new parallel overhead transmission lines within the existing approved ROW to increase their overall capacity.

The revised project would include many of the same types of construction activities as the approved project, including: removal and replacement of existing transmission tower structures; increasing transmission tower height to address ground-to-clearance violations;³ replacement of conductors, ground wires, insulators, and associated hardware assemblies; conductor re-tensioning; and maintenance and rehabilitation of access roads. However, the revised project would include these same activities at greater intensities than the approved project, based on the expanded scope of transmission tower replacements.

As stated above, the revised project would include the erection of new transmission towers and foundations to replace the existing transmission towers to be demolished. While the revised project’s general area of impact would remain largely the same as under the approved project, approximately 95 miles of the existing Line 1 alignment (including the centerline) would shift southeast approximately 110 feet. All other Line 1 and Line 2 transmission towers would be offset linearly by a maximum of 300 feet but would maintain the existing centerline. Furthermore, the potential scale of construction activity anticipated for the revised project represents a change from the approved project as disclosed in the 2024 EIR. Thus, LADWP deemed additional environmental impact analysis to be appropriate for compliance with CEQA.

¹ The tower numbering uses mileage from the source of the energy feed. For example, Tower 27-5 represents the fifth tower of the 27th mile of the transmission line.

² The transmission tower count discussed herein includes all structures to be replaced, including those in Nevada. However, the focus of the environmental review in this document is on the California segment, pursuant to CEQA.

³ Under the approved project, ground-to-clearance violations were going to be addressed by raising existing tower structures. As proposed under the revised project, these violations would be addressed by removing the existing tower and replacing it with a taller tower structure. However, both the approved and the revised project would increase tower height to comply with North American Electric Reliability Corporation and the Federal Energy Regulatory Commission ground-to-clearance standards.

Section 3.5, Project Design, presents a detailed description of the revised project, while Section 3.8, Revised Project and Approved Project Comparison Summary, provides a brief summary of the changes made to the approved project since LADWP's certification of the 2024 EIR.

3.3 Environmental Setting

As stated above, the ROW is located entirely within the Mojave Desert, is generally isolated away from development, and largely crosses undeveloped state and federal lands, including lands under the jurisdiction of California State Lands Commission and BLM. The ROW also crosses rural and low-density residential land uses on non-federal land in San Bernardino County, California and Clark County, Nevada. Existing development within the ROW consists of access roads, transmission tower disturbance footprints, the transmission towers and transmission lines themselves, as well as their associated hardware.

The ROW crosses several roadways. The nearest residential uses to the ROW are directly adjacent to transmission towers MCV1_139-6 through 140-2, approximately 9 miles south of Barstow, California. The nearest schools to the ROW are the Baker Valley Unified School District elementary, middle, and high schools, located at 72100 Schoolhouse Lane, Baker, California. These schools are approximately 8 miles southeast of the existing MCC-VIC Lines 1 and 2 at their nearest point.

Additional discussion of the environmental setting pertinent to specific topical analyses (including the existing regulatory conditions) are provided in the respective sections Chapter 4, Environmental Analysis, of this Draft SEIR, prior to the impact analysis.

3.3.1 CEQA Baseline

To determine significance, the revised project is compared to a baseline condition. The CEQA baseline is fixed for the duration of the revised project at the conditions that prevailed at the time of the Notice of Preparation. Section 15125(a) of the CEQA Guidelines provides the following:

An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time of the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant.

However, when an agency is evaluating a proposed change to a project that has previously been reviewed under CEQA, the agency must apply CEQA's standards limiting the scope of subsequent environmental review (14 CCR Section 15162; *Abbatti v Imperial Irrigation District* [2012] 205 Cal.App.4th 650; *Sierra Club v City of Orange* [2008] 163 Cal.App.4th 523, 542). Consistent with this principle, the project impacts reviewed in the prior EIR are properly treated as part of the environmental baseline in a subsequent or supplemental EIR (*Communities for a Better Environment v. South Coast Air Quality Management District* [2010] 48 Cal. 4th 310, 326 note 11, *Fairview Neighbors v. County of Ventura*, [1999] 70 Cal.App.4th 238, 242). Thus, the baseline for this SEIR includes the approved project, which is the project analyzed in the certified 2024 EIR. The revised project is compared to the baseline (i.e., the approved project) to determine if new or substantially more severe impacts would occur. However, in order to present a more conservative analysis, the whole of the revised project (and not just the incremental changes) is considered when making the final impact determination.

3.4 Project Objectives

The majority of the 1,750 transmission towers are in need of critical replacement as the structures are nearly a century old and were originally designed to support 287-kilovolt (kV) power transmission. Although the transmission towers have been upgraded to handle higher voltages since their initial installation in the 1930s and 1940s, as they continue to age and transmit more electricity load through the transmission lines, newer, more structurally sound transmission towers are needed to replace the existing aged infrastructure. Furthermore, LADWP has identified a number of transmission tower locations within the MCC-VIC Lines 1 and 2 that have insufficient ground-to-conductor clearance per North American Electric Reliability Corporation/Federal Energy Regulatory Commission safety mandates. Non-compliance with clearance requirements can result in potential safety and reliability issues.

The underlying purpose of the revised project is to accommodate incoming energy resources along the West of River Path 46 transmission corridor in order to help LADWP achieve state and local requirements for greenhouse gas reductions and an increased renewable energy portfolio, and to conduct infrastructure replacement to ensure the continued safe and reliable operation of MCC-VIC Lines 1 and 2. The additional delivery capacity of 475 megawatts to the City of Los Angeles would contribute over 15% toward LADWP's Renewable Portfolio Standard as part of LADWP's commitment to be 100% carbon-free by 2035, which is 10 years ahead of the state's target.

The revised project's objectives are provided below.

1. Reduce the environmental impacts associated with greenhouse gas emissions and create a more sustainable environment.
2. Assist LADWP in meeting Renewable Portfolio Standard goals by increasing LADWP's transmission capacity by 475 megawatts.
3. Meet LADWP's future electrical energy demands.
4. Allow interconnection and expanded transmission of renewable energy along the West of River Path 46 transmission corridor.
5. Increase LADWP's system reliability and flexibility in the utilization of renewable energy sources.
6. Enable the delivery of renewable energy.
7. Minimize the environmental disturbance of transmission upgrades by constructing improvements within an existing ROW, avoiding sensitive resources, and minimizing the number of new access routes, to the extent feasible.
8. Increase delivery capacity with upgraded energized lines on an aggressive schedule (by 2028–2029) to comply with Western Electric Coordinating Council mandates.
9. Bring transmission tower structures into compliance with North American Energy Reliability Corporation/Federal Energy Regulatory Commission ground-to-conductor clearance requirements.

Aside from the addition of Objective Nos. 8 and 9, the revised project's objectives are the same as those of the approved project.

3.5 Project Design

As stated above in Section 3.4, Project Objectives, the majority of the 1,750 transmission towers are in need of critical replacement. Although the transmission towers have been upgraded to handle higher voltages over the

years (i.e., from 287 kV to 500 kV), as they continue to age and transmit more electricity load through the transmission lines, newer, more secure transmission towers are needed to replace the existing aged infrastructure. The revised project would demolish (also referred to as “wreck out”) the existing MCC-VIC Lines 1 and 2 and replace them with two new lines within the existing approved ROW. The replacement lines would enable an increase in capacity from the existing 500 kV to a new maximum voltage of 575 kV. This increase from 500 kV to 575 kV would allow LADWP to transport 475 megawatts of renewable energy to the City of Los Angeles.

3.5.1 Project Alignment

The two existing MCC-VIC Lines 1 and 2 comprise approximately 160 miles of parallel single circuit 500-kV transmission lines, for a total of approximately 320 miles of line for both alignments. Of the 320 miles of line, approximately 225 miles of the new transmission lines would remain along the existing centerlines of the existing alignments.

Approximately 95 miles of the new Line 1 would be constructed in the middle of the two existing alignments (approximately 110 feet from the existing centerline of Line 1). This shifted segment of the new Line 1 would be located at the southern portion of the alignment, from MCV1_71-3, northeast of Highway 127 to MCV1_161-6 in the City of Victorville. Figure 3-3 shows a sample portion of the shifted Line 1 segment. The remainder of the new Line 1 would remain along the existing Line 1 alignment and would be reconstructed at an offset (a maximum of approximately 300 feet ahead or behind the current transmission tower location while keeping the existing centerline) from the existing structure due to the presence of other transmission lines in the vicinity. Line 2 would be reconstructed at an offset from the original (a maximum of approximately 300 feet ahead or behind the existing transmission tower), maintaining the existing centerline along the entire existing route. Structures would be sited to the extent feasible to utilize the existing road network. After the existing transmission towers are demolished, the land where those transmission towers existed would be recontoured and stabilized.

3.5.2 Transmission Tower Design

Existing transmission towers would be replaced with transmission towers of the same structural style, generally at a 1:1 ratio. As with the existing transmission towers, almost all new transmission towers would be lattice structures consisting primarily of tangent structures, as well as some dead-end structures. Some transposition transmission towers (specifically, up to eight monopole transmission towers) would also be employed at select segments of the replaced lines. These transmission tower types are described below:

- **Tangent.** Used where the transmission lines run straight, tangent transmission towers are symmetrical steel-lattice structures with crossarms extending equally on both sides. Conductors are hung from vertical suspension insulators that drop down from the crossarms, with similar hardware on each side. These are the most common structure types used throughout Lines 1 and 2.
- **Dead End.** A dead-end transmission tower is used where the line ends, connects to a substation, or makes a major change in direction. Dead-end transmission towers are visibly more robust and heavily braced than a tangent transmission tower. They are primarily steel lattice structures with a wider base, thicker members, and additional diagonal bracing. The overall appearance is bulkier and more “anchored,” reflecting its role in holding high tension loads or ending a line.
- **Transposition (Monopole).** Transposition transmission towers are specialized structures where the positions of the conductors are rearranged along the line for electrical balancing. Transposition transmission towers have multiple levels of crossarms or extra, offset attachment points so that conductors

can cross over and trade positions. On a monopole structure, this results in a busier, more complex arrangement of crossarms and insulator strings than a typical tangent transmission tower, with conductors visibly crossing between levels while the line itself usually remains on a straight alignment.

Figure 3-4 shows representative images of the proposed transmission tower structures. As with the approved project, transmission tower heights would generally increase compared to the existing transmission towers to comply with North American Energy Reliability Corporation/Federal Energy Regulatory Commission ground-to-conductor clearance requirements. Under the approved project, this would have been accomplished by raising the existing transmission tower structures. However, the revised project would replace the existing transmission towers with new, generally taller transmission towers of the same structural style. Existing transmission towers range in height from approximately 82 feet to 179 feet tall, while replacement transmission towers would range in height from approximately 92 feet to 179 feet. As shown in Table 3-1, below, while the maximum height of the transmission towers along the alignment would not change, transmission tower heights, overall, would increase. However, most revised project transmission towers would remain within the 101-foot to 120-foot range, as under existing conditions, and less than 1% would be over 160 feet.

Table 3-1. Transmission Tower Heights

Transmission Tower Height Range (Feet)	Existing Conditions	Revised Project
	Percent of Total Transmission Towers	Percent of Total Transmission Towers
82 to 100	5%	2%
101 to 120	81%	57%
121 to 140	13%	36%
141 to 160	1%	4%
161 to 179	0.2%	0.7%

Source: LADWP 2026.

The existing approximately 1-inch to 2-inch diameter, non-reflective Aluminum Conductor Steel-Reinforced conductor would be replaced with approximately 1-inch to 2-inch diameter, non-reflective Aluminum Conductor Steel Supported conductor.

3.6 Project Construction

3.6.1 Construction Schedule

Construction of the revised project is expected to commence in 2027 with completion anticipated around 2029. Construction activities would normally occur between sunrise and sunset up to six days per week (Monday through Saturday) for the duration of the project. Should work occur outside of these hours, coordination or variances with local agencies would occur, as applicable. Nighttime work is not planned but may occur between sunset and sunrise during the summer and early fall months to limit daytime customer outages. Table 3-2 below shows the standard phasing for project construction and the approximate duration (in days) for each phase.

Table 3-2. Construction Duration

Phase Description	Approximate Number of Days per Activity
Grading (Access Road Rehabilitation)	405
Yard Operation	985
Grading (Laydown/Staging/Site Grading)	985
Transmission Line Construction (Line 1) ¹	339
Transmission Line Construction (Lines 1 and 2 Overlap) ¹	53
Transmission Line Construction (Line 2) ¹	274
Recontouring/Soil Stabilization (Line 1) ²	437
Recontouring/Soil Stabilization (Line 2) ²	163

Source: LADWP 2025.

¹ All transmission line construction phases would include the following activities: Wreck-out of existing transmission towers/foundations (with partial foundation removal to a maximum depth of 2 feet below grade) and construction of new foundations, transmission towers, conductor, ground wire, insulators, and hardware assemblies.

² Recontouring/Soil Stabilization phases would include recontouring, soil stabilization, revegetation, and removal of various construction best management practices occurring at transmission tower and other equipment (e.g., guard structure) removal sites.

3.6.2 Workers and Equipment

The construction process would require an average of 250 construction personnel each day. Daily vehicle trips would include workers driving to/from the project area, vendor and haul truck trips to deliver construction materials and equipment, and haul truck trips to remove construction debris from the project area. Workers may carpool within the project area (e.g., when traveling between material show-up yards and individual transmission tower work areas). Workers would park within the transmission tower work areas.

Heavy equipment would be required throughout construction, including backhoe loaders, excavators, all-terrain forklifts, hydraulic transmission tower lifting systems, large and small cranes, manlifts, concrete mixing trucks, concrete pumping trucks, bulldozers, and water trucks. Construction equipment would generally be staged within the confines of existing pre-disturbed areas along the ROW, including transmission tower sites, spur roads, and main access roads.

Where the terrain is steep or access is limited, helicopter use may be required. The helicopters would be used approximately 4-to-6 hours per day (average) and up to 8 hours per day (maximum) during construction on the transmission lines.

3.6.3 Construction Process

3.6.3.1 Site Preparation

Pre-construction activities at each work area would begin with surveying; marking the centerline of new transmission tower locations and the ROW boundaries; staking, clearing, and grading for both existing and new transmission structure foundation locations, material show-up yards, and soil stockpiles; and installation of best management practices such as erosion control. Before civil work begins, construction site preparation would occur including road rehabilitation, construction of new access roads (as needed), and clearing or salvaging vegetation. Access road maintenance and construction are discussed in further detail below in Section 3.6.3.2, Access Roads,

and vegetation management and biological pre-construction surveys are discussed in Section 3.6.5, Best Management Practices.

3.6.3.2 Access and Spur Roads

The existing road network would be used wherever feasible. All existing unpaved access and spur roads would be subject to standard grading, with additional rehabilitation and maintenance improvements conducted as needed (described in further detail below). Access roads are main roads that provide access to the ROW and alignment. Spur roads are short segments that connect to the individual transmission towers, taking access off the main access roads. When utilizing existing roads, assessments would be conducted to evaluate the accessibility of construction equipment to work areas. Spur roads at new transmission tower locations would be necessary for new structures that do not have access through the use of the existing road network, and development of these new spur roads would take place as part of the revised project. All new spur roads would be within the existing ROW. Activities involved for establishing and/or using existing and new access/spur roads are detailed below.

Existing Access and Spur Roads: Rehabilitation and Maintenance

General improvements or modifications to the paved portions of existing roadways (such as roadway resurfacing or pavement removal/replacement) are not anticipated or proposed. For the existing, unpaved access and spur roads, typical pre-construction activities associated with road rehabilitation would include minor vegetation clearing, blading, grading, and recompacting to fill potholes, removal of ruts/washboarding, and repair of surface irregularities to provide a smooth surface capable of supporting trucks and heavy construction equipment. Rehabilitation of existing access and spur roads may also include repair of culverts, cattle guards, fences, ingress/egress or other existing road elements. Existing access and spur roads may also require upgrades such as protection from drainages. Repair and stabilization of slides, washouts, and other slope failures may be necessary to prevent future failures. Repair or replacement of existing drainage structures that are damaged or beyond repair may also be required. Such activities are allowable under current ROW agreements or other established arrangements. The type of rehabilitation activities required would be based on specific site conditions to be determined during final engineering. Although existing access roads (and portions of some spur roads) outside of the ROW would be improved, they would not be widened beyond existing conditions. All improvements to existing access and spur roads outside of the ROW are thus considered temporary improvements. Although some access and spur roads would be widened, the segments proposed for widening are all within the existing ROW. The widened areas of the existing access and spur roads are considered permanent improvements.

The need for existing access and spur road rehabilitation is expected to be greatest where topography creates a challenge for the movement of trucks and heavy construction equipment. The following typical construction activities for rehabilitation of existing access roads would occur:

- **Existing relatively flat terrain approximately 0% to 4% grade.** Construction activities may require activities such as grubbing and constructing drainage improvements (e.g., wet crossings, water bars, McCarthy drains, and/or culverts). Any new drains would be coordinated with the land manager and included in permit amendments.
- **Existing rolling terrain approximately 5% to 12% grade.** Construction activities generally include activities typical to flat terrain and may require activities such as cut and fill in excess of 2 feet in depth, benched grading, drainage improvements (e.g., v-ditches, down drains, and energy dissipaters), and slope stability improvements.

- **Existing mountainous terrain over 12% grade.** Construction activities may include similar activities as rolling terrain construction activities and could require significant cut and fill depths, benched grading, drainage improvements, and slope stability improvements.

Generally, all existing access/spur roads currently have a minimum 14-foot width with 2 feet of shoulder on each side to accommodate required drainage features depending on the existing topography. Access and spur road gradients may be modified so that sustained grades do not generally exceed 12%. Grades greater than 12% would be permitted when such grades do not exceed 40 feet in length and are located more than 50 feet from any other excessive grade. In some instances, LADWP may deviate from mitigating grades greater than 12%.

New Spur Road Development

New spur roads would need to be established for access to new transmission tower locations. New spur roads may require grading and cut/fill on slopes to build the road. These new roads would be left in place for future maintenance on the transmission lines. All new spur roads would be within the existing ROW. These permanent roads would not be paved but would be stabilized to prevent erosion and sedimentation, and erosion control features would be designed to prevent rutting. New spur roads would be constructed along the most direct path from the access roads as feasible to minimize the amount of new disturbance. Consideration would be given to avoid sensitive resources and features, and locations may also be adjusted based on site-specific conditions such as topography. The disturbance width for new spur roads would generally be 18 feet. However, new spur roads that need to be graded for access in steep terrain (side-hill roads) are likely to exceed a 75-foot to 120-foot width of disturbance due to cut and fill conditions; however, these areas would remain within the disturbance footprint for transmission tower work areas. New spur roads are considered permanent improvements.

3.6.3.3 Temporary Work Areas, Staging Areas, and Material Show-Up Yards

Construction of the revised project would require the establishment of temporary work and staging areas at numerous locations throughout the project area. The different types of temporary work areas that would be established are characterized below. Descriptions detail the primary use of the work areas; however, to minimize the number of work areas required, additional construction uses may also occur in these areas, in addition to their primary purpose. For example, a guard structure work area, when not active, may serve as a turnout area on a road instead of establishing additional turnouts.

- **Transmission tower work areas:** temporary work areas approximately 250-by-250 feet in size around each existing and proposed transmission tower location. Transmission tower work areas would generally be cited within the existing ROW.
- **Guard structure work areas:** temporary work areas approximately 200-by-50 feet in size at the location of each guard structure. Guard structure work areas would generally be cited within the existing ROW.
- **Conductor pulling and tensioning work areas:** temporary work areas approximately 250-by-600 feet in size, established along the ROW and used for construction activities associated with pulling and tensioning conductors. These work areas would generally be cited within the existing ROW and may also include snub sites and/or sleeve sites.
 - **Snub sites:** some conductor pulling and tensioning work areas would include snub sites. Snub sites require anchors to be installed in the ground to temporarily secure the conductor during installation (i.e., the “snub” structure). Anchors would consist of cast-in-place concrete piers with steel slings that

operate as “dead weight” to help temporarily secure the conductor at the appropriate stringing tensions. The concrete piers would be installed approximately 2 feet below ground surface and would be buried in place after use.

- **Sleeve sites:** some conductor pulling and tensioning work areas would also include sleeve sites. Sleeve sites would be temporary work areas that would be used to take down and replace conductors. The conductors would be brought down to the ground, grounded, sleeved/spliced, then strung back up once complete. Sleeve sites would be cleared of vegetation where necessary but would otherwise not require any ground excavation. Crush and roll would be utilized for access to the extent possible.
- **Helicopter fly yards, landing zones, and refueling areas:** areas used for helicopter staging (including takeoff, landing, and refueling). These would be collocated with the conductor pulling and tensioning work areas and/or staging areas and thus would not require additional areas of disturbance.
- **Staging areas:** approximately 4 staging areas (ranging in size from approximately 20 acres to 30 acres each) would be established along the alignment for storage of construction equipment and construction vehicles. Temporary construction offices may also be located in these staging areas. The staging areas would be located within the ROW. Portions of some staging areas may overlap with other project components. All staging areas would be located within the California segment.
- **Material show-up yards:** approximately 15 material show-up yards would be established for materials storage and/or as places where workers would report, assemble, and prepare before proceeding to construction work locations. Most of the material show-up yards would be located outside of the ROW on private lands. Portions of some material show-up yards may overlap with other project components. There would be two larger material show-up yards of approximately 120 acres and 180 acres each, respectively; one located near the community of Harvard, California, and the other located in the vicinity of SR-127 near Baker, California. The other yards would range from approximately 2 acres to 80 acres in size and would be located intermittently throughout the project vicinity, in proximity to the alignment. All material show-up yards are anticipated to require light grading. In some locations, a base of aggregate may also be required. Temporary fencing is anticipated to be needed in yards where materials storage occurs.

Each temporary work area would be large enough to allow for safe operation of equipment and movement of materials as needed. Within each temporary work area, topsoil would be stripped or vegetation would be mowed, crushed, and cleared. A level cleared area, or pad, would be necessary to safely complete the replacement of the transmission towers. The size of these pads would be dependent on the size of the transmission tower, the terrain, resource considerations, and whether helicopter construction would be used, among other factors. Cleared pads would be required for wreck out, transmission tower foundations, assembly and erection of the transmission tower, and wire installation. All pads not needed for normal transmission line maintenance would be recontoured and stabilized.

The pre-disturbed existing transmission tower sites and access roads of the existing transmission lines would be used as much as possible when establishing temporary work areas to minimize new disturbance. Final permanent transmission tower footprints would remain within the existing, approved ROW.

Total disturbance areas for the revised project, representing temporary work areas and permanent disturbance areas are shown in Table 3-3.

Table 3-3. Revised Project Disturbance Area

Location Description	Temporary Disturbance Area (acres)	Permanent Disturbance Area (acres)	Total Disturbance Area (acres)
Existing access roads	772	—	772
Guard structures	119	—	119
Material show-up yards	605	—	605
New access roads (new spur roads and existing access road widening within the ROW)	—	228	228
Conductor pulling and tensioning work areas	1,107	—	1,107
Staging areas	85	—	85
Tower footprints	—	275	275
Tower work areas	2,760	—	2,760
California Total	4,775	413	5,188
Nevada Total	673	91	763
Grand Total	5,448	503	5,951

Source: LADWP 2026.

Notes: ROW = right-of-way; Totals may not sum precisely due to rounding.

3.6.3.4 Conductor, Transmission Tower, and Foundation Wreck Out

Prior to the existing transmission towers being disassembled and lowered to the ground, all wire would need to be removed from the transmission tower. Wire would first be de-clipped from the structure and placed in travelers or lowered to the ground. When needed, mid-span sites would be added where existing sleeves need to be removed in order for the wire to roll through the travelers. Pullers, modified caterpillar equipment (i.e., sag caterpillars), and/or other equipment would be used to catch the wire at the time of disconnecting from a dead-end structure. As wire is lowered to the ground, the wire tail would be dragged using wire pulling equipment set up at the conductor pulling and tensioning work areas, and the conductor and overhead ground wire would be spooled up and prepped for hauling off-site. Wire tail dragging would be performed for conductor removal under tension.

After all wire is free from the transmission towers, steel crews would disassemble the transmission towers in sections and then lower transmission towers to the ground with a large crane or helicopter. When using a helicopter, transmission towers may be flown to a staging area or material show-up yard along a designated route. A civil crew would follow the steel crew with an excavator to wad up the steel in bundles that would be hauled off the ROW. The civil crew would also use a chipping hammer and/or excavator to remove the existing transmission tower foundations to a depth of 2 feet below grade. Holes would be backfilled, and soil would be recontoured and stabilized. Construction equipment that may be used in transmission tower wreck out efforts are pullers, sag caterpillars, cranes, manlifts, water trucks, lowboy trailers, flatbed trucks, and excavators with hammers.

3.6.3.5 Foundation Installation

New foundations would be installed to support the new transmission towers. Each existing transmission tower would be replaced by a new transmission tower of the same structural style. It is anticipated that conventional drilled pier concrete foundations would be used for the new transmission tower footings. Installation of rebar and

concrete forms would be required prior to concrete pouring. As noted in Section 3.5.2, almost all new transmission towers would be lattice structures (primarily tangent, as well as some dead-end). Some transposition transmission towers (specifically, up to eight monopole transmission towers) would also be employed at select segments of the replaced lines. The maximum depth of the transmission tower footings would be 29 feet below grade, with an average depth of approximately 19 feet below grade. Foundations for lattice (e.g., tangent and dead-end) and monopole (e.g., transposition) structures are described below:

- **Lattice Transmission Tower Foundations:** four footings would be required per transmission tower, each of which would range in size from 3 feet to 4 feet in diameter and from 20 feet to 35 feet in length.
- **Monopole Transmission Tower Foundations:** a single foundation would be required per transmission tower. Foundations would be 9 feet in diameter.

The final permanent impact area at each new transmission tower site would be approximately 60-by-60 feet. Final permanent transmission tower footprints would remain within the existing, approved ROW. Construction equipment for foundation installation would include drill rigs, cranes, concrete mixing trucks, concrete pumping trucks, flatbed trucks, lowboy trailers, water trucks, and a backhoe loader.

3.6.3.6 Transmission Tower Erection

Complete transmission tower replacement activities are expected to occur within a 250-by-250-foot temporary work area surrounding the 60-by-60-foot permanent transmission tower footprint area. Transmission towers are expected to be replaced with a new transmission tower of the same structural style at a 1:1 ratio. Construction equipment that may be used for transmission tower erection includes cranes, manlifts, forklifts, helicopters, water trucks, lowboy trailers, and flatbed trucks. Transmission tower types are described above in Section 3.5.2, Transmission Tower Design.

3.6.3.7 Wire Installation

The transmission towers would be rigged with insulator strings and stringing sheaves at each ground wire and conductor position. Sheaves are rollers that are temporarily attached to the lower end of the insulators to allow the conductor to be pulled, or “strung” along the line. This would be done through the use of helicopters, cranes, manlifts, and wrench trucks. These activities would occur within the work areas described above in Section 3.6.3.3, Temporary Work Areas, Staging Areas, and Material Show-Up Yards. Conductor pulling and tensioning work areas would be approximately 250-by-600 feet. The size of each conductor pulling and tensioning work area would be limited to the extent practicable, and each conductor pulling and tensioning work area would be designed in coordination with the responsible property owner or land management agency. Depending on topography, grading may be required at some conductor pulling and tensioning work areas to create level pads for equipment.

A helicopter would be used to pull the cable sock during stringing operations. Cable socks are the cable wires used to pull the conductor. The conductor would be pulled and sagged on a flat plane in a helicopter-compatible traveler. Cable sock would also be flown in by helicopter for overhead ground wire and optical ground wire pulling. Tensioners with wire boats would be set up on opposite sides of the puller and other equipment. The wire crew would have radio communication with both the puller and tensioner operators and would have the authority to halt pulling if needed. The control span of each pull would have a qualified observer with radio communication to ensure adequate conductor-to-ground clearance. Refer to Section 3.6.4.1, Helicopter Activities, for additional discussion regarding helicopter use during construction.

After all wire is pulled and sagged to the correct tensions, the wire would be clipped/terminated or “Dead-ended” to each transmission tower. Tensioners, pullers, sag caterpillars, line trucks, wire trailers, and tractors needed for stringing and anchoring the ground wire or conductor would be stationed at conductor pulling and tensioning work areas. A puller, tensioner, line trucks, and tractors would be needed for pulling and temporarily anchoring the ground wire and conductor.

Upgrading and Installing Additional Grounding

All transmission towers would be grounded locally using copper ground rods. Ground rods connected to the transmission towers’ grounding scheme would dissipate lightning strikes or phase-to-ground voltage faults on the transmission tower or the overhead ground wire/optical ground wire by providing a low-resistance path to ground. Rod installation activities would occur within existing transmission tower disturbance areas, and the rods would be installed subsurface next to the transmission tower foundation, to a depth of approximately 9 feet.

Guard Structures

For protection during wire installation, temporary guard structures would be built as required next to highways, railroads, other power lines, structures, utility infrastructure, and other major obstacles. Guard structures would be established adjacent to these crossings and obstacles to protect the area underneath during wire stringing activities. Guard structures would consist of different types of guarding, including H-frame poles placed on either side of an obstacle, bucket trucks with a roller tip, or flowerpot structures. These structures would prevent ground wire, conductor, or equipment from falling onto an obstacle. Equipment for installing guard structures would include augers, line trucks, pole trailers, and cranes. The amount of disturbance per guard structure would typically be 200-by-50 feet. The anticipated depth of guard structure poles would be 15 feet below ground surface. The guard structures would be left in place until conductors and ground wires are strung, tensioned, and clipped. Guard structures may not be necessary for small roads. In such cases, other safety measures, such as barriers, construction workers with flags, or other traffic control, would be used. These guard structures would be temporary and would be removed after wire installation is complete. Holes dug for support poles would be filled and restabilized as needed after guard structure removal.

3.6.3.8 Work Area Stabilization and Rehabilitation

Upon completion of construction, site stabilization activities would be undertaken to recontour and stabilize temporary work areas, including existing transmission tower pads and spur roads that would no longer be required. Following soil stabilization, reclamation activities would be implemented to reestablish native vegetation growth in temporary disturbance areas. In addition, implementation of the revised project would require compliance with applicable biological resource mitigation requirements, including preconstruction surveys, avoidance and minimization measures, resource agency coordination and permitting, compensatory mitigation, and desert native plant salvage and relocation. Refer to Section 4.3, Biological Resources, for additional information.

3.6.3.9 Project Construction Closeout

After construction is complete, the LADWP and its construction contractor would clean up construction debris and remove non-biodegradable best management practices. At the temporary staging areas and material show-up yards, equipment and construction materials would be removed, office trailers and generators would be demobilized, and the areas would be stabilized. Permanent construction areas would be stabilized and recontoured to prevent erosion, and permanent erosion control features would be built as per the required Stormwater Pollution

Prevention Plan. Final stabilization would occur during final demobilization from each work area. Once complete demobilization occurs, the Construction Contractor and LADWP would submit Notice of Termination(s) to the relevant state agencies once stabilization is achieved.

3.6.4 Construction Techniques

3.6.4.1 Helicopter Activities

Light-lift and heavy-lift helicopters would be used to support construction activities. Light-lift helicopter support (specifically Bell 407/MD 530 or Bell 206/AS350 helicopters) may include:

- Transportation of personnel
- Delivery of equipment and materials
- Hardware installation
- Wire stringing activities
- Marker ball installation (if applicable)

Heavy-lift helicopter support (specifically, Sikorsky UH-60A Blackhawk and/or Boeing CH-47D Chinook helicopters) may include:

- Delivery of equipment and materials
- Installation/removal of structures

Light-lift helicopters would be used for wire stringing operations. Heavy-lift helicopters would be used for wreck-out, foundation installation, and transmission tower erection where terrain is steep or access is limited. Helicopter fly yards, landing zones, and refueling areas would be collocated with other temporary disturbance areas, such as the staging areas and/or conductor pulling and tensioning work areas.

Fueling for helicopters would be performed by a mobile fuel truck in accordance with National Fire Protection Association 407 standard. Best management practices would be implemented during the refueling process to prevent environmental releases. Spill Prevention, Control, and Countermeasures Plans would be developed and implemented, if required. Temporary work areas proposed for use as landing zones would be specified in a Helicopter Use Plan, which is required by the BLM.

Helicopter pilots would collaborate with construction personnel and project management teams to determine flight paths that would adhere to all safety and environmental requirements. Pre-planned flight paths would ensure consideration of flights carrying loads over energized powerlines, as well as avoiding sensitive resources such as desert Bighorn sheep and nesting birds. The helicopters would carry varying loads depending on the construction task, including employees, materials, and tools.

3.6.4.2 Blasting

In locations where conventional earthmoving equipment cannot suffice to complete the work due to subsurface rock formations, blasting may be necessary to remove rock for new transmission tower excavations and new spur roads within the ROW. Blasting is anticipated to be required at a total of 60 sites along the alignment (19 of which would be located along the California segment and 41 of which would be located along the Nevada segment).

Blasting generally involves drilling blast holes into the rock in a predefined pattern. The depth and spacing of the blast holes generally depend on the rock type and desired fragmentation. Next, explosives are placed into the blast holes, and detonators and timing devices are installed for controlled firing. There would be one blasting cap installed per each blast hole. The blast then fractures the rock into smaller pieces. The number of blasting holes per site would vary from 22 blast holes to 525 blast holes (with an average of 91 blast holes per blast site). The average blast area at each site would be approximately 8,051 square feet. (Blast volume indicates the amount of rock or soil that is intended to be broken and displaced by a blast.)

Before blasting, the construction contractor would submit a detailed site-specific blasting plan for each blast site. All blasting will comply with Occupational Safety and Health Administration, U.S. Department of Transportation (for explosives transportation), project-specific requirements, and state and local permitting requirements in California and Nevada, as well as any BLM requirements.

In coordination with the contractor, LADWP would conduct a pre-blast survey to identify sensitive receptors (e.g., existing structures and wildlife). Each blast would be planned by a blasting engineer to control vibration, flyrock, and air overpressure. A minimum exclusion safety zone would be established and monitored during the blasting operations. Only certified personnel would handle and detonate any explosives. A post-blast inspection would occur to ensure no residual hazards remain. The site-specific blasting plan may include the following measures:

- Safety Measures – traffic control, warning signs, landowner notifications, daily tailboard briefings
- Emergency Response Plan
- Timing restrictions, resource protection, restoration
- Documentation and Reporting

3.6.5 Best Management Practices

3.6.5.1 Pre-Construction Surveys and Monitoring

Pre-construction surveys would be conducted as required by agency permitting. Qualified biologists, as approved or authorized by BLM, U.S. Fish and Wildlife Service, and/or California Department of Fish and Wildlife, as applicable, would conduct pre-construction surveys and monitoring for special-status species. Special-status resource areas would be flagged so that they are avoided or appropriately managed during construction. If necessary, desert tortoise, other wildlife, and certain types of qualifying cacti and succulent plant species would be removed from the site by qualified biologists and relocated so that construction and necessary conservation work may be conducted in the work area. Species relocation areas would be established in coordination with U.S. Fish and Wildlife Service, BLM, and/or California Department of Fish and Wildlife as applicable and consistent with expected permit conditions (refer to Section 4.3, Biological Resources, of this SEIR for additional discussion on required surveys and monitoring).

3.6.5.2 Safety Training

Prior to gaining access to the ROW for ground-disturbing activities, all construction personnel would be required to participate in an environmental education program. In addition to the required environmental elements, the training will detail hazards associated with high-voltage transmission line construction and project-specific hazards to ensure the environmental support team can work safely and efficiently. Documentation of construction personnel receiving this training would be submitted by the construction contractor to LADWP. A training log shall be

maintained by the contractor. It is the responsibility of the construction contractor(s) to ensure that all construction personnel have received the required training.

In addition to project-specific environmental training, a project-specific safety program would be implemented. Safety training would be provided in accordance with Occupational Safety and Health Administration requirements. All personnel are required to follow applicable Occupational Safety and Health Administration safety regulations and company safety programs. Crews would conduct daily job safety briefings, wear appropriate personal protective equipment, and follow established protocols for energized line work. Emergency response plans, including evacuation procedures and fire response, would be reviewed with each crew. Traffic control measures would be implemented as needed to protect the public. The construction contractor would prepare a Fire Prevention Plan, which would outline fire safety protocols.

3.6.5.3 Safety Signage

Signage would be displayed along the ROW to inform the public/off-highway vehicles of ongoing construction activities. Further safety measures may be identified as part of a BLM-requested Recreation Conflict Plan, which would primarily focus on how proposed construction activities may affect off-highway vehicle events or areas. Additional signage or safety precautions may be identified as deemed necessary by the BLM.

3.6.5.4 Erosion and Dust Control Measures

The revised project would develop a Stormwater Pollution Prevention Plan and submit an application for a National Pollution Discharge Elimination System permit in each applicable state. Erosion and sediment control will be managed in accordance with the project Stormwater Pollution Prevention Plan(s). Drainage features will be integrated into the final design to minimize water ponding on access roads, whenever feasible.

As needed, a permit for fugitive dust control and a dust control operating permit would be obtained and adhered to. Dust control measures would be implemented in construction work areas to prevent fugitive dust and sediment buildup along the ROW in accordance with Mojave Desert Air Quality Management District Rule 403 (see Section 4.1, Air Quality of this SEIR for additional discussion). Water would serve as the primary method for dust suppression, although chemical stabilizers such as Gorilla-Snot may also be used where environmental constraints do not limit the dust palliatives application. Track-out (i.e., dust or sediments tracked by vehicles from unpaved roads) would be controlled to prevent dust from accumulating on paved roadways. Water for dust control would be obtained from existing water supplies and be transported to the ROW by truck. The construction contractor intends to source potable water from municipal sources located along the Interstate 15 corridor. Water would be controlled to prevent ponding and subsequent erosion of the soil.

3.6.5.5 Vegetation Management

Vegetation clearing may be necessary for work in temporary and permanent disturbance areas. The existing roads planned to access the ROW may also need side trimming and minimal vegetation removal to allow equipment to safely travel. As stated above, temporary disturbance areas would be restabilized, recontoured, and revegetated, as needed, to mimic natural conditions. In addition, as stated above, implementation of the revised project would require compliance with applicable biological resource mitigation requirements, including preconstruction surveys, avoidance and minimization measures, resource agency coordination and permitting, compensatory mitigation, and

desert native plant salvage and relocation. Please refer to Section 4.3, Biological Resources, of this SEIR for a more detailed discussion regarding mitigation requirements.

3.6.5.6 Hazardous Waste Management

The wreck out of the existing MCC-VIC Lines 1 and 2 has the potential to generate hazardous waste due to the age of existing structures and hardware, and the nature of previous construction. A hazardous material survey would be performed prior to construction to assess the composition of material to be demolished and disposed. All waste generated from the wreck of the existing transmission lines will be disposed in accordance with federal and state regulations at permitted waste facilities.

3.6.5.7 Site Security

Security measures would be tailored to project-specific risks and may include fencing, lighting, and other safeguards. Construction yard lighting, if utilized, would face downward and away from native vegetation to avoid impacts to biological resources and to avoid light pollution and would be removed at the end of construction. No lighting is proposed during operational conditions.

3.6.5.8 Right-of-Way and Line Crossings

As with the approved project, construction activities for the revised project would require crossing multiple facilities, including railroads, pipelines, highways, local roads, and other electric utilities. The construction contractor and LADWP have started outreach to these owners with the following objectives:

1. Establish appropriate points of contact
2. Introduce the project to relevant contacts
3. Determine application requirements and deliverables to support the permitting submissions
4. Submit application packages and work through the process to obtain final approval

The project team would have regular discussions with the owners of facilities to be crossed by the project. Amendments to current land and crossing agreements may be necessary due to the proposed construction activities as well as the change in the capacity of MCC-VIC Lines 1 and 2. New crossing agreements may also be required due to the partial relocation of MCC-VIC Line 1 within the existing ROW. Table 3-4 shows the anticipated line crossings, their approximate locations based on transmission tower numbers, and the owner of the facility to be crossed.

Table 3-4. Anticipated Line Crossings

Crossing Type	MCC-VIC Line 1	MCC-VIC Line 2	Facility Owner
Transmission Line Crossing	1-2	1-2	SCE
Transmission Line Crossing	1-5		SCE
Transmission Line Crossing	—	1-5	SCE
Transmission Line Crossing	6-5	—	SCE
Telephone Lines	—	18-2	AT&T
Telephone Lines	18-3	—	AT&T
Transmission Line Crossing	—	23-2	SCE

Table 3-4. Anticipated Line Crossings

Crossing Type	MCC-VIC Line 1	MCC-VIC Line 2	Facility Owner
Transmission Line Crossing	—	23-3	SCE
Transmission Line Crossing	—	23-5	SCE
Transmission Line Crossing	24-1	—	SCE
Transmission Line Crossing	24-2	—	SCE
Railroad Crossing	25-1	24-2	Union Pacific
Pipeline Crossing	25-2	24-3	CalNev (owned by Kinder Morgan)
Electric Distribution - 2 lines	26-2	25-4	Unknown
I-15 Crossing	26-2	25-4	State of Nevada Department of Highway
Railroad Crossing	26-2	25-4	Brightline West
Pipeline Crossing	26-3	25-5	Southwest Gas Corporation
Transmission Line Crossing	26-4	26-1	Unknown
Pipeline Crossing	27-5	26-7	Kern River Gas Pipeline
Pipeline Crossing	37-5	72-5	Kern River Gas Pipeline
Pipeline Crossing	38-2	37-4	Kern River Gas Pipeline
Pipeline Crossing	41-1	40-2	Kern River Gas Pipeline
Pipeline Crossing	56-5	56-1	Kern River Gas Pipeline
Road Crossing	72-1	71-2	Death Valley Rd (127)
Pipeline Crossing	74-1	73-3	Kern River Gas Pipeline
Road Crossing	74-2	73-5	Silverlake Rd
Pipeline Crossing	84-3	83-4	Kern River Gas Pipeline
Pipeline Crossing	84-4	83-5	Kern River Gas Pipeline
Pipeline Crossing	85-4	84-5	Kern River Gas Pipeline
Distribution Line Crossing	104-1	103-2	SCE
Distribution Line Crossing	104-6	104-1	SCE
Distribution Line Crossing	113-4	112-4	SCE
Distribution Line Crossing	114-1	113-3	SCE
Distribution Line Crossing	115-3	114-4	Unknown
Distribution Line Crossing	115-3	114-5	Unknown
Distribution Line Crossing	116-4	115-6	IPA
I-15 Crossing	121-2	120-3	Caltrans
Railroad Crossing	121-2	120-3	Brightline West
Pipeline Crossing	121-3	120-5	Kern River Gas Pipeline
Road Crossing	121-4	120-5	Yermo Rd.
Underground cable	121-4	120-5	Continental Telephone Company (owned by Verizon)
Pipeline Crossing	121-4	120-5	CalNev (owned by Kinder Morgan)
Railroad Crossing	121-4	120-5	Union Pacific
Distribution Line Crossing	122-3	121-2	SCE
Road Crossing	122-3	121-4	Minneola Rd.
Pipeline Crossing	122-3	121-3	Kern River Gas Pipeline

Table 3-4. Anticipated Line Crossings

Crossing Type	MCC-VIC Line 1	MCC-VIC Line 2	Facility Owner
Pipeline Crossing	125-5	125-1	Southwest Gas Corporation
Pipeline Crossing	126-1	125-2	Southwest Gas Corporation
Distribution Line Crossing	126-3	125-4	SCE
Telephone Lines	126-5	126-1	Unknown
Distribution Line Crossing	126-5	125-6	SCE
Road Crossing	126-5	126-1	Dagget Leasing Corporation (Sunray Energy Inc)/ Sunray Ln
Highway Crossing	127-4	126-4	National Trails Hwy
Railroad Crossing	127-4	126-4	BNSF
Railroad Crossing	127-4	126-4	BNSF
Distribution Line Crossing	128-3	127-3	SCE
Highway Crossing	128-3	127-3	National Trails Hwy
Pipeline Crossing	128-3	127-3	Kinder Morgan Inc (Mojave Pipeline Co.)
Pipeline Crossing	128-3	127-3	Pacific Gas & Electric
I-40 Crossing	128-5	127-5	Caltrans
Road Crossing	144-4	143-6	Stoddard Wells Rd
Transmission Line Crossing	147-4	—	SCE
Transmission Line Crossing	151-4	150-5	IPA
I-15 Crossing	154-1	153-2	Caltrans
Railroad Crossing	154-1	153-2	Brightline West
Road Crossing	154-4	153-4	Bell Mountain Rd/Powerline Rd
Distribution Line Crossing	161-3	160-4	SCE
Railroad Crossing	162-1	162-2	BNSF
Railroad Crossing	162-1	162-2	BNSF
Distribution Line Crossing	162-2	161-3	SCE
Pipeline Crossing	—	161-3	Southwest Gas Corporation

Source: LADWP 2025.

Notes: SCE = Southern California Edison; IPA = Intermountain Power Agency; Caltrans = California Department of Transportation; BNSF = Burlington Northern Santa Fe railroad.

3.6.5.9 Induced Currents on Adjacent Facilities

The existing MCC-VIC Lines 1 and 2 are located within an energized extra-high voltage transmission corridor with other extra-high voltage transmission lines. Because of the proximity of all these lines, there is a potential for induction while working within this corridor. Safety precautions will be taken to mitigate this safety issue, which can include but are not limited to parallel circuit outages (clearances) and site-specific grounding methods to create equipotential zones during construction operations.

3.7 Project Operations

Ongoing operation and maintenance activities would be necessary to ensure reliable service, as well as the safety of utility workers and the public following the completion of construction activities. The revised project and transmission line modifications are not expected to introduce any new or additional maintenance requirements for MCC-VIC Lines 1 and 2. Overall, operation and maintenance activities for MCC-VIC Lines 1 and 2 would remain similar to those currently occurring and would include access and spur road maintenance, transmission line inspections, transmission tower checks, insulator replacement, maintaining restored areas, and hardware inspections and replacement.

3.8 Revised Project and Approved Project Comparison Summary

The revised project would retain the same overall purpose, project location, and two-line configuration as the approved project but would materially increase the scale and methods of construction. Whereas the approved project relied on a mix of transmission tower retrofits and selective transmission tower replacements, the revised project proposes a full “wreck-out and replace” program for approximately 1,750 transmission towers. The revised project proposes to shift and offset the new transmission tower locations, which was not part of the approved project’s largely on-centerline work. These changes would increase construction intensity and may necessitate new access in localized areas while still emphasizing use of the existing road network and previously disturbed sites. Additionally, while the approved project involved partial replacement of the existing conductors, the revised project would involve stringing new conductors along the entirety of both lines.

Construction footprints and staging logistics are correspondingly larger under the revised project. The approved project anticipated typical transmission tower work pads of approximately 60-by-60 feet and a total construction disturbance on the order of approximately 1,437 acres, including two approximately 10-acre laydown yards and multiple smaller staging sites. By contrast, the revised project anticipates approximately 250-by-250-foot work areas at each transmission tower (surrounding a similar 60-by-60-foot permanent footprint) supported by temporary material show-up yards and staging areas. In total, as shown above in Table 3-3, the revised project’s construction disturbance area (including temporary and permanent disturbance areas) would be approximately 5,951 acres, representing an increase of approximately 4,514 acres compared to the approved project.

The approved project would have upgraded the capacities of the existing MCC-VIC Lines 1 and 2 from 500 kV to 570 kV. The revised project would upgrade the capacities of the existing lines from 500 kV to a maximum of 575 kV. As such, the revised project would lead to slightly greater electrical transmission capacity for the ROW.

3.9 Intended Uses of this SEIR

An EIR is a public document used by a public agency to analyze the potential environmental effects of a project and to disclose possible ways to reduce or avoid potentially significant environmental impacts, including alternatives to the proposed project. As an informational document, an EIR does not make recommendations for or against approving a project. The main purpose of an EIR is to inform public agency decision makers and the public about potential environmental impacts of the project (CEQA Guidelines Section 15121). This SEIR will be used by LADWP, as the lead agency under CEQA, in making decisions with regard to the revised project described above and the

related approvals described below in Section 3.10, Required Approvals. Please refer to Chapter 1, Introduction for a more detailed discussion on the specific requirements for an SEIR.

3.10 Required Approvals

LADWP Permits and Approvals

LADWP is the lead agency for the proposed project pursuant to CEQA Guidelines Section 15367. The proposed project would require the following discretionary approval from LADWP:

- Approval of the revised project by the City of Los Angeles Board of Water and Power Commissioners
- Certification of this SEIR by the City of Los Angeles Board of Water and Power Commissioners with a finding that it complies with CEQA

Discretionary Approvals and Review from Other Agencies

The below-listed agencies may issue discretionary permits for the revised project.

- Bureau of Land Management (FLPMA Title V Right-of-Way Grant Amendment)
- U.S. Fish and Wildlife Service (Section 7 of Federal Endangered Species Act)
- U.S. Army Corps of Engineers (Section 404 Nationwide Permit)
- California Department of Fish and Wildlife (Lake and Streambed Alteration Agreement, Incidental Take Permit)
- California State Lands Commission (encroachment permit or right-of-way amendment)
- Regional Water Quality Control Board (Section 401 Water Quality Certification and Waste Discharge Requirements)
- Mojave Desert Air Quality Management District (permits for certain types of construction equipment and approval of a Dust Control Plan)

Other Approvals and Review

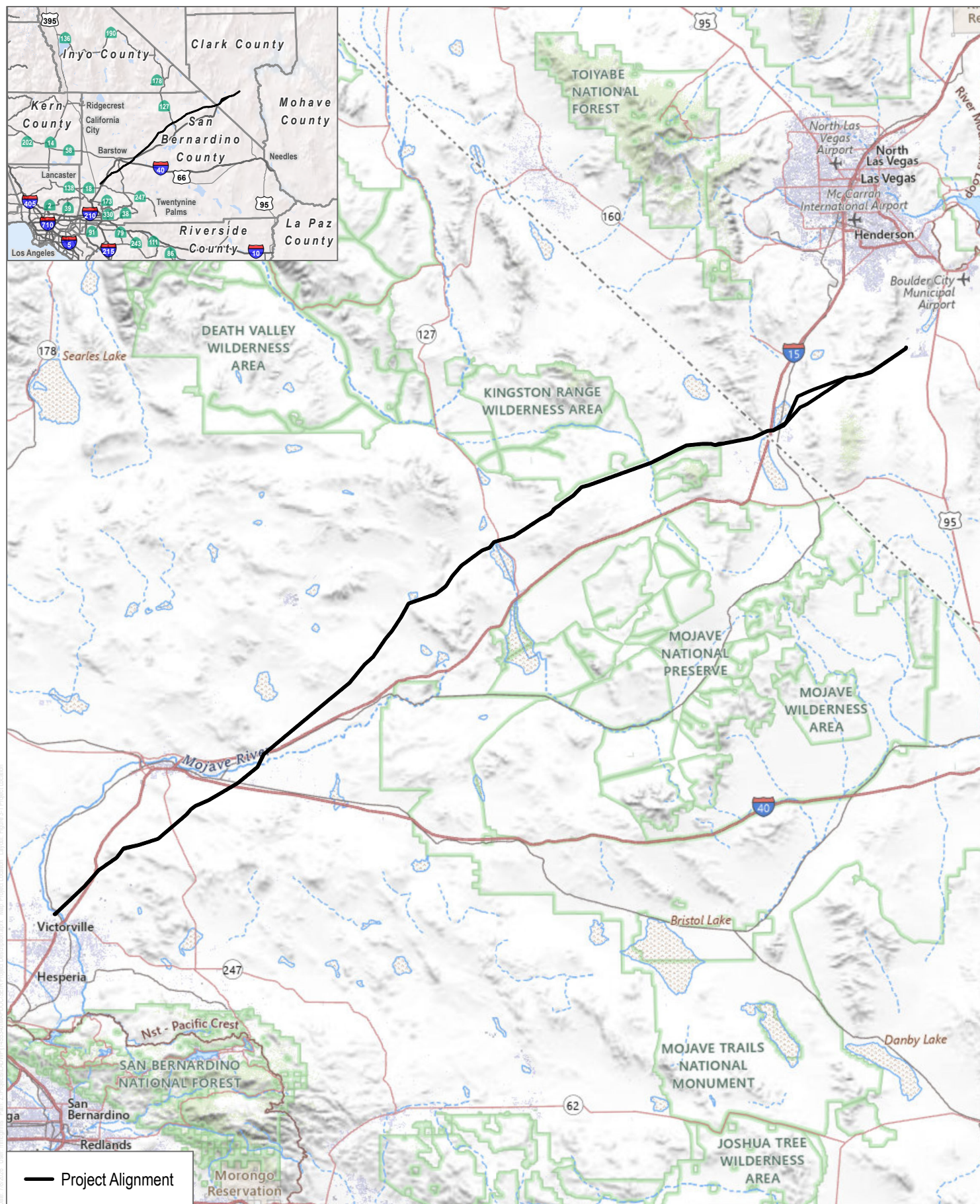
Approvals, coordination, and/or notifications for other agencies and entities may also be required and are listed below. These permits are anticipated to be administrative in nature.

- AT&T (crossing agreements/permits)
- Brightline West Railroad (crossing agreements/permits)
- Burlington Northern Santa Fe railroad (crossing agreements/permits)
- California Department of Transportation (crossing agreements/permits and other transportation permits, such as for oversized vehicles on state highways)
- City of Victorville (encroachment and grading permits)
- County of San Bernadino (temporary use, encroachment, grading, and tree or plant removal permits)
- Dagget Leasing Corporation (crossing agreements/permits)
- Department of Defense (notifications and coordination)
- Federal Aviation Administration (notifications and coordination)

- Intermountain Power Agency (crossing agreements/permits)
- Kern River Gas Pipeline (crossing agreements/permits)
- Kinder Morgan (crossing agreements/permits)
- Pacific Gas & Electric (crossing agreements/permits)
- Southern California Edison (crossing agreements/permits)
- Southwest Gas Corporation (crossing agreements/permits)
- State Water Resources Control Board (Notice of Intent to comply with the General Construction Activity National Pollutant Discharge Elimination System Permit, Order No. 2009-0009-DWQ, NPDES No. CAS000002)
- Union Pacific Railroad (crossing agreements/permits)
- Verizon (crossing agreements/permits)

Related Environmental Review and Consultation Requirements

- Assembly Bill 52 Tribal Consultation: Pursuant to Assembly Bill 52, LADWP sent notification letters to tribal groups that are known to be traditionally or culturally affiliated with the geographic area of the revised project. Several tribes responded requesting consultation. Tribal correspondence and the results of consultation are contained in Section 3.13 of this EIR.
- Review under the National Environmental Policy Act: the revised project's BLM permit, as identified above, requires review under National Environmental Policy Act, with BLM as lead agency. A separate environmental document is thus being prepared by BLM to comply with National Environmental Policy Act.
- Review and coordination with Nevada state and local agencies: for the Nevada portion of the alignment, revised project construction may require permits, approvals, and coordination with Nevada agencies, such as the Nevada Division of Environmental Protection and Nevada Department of Wildlife.



SOURCE: USGS National Map 2026



FIGURE 3-1

Project Location

INTENTIONALLY LEFT BLANK



SOURCE: County of San Bernardino 2024



— Project Alignment

FIGURE 3-2A
Project Alignment

INTENTIONALLY LEFT BLANK



SOURCE: County of San Bernardino 2024



— Project Alignment

FIGURE 3-2B
Project Alignment

INTENTIONALLY LEFT BLANK

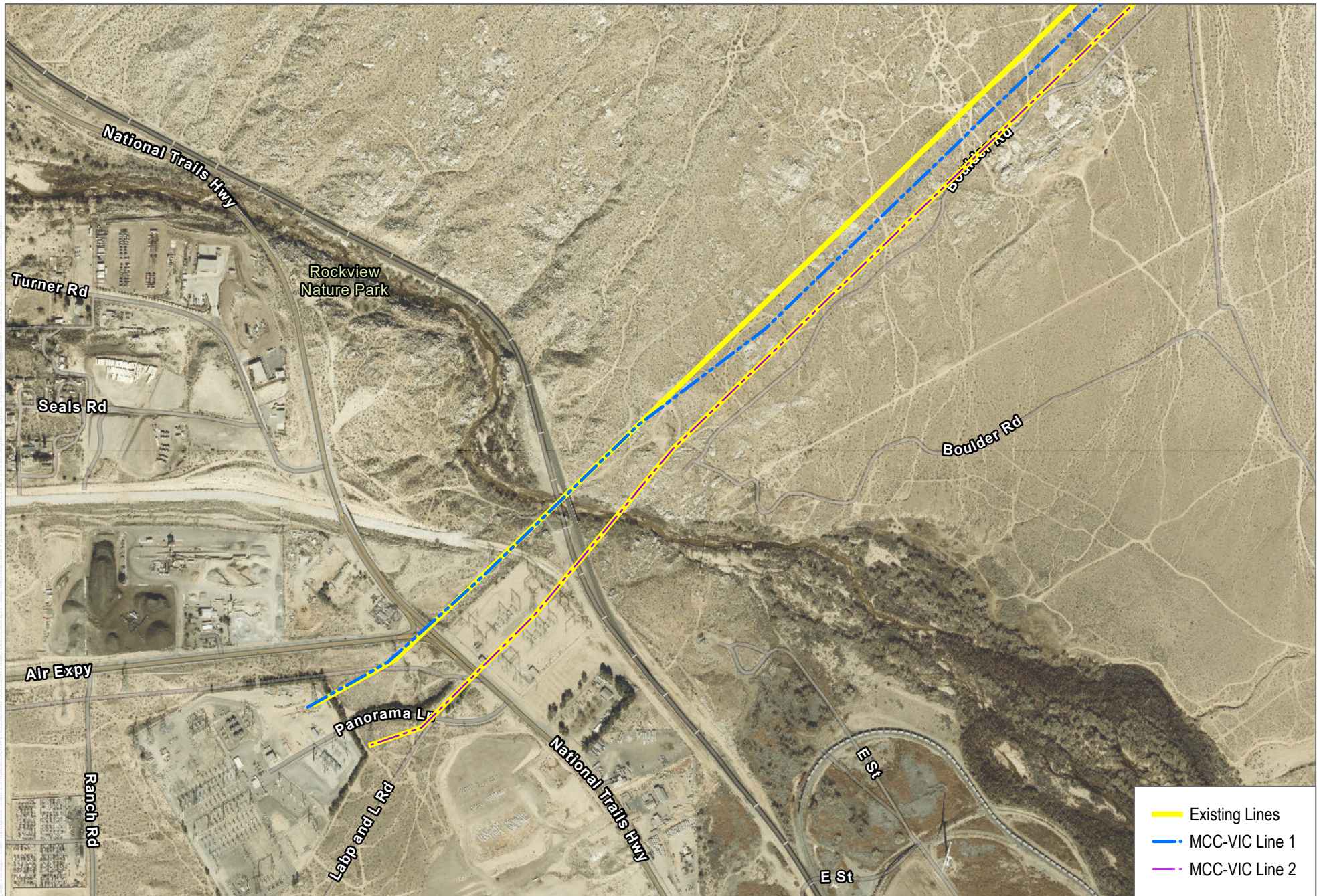


SOURCE: County of San Bernardino 2024



FIGURE 3-2C
Project Alignment

INTENTIONALLY LEFT BLANK



SOURCE: County of San Bernardino 2024

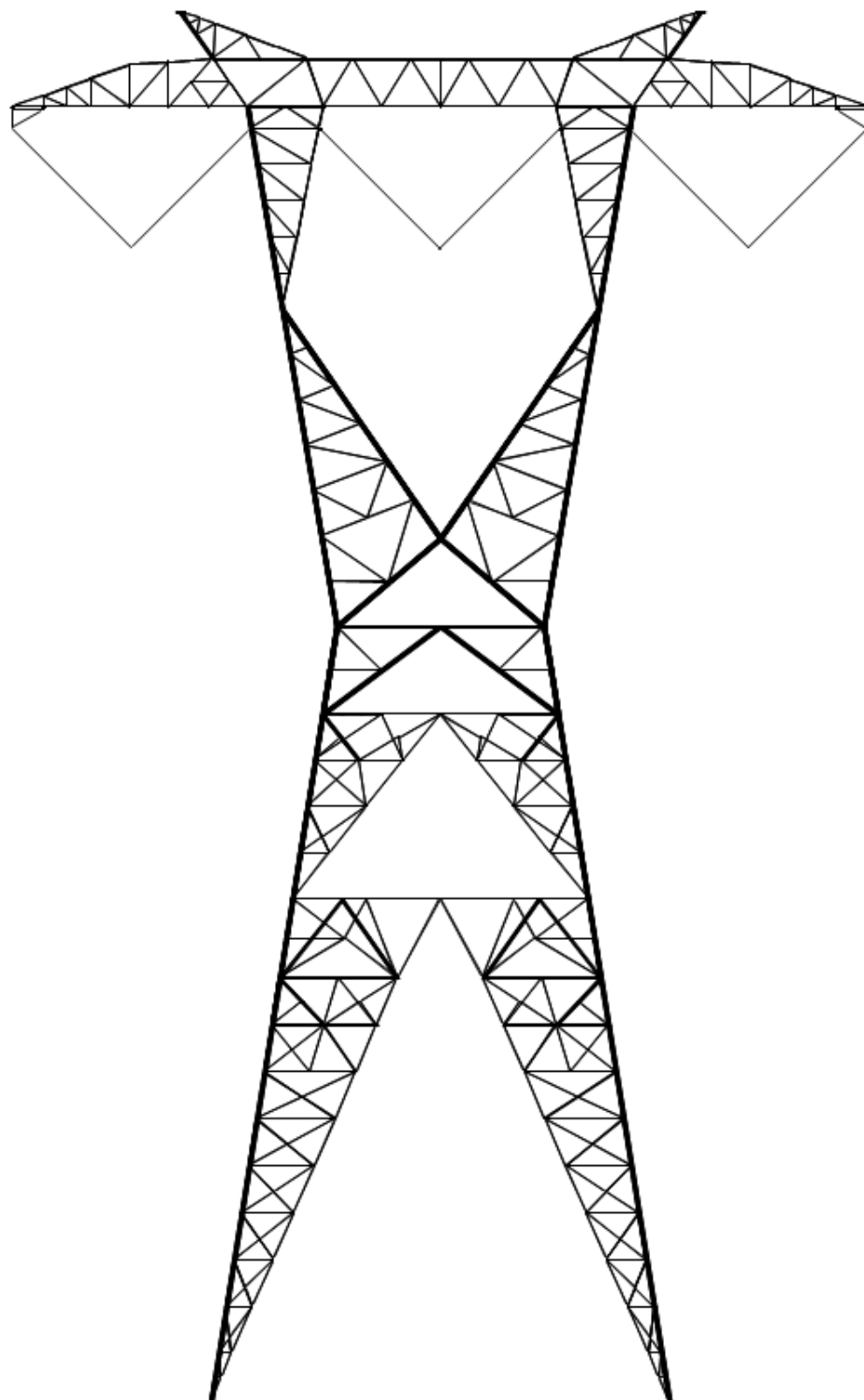


FIGURE 3.3
Representative Portion of MCC-VIC Line 1 (Shifted Segment)

Revised McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project

INTENTIONALLY LEFT BLANK

TANGENT TOWER

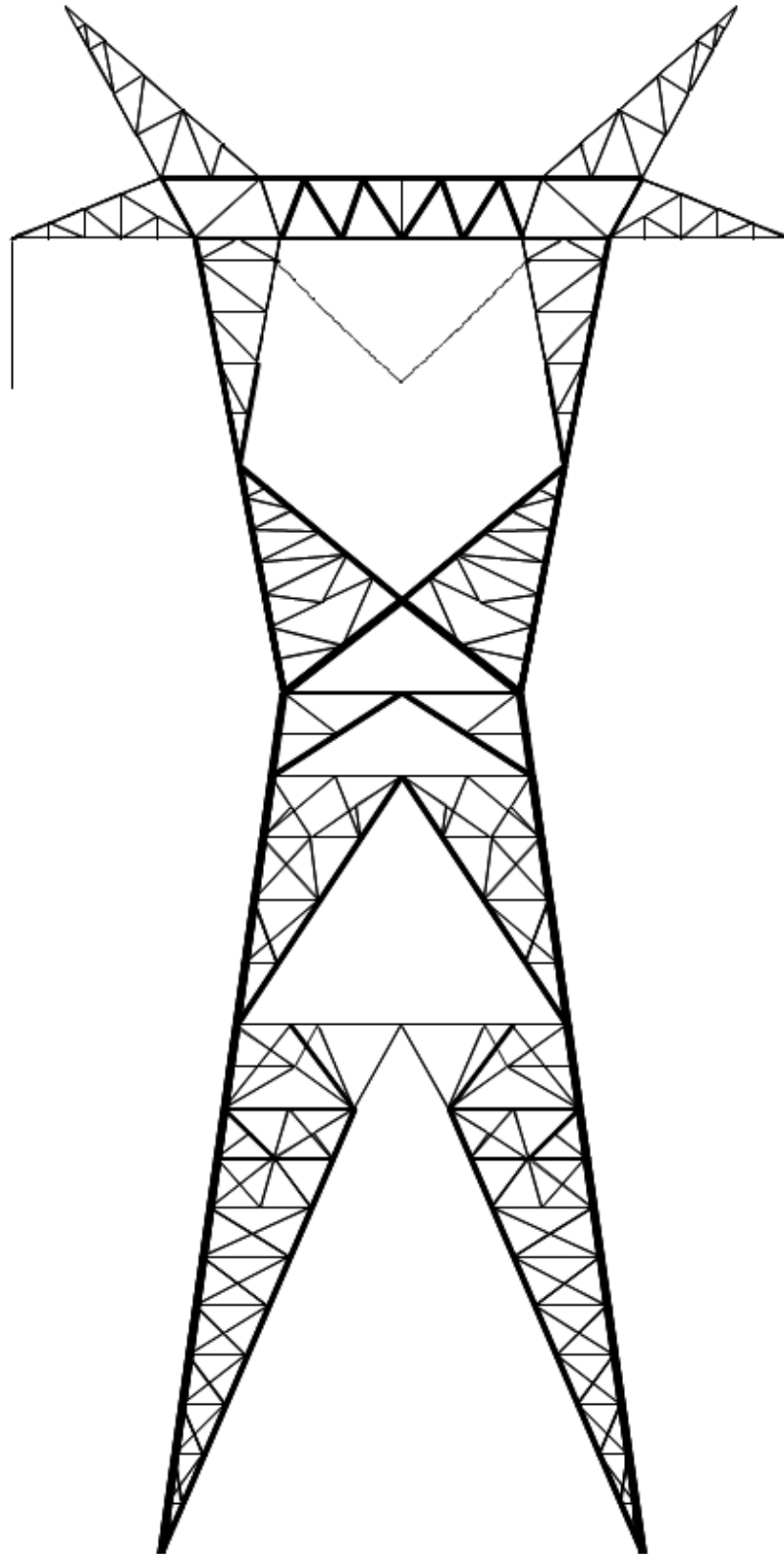


SOURCE: Quanta Services Company, 2026

FIGURE 3-4A

INTENTIONALLY LEFT BLANK

DEAD END TOWER

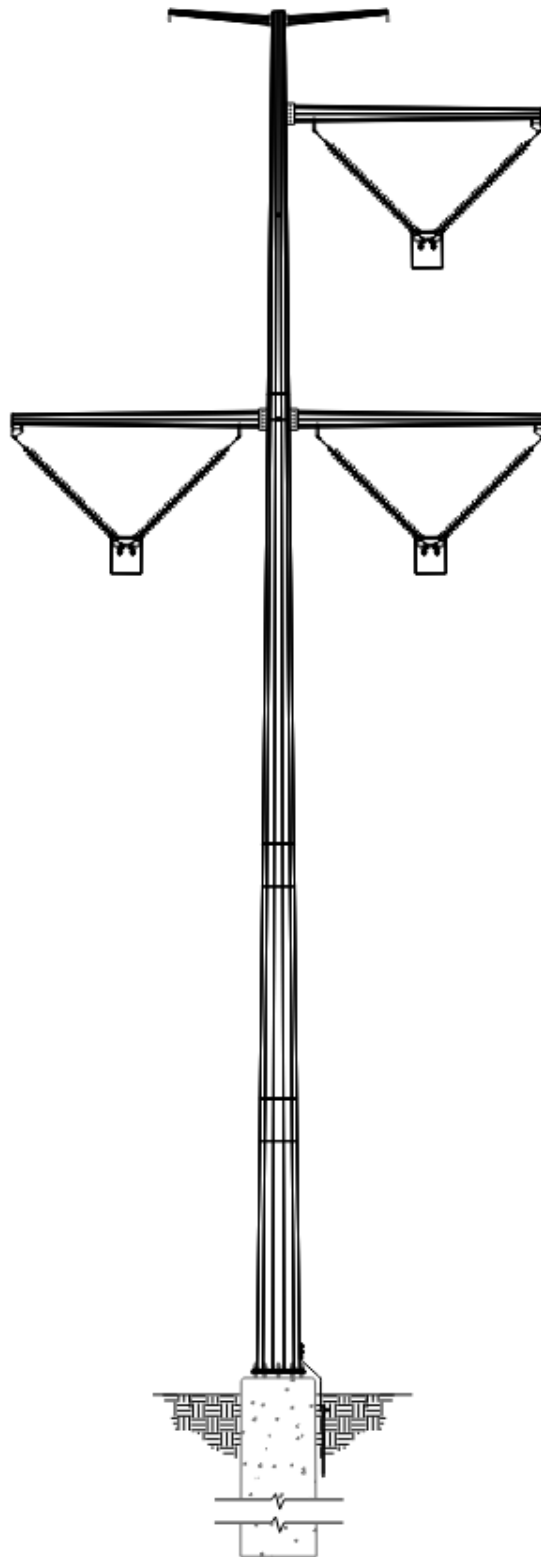


SOURCE: Quanta Services Company, 2026

FIGURE 3-4B

INTENTIONALLY LEFT BLANK

TRANSPOSITION MONOPOLE



SOURCE: Quanta Services Company, 2026

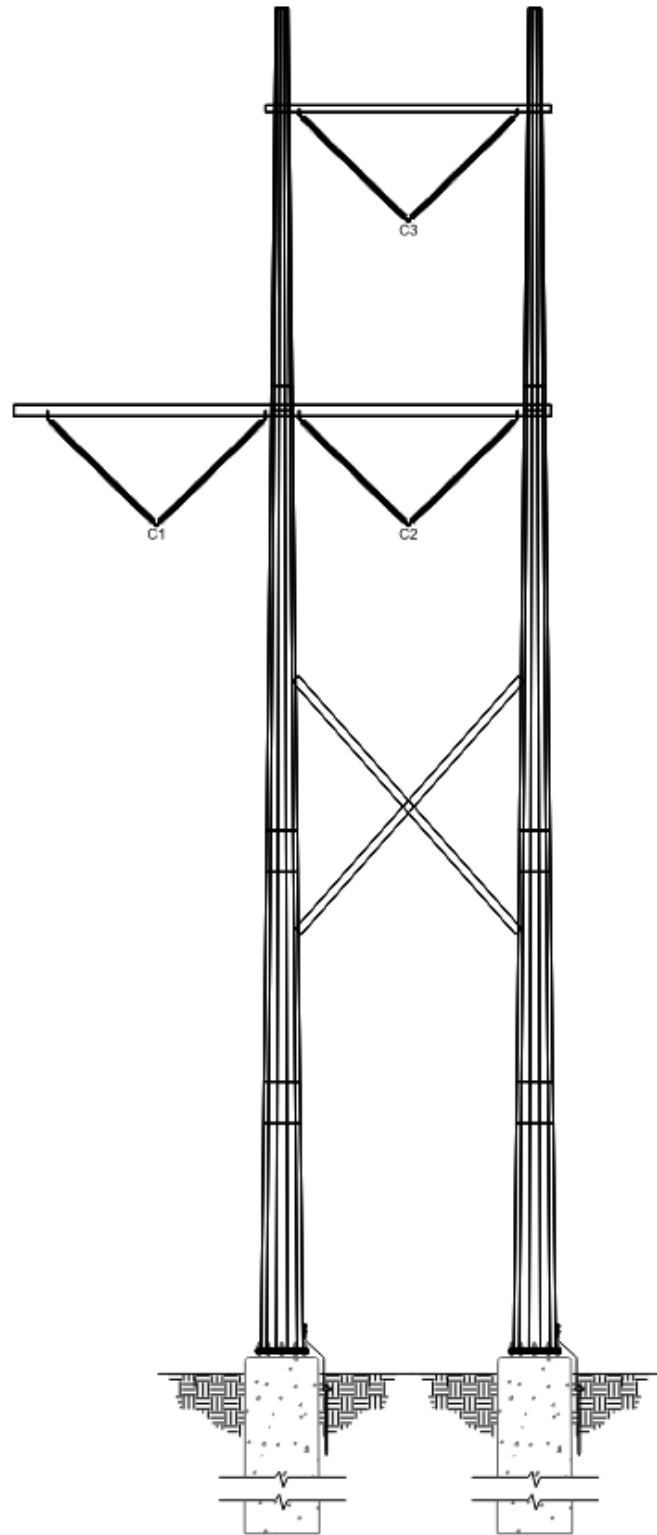
FIGURE 3-4C

Transmission Tower Structures

Revised McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project

INTENTIONALLY LEFT BLANK

TRANSPPOSITION H-FRAME



SOURCE: Quanta Services Company, 2026

FIGURE 3-4D

Transmission Tower Structures

Revised McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project

INTENTIONALLY LEFT BLANK

4 Environmental Analysis

Chapter 4, Environmental Analysis, includes the following sections, which contain an analysis, by issue area, of the environmental effects due to implementation of the revised McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (revised project) compared to the previously approved McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (approved project) and identifies feasible mitigation measures to address potentially significant environmental impacts. The environmental issue areas analyzed in this chapter are as follows:

- Aesthetics (Section 4.1)¹
- Air Quality (Section 4.2)
- Biological Resources (Section 4.3)
- Cultural Resources (Section 4.4)
- Noise (Section 4.5)²
- Paleontological Resources (Section 4.6)
- Tribal Cultural Resources (Section 4.7)

The discussions of each environmental issue area include the following subsections:

- Existing Conditions
- Regulatory Requirements
- Thresholds of Significance
- Impacts Analysis
- Mitigation Measures
- Significance Conclusion
- Cumulative Effects
- References

As stated in the Notice of Preparation (see Appendix A1), it was determined that the approved project would have either no impact or a less-than-significant impact on several environmental issue areas. These issue areas are not included as stand-alone sections in this Draft Subsequent Environmental Impact Report (SEIR), but are discussed further in Chapter 5, Other California Environmental Quality Act (CEQA) Considerations, under Section 5.1, Effects Found Not to be Significant.

- Aesthetics (Section 5.1.1)
- Agriculture and Forestry Resources (Section 5.1.2)
- Energy (Section 5.1.3)

¹ The discussion and analysis provided in Section 4.1, Aesthetics, focuses on potential impacts to visual resources within a state scenic highway. All other aesthetics thresholds required pursuant to Appendix G of the California Environmental Quality Act Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, Section 15000 et seq.) are addressed in Section 5.1.1, Aesthetics, in Chapter 5, Other California Environmental Quality Act Considerations, of this Draft SEIR.

² The discussion and analysis provided in Section 4.5, Noise, addresses all thresholds required pursuant to Appendix G of the California Environmental Quality Act Guidelines, except for the threshold related to airport noise. Potential impacts related to airport noise are addressed in Section 5.1.10, Noise, in Chapter 5, Other California Environmental Quality Act Considerations, of this Draft SEIR.

- Geology and Soils (Section 5.1.4)
- Greenhouse Gas Emissions (Section 5.1.5)
- Hazards and Hazardous Materials (Section 5.1.6)
- Hydrology and Water Quality (Section 5.1.7)
- Land Use and Planning (Section 5.1.8)
- Mineral Resources (Section 5.1.9)
- Noise (Section 5.1.10)
- Population and Housing (Section 5.1.11)
- Public Services (Section 5.1.12)
- Recreation (Section 5.1.13)
- Transportation (Section 5.1.14)
- Utilities and Service Systems (5.1.15)
- Wildfire (5.1.16)

Technical Studies

Technical studies were prepared to accurately analyze air quality, biological resources, cultural resources, and paleontological resources, which were then used in the preparation of this SEIR. These documents are identified in the discussions for the individual environmental issues and included as technical appendices to the SEIR. Technical studies will be available on the Los Angeles Department of Water and Power website: <http://www.ladwp.com/CEQA>. Hard copies of the technical studies can be made available upon request at the Los Angeles Department of Water and Power Corporate Environmental Affairs office.

Cumulative Effects Analysis Methodology

The CEQA Guidelines Section 15130 requires that a project's cumulative impacts be discussed when the incremental effects of the project are cumulatively considerable. According to CEQA Guidelines Section 15065(a)(3), the term cumulatively considerable means "that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." Specifically, CEQA Guidelines Section 15355 defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." When addressing cumulative impacts, CEQA Guidelines Section 15130(b) notes that the elements necessary to provide an adequate discussion of significant cumulative impacts encompass either:

- A. A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or
- B. A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

The cumulative impact analyses under each environmental issue in Chapter 4 of this Draft SEIR primarily use the “list” method; however, plan projections and thresholds are also considered, where applicable (e.g., when analyzing potential cumulative air quality impacts).

Section 15130(b)(3) of the CEQA Guidelines states that “lead agencies shall define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used.” There are environmental issues whose relevant geographic scope for purposes of cumulative impact analysis will differ depending on topic-specific factors, which may be defined by local, regional, or state agency jurisdiction or by other environmental factors. The geographic scope of cumulative impacts for each environmental topic is described in the cumulative impact analyses of Sections 4.1 through 4.6 of this Draft SEIR and summarized in Table 4-1, Geographic Area for Cumulative Impacts, below.

The analyses in Sections 4.1 through 4.6 of this Draft SEIR address whether impacts of the revised project would (1) contribute considerably to an existing/anticipated cumulatively significant effect or (2) cause a new cumulatively significant impact. The Draft SEIR also examines “reasonable options for mitigating or avoiding any significant cumulative effects of a proposed project” (CEQA Guidelines Sections 15130[a][3] and 15130[b][5]).

Table 4-1 describes the geographic scope of cumulative impact analysis for each environmental resource category.

Table 4-1. Geographic Area for Cumulative Impacts

Environmental Resource		Applicable Geographic Area
Aesthetics (Scenic Highways)		Immediate Vicinity
Air Quality	Air Quality Plans	Air Basin
	Toxic Air Contaminants; Sensitive Receptors; Odors	Immediate Vicinity
	Construction/Operational Sources	Air Basin
Biological Resources		Regional, Local, Immediate Vicinity
Cultural Resources		Site Specific
Paleontological Resources		Site Specific
Tribal Cultural Resources		Site Specific

The cumulative projects are listed in Table 4-2, List of Cumulative Projects. Although many of the projects listed are linear transportation or utility projects (extending for tens or even hundreds of miles), at least a portion of each of the projects listed come within approximately 2 miles of the project alignment.

Table 4-2. List of Cumulative Projects

Cumulative Project Name	Location	Land Use / Project Type	Size	Unit	Status
Regional					
Brightline West (SCH No. 2024010176)	Las Vegas Nevada to Rancho Cucamonga, California with most of the alignment within the median of I-15	Transportation / High-Speed Passenger Rail	218	miles	Approved

Table 4-2. List of Cumulative Projects

Cumulative Project Name	Location	Land Use / Project Type	Size	Unit	Status
Trout Canyon-Lugo 500 Kilovolt Transmission Line	San Bernadino County, California to Clark County, Nevada	Energy / Transmission Line	180	Miles	Early planning
San Bernadino County (Unincorporated)					
Path 46 Transmission Line Clearance Project (SCH No. 2019099105)	San Bernardino County	Energy / Transmission Line	160	miles	Under Construction
Soda Mountain Solar (CEC Docket No. 24-OPT-03)	San Bernardino County	Energy / Solar Facility	2,670	acres	Under Review
Cadez Real Estate Water Pipeline (CACA105844645)*	San Bernadino County	Utility / Water Pipeline	53	miles	Authorized ROW
Cadez Real Estate Natural Gas Pipeline (CACA105847281)*	San Bernadino County	Energy / Natural Gas Pipeline	59	miles	Authorized ROW
AT&T Fiber-Optic Line (CACA105945028)*	San Bernadino County	Telecommunications / Fiber-Optic Line	84	miles	Authorized ROW
Ivanpah Solar Electric Generating System and Common Logistics Area (CACA106032538)*	San Bernadino County	Energy / Solar Facility	314	acres	Authorized ROW
Southern California Edison Turquoise Peak Transmission Line (CACA106035695)*	San Bernadino County	Energy / Transmission Line	16	miles	Authorized ROW
Colorado Interstate Gas Company Pipeline Conversion (CACA106118303) *	San Bernadino County	Energy / Oil and Natural Gas Pipeline	432	acres	Authorized ROW
Level 3 Communications Fiber-Optic Line (CACA106140111) *	San Bernadino County	Telecommunications / Fiber-Optic Line	184	acres	Pending ROW
City of Barstow					
Barstow International Gateway Specific Plan (SCH No. 2024020501)	City of Barstow and SOI within San Bernadino County	Transportation and Energy / Rail Yard, Warehouse, and Solar Farm	4,300	acres	Under Review
Town of Apple Valley					
Apple Valley 84 (SCH No. 2025100104)	Vicinity of Stoddard Wells Road and Grasshopper Road	Industrial / Warehouse and Fulfillment Center	93	acres	Under Review

Table 4-2. List of Cumulative Projects

Cumulative Project Name	Location	Land Use / Project Type	Size	Unit	Status
Apple Valley 143 (SCH No. 2022070019)	Northeast quadrant of I-15 and Stoddard Wells Road	Industrial / Warehouse and Fulfillment Center	143	acres	Approved

Source: BLM 2026; CAISO 2026; CEC 2026; LADWP 2019; LCI 2026a, 2026b.

Notes: CEC = California Energy Commission; ROW = right-of-way; SCH = State Clearinghouse; SOI = sphere of influence; I- = interstate.

* Bureau of Land Management Serial Number

References

Brightline West. 2026. "Project Overview." Accessed February 2026. <https://www.brightlinewest.com/overview/project>.

BLM (Bureau of Land Management). 2026. Case Recordation Serial Register Page (CACA105844645, CACA105847281, CACA105945028, CACA106032538, CACA106035695, CACA106118303, and CACA106140111). Run Date February 5, 2026.

CAISO (California Independent System Operator). 2026. Appendix I: Description and Functional Specifications for Transmission Facilities Eligible for Competitive Solicitation. 2025–2026 *Transmission Plan*. Accessed May 2026. Accessed May 2026. <https://www.caiso.com/documents/board-approved-2025-2026-transmission-plan-appendix-i-competitive-solicitation.pdf>.

CEC (California Energy Commission). 2026. "Soda Mountain Solar Project." Accessed February 2026. <https://www.energy.ca.gov/powerplant/solar-photovoltaic-pv-battery-energy-storage/soda-mountain-solar-project>.

LADWP (Los Angeles Department of Water and Power). 2019. *Initial Study/Mitigated Negative Declaration for the Path 46 Transmission Line Clearance Project*. July 2019. Accessed February 2026. <https://files.ceqanet.lci.ca.gov/255985-2/attachment/gOGvEFKG8DEjb8f7u0E9w3Fstfh7JVtbLa7xzkiY4NmRDuXPKHuJ8OfxqXdnpECeTNPBsZHwl1qFU-Kk0>.

LCI (Office of Land Use and Climate Innovation). 2026a. "Query the CEQAnet Database" (City: Barstow). Accessed February 2026. <https://ceqanet.lci.ca.gov/Search?City=Barstow>.

LCI. 2026b. "Query the CEQAnet Database" (City: Apple Valley). Accessed February 2026. <https://ceqanet.lci.ca.gov/Search?City=Apple+Valley>.

INTENTIONALLY LEFT BLANK

4.1 Aesthetics

This section of the Subsequent Environmental Impact Report (SEIR) describes the existing conditions related to scenic resources within a State Scenic Highway for the revised McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (revised project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the revised project, as applicable. Potential impacts of the revised project are discussed in relation to the previously approved McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (approved project), which was analyzed in the certified 2024 Environmental Impact Report (2024 EIR). Resources relied upon in this section are listed in Section 4.1.8, References.

At the time of the 2024 EIR, State Route (SR) 247 in the vicinity of the project alignment was an eligible State Scenic Highway without an approved corridor protection program (see Section 4.1.2, Regulatory Setting, for additional details on the California Scenic Highway Program). The nearest designated State Scenic Highway was approximately 20 miles south of the project alignment. For this reason, the potential to substantially damage scenic resources within a State Scenic Highway was addressed in the “Effects Found Not to be Significant” section in Chapter 5, CEQA Considerations, of the 2024 EIR. However, SR-247 became an officially designated State Scenic Highway in September 2025. Thus, the project alignment now crosses directly over a segment of a designated State Scenic Highway. There is now potential for the revised project to substantially damage scenic resources within a designated State Scenic Highway corridor. As discussed below in Section 4.1.3, Thresholds of Significance, the other aesthetics checklist questions required pursuant to Appendix G of the California Environmental Quality Act (CEQA) Guidelines are addressed in Section 5.1.1, Aesthetics, in Chapter 5, Other CEQA Considerations, of this Draft SEIR. The existing conditions, regulatory setting, and analysis set forth in this chapter are thus focused on scenic resources within a State Scenic Highway.

4.1.1 Existing Conditions

4.1.1.1 State Scenic Highways

State Scenic Highways are recognized under the California Streets and Highways Code. The California Department of Transportation (Caltrans) administers the California Scenic Highway Program, intended to protect and enhance California's natural scenic beauty, as well as safeguard the social and economic values provided by the state's highways (Caltrans 2026). The nearest designated State Scenic Highway to the project alignment is SR-247, which in September 2025 was designated by Caltrans as a State Scenic Highway from just south of the City of Barstow to Lucerne Valley near its intersection with SR-18. The project alignment crosses the designated scenic segment of SR-247 approximately 8 miles south of the City of Barstow and in the Stoddard Valley area. See Figure 3.2, Project Alignment in Chapter 3, Project Description of this SEIR that shows the project alignment crossing of SR-247. The next closest designated State Scenic Highway is SR-38, part of the Rim of the World Scenic Byway in southwestern San Bernardino County (near Big Bear). Due to distance and the presence of intervening vertical features, the project alignment is not visible from SR-38.

While there are no other designated State Scenic Highways within view of the project alignment, there are a number of eligible State Scenic Highways, including: Interstate (I)-40 (from SR-247 east to the California/Arizona state border), I-15 (from City of Barstow east to SR-127), and SR-127 (from SR-15 north to the San Bernardino County-Inyo County border). Unlike designated State Scenic Highways, eligible State Scenic Highways are not subject to a

scenic highway corridor protection program (see Section 4.1.2, Regulatory Setting, for additional details on the California Scenic Highway Program).

In addition to being an eligible State Scenic Highway, I-40 (part of the historic Route 66) is a National Scenic Byway where it crosses the project alignment approximately 10 miles southeast of the City of Barstow (U.S. Department of Transportation 2026a). However, National Scenic Byways are not part of the California Scenic Highway Program. Thus, the potential to substantially degrade scenic resources within the I-40 corridor is not specifically addressed in this analysis.

Visual Character

The area surrounding the SR-247 State Scenic Highway in the vicinity of the project alignment occurs within the Mojave Desert and is characterized by sparse pockets of development with expansive natural open space vistas. Existing built environment features include the existing McCullough-Victorville Lines 1 and 2 (MCC-VIC Lines 1 and 2), both of which are supported by tall steel lattice towers approximately 100 feet in height each, as well as the Mead-Victorville lines and associated steel lattice towers, which run adjacent and to the south of the project alignment where it crosses SR-247. In addition to utility infrastructure, there are residences and disturbed roadside areas adjacent and to the north of where the project alignment crosses SR-247. The residential area also supports several stands of mature, ornamental trees. However, in general, the scenic quality surrounding the project alignment's crossing with SR-247 is strongly shaped by natural vistas characterized by long sightlines and low vegetation height. Together, these features emphasize the region's sense of scale and remoteness and make prominent horizon lines and distant mountain backdrops key visual elements. The overall visual composition is typically a wide, flat to gently sloping foreground transitioning to open desert in the midground, with surrounding uplands and mountain ranges forming scenic backdrops.

Local vegetation is dominated by desert scrub forming a sparse-to-moderately dense matrix of low shrubs. The color palette is typically muted (tan, gray, and brown soils and rock), with pronounced changes in contrast and shadow under clear skies and strong sun angles. Localized storm-driven greening and occasional blooms can temporarily increase visual diversity in the landscape. There are no rock outcroppings in the vicinity of the project alignment visible from SR-247.

As stated above, although the broader landscape retains a predominantly natural visual character, existing utility infrastructure is also present within the SR-247 viewshed, including the existing MCC-VIC Lines 1 and 2, which are visible adjacent to and overhead the highway. Due to the openness of the terrain, the existing MCC-VIC Lines 1 and 2 transmission towers are visible several miles to the north and south of the crossing with SR-247. These facilities appear as linear, engineered elements that extend across the landscape and introduce vertical forms that contrast with the low-profile desert scrub. From an aesthetics perspective, the scenic quality of the local landscape is closely tied to its undeveloped character and available panoramic views, with the visibility of existing transmission towers reflecting the fact that the open desert setting readily reveals vertical and linear infrastructure where it occurs.

4.1.2 Regulatory Framework

Federal

There are no federal regulatory requirements related to scenic resources within a State Scenic Highway. However, as the project alignment bisects a National Scenic Byway, information on the National Scenic Byways Program is provided below.

National Scenic Byways Program

The National Scenic Byways Program is part of the U.S. Department of Transportation, Federal Highway Administration. The Reviving America's Scenic Byways Act of 2019 requires the U.S. Secretary of Transportation to solicit nominations for certain roads to be designated under the National Scenic Byways Program as National Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities (U.S. Department of Transportation 2026b). As stated above in Section 4.1.1, Existing Conditions, I-40 (part of historic Route 66) is a National Scenic Byway where it crosses the project alignment approximately 10 miles southeast of the City of Barstow; however, National Scenic Byways are not part of the California Scenic Highway Program (U.S. Department of Transportation 2026a).

State

California Scenic Highway Program

State Scenic Highways are recognized under Division 1, Article 2.5 of the California Streets and Highways Code. Caltrans administers the California Scenic Highway Program, intended to protect and enhance California's natural scenic beauty, as well as safeguard the social and economic values provided by the state's highways (Caltrans 2026). The purpose of the program is to protect the scenic beauty of California highways and adjacent corridors through conservation and land use regulations.

For a highway or route with “outstanding scenic qualities” to be included in the program and on the list of eligible State Scenic Highways maintained by Caltrans, it must first be nominated by the city or county where it is located. The nomination/eligibility process entails that the city/county identify and define the scenic corridor of the highway to better understand the extent of visual resources requiring conservation. For an eligible highway to be officially designated and included in the program, the local government with jurisdiction over lands abutting the highway must implement a scenic highway corridor protection program that safeguards the scenic appearance of the corridor. Corridor protection may be achieved through a variety of means, including regulation of land uses and intensity of development, detailed land and site planning, control of outdoor advertising, consideration of earthmoving and landscaping, and design and appearance of structures and equipment. If the local Caltrans district and Scenic Highway Program coordinators determine that the corridor protection program adequately safeguards the scenic appearance of the corridor, a recommendation to designate the highway as scenic is forwarded to the Caltrans Director. If approved, the highway receives official State Scenic Highway designation. Notably, a highway's protection as a State Scenic Highway is only assured with an approved protection program, regardless of eligibility or nomination.

Local

There are no local regulatory requirements related to scenic resources within a State Scenic Highway.

4.1.3 Thresholds of Significance

The significance criteria used to evaluate the revised project's impacts on aesthetics are based on CEQA Guidelines Appendix G. A potentially significant impact on aesthetics would occur if the revised project would:

1. Have a substantial adverse effect on a scenic vista.

2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
3. In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage point).
4. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Thresholds AES-1, AES-3, and AES-4 were determined to be less than significant and are addressed in Section 5.1.1, Aesthetics in Chapter 5, Other CEQA Considerations, of this Draft SEIR. Threshold AES-2 is addressed in detail below.

4.1.4 Impacts Analysis

Threshold AES-2: Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Summary of the Certified 2024 EIR Findings

At the time of the 2024 EIR, SR-247 where it crosses the project alignment was an eligible State Scenic Highway, without an approved corridor protection program. As discussed below, the nearest designated State Scenic Highway corridor was nearly 20 miles south of the project alignment. Based on the absence of any State Scenic Highways in vicinity of the project alignment, the potential to substantially damage scenic resources within a State Scenic Highway was addressed in the “Effects Found Not to be Significant” section in Chapter 5, CEQA Considerations, of the 2024 EIR. The analysis from the 2024 EIR is summarized below.

The 2024 EIR determined that construction and operation of the approved project would not substantially damage scenic resources within a State Scenic Highway. The analysis determined that the approved project alignment was nearly 20 miles north of the nearest formally designated State Scenic Highway (i.e., SR-38, part of the Rim of the World Scenic Byway in southwestern San Bernardino County). Due to distance and the presence of intervening vertical features, the approved project would not be visible from SR-38 and would thus not damage scenic resources within a State Scenic Highway. Eligible State Scenic Highways within view of the project alignment included SR-47 (from SR-62 north to SR-40), I-40 (from SR-247 east to the California/Arizona state border), I-15 (from Barstow east to SR-127), and SR-127 (from I-15 north to the San Bernardino County-Inyo County border). The 2024 EIR states that the approved project may be briefly visible from segments of these eligible highways; however, it was determined that none of the proposed construction activities would substantially alter views. Thus, the construction impact was determined to be less than significant. Post-construction views were determined to be virtually identical to existing conditions; thus, the 2024 EIR determined there would be no operational impact.

Revised Project Impact Analysis

At the time of the 2024 EIR, SR-247 in the vicinity of the project alignment was an eligible State Scenic Highway, without an approved corridor protection program. SR-247 became an officially designated State Scenic Highway in September 2025. The project alignment now crosses directly over a segment of a designated State Scenic Highway, whereas at the time of the 2024 EIR, the nearest designated State Scenic Highway was approximately 20-miles south of the project area. Thus, there is now a potential for the revised project to substantially damage scenic resources within a designated State Scenic Highway corridor.

Construction activities associated with the revised project and the replacement transmission towers and lines would be visible from SR-247 in the area immediately surrounding the project alignment's crossing of SR-247 and for up to 2 miles to the north and south along the highway. Under the revised project, the existing Line 1 alignment (including all visible transmission towers and lines) would be shifted approximately 110 feet to the southeast, while the Line 2 replacement towers in the vicinity of SR-247 would be shifted a maximum of approximately 300 feet northeast along the existing alignment. Scenic resources potentially affected by the revised project's construction activities include desert scrub vegetation, which would be removed intermittently within work areas and staging areas adjacent to the project alignment. Specifically, there are several tower work areas, a conductor pulling and tensioning work area, and a staging area near the project alignment's crossing of SR-247.

The revised project would not remove or encroach upon any of the mature, ornamental trees associated with the adjacent residential uses to the north of the alignment and near SR-247. There are also no visible rock outcroppings within the vicinity of the project alignment's SR-247 crossing. Construction of the replacement towers and lines would require intermittent removal and disturbance of desert scrub in the work areas visible from SR-247 (in particular, transmission tower work areas and the conductor pulling and tensioning work area near SR-247). However, desert scrub would still be prominently visible and appear to cover the surrounding areas, extending beyond the foreground and midground towards the distant mountain ranges. Furthermore, once the replacement transmission towers and lines are installed, temporary work areas would be restabilized, recontoured, and revegetated, as needed, to mimic the existing/surrounding natural conditions. As such, the revised project would not substantially damage natural scenic resources typically associated with State Scenic Highways, such as prominent trees or rock outcroppings. Proposed removal of vegetation along this segment of SR-247 would not result in substantial damage to scenic resources or to the existing scenic quality of the landscape as a whole.

As discussed in Section 4.4, Cultural Resources, of this SEIR, the existing MCC-VIC Lines 1 and 2 are eligible for listing in the National Register of Historic Places and in the California Register of Historic Resources for their association with regional power transmission and their distinctive engineering and structural characteristics. The revised project would eliminate all original historic-age towers and alter the existing character of the alignment. These considerations are relevant to the cultural resources analysis; however, the State Scenic Highways threshold under Appendix G of the CEQA Guidelines is focused on whether the revised project would substantially damage scenic resources within a State Scenic Highway corridor, including natural features (e.g., trees, rock outcroppings) and visually important historic buildings that contribute to the corridor's scenic quality. MCC-VIC Lines 1 and 2 are existing utilitarian features that are present within views from SR-247. However, the transmission lines are not buildings and do not contribute to the scenic quality or defining scenic character of this State Scenic Highway segment, which is instead dominated by desert scrub landscapes and distance mountain vistas that are infrequently interrupted by pockets of development, including intermittent vertical structures (e.g., transmission towers).

The replacement transmission towers would generally be of the same structural style as the existing transmission towers. As with the approved project, tower heights would generally increase under the revised project. Existing transmission towers along the alignment range in height from approximately 82 feet to 179 feet, with approximately 81% of the existing transmission towers falling within the 101-foot to 120-foot range. Under the approved project, transmission tower raising activities were going to involve the insertion of vertical extensions onto existing transmission tower bodies for all towers with ground-to-clearance violations. Tower heights for raised towers were anticipated to increase between 5 feet and 45 feet. Under the revised project, replacement towers would range in height from approximately 92 feet to approximately 179 feet. As shown in Table 3-1 in Chapter 3, Project Description, of this SEIR, while the maximum height of the transmission towers along the alignment would still not exceed 179 feet, the average transmission tower height would increase from approximately 113 feet under existing

conditions to approximately 121 feet under the revised project. Most revised project transmission towers (approximately 57%) would remain within the 101-foot to 120-foot range, as under existing conditions, and less than 1% would be over 160 feet.

Overall, the range of replacement transmission tower heights would be comparable to the heights of the existing transmission towers and the raised and taller replacement towers analyzed under the approved project. The replacement transmission towers would not result in substantial damage of scenic resources along SR-247, as the heights of most transmission towers were already anticipated to increase between 5 feet and 45 feet under the approved project and the vertical, utilitarian forms of the existing transmission towers are already present in the viewshed from SR-247. Conductor, insulator, and hardware assembly replacements on the transmission towers would not substantially alter views either, as the replacement equipment would appear practically identical in form as the existing. Thus, despite the increased height of some replacement transmission towers and other proposed modifications, the revised project would remain largely consistent with the existing visual landscape. Both construction and operational impacts would therefore be less than significant.

The certified 2024 EIR determined that the approved project would have no operational impact to scenic resources within a State Scenic Highway, and that construction impacts would be less than significant. However, SR-247 was not officially designated as a State Scenic Highway at the time of the certified EIR analysis. Due to the official designation of the SR-247 as a State Scenic Highway and the complete removal of the existing MCC-VIC Lines 1 and 2 (which are eligible historic resources), impacts would increase under the revised project compared to the approved project. However, impacts would nevertheless remain less than significant under the revised project for both construction and operation, for the reasons set forth above. No mitigation measures are required. Thus, the revised project would not result in a new significant impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

4.1.5 Mitigation Measures

No mitigation measures are proposed or required.

4.1.6 Significance Conclusions

Threshold AES-2: The revised project would not result in substantial damage of scenic resources within a State Scenic Highway and impacts would be less-than-significant.

4.1.7 Cumulative Effects

As required by CEQA Guidelines Section 15130, the discussion and analysis provided in this section considers whether the revised project's incremental effect(s) may be individually limited but cumulatively considerable. In accordance with CEQA Guidelines Section 15065(a)(3), "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. The cumulative geographic study area used to assess potential impacts to scenic resources within a State Scenic Highway is the immediate project area and publicly accessible areas within an approximately 2-mile radius of the project alignment's crossing of SR-247 where the transmission towers remain visible.

There are no cumulative projects within the vicinity that would be visible from where the project alignment crosses SR-247. Thus, there is no potential for the revised project to contribute to a cumulative impact related to the damage of scenic resources with a State Scenic Highway.

4.1.8 References

Caltrans (California Department of Transportation). 2026. “California State Scenic Highways.” Accessed January 2026. <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>.

U.S. Department of Transportation. 2026a. “National Scenic Byways Program.” Accessed January 2026. https://www.fhwa.dot.gov/hep/scenic_byways/.

U.S. Department of Transportation. 2026b. “Historic Route 66.” Accessed January 2026. <https://fhwaapps.fhwa.dot.gov/bywaysp/byway/2489/map?mapId=1483>.

INTENTIONALLY LEFT BLANK

4.2 Air Quality

This section of the Subsequent Environmental Impact Report (SEIR) describes the existing air quality conditions of the revised McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (revised project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the revised project, as applicable. Potential impacts of the revised project are discussed in relation to the previously approved McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (approved project), which was analyzed in the certified 2024 Environmental Impact Report (2024 EIR).

The information and analysis in the section are based, in part, on the following technical appendices:

- **Appendix B.** Air Quality, Energy, and Greenhouse Gas Emissions Calculations, prepared by Dudek, dated December 2025

Other resources relied upon are listed in Section 4.2.8, References.

4.2.1 Existing Conditions

Meteorological and Topographical Conditions

Both the approved and revised projects involve modifications to the existing McCullough-Victorville Transmission Lines 1 and 2 (MCC-VIC Lines 1 and 2). MCC-VIC Lines 1 and 2 are two parallel, high voltage transmission lines that extend approximately 162 miles across the Mojave Desert from Boulder City in Clark County, Nevada to the Victorville Switching Station in Victorville within San Bernardino County, California. Approximately 138 miles of the MCC-VIC Lines 1 and 2 are in the state of California and the remaining 24 miles are located in the state of Nevada. The analysis herein includes construction emissions for the entirety of the project (California and Nevada). However, as this document is for the purposes of California Environmental Quality Act (CEQA) compliance, the thresholds applied are those applicable in California. A separate analysis is being prepared in accordance with the National Environmental Policy Act that will address thresholds relevant in Nevada in accordance with applicable federal thresholds. The project location has remained essentially the same between the approved and revised projects, given that both involve improvements to the same existing transmission lines. Work areas and staging areas are generally larger for the revised project, given the increased intensity of construction. Additionally, the locations of the work areas and staging areas have shifted in some instances, but not to the extent that new or different air basins would be affected.

The portion of the project alignment in California, under both the approved project and revised project, is located within the Mojave Desert Air Basin (MDAB).¹ The MDAB includes the desert portions of Los Angeles, Kern, San Bernardino, and Riverside counties. Most of this area is commonly referred to as the “High Desert” because elevations range from approximately 2,000 to 5,000 feet above mean sea level. The MDAB is generally above the regional inversion layer and experiences relatively good dispersion conditions.

¹ The description of the MDAB climate and topography is based on the *MDAQMD California Environmental Quality Act (CEQA) and Federal Conformity Guidelines* (“MDAQMD CEQA Guidelines;” MDAQMD 2020). The description of the Western Mojave Desert O₃ nonattainment area is based the *MDAQMD Federal 8-Hour Ozone Attainment Plan for the Western Mojave Desert Non-Attainment Area* (MDAQMD 2008).

The MDAB is separated from Southern California coastal regions and Central California valley regions by mountains extending up to 10,000 feet above mean sea level. As a result, the Mojave Desert is removed from the cooling effects of the Pacific Ocean and is characterized by extreme temperatures. The MDAB consists of an assemblage of mountain ranges interspersed with valleys that often contain dry lakes. Lower-elevation mountains scattered throughout the basin are generally 1,000 feet to 4,000 feet high. Mountain passes form channels for air masses flowing from the west and southwest, and the prevailing winds from the west and southwest are caused by the proximity of the MDAB to coastal and central regions and the blocking effect of the Sierra Nevada to the north.

This MDAB region is characterized by hot, dry summers and cool winters, with little precipitation. During the summer, the MDAB is generally influenced by a Pacific subtropical high-pressure cell that resides off the coast of California. This high-pressure cell prevents cloud formation and engenders daytime solar heating. The MDAB is rarely influenced by the cold air masses that move south from Canada and Alaska, as these frontal systems diffuse by the time they reach the MDAB. Most moisture arrives in frequent warm, moist, unstable air masses from the south. The MDAB averages between 3 and 7 inches of precipitation per year (from 16 to 30 days with at least 0.01 inches of precipitation). The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, to indicate at least 3 months have maximum average temperatures over 100.4 °F (MDAQMD 2008).

The Mojave Desert Air Quality Management District (MDAQMD) has jurisdiction over the desert portion of San Bernardino County, where the California portion of the project alignment is located, as well as the far eastern end of Riverside County. This region includes the incorporated communities of Adelanto, Apple Valley, Barstow, Blythe, Needles, Twentynine Palms, Victorville, and Yucca Valley.

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The national and California standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM₁₀), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns (PM_{2.5}), and lead. In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants. These pollutants, as well as toxic air contaminants (TACs), are discussed in the following paragraphs.²

Ozone. O₃ is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O₃ precursors. These precursors are mainly nitrogen oxides (NO_x) and volatile organic compounds (VOCs) (also referred to as reactive organic gases, or ROGs). The maximum effects of precursor emissions on O₃ concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O₃ formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O₃ exists in the upper atmosphere O₃ layer (stratospheric O₃) and at the Earth's surface in the troposphere (ground-level O₃).³ The O₃ that the U.S.

² The following descriptions of health effects for each of the criteria air pollutants associated with project construction and operations are based on the U.S. Environmental Protection Agency's "Criteria Air Pollutants" (EPA 2024a) and the California Air Resources Board's "Glossary of Air Pollutant Terms" (CARB 2024a) and CARB's "Common Air Pollutants" (CARB 2024b).

³ The troposphere is the layer of the Earth's atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.

Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to the ground level because this is where people are exposed to it. Ground-level O₃ is a harmful air pollutant that causes numerous adverse health effects and is thus considered “bad” O₃. Stratospheric, or “good,” O₃ occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth’s atmosphere. Without the protection of the beneficial stratospheric O₃ layer, plant and animal life would be seriously harmed.

O₃ in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O₃ can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2020). Inhalation of O₃ causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms. Exposure to O₃ can reduce the volume of air that the lungs breathe in, thereby causing shortness of breath. O₃ in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. The occurrence and severity of health effects from O₃ exposure vary widely among individuals, even when the dose and the duration of exposure are the same. Research shows adults and children who spend more time outdoors participating in vigorous physical activities are at greater risk from the harmful health effects of O₃ exposure. While there are relatively few studies on the effects of O₃ on children, the available studies show that children are no more or less likely to suffer harmful effects than adults. However, there are a number of reasons why children may be more susceptible to O₃ and other pollutants. Children and teens spend nearly twice as much time outdoors and engaged in vigorous activities as adults. Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults. Also, children are less likely than adults to notice their own symptoms and avoid harmful exposures. Further research may be able to better distinguish between health effects in children and adults. Children, adolescents, and adults who exercise or work outdoors, where O₃ concentrations are the highest, are at the greatest risk of harm from this pollutant (CARB 2024c).

Nitrogen Dioxide. NO₂ is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO₂ in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas. NO_x plays a major role, together with ROG, in the atmospheric reactions that produce O₃. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers. Furthermore, wildfire outbreaks can lead to extreme biomass burning emissions of both oxidized NO₂ and a reduced form of nitrogen compounds. NO₂ can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2016).

A large body of health science literature indicates that exposure to NO₂ can induce adverse health effects. The strongest health evidence, and the health basis for the ambient air quality standards for NO₂, results from controlled human exposure studies that show that NO₂ exposure can intensify responses to allergens in allergic asthmatics. In addition, a number of epidemiological studies have demonstrated associations between NO₂ exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses. Infants and children are particularly at risk because they have disproportionately higher exposure to NO₂ than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. Several studies have shown that long-term NO₂ exposure during childhood, the period of rapid lung growth, can lead to smaller lungs at maturity in children with higher levels of exposure compared to children with lower exposure levels. In addition, children with asthma have a greater degree of airway responsiveness compared with adult asthmatics. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease (CARB 2024d).

Carbon Monoxide. CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. Sources of CO include motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, trains, and explosives. In urban areas, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

CO is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion and reduced mental alertness, light-headedness, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Unborn babies, infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO (CARB 2024e).

Sulfur Dioxide. SO₂ is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO₂ are coal and oil used in power plants and industries; as such, the highest levels of SO₂ are generally found near large industrial complexes. In recent years, SO₂ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO₂ and limits on the sulfur content of fuels.

Controlled human exposure and epidemiological studies show that children and adults with asthma are more likely to experience adverse responses with SO₂ exposure, compared with the non-asthmatic population. Effects at levels near the 1-hour standard are those of asthma exacerbation, including bronchoconstriction, accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath, and chest tightness, especially during exercise or physical activity. Also, exposure at elevated levels of SO₂ (above 1 parts per million [ppm]) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality. Older people and people with cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most likely to experience these adverse effects (CARB 2024f).

SO₂ is of concern both because it is a direct respiratory irritant and because it contributes to the formation of sulfate and sulfuric acid in particulate matter (NRC 2005). People with asthma are of particular concern, both because they have increased baseline airflow resistance and because their SO₂-induced increase in airflow resistance is greater than in healthy people, and it increases with the severity of their asthma (NRC 2005). SO₂ is thought to induce airway constriction via neural reflexes involving irritant receptors in the airways (NRC 2005).

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. PM_{2.5} and PM₁₀ represent fractions of particulate matter. PM₁₀ consists of particulate matter that is 10 microns or less in diameter, which is about 1/7 the thickness of a human hair. Major sources of PM₁₀ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture;

wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. PM_{2.5} consists of particulate matter that is 2.5 microns or less in diameter, which is roughly 1/28 the diameter of a human hair. PM_{2.5} results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, PM_{2.5} can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs.

PM_{2.5} and PM₁₀ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM_{2.5} and PM₁₀ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can directly cause lung damage or be absorbed into the bloodstream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM₁₀ tends to collect in the upper portion of the respiratory system, PM_{2.5} is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

A number of adverse health effects have been associated with exposure to both PM_{2.5} and PM₁₀. For PM_{2.5}, short-term exposures (up to 24-hour duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases. In addition, of all of the common air pollutants, PM_{2.5} is associated with the greatest proportion of adverse health effects related to air pollution, both in the United States and worldwide based on the World Health Organization's Global Burden of Disease Project. Short-term exposures to PM₁₀ have been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits (CARB 2024g).

Long-term exposure (months to years) to PM_{2.5} has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children. The effects of long-term exposure to PM₁₀ are less clear, although several studies suggest a link between long-term PM₁₀ exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that particulate matter in outdoor air pollution increases the risk of developing lung cancer (CARB 2024g).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including IQ performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Sulfates. Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO₂ in the atmosphere and can result in respiratory impairment, as well as reduced visibility.

Vinyl Chloride. Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

Hydrogen Sulfide. Hydrogen sulfide is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of hydrogen sulfide include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to hydrogen sulfide can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

Visibility-Reducing Particles. Visibility-reducing particles are any particles in the air that obstruct the range of visibility. Effects of reduced visibility can include obscuring the viewshed of natural scenery, reducing airport safety, and discouraging tourism. Sources of visibility-reducing particles are the same as for PM_{2.5}.

Volatile Organic Compounds. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O₃ are referred to and regulated as VOCs (also referred to as ROG). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of O₃ and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate ambient air quality standards for VOCs as a group.

Non-Criteria Air Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause serious adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic non-cancer health effects.⁴ A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the state of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect people from the health effects of toxic substances in the air. In addition, the California Air Toxics “Hot Spots” Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of

⁴ While some overlap may occur between TACs and criteria air pollutants, such as lead being categorized as both a TAC and criteria air pollutant, the regulatory frameworks and specific concerns differ between the two categories. Criteria air pollutants are regulated to protect public health and welfare based on established Ambient Air Quality Standards, whereas TACs are regulated to address specific health and environmental risks associated with those pollutants. Health effects from TACs may occur at extremely low levels and it is typically difficult to identify levels of exposure which do not produce adverse health effects (CARB 2024a).

air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over five years.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and non-carcinogenic effects. Non-carcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70 the diameter of a human hair) and thus is a subset of PM_{2.5} (CARB 2024h). DPM is typically composed of carbon particles (“soot,” also called black carbon) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2024h). CARB classified “particulate emissions from diesel-fueled engines” (i.e., DPM) (17 Code of California Regulations [CCR] 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines, including trucks, buses, and cars, and off-road diesel engines, including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of PM_{2.5}, DPM also contributes to the same non-cancer health effects as PM_{2.5} exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2024g). Those most vulnerable to non-cancer health effects are children, whose lungs are still developing, and older people, who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person’s reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. In a phenomenon known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Valley Fever. Coccidioidomycosis, more commonly known as “Valley Fever,” is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. When fungal spores are present, any activity that disturbs the soil, such as digging, grading, or other earth-moving operations, can cause the spores to become airborne and thereby increase the risk of exposure. The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline sandy soils.

California Labor Code section 6709 defines “highly endemic” areas for Valley Fever as those areas where the annual incidence rate is greater than 20 cases per 100,000 persons per year. San Bernardino County is not considered a highly endemic region for Valley Fever, as the latest report from the California Department of Public Health indicated the County has 10.5 cases per 100,000 people (CDPH 2023). In contrast, in 2022 the statewide annual incident rate was 19.1 per 100,000 people. California counties considered highly endemic for Valley Fever include Kern (264.9 per 100,000), Kings (111.0 per 100,000), Tulare (65.7 per 100,000), San Luis Obispo (51.5 per 100,000), Fresno (44.3 per 100,000), Madera (32.4 per 100,000), and Ventura (28.3 per 100,000), which accounted for 50.5% of the reported cases in 2022 (CDPH 2023).

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air-pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005). The MDAQMD identifies sensitive receptors as residences, schools, playgrounds, childcare centers, and medical facilities (MDAQMD 2020). The land surrounding the revised project consists primarily of undeveloped open space areas in the Mojave Desert, although some scattered rural residential land uses are located in the vicinity of the project, mostly between Harvard, California and Victorville, California, in the Western Mojave Desert.

Local Ambient Air Quality

Mojave Desert Air Basin Attainment Designation

Pursuant to the 1990 federal Clean Air Act (CAA) amendments, the EPA classifies air basins (or portions thereof) as “attainment” or “nonattainment” for each criteria air pollutant, based on whether the National Ambient Air Quality Standards (NAAQS) have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as “attainment” for that pollutant. If an area exceeds the standard, the area is classified as “nonattainment” for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as “unclassified” or “unclassifiable.” The designation of “unclassifiable/attainment” means that the area meets the standard or is expected to meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are re-designated as maintenance areas and must have approved maintenance plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as “attainment” or “nonattainment,” but based on California Ambient Air Quality Standards (CAAQS) rather than the NAAQS.

Table 4.2-1 depicts the current attainment status of the project area within California with respect to the NAAQS and CAAQS.

Table 4.2-1. San Bernardino County Portion of the Mojave Desert Air Basin - Attainment Classification

Pollutant	Designation/Classification ^a	
	Federal Standards	California Standards
O ₃ – 1 hour	No federal standard	Nonattainment
O ₃ – 8 hours	Severe nonattainment^b	Nonattainment
NO ₂	Unclassifiable/attainment	Attainment
CO	Unclassifiable/attainment	Attainment
SO ₂	Unclassifiable/attainment	Attainment
PM ₁₀	Moderate nonattainment	Nonattainment
PM _{2.5}	Unclassifiable/attainment	Attainment
Lead	Unclassifiable/attainment	Attainment
Hydrogen sulfide	No federal standard	Unclassified ^c
Sulfates	No federal standard	Attainment
Visibility-reducing particles	No federal standard	Unclassified
Vinyl chloride	No federal standard	No designation

Sources: EPA 2025a (federal); CARB 2023 (state).

Definitions: attainment = meets the standards; attainment/maintenance = achieve the standards after a nonattainment designation; nonattainment = does not meet the standards; unclassified or unclassifiable = insufficient data to classify; unclassifiable/attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.

Notes: O₃ = ozone; NO₂ = nitrogen dioxide; CO = carbon monoxide; SO₂ = sulfur dioxide; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter.

^a Designations/classifications in **bold** type indicate nonattainment.

^b The southwest portion of San Bernardino County, where a portion of the revised project is located, is designated severe nonattainment. The remaining areas of the County are designated unclassifiable/attainment.

^c The entire County is designated unclassified, except for the Searles Valley, which is designated nonattainment. However, the project does not transect the Searles Valley.

The California portion of the project is located in the San Bernardino County portion of the MDAB, which is designated as a nonattainment area for state O₃ standards and federal and state PM₁₀ standards, and unclassifiable/unclassified and/or attainment for all other criteria air pollutants (EPA 2025a; CARB 2023). In addition, the southwest area of San Bernardino County (through which the project alignment extends) is also nonattainment for federal O₃ standards (EPA 2025a).⁵ Finally, a portion of the revised project alignment is within western Nevada, in an area designated unclassifiable/attainment for all criteria air pollutants (EPA 2025a).⁶

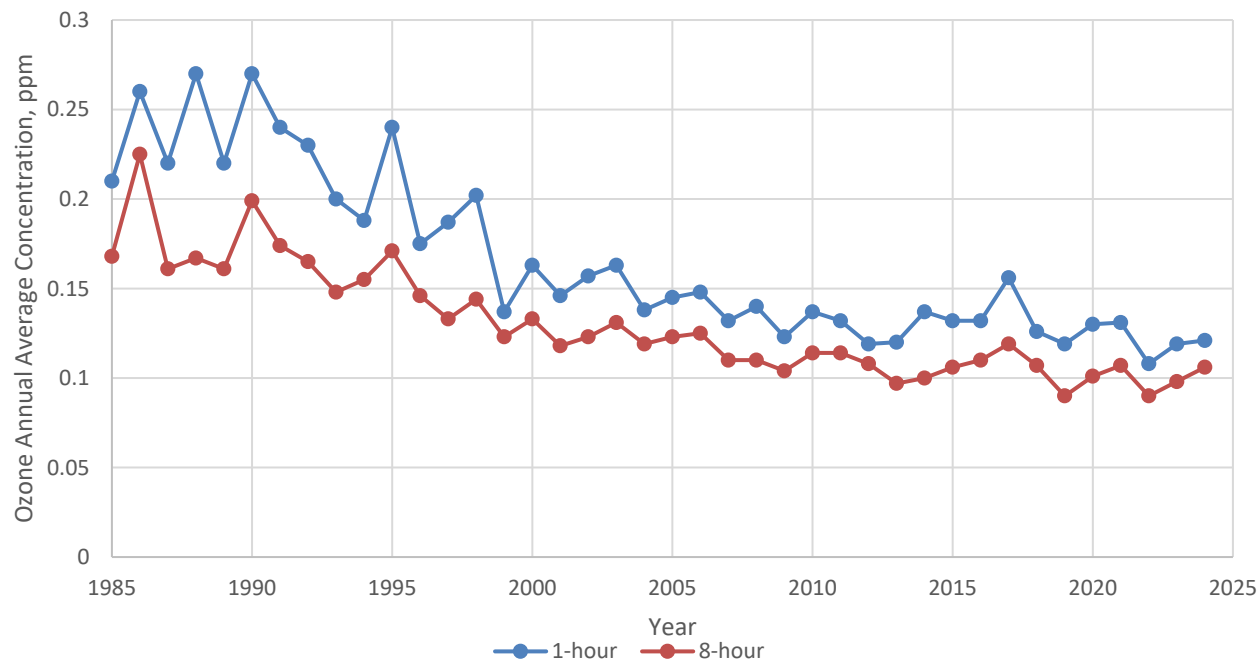
Despite the current nonattainment status for O₃ and PM₁₀, air quality in the MDAB has generally improved since the inception of air pollutant monitoring. This improvement is mainly a result of lower-polluting on-road motor vehicles, more stringent regulation of industrial sources, and the implementation of emission reduction strategies by the MDAQMD and nearby air districts including the South Coast Air Quality Management District (SCAQMD) and the San Joaquin Valley Air Pollution Control District (SJVAPCD), as well as CARB and EPA. This general trend toward

⁵ The federal O₃ nonattainment area of San Bernardino County includes the communities of Phelan, Hesperia, Adelanto, Victorville, Apple Valley, Barstow, Joshua Tree, Yucca Valley, and Twentynine Palms (i.e., the southwestern portion of the MDAQMD) (MDAQMD 2008).

⁶ The analysis herein does not estimate emissions for the Nevada portion of the alignment separately. Rather, as a conservative approach, construction activity in Nevada was accounted for in the modeling of emissions in the MDAB and accounted for in the comparison to the MDAQMD thresholds.

cleaner air within the state, including the MDAB, has occurred in spite of continued population growth. Figure 4.2-1 and Figure 4.2-2 demonstrate the reduction in O₃ and PM₁₀ over time, respectively.⁷

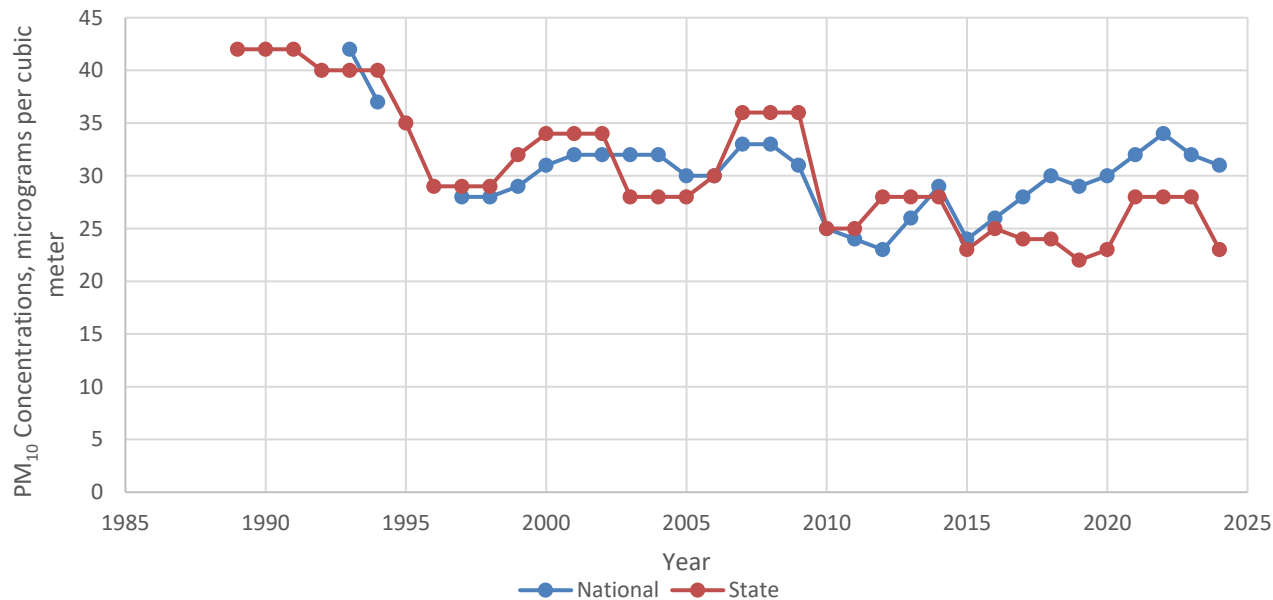
Figure 4.2-1. State 1-Hour and 8-Hour O₃ Concentration Trend - Mojave Desert Air Basin



Source: CARB 2025a, iADAM Air Quality Statistics. Units = parts per million (ppm).

⁷ Figures are provided for the non-attainment criteria air pollutants only (i.e., O₃ and PM₁₀).

Figure 4.2-2. National and State 3-Year Average PM₁₀ Statistics - Mojave Desert Air Basin



Source: CARB 2025a, iADAM Air Quality Statistics. Units = micrograms per cubic meter.

The MDAQMD is downwind of the Los Angeles basin, and to a lesser extent, is downwind of the San Joaquin Valley. Prevailing winds transport O₃ and O₃ precursors from both regions into and through the MDAB during the summer O₃ season and these transport couplings have been officially recognized by CARB. While local MDAQMD emissions contribute to exceedances of both the NAAQS and CAAQS for O₃, because the MDAQMD is overwhelmingly impacted by O₃ transported from the South Coast Air Basin, the MDAB would likely be in attainment of O₃ standards without the influence of this transported air pollution from upwind regions (MDAQMD 2008). Nonetheless, as shown in Figure 4.2-1, the MDAQMD has experienced a substantial reduction in maximum 8-hour O₃ concentrations over time. Per the O₃ indicator values between 1995 and 2006 within the Western Mojave Desert, all indicators, including number of exceedance days, have decreased since 1995, indicating overall improvements in the various measures of O₃ air quality (MDAQMD 2008). The three stations closest to the South Coast Air Basin have the highest historical O₃ concentrations (Phelan, Hesperia, and Victorville), while the more distant or isolated stations (Barstow and Twentynine Palms) have much lower O₃ concentrations and are experiencing concentrations in attainment of the NAAQS (MDAQMD 2008).

Regarding particulate matter (PM), which is a primary and secondary pollutant, the MDAQMD believes that local sources contribute to PM₁₀ concentrations in the MDAB as the monitoring sites are located in and around anthropogenic sources of dust (e.g., primary PM); however, O₃ precursor transport from upwind air basins include some nitrate and sulfate aerosol or secondary particulates, which contribute to PM concentrations. Because the MDAB contains relatively limited NO_x and sulfur sources, transport contributions are estimated as half of the measured total nitrate and sulfate content, which contribute to overall PM concentrations (MDAQMD 1995).

Accordingly, it is important to note that the SCAQMD, which has jurisdiction over the South Coast Air Basin, has also experienced an improvement in air quality over the last few decades. The SCAQMD implements air quality plans, such as the 2022 Air Quality Management Plan, which is a comprehensive document that outlines an air pollution control program for attaining all CAAQS and NAAQS. Specifically, the SCAQMD 2022 Air Quality Management Plan addresses attainment of the 2015 8-hour O₃ standard (70 parts per billion) for the South Coast Air Basin and the Coachella Valley. PM₁₀ levels have declined almost 50% since 1990 within the South Coast Air Basin, and PM_{2.5} levels have also declined 50% since measurements began in 1999 (SCAQMD 2013). Similar improvements are observed with O₃ within the South Coast Air Basin, although the rate of O₃ decline has slowed in recent years (SCAQMD 2013). Despite great strides in cleaning the air over the past several decades, the Los Angeles area still has the highest levels of O₃ in the nation and meeting the O₃ standards within the South Coast Air Basin will require federal action and zero- and low-emission technologies to reduce NO_x (SCAQMD 2022). Overall, improvements within the South Coast Air Basin will also result in improvements within the MDAB. Lastly, the MDAQMD continues to implement available control technologies and rules and regulations to further reduce sources of O₃ and PM within their jurisdictional boundaries including attainment plans and rule development, as explained in Section 4.2.2, Regulatory Framework.

Local Ambient Air Quality Conditions

CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across the state. The MDAQMD monitors local ambient air quality in the project area. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. The most recent background ambient air quality data from 2022 to 2024 are presented in Table 4.2-2. The Victorville monitoring station, located at 14306 Park Avenue, Victorville, California, the Barstow monitoring station, located at 301 E. Mountain View Street, Barstow, California, are the closest monitoring stations along the project alignment. However, CO and SO₂ are not monitored at these stations. The Fontana monitoring station, located at 14360 Arrow Highway, Fontana, California, is the nearest air quality monitoring station that monitors CO and SO₂. The data collected at these stations are considered representative of the air quality experienced in the project vicinity and are provided in Table 4.2-2. The number of days exceeding the ambient air quality standard (AAQS) is also shown in Table 4.2-2.

Table 4.2-2. Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency	AAQS	Measured Concentration by Year			Exceedances by Year		
					2022	2023	2024	2022	2023	2024
Ozone (O ₃)										
Victorville	ppm	Maximum 1-hour concentration	State	0.09	0.100	0.097	0.110	3	2	7
	ppm	Maximum 8-hour concentration	State	0.070	0.090	0.089	0.097	49	32	54
			Federal	0.070	0.090	0.088	0.097	44	32	46
Barstow	ppm	Maximum 1-hour concentration	State	0.09	0.095	0.085	0.092	1	0	0
	ppm	Maximum 8-hour concentration	State	0.070	0.084	0.078	0.082	14	22	27
			Federal	0.070	0.084	0.077	0.082	13	16	24
Nitrogen Dioxide (NO ₂)										
Victorville	ppm	Maximum 1-hour concentration	State	0.18	0.053	0.060	0.057	0	0	0
			Federal	0.100	0.054	0.060	0.057	0	0	0
	ppm	Annual concentration	State	0.030	0.012	0.010	0.010	—	—	—
			Federal	0.053	0.012	0.010	0.010	—	—	—
Barstow	ppm	Maximum 1-hour concentration	State	0.18	0.059	0.060	0.062	0	0	0
			Federal	0.100	0.060	0.060	0.062	0	0	0
	ppm	Annual concentration	State	0.030	0.014	0.013	0.014	—	—	—
			Federal	0.053	0.014	0.013	0.014	—	—	—
Carbon Monoxide (CO)										
Fontana	ppm	Maximum 1-hour concentration	State	20	1.6	1.5	1.6	0	0	0
			Federal	35	1.6	1.5	1.6	0	0	0
	ppm	Maximum 8-hour concentration	State	9.0	1.0	1.0	1.1	0	0	0
			Federal	9	1.0	1.0	1.1	0	0	0
Sulfur Dioxide (SO ₂)										
Fontana	ppm	Maximum 1-hour concentration	Federal	0.075	0.003	0.003	0.006	0	0	0
	ppm	Maximum 24-hour concentration	Federal	0.14	0.0009	0.0007	0.0010	0	0	0
	ppm	Annual concentration	Federal	0.030	0.0005	0.0002	0.0002	0	0	0

Table 4.2-2. Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency	AAQS	Measured Concentration by Year			Exceedances by Year		
					2022	2023	2024	2022	2023	2024
Coarse Particulate Matter (PM ₁₀) ^a										
Victorville	µg/m ³	Maximum 24-hour concentration	State	50	ND	ND	ND	ND	ND	ND
			Federal	150	372.1	160.4	78.8	2.1 (2)	1.0 (1)	0.0 (0)
	µg/m ³	Annual concentration	State	20	ND	ND	ND	—	—	—
Barstow	µg/m ³	Maximum 24-hour concentration	State	50	ND	ND	ND	ND	ND	ND
			Federal	150	225.1	318.7	102.8	6.3 (6)	3.1 (3)	0.0 (0)
	µg/m ³	Annual concentration	State	20	ND	ND	ND	—	—	—
Fine Particulate Matter (PM _{2.5}) ^a										
Victorville	µg/m ³	Maximum 24-hour concentration	Federal	35	24.6	25.6	40.7	0.0 (0)	0.0 (0)	1.0 (1)
			State	12	9.0	7.9	ND	—	—	—
	µg/m ³	Annual concentration	Federal	9.0	8.9	7.9	9.0	—	—	—

Sources: CARB 2025b; EPA 2025b.

Notes: AAQS = ambient air quality standard; ppm = parts per million; µg/m³ = micrograms per cubic meter; — = not available; ND = insufficient data to determine the value.

Data taken from CARB iADAM and EPA AirData represent the highest concentrations experienced over a given year.

Exceedances of federal and state standards are only shown for O₃ and particulate matter. Daily exceedances for particulate matter are estimated days because PM₁₀ and PM_{2.5} are not monitored daily. All other criteria pollutants did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour O₃, annual PM₁₀, or 24-hour SO₂, nor is there a state 24-hour standard for PM_{2.5}.

The Victorville monitoring station is located at 14306 Park Avenue, Victorville, California.

The Barstow monitoring station is located at 301 E. Mountain View Street, Barstow, California.

The Fontana monitoring station is located at 14360 Arrow Highway, Fontana, California.

^a Measurements of PM₁₀ and PM_{2.5} are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

4.2.2 Regulatory Framework

Federal

Criteria Air Pollutants

The federal CAA, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. EPA is responsible for implementing most aspects of the CAA, including setting NAAQS for major air pollutants; setting hazardous air pollutant (HAP) standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric O₃ protection measures, and enforcement provisions. Under the CAA, NAAQS are established for the following criteria pollutants: O₃, CO, NO₂, SO₂, PM₁₀, PM_{2.5}, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation under two types of NAAQS: primary standards provide public health protection, including protecting the health of sensitive receptors, while secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. The CAA requires EPA to reassess the NAAQS at least every five years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan that demonstrates how those areas will attain the standards within mandated time frames.

Hazardous Air Pollutants

The 1977 federal CAA Amendments required EPA to identify National Emission Standards for Hazardous Air Pollutants to protect public health and welfare. HAPs include certain VOCs, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 federal CAA Amendments, which expanded the control program for HAPs, 189 substances and chemical families were identified as HAPs.

State

Criteria Pollutants

The California Clean Air Act was adopted in 1988 and establishes the state's air quality goals, planning mechanisms, regulatory strategies, and standards of progress. Under the California Clean Air Act, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB is responsible for ensuring implementation of the California Clean Air Act, responding to the federal CAA, and regulating emissions from motor vehicles and consumer products. Pursuant to the authority granted to it, CARB established CAAQS, which are generally more restrictive than the NAAQS.

The NAAQS and CAAQS are presented in Table 4.2-3.

Table 4.2-3. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^a	National Standards ^b	
		Concentration ^c	Primary ^{c,d}	Secondary ^{c,e}
O ₃	1 hour	0.09 ppm (180 µg/m ³)	—	Same as Primary Standard ^f
	8 hours	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³) ^f	
NO ₂ ^g	1 hour	0.18 ppm (339 µg/m ³)	0.100 ppm (188 µg/m ³)	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	
CO	1 hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	None
	8 hours	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	
SO ₂ ^h	1 hour	0.25 ppm (655 µg/m ³)	0.075 ppm (196 µg/m ³)	—
	3 hours	—	—	0.5 ppm (1,300 µg/m ³)
	24 hours	0.04 ppm (105 µg/m ³)	0.14 ppm (for certain areas) ^g	—
	Annual	—	0.030 ppm (for certain areas) ^g	—
PM ₁₀ ⁱ	24 hours	50 µg/m ³	150 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m ³	—	
PM _{2.5} ⁱ	24 hours	—	35 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m ³	9.0 µg/m ³	15.0 µg/m ³
Lead ^{j,k}	30-day Average	1.5 µg/m ³	—	—
	Calendar Quarter	—	1.5 µg/m ³ (for certain areas) ^k	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 µg/m ³	
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m ³)	—	—
Vinyl chloride ^l	24 hours	0.01 ppm (26 µg/m ³)	—	—
Sulfates	24 hours	25 µg/m ³	—	—
Visibility reducing particles	8 hours (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2024i, EPA 2024b.

Notes: µg/m³ = micrograms per cubic meter; mg/m³ = milligrams per cubic meter; ppm = parts per million by volume; O₃ = ozone; NO₂ = nitrogen dioxide; CO = carbon monoxide; SO₂ = sulfur dioxide; PM₁₀ = particulate matter with an aerodynamic diameter less than or equal to 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns.

- a California standards for O₃, CO, SO₂ (1-hour and 24-hour), NO₂, suspended particulate matter (PM₁₀, PM_{2.5}), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- b National standards (other than O₃, NO₂, SO₂, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O₃ standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For PM_{2.5}, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.
- c Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25 °C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25 °C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- d National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
- e National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- f On October 1, 2015, the national 8-hour O₃ primary and secondary standards were lowered from 0.075 to 0.070 ppm.
- g To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
- h On June 2, 2010, a new 1-hour SO₂ standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
- i In 2024, the national annual PM_{2.5} primary standard was lowered from 12.0 µg/m³ to 9.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.
- j CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- k The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under AB 1807 (Tanner). The California TAC list identifies more than 200 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the federal HAPs. In 1987, the Legislature enacted the Air Toxics “Hot Spots” Information and Assessment Act of 1987 (AB 2588) to address public concern over the release of TACs into the atmosphere. AB 2588 requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over five years. TAC emissions from individual facilities are quantified and prioritized. “High-priority” facilities are required to perform a Health Risk Assessment, and if specific thresholds are exceeded, the facility operator is required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines (CARB 2000). Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment Program. These regulations and programs have timetables by which manufacturers must

comply and existing operators must upgrade their diesel-powered equipment. CARB has adopted several Airborne Toxic Control Measures (ATCMs) that reduce diesel emissions, including the following:

- Diesel Particulate Matter Control Measure for On-Road Heavy-Duty Diesel-Fueled Residential and Commercial Solid Waste Collection Vehicles (13 CCR 2020, 13 CCR 2021);
- ATCM for Diesel Particulate Matter from Portable Engines Rated 50 horsepower and greater (17 CCR 93116);
- ATCM for In-Use Diesel-Fueled Transport Refrigeration Units and Transport Refrigeration Unit Generator Sets, and Facilities where Transport Refrigeration Units operate (13 CCR 2477 and Article 8);
- ATCM to limit diesel-fueled commercial motor vehicle idling (13 CCR 2485);
- ATCM for In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.);
- ATCM for In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

California Health and Safety Code, Section 41700

Section 41700 of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

Local

Mojave Desert Air Quality Management District

The MDAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the San Bernardino County portion of the MDAB. The MDAQMD operates monitoring stations in the MDAB, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. The MDAQMD's air quality management plans include control measures and strategies to be implemented to attain state and federal AAQS in the MDAB. The MDAQMD then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment. The MDAQMD's most recent air quality plans are the PM₁₀ attainment demonstration and maintenance plan (MDAQMD 1995) and the O₃ attainment plan (MDAQMD 2008).

Applicable Rules. Emissions that would result from mobile, area, and stationary sources during construction and operation of the revised project are subject to the rules and regulations of the MDAQMD. The MDAQMD rules applicable to the revised project may include, but are not limited to, the following:

- **Rule 219 – Equipment Not Requiring a Permit:** The rule identifies equipment exempt from permit requirements of District Rules 201 and 203.
 - District permit required for internal combustion engines with manufacturer's maximum continuous rating greater than or equal to 50 brake horsepower.
- **Rule 401 – Visible Emissions:** This rule establishes the limit for visible emissions from stationary sources.
- **Rule 402 – Nuisance:** This rule prohibits the discharge of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that

endanger the comfort, repose, health, or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property.

- **Rule 403 – Fugitive Dust Control for the Mojave Desert Planning Area:** This rule ensures that the NAAQS for PM₁₀ will not be exceeded due to anthropogenic sources of fugitive dust within the Mojave Desert Planning Area and implements the control measures contained in the Mojave Desert Planning Area Federal PM₁₀ Attainment Plan. Rule 403 includes requirements for a Dust Control Plan, signage and fencing requirements, as well as surface watering and stabilization with chemicals, gravel and asphaltic pavement to eliminate visible fugitive dust from vehicular travel and wind erosion.
- **Rule 431 – Sulfur Content of Liquid Fuels:** The purpose of this rule is to limit the sulfur content in diesel and other liquid fuels for the purpose of reducing the formation of SO_x and particulates during combustion and of enabling the use of add-on control devices for diesel-fueled internal combustion engines. The rule applies to all refiners, importers, and other fuel suppliers such as distributors, marketers, and retailers, as well as to users of diesel, low-sulfur diesel, and other liquid fuels for stationary-source applications in the MDAQMD. The rule also affects diesel fuel supplied for mobile sources.
- **Rule 442 – Usage of Solvents:** The purpose of this rule is to reduce VOC emissions from VOC-containing materials or equipment that is not subject to limits of any rule found in District Regulation XI – Source Specific Standards.
- **Rule 1000 – National Emission Standards for Hazardous Air Pollutants:** The purpose of this rule is to adopt by reference all the applicable provisions regarding National Emission Standards for Hazardous Air Pollutants as set forth in Code of Federal Regulations, Title 40, Part 61, including for asbestos removal and demolitions. The Asbestos National Emission Standards for Hazardous Air Pollutant requires that the MDAQMD be notified for certain projects containing Regulated Asbestos Containing Material. Regulated Asbestos Containing Material means:
 - Friable asbestos material;
 - Category I nonfriable Asbestos Containing Material that has become friable;
 - Category I nonfriable Asbestos Containing Material that will be or has been subject to sanding, grinding, cutting or abrading, or;
 - Category II nonfriable Asbestos Containing Material that has a high probability of becoming or has become crumbled, pulverized or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.
- **Rule 1113 – Architectural Coatings:** This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

Southern California Association of Governments

The Southern California Association of Governments is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. Southern California Association of Governments serves as the federally designated metropolitan planning organization for the Southern California region and is the largest metropolitan planning organization in the United States.

With respect to air quality planning and other regional issues, Southern California Association of Governments has most recently developed Connect SoCal, the 2024–2050 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which is a long-range visioning plan that balances future mobility and housing needs with

economic, environmental, and public health goals, and charts a path toward a more mobile, sustainable and prosperous region by making connections between transportation networks, between planning strategies, and between the people whose collaboration can improve the quality of life for Southern Californians. Connect SoCal embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The 2024-2050 RTP/SCS includes the following goals (1) Mobility: Build and maintain a robust transportation network; (2) Communities: Develop, connect and sustain communities that are livable and thriving; (3) Environment: Create a healthy region for the people of today and tomorrow; and (4) Economy: support a sustainable, efficient, and productive regional economic environment that provides opportunities for all residents (SCAG 2024).

San Bernardino Countywide Plan

The San Bernardino Countywide Plan contains the following goals and policies applicable to air quality and the revised project (San Bernardino County 2022):

Natural Resources Element

Goal NR-1. Air Quality. Air quality that promotes health and wellness of residents in San Bernardino County through improvements in locally-generated emissions.

Policy NR-1.3. Coordination on air pollution. We collaborate with air quality management districts and other local agencies to monitor and reduce major pollutants affecting the county at the emission source.

Policy NR-1.6. Fugitive Dust Emissions. We coordinate with air quality management districts on requirements for dust control plans, revegetation, and soil compaction to prevent fugitive dust emissions.

Policy NR-1.8. Construction and Operations. We invest in County facilities and fleet vehicles to improve energy efficiency and reduce emissions. We encourage County contractors and other builders and developers to use low - emission construction vehicles and equipment to improve air quality and reduce emissions.

4.2.3 Thresholds of Significance

The significance criteria used to evaluate the revised project's impacts to air quality are based on CEQA Guidelines Appendix G. A potentially significant impact to air quality would occur if the revised project would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

CEQA Guidelines Appendix G indicates that, where available, significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to determine whether the revised

project would have a significant impact on air quality. As outlined in the MDAQMD CEQA Guidelines (MDAQMD 2020), a project would result in a significant environmental impact if it:

1. Would generate total emissions (direct and indirect) in excess of the established significance thresholds (presented as Table 4.2-4).
2. Would generate a violation of any ambient air quality standard when added to the local background.
3. Does not conform with the applicable attainment or maintenance plan.
4. Would expose sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million (10×10^{-6}) and/or a hazard index (noncarcinogenic) greater than or equal to 1.

The MDAQMD CEQA Guidelines sets forth quantitative emission significance thresholds for criteria air pollutants below which a project would not have a significant impact on ambient air quality (MDAQMD 2020). The revised project-related air quality emissions estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 4.2-4 are exceeded. The emission-based thresholds for O₃ precursors are intended to serve as a surrogate for an “ozone significance threshold” (i.e., the potential for adverse O₃ impacts to occur) because O₃ itself is not emitted directly. MDAQMD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions.

Table 4.2-4. Mojave Desert Air Quality Management District Daily Air Quality Significance Thresholds

Pollutant	Annual Threshold (tons per year)	Daily Threshold (pounds per day)
VOC	25	137
NO _x	25	137
CO	100	548
SO _x	25	137
PM ₁₀	15	82
PM _{2.5}	12	65
Hydrogen sulfide ^a	10	54
Lead ^a	0.6	3

Source: MDAQMD 2020.

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter.

^a The revised project includes typical equipment and on-road vehicles, which result in negligible (if any) emissions of hydrogen sulfide and lead. Therefore, these pollutants are not discussed in this analysis.

Based on the multi-year construction schedule, the MDAQMD advised to compare project emissions to the annual significance thresholds (MDAQMD 2024). The revised project emissions were also compared to the daily thresholds for the maximum-day activity.

4.2.4 Impacts Analysis

Methodology

The California Emissions Estimator Model (CalEEMod) Version 2022.1.1.35 was used to estimate emissions from construction of the revised project (CAPCOA 2022). CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant and greenhouse gas emissions associated with construction activities and operation of a variety of land use projects, such as residential, commercial, and industrial facilities. CalEEMod input parameters, including the construction schedule and anticipated use of construction equipment, were based on information provided by the Los Angeles Department of Water and Power (LADWP) or default model assumptions if revised project specifics were unavailable. Detailed assumptions for the modeling are described in Chapter 3, Project Description, of this SEIR, and in Appendix B.

For the purpose of estimating revised project emissions, construction was conservatively modeled beginning in April 2026 and concluding in May 2029,⁸ lasting approximately 38 months. CalEEMod scenarios were modeled to estimate annual average and maximum day emissions to compare to the respective MDAQMD significance thresholds. Construction was assumed to occur for 6 days per week, based on information supplied by LADWP. Unpaved roads were modeled separately to estimate on-road vehicle movement on the unpaved road portion of travel. Based on information supplied by LADWP, project-related vehicles would travel a maximum of 15 miles per day on unpaved roads and an average of 5 miles per day on unpaved roads.

The construction scenario assumptions in Table 4.2-5 and Table 4.2-6 were used for estimating emissions in CalEEMod for the revised project for the annual average and maximum day scenarios, respectively.

⁸ The analysis assumes a construction start date of April 2026; however, in practice, construction is anticipated to begin in 2027, based on information supplied by LADWP at the time of this writing. Assuming an earlier start date for construction represents a worst-case scenario for criteria air pollutant and greenhouse gas emissions, because equipment and vehicle emission factors for later years are reduced as time passes, due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

Table 4.2-5. Revised Project Construction Scenario Assumptions - Annual Average

Construction Phase	Phase Duration (Days)	Average Daily One-Way Vehicle Trips			Equipment		
		Workers	Vendor Trucks	Haul Trucks	Equipment Type ¹	Quantity	Average Daily Usage Hours
Yard Operation	985	12	24	20	Rough Terrain Forklifts	12	2
					Generator Sets	6	2
Grading (Laydown/Staging/Site Grading)	985	20	20	16	Graders	4	4
					Rubber Tired Dozers (D6 Dozer)	4	4
					Rollers	4	4
					Excavators (>100,000 Pounds)	2	4
					Skid Steer Loaders	4	4
Grading (Access Road Rehabilitation)	405	16	16	20	Graders	2	4
					Skid Steer Loaders	2	4
Transmission Line Construction (Line 1) ²	339	200	24	80	Rubber Tired Dozers (D8 Dozer)	3	2
					Rubber Tired Dozers (D6 Dozer)	3	1
					Other General Industrial Equipment (Hardline Puller)	4	1
					Other General Industrial Equipment (Triple Drum Puller)	4	1
					Off-Highway Trucks (Truck Mounted Tensioner)	3	1
					Rough Terrain Forklifts	15	2
					Cranes (40 Ton)	15	2
					Skid Steer Loaders	6	1
					Excavators (>100,000 Pounds)	2	1
					Other General Industrial Equipment (3 Drum Puller)	2	1
					Other General Industrial Equipment (V Groove)	2	1
					Cranes (160 Ton Rough Terrain)	3	2

Table 4.2-5. Revised Project Construction Scenario Assumptions - Annual Average

Construction Phase	Phase Duration (Days)	Average Daily One-Way Vehicle Trips			Equipment		
		Workers	Vendor Trucks	Haul Trucks	Equipment Type ¹	Quantity	Average Daily Usage Hours
Transmission Line Construction (Lines 1 and 2 Overlap) ¹	53	200	24	80	Bore/Drill Rigs (IMT Drill)	4	2
					Bore/Drill Rigs (LoDril)	4	2
					Tractors/Loaders/Backhoes	6	2
					Other Material Handling Equipment (Material Handler)	6	2
					Cranes (100 Ton Rough Terrain)	2	1
					Rubber Tired Dozers (D8 Dozer)	4	1
					Rubber Tired Dozers (D6 Dozer)	2	1
					Other General Industrial Equipment (Hardline Puller)	3	1
					Other General Industrial Equipment (Triple Drum Puller)	3	1
					Off-Highway Trucks (Truck Mounted Tensioner)	2	1
					Rough Terrain Forklifts	12	2
					Cranes (40 Ton)	12	2
					Skid Steer Loaders	6	2
					Excavators (>100,000 Pounds)	2	1
					Other General Industrial Equipment (3 Drum Puller)	3	1
					Other General Industrial Equipment (V Groove)	4	1
					Cranes (160 Ton Rough Terrain)	3	2
					Bore/Drill Rigs (IMT Drill)	2	2
					Bore/Drill Rigs (LoDril)	3	2
					Tractors/Loaders/Backhoes	6	2

Table 4.2-5. Revised Project Construction Scenario Assumptions - Annual Average

Construction Phase	Phase Duration (Days)	Average Daily One-Way Vehicle Trips			Equipment		
		Workers	Vendor Trucks	Haul Trucks	Equipment Type ¹	Quantity	Average Daily Usage Hours
Transmission Line Construction (Line 2) ²	274	460	24	110	Other Material Handling Equipment (Material Handler)	6	2
					Cranes (100 Ton Rough Terrain)	3	3
					Rubber Tired Dozers (D8 Dozer)	5	1
					Rubber Tired Dozers (D6 Dozer)	2	1
					Other General Industrial Equipment (Hardline Puller)	2	1
					Other General Industrial Equipment (Triple Drum Puller)	2	1
					Off-Highway Trucks (Truck Mounted Tensioner)	2	1
					Rough Terrain Forklifts	12	2
					Cranes (40 Ton)	10	1
					Skid Steer Loaders	5	2
					Excavators (>100,000 Pounds)	2	1
					Other General Industrial Equipment (3 Drum Puller)	2	1
					Other General Industrial Equipment (V Groove)	4	1
					Cranes (160 Ton Rough Terrain)	3	2
					Bore/Drill Rigs (IMT Drill)	2	2
					Bore/Drill Rigs (LoDril)	3	2
					Tractors/Loaders/Backhoes	4	2
					Other Material Handling Equipment (Material Handler)	5	2
					Cranes (100 Ton Rough Terrain)	2	2

Table 4.2-5. Revised Project Construction Scenario Assumptions - Annual Average

Construction Phase	Phase Duration (Days)	Average Daily One-Way Vehicle Trips			Equipment		
		Workers	Vendor Trucks	Haul Trucks	Equipment Type ¹	Quantity	Average Daily Usage Hours
Recontouring/Soil Stabilization (Line 1) ³	437	8	4	4	Skid Steer Loaders	2	2
					Excavators (>100,000 Pounds)	2	2
					Rubber Tired Dozers (D6 Dozer)	2	2
Recontouring/Soil Stabilization (Line 2) ³	163	8	4	4	Skid Steer Loaders	2	2
					Excavators (>100,000 Pounds)	2	2
					Rubber Tired Dozers (D6 Dozer)	2	2

Source: Appendix B.

- ¹ Equipment types listed are reflective of equipment types available in CalEEMod. Project-specific equipment as provided by LADWP's construction contractor are listed in parentheses, where applicable. CalEEMod equipment types were matched as closely as possible to the equipment list provided by the construction contractor.
- ² All transmission line construction phases would include the following activities: wreck-out of existing towers/foundations and replacement of foundations, towers, conductor, ground wire, insulators, and hardware assemblies.
- ³ Recontouring/Soil Stabilization phases would include: recontouring, soil stabilization, revegetation, and removal of various construction best management practices (BMPs) occurring at tower and other equipment (e.g., guard structure) removal sites.

Table 4.2-6. Revised Project Construction Scenario Assumptions - Maximum Day

Construction Phase	Phase Duration (Days)	Average Daily One-Way Vehicle Trips			Equipment		
		Workers	Vendor Trucks	Haul Trucks	Equipment Type ¹	Quantity	Max Daily Usage Hours
Yard Operation	985	16	30	30	Rough Terrain Forklifts	15	2
					Generator Sets	7	2
Grading (Laydown/Staging/Site Grading)	985	24	24	20	Graders	5	4
					Rubber Tired Dozers (D6 Dozer)	5	4
					Rollers	5	4
					Excavators (>100,000 Pounds)	3	4
					Skid Steer Loaders	5	4
Grading (Access Road Rehabilitation)	405	20	20	24	Graders	3	4
					Skid Steer Loaders	3	4
Transmission Line Construction (Line 1) ²	339	580	36	150	Rubber Tired Dozers (D8 Dozer)	4	2
					Rubber Tired Dozers (D6 Dozer)	4	1
					Other General Industrial Equipment (Hardline Puller)	5	1
					Other General Industrial Equipment (Triple Drum Puller)	8	8
					Off-Highway Trucks (Truck Mounted Tensioner)	4	1
					Rough Terrain Forklifts	18	2
					Cranes (40 Ton)	18	2
					Skid Steer Loaders	7	8
					Excavators (>100,000 Pounds)	3	2
					Other General Industrial Equipment (3 Drum Puller)	3	1
					Other General Industrial Equipment (V Groove)	5	1
					Cranes (160 Ton Rough Terrain)	4	2
					Bore/Drill Rigs (IMT Drill)	5	2

Table 4.2-6. Revised Project Construction Scenario Assumptions - Maximum Day

Construction Phase	Phase Duration (Days)	Average Daily One-Way Vehicle Trips			Equipment		
		Workers	Vendor Trucks	Haul Trucks	Equipment Type ¹	Quantity	Max Daily Usage Hours
					Bore/Drill Rigs (LoDrill)	5	2
					Tractors/Loaders/Backhoes	7	2
					Other Material Handling Equipment (Material Handler)	7	2
					Cranes (100 Ton Rough Terrain)	3	1
Transmission Line Construction (Lines 1 and 2 Overlap) ²	53	580	36	150	Rubber Tired Dozers (D8 Dozer)	5	1
					Rubber Tired Dozers (D6 Dozer)	3	1
					Other General Industrial Equipment (Hardline Puller)	4	1
					Other General Industrial Equipment (Triple Drum Puller)	4	1
					Off-Highway Trucks (Truck Mounted Tensioner)	3	1
					Rough Terrain Forklifts	15	2
					Cranes (40 Ton)	15	2
					Skid Steer Loaders	7	2
					Excavators (>100,000 Pounds)	5	8
					Other General Industrial Equipment (3 Drum Puller)	4	8
					Other General Industrial Equipment (V Groove)	5	8
					Cranes (160 Ton Rough Terrain)	4	2
					Bore/Drill Rigs (IMT Drill)	4	2
					Bore/Drill Rigs (LoDrill)	4	2
					Tractors/Loaders/Backhoes	7	2
					Other Material Handling Equipment (Material Handler)	7	2

Table 4.2-6. Revised Project Construction Scenario Assumptions - Maximum Day

Construction Phase	Phase Duration (Days)	Average Daily One-Way Vehicle Trips			Equipment		
		Workers	Vendor Trucks	Haul Trucks	Equipment Type ¹	Quantity	Max Daily Usage Hours
Transmission Line Construction (Line 2) ²	274	580	36	150	Cranes (100 Ton Rough Terrain)	4	3
					Rubber Tired Dozers (D8 Dozer)	6	1
					Rubber Tired Dozers (D6 Dozer)	3	1
					Other General Industrial Equipment (Hardline Puller)	3	1
					Other General Industrial Equipment (Triple Drum Puller)	3	1
					Off-Highway Trucks (Truck Mounted Tensioner)	3	2
					Rough Terrain Forklifts	20	8
					Cranes (40 Ton)	18	8
					Skid Steer Loaders	6	2
					Excavators (>100,000 Pounds)	3	1
					Other General Industrial Equipment (3 Drum Puller)	4	8
					Other General Industrial Equipment (V Groove)	5	8
					Cranes (160 Ton Rough Terrain)	4	2
					Bore/Drill Rigs (IMT Drill)	4	3
					Bore/Drill Rigs (LoDril)	4	3
					Tractors/Loaders/Backhoes	5	2
					Other Material Handling Equipment (Material Handler)	6	2
Recontouring/Soil Stabilization (Line 1) ³	437	8	8	8	Cranes (100 Ton Rough Terrain)	3	2
					Skid Steer Loaders	4	2
					Excavators (>100,000 Pounds)	3	2
					Rubber Tired Dozers (D6 Dozer)	3	2

Table 4.2-6. Revised Project Construction Scenario Assumptions - Maximum Day

Construction Phase	Phase Duration (Days)	Average Daily One-Way Vehicle Trips			Equipment		
		Workers	Vendor Trucks	Haul Trucks	Equipment Type ¹	Quantity	Max Daily Usage Hours
Recontouring/Soil Stabilization (Line 2) ³	163	8	8	8	Skid Steer Loaders	4	2
					Excavators (>100,000 Pounds)	3	2
					Rubber Tired Dozers (D6 Dozer)	3	2

Source: Appendix B.

- ¹ Equipment types listed are reflective of equipment types available in CalEEMod. Project-specific equipment as provided by LADWP's construction contractor are listed in parentheses, where applicable. CalEEMod equipment types were matched as closely as possible to the equipment list provided by the construction contractor.
- ² All transmission line construction phases would include the following activities: wreck-out of existing towers/foundations and replacement of foundations, towers, conductor, ground wire, insulators, and hardware assemblies.
- ³ Recontouring/Soil Stabilization phases would include: recontouring, soil stabilization, revegetation, and removal of various construction BMPs occurring at tower and other equipment (e.g., guard structure) removal sites.

As with the approved project, the revised project would include the use of helicopters for certain activities during construction. Helicopter emission factors from the *Guidance on the Determination of Helicopter Emissions* (FOCA 2015) were used in a spreadsheet model, assuming a Bell 407 and Boeing CH-47 Chinook would be representative for the revised project per input from LADWP. Based on information supplied by LADWP, annual average operations for the Bell 407 and Boeing CH-47 Chinook helicopters were assumed to be 6 hours per day for 48 weeks and 4 hours per day for 12 weeks, respectively. For the maximum day, each helicopter type was assumed to operate for 8 hours.

It was also conservatively assumed that approximately 37 sites along Line 1 and 23 sites along Line 2 would require blasting, with each blast site requiring approximately 2.5 tons of ammonium nitrate fuel oil (ANFO) and 91 blasting caps. Up to 3 sites were estimated to be blasted on the maximum day. Emission factors from EPA's AP-42: Compilation of Air Emission Factors were used to estimate emissions for rock blasting (AP-42 Chapter 11.9 – Western Surface Coal Mining) (EPA 1998), ANFO (AP-42 Chapter 13.3 – Explosives Detonation) (EPA 1980), and blasting caps (AP-42 Chapter 15.9 – Blasting Caps, Demolition Charges, and Detonators) (EPA 2009).

Emissions were not estimated for long-term operations. Consistent with the approved project, the revised project would not change the routine inspection and maintenance of the existing transmission lines or result in a net increase in operational emissions.

Impacts

Threshold AQ-1: Would the project conflict with or obstruct implementation of the applicable air quality plan?

Summary of the Certified 2024 EIR Findings

During construction, the 2024 EIR found that the approved project would result in significant and unavoidable emissions of NO_x, PM₁₀, and PM_{2.5}, even after implementation of mitigation. On this basis, the approved project would potentially conflict with the Federal Particulate Matter Attainment Plan and Ozone Attainment Plan for the MDAB, resulting in significant and unavoidable construction impacts for Threshold AQ-1. For long-term operations, the 2024 EIR concluded that the approved project would not result in a net increase in emissions and would thus result in no operational impact.

Revised Project Impact Analysis

For the project area, the applicable air quality plans are the Federal Particulate Matter Attainment Plan and the Ozone Attainment Plan for the Mojave Desert, which set forth a comprehensive set of programs that will lead the MDAB into compliance with federal and state air quality standards. The control measures and related emission reduction estimates within the Federal Particulate Matter Attainment Plan and Ozone Attainment Plan are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. A project is non-conforming with an air quality plan if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable MDAQMD rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Zoning changes, specific plans, general plan amendments and similar land use plan changes that do not increase dwelling unit density, do not increase vehicle trips, and do not increase vehicle miles traveled are also deemed to comply with the applicable air quality plan (MDAQMD 2020).

The revised project would be required to comply with all applicable MDAQMD Rules and Regulations, including, but not limited, to Rules 401 (Visible Emissions), 402 (Nuisance), and 403 (Fugitive Dust Control for the Mojave Desert Planning Area). As the revised project consists of improvements to existing transmission lines, it would not result in a land use change that could conflict with existing land use policies or plans adopted by agencies with jurisdiction over local land uses. Additionally, as with the approved project, the revised project does not include any new residences or businesses and is not intended to induce growth but to serve existing and projected electricity demands. No new homes or businesses would result, and the infrastructure upgrades would not generate new growth as the revised project would not enable any new development to occur.

As discussed under Threshold AQ-2 below, unmitigated criteria air pollutant emissions from construction of the revised project would result in exceedances of annual and/or daily regional thresholds for emissions of NO_x, CO, PM₁₀, and PM_{2.5}, primarily from off-road equipment, blasting activities (i.e., ANFO explosives, rock blasting, and blasting caps/detonators), helicopter exhaust, and vehicular travel over unpaved roads. Blasting activities are the primary driver of the revised project's CO emissions, and vehicle travel on unpaved roads is the primary driver of the revised project's PM₁₀ and PM_{2.5} emissions. The revised project's NO_x emissions are caused primarily by helicopter use, but off-road equipment and blasting are also substantial contributors. The revised project would be required to implement Mitigation Measure (MM)-AQ-1 (Fugitive Dust Controls), which includes the same dust controls as for the approved project, and MM-AQ-2 (Exhaust Controls), which expands the Tier 4 Final equipment requirement to 50 horsepower (hp) or greater engines, as compared to 75 hp or greater engines for the approved project (i.e., more pieces of off-road equipment would be mitigated in the revised project). With implementation of MM-AQ-1 and MM-AQ-2, emissions of NO_x, PM₁₀, and PM_{2.5} would be substantially reduced but would still exceed MDAQMD significance thresholds. MM-AQ-2 requires use of Tier 4 engines for certain equipment pieces, indicating that more efficient engines would generally be required. While the use of Tier 4 engines reduces emissions of O₃ precursors (VOC and NO_x), as well as PM₁₀ and PM_{2.5}, use of Tier 4 engines would increase CO emissions. As such, the project's mitigated construction scenario has slightly higher estimated CO emissions than unmitigated emissions in some years. Nevertheless, MM-AQ-2 is still recommended because it would substantially reduce O₃ and PM₁₀, which are nonattainment pollutants in San Bernardino County (i.e., the County already has substandard air quality for these pollutants), whereas the County is in attainment for CO.

Based on the preceding considerations, the revised project would conform to local land use plans and would comply with all applicable MDAQMD Rules and Regulations. However, emissions of NO_x and PM₁₀ during short-term construction of the revised project have the potential to increase the frequency or severity of a violation in the federal or state AAQS, and therefore, the revised project would be considered to potentially conflict with the Federal Particulate Matter Attainment Plan and Ozone Attainment Plan for the MDAB. Therefore, impacts associated with the potential to conflict with or obstruct implementation of the applicable air quality plan would be significant and unavoidable during construction. However, for long-term operations, the revised project would not result in a net increase in emissions and would result in no impact, as discussed under Threshold AQ-2.

As summarized previously, the potential for the approved project to conflict with or obstruct implementation of the applicable air quality plans was determined to be significant and unavoidable in the certified 2024 EIR. The revised project would generally result in increased annual average and maximum day emissions after mitigation when compared to the approved project, except for annual NO_x and annual and maximum day VOC emissions, which would be reduced under the revised project. Additionally, the revised project would result in significant and unavoidable regional CO emissions, whereas the approved project was associated with less-than-significant regional impacts for CO. Because construction of the revised project would generally produce greater pollutant emissions of nonattainment pollutants on a daily and/or annual basis when compared to the approved project, the revised project would conflict with implementation of applicable air quality plans to a greater extent than the

approved project. Impacts for Threshold AQ-1 would thus remain significant and unavoidable and would increase in severity for the revised project.

Threshold AQ-2: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Summary of the Certified 2024 EIR Findings

Construction of the approved project would result in a potentially significant cumulatively considerable net increase in NO_x, PM_{2.5}, and PM₁₀, even after implementation of mitigation, and was thus determined to result in a significant and unavoidable impact for Threshold AQ-2. For long-term operations, the proposed maintenance activities to service the upgraded transmission lines would be similar in nature and scale to the maintenance activities that are currently conducted for the existing lines. Therefore, the approved project's operational criteria air pollutant emissions would be similar to existing baseline conditions, and no operational impacts would occur.

Revised Project Impact Analysis

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the MDAQMD develops and implements plans for future attainment of the AAQS. Although the area of the MDAB where the revised project is located is currently designated a nonattainment area for federal and state O₃ standards and federal and state PM₁₀ standards, the MDAB has experienced a substantial reduction in maximum 8-hour concentrations of O₃ over the past 30 years, as well as reductions in PM₁₀ over time, as described in the respective MDAQMD O₃ and PM₁₀ attainment plans. CEQA thresholds are established at levels that the air basin can accommodate without affecting the attainment date for the AAQS. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality.

Short-Term Construction Impacts

Construction of the revised project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, ANFO explosives, and blasting caps/detonators) and off-site sources (i.e., on-road haul trucks, vendor trucks, worker vehicle trips, and helicopters). Construction air pollutant sources are generally similar between the approved and revised projects; however, the approved project does not include the use of explosives, whereas the revised project would require use of explosives. Additionally, the revised project is associated with an overall increase in daily and annual construction intensity when compared to the approved project, resulting in more helicopter trips, more equipment pieces being used on site, and more vehicle trips. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM₁₀ and PM_{2.5} emissions. As with the approved project, the revised project would be required to comply with MDAQMD Rule 403 to control dust emissions generated during the grading activities. Internal combustion engines used by construction equipment, haul trucks, vendor trucks (i.e., delivery trucks), worker vehicles, and helicopters would result in emissions of VOCs, NO_x, CO, PM₁₀, and PM_{2.5}. In addition, blasting activities (i.e., ANFO explosives, rock blasting, and blasting caps/detonators) would result in emissions of NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

Annual and maximum daily emissions are summarized in Table 4.2-7 and Table 4.2-8, respectively, for the unmitigated scenario. In addition, these tables include a comparison of the revised project unmitigated emissions to those of the approved project. Detailed construction model outputs are presented in Appendix B.

Table 4.2-7. Estimated Annual Average Construction Criteria Air Pollutant Emissions – Unmitigated

Year	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Tons per Year					
Revised Project						
2026	0.97	9.51	12.17	0.12	203.47	21.33
2027	2.74	22.01	22.63	0.12	528.91	54.35
2028	2.58	18.81	19.27	0.05	736.76	75.27
2029	0.39	3.48	3.73	0.01	65.02	7.14
Revised Project Maximum Annual Emissions	2.74	22.01	22.63	0.12	736.76	75.27
MDAQMD Threshold	25	25	100	25	15	12
Threshold Exceeded?	No	No	No	No	Yes	Yes
Comparison to Approved Project						
Approved Project Maximum Annual Emissions	2.66	23.78	24.73	0.04	601.61	61.89
Net Change (Revised Project minus Approved Project)	0.08	(1.77)	(2.10)	0.08	135.15	13.38

Source: Appendix B.

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; MDAQMD= Mojave Desert Air Quality Management District. Values in parentheses indicate that the net change of revised project emissions is a reduction as compared to the approved project. For the revised project, helicopter and blasting emissions were summed with the CalEEMod emissions inventory. Helicopter emissions were split 50% between 2027 and 2028 based on the transmission line replacement schedule. Blasting emissions were included in 2026 (Line 1) and 2027 (Line 2), based on input from LADWP.

Table 4.2-8. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions - Unmitigated

Year	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Pounds per Day					
Revised Project						
Summer						
2026	7.90	213.31	585.62	15.32	4,654.06	478.42
2027	47.17	717.37	781.07	15.87	21,589.18	2,172.41
2028	52.95	629.43	336.68	0.98	20,559.34	2,070.33
2029	8.44	83.96	83.12	0.30	4,157.26	429.59
Winter						
2026	23.01	336.72	737.13	15.87	21,581.70	2,172.75
2027	47.39	721.05	762.59	15.91	21,592.27	2,174.56
2028	53.40	642.86	329.86	1.02	21,095.10	2,126.25
2029	8.34	85.05	81.85	0.30	4,157.26	429.59
Revised Project Maximum Daily Emissions	53.40	721.05	781.07	15.91	21,592.27	2,174.56
MDAQMD Threshold	137	137	548	137	82	65
Threshold Exceeded?	No	Yes	Yes	No	Yes	Yes
Comparison to the Approved Project						
Approved Project Maximum Daily Emissions	52.72	495.81	294.8	0.5	11,422.58	1,167.27
Net Change (Revised Project minus Approved Project)	0.68	225.24	486.27	15.41	10,169.69	1,007.29

Source: Appendix B.

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; MDAQMD= Mojave Desert Air Quality Management District
For the revised project, helicopter and blasting emissions were summed with the CalEEMod emissions inventory. Helicopter emissions were split 50% between 2027 and 2028 based on the transmission line replacement schedule. Blasting emissions were included in 2026 (Line 1) and 2027 (Line 2), based on input from LADWP.

As shown in Table 4.2-7 and Table 4.2-8, annual average and maximum day construction emissions for the revised project would exceed the MDAQMD thresholds for PM₁₀ and PM_{2.5}. In addition, the revised project would also result in maximum day NO_x and CO emissions that would exceed the MDAQMD thresholds. Overall, blasting activities are the primary driver of the revised project's CO emissions, and vehicle travel on unpaved roads is the primary driver of the revised project's PM₁₀ and PM_{2.5} emissions. The revised project's NO_x emissions are caused primarily by helicopter use, but off-road equipment and blasting are also substantial contributors. These impacts would be potentially significant without mitigation. When compared to the approved project, the revised project would generally result in increased annual average and maximum day emissions, except for annual NO_x and CO, which would be reduced under the revised project.

MM-AQ-1 is set forth to reduce the revised project's PM₁₀ and PM_{2.5} emissions. MM-AQ-1 requires the development and submittal of a dust control plan to the MDAQMD for approval that outlines BMPs to reduce fugitive dust. MM-AQ-2 is set forth to reduce the revised project's O₃ precursors (VOCs and NO_x), PM₁₀, and PM_{2.5} emissions. MM-AQ-2 would be implemented to reduce revised project-generated equipment exhaust, primarily by requiring all 50 hp or greater equipment to have CARB-compliant Tier 4 Final engines, which are the cleanest engines currently

available. The estimated annual and maximum daily construction emissions with mitigation are summarized in Table 4.2-9 and Table 4.2-10, respectively. Similar mitigation measures were required for the approved project in the 2024 EIR. Table 4.2-9 and Table 4.2-10 include a comparison of the revised project's mitigated emissions to the approved project's mitigated emissions.

Table 4.2-9. Estimated Annual Average Construction Criteria Air Pollutant Emissions - Mitigated

Year	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Tons per Year					
Revised Project						
2026	0.31	3.75	14.51	0.12	18.99	2.19
2027	1.48	11.12	30.32	0.12	48.77	5.35
2028	1.55	10.28	24.66	0.05	67.65	7.32
2029	0.11	1.15	4.32	0.01	6.15	0.78
Revised Project Maximum Annual Emissions	1.55	11.12	30.32	0.12	67.65	7.32
MDAQMD Threshold	25	25	100	25	15	12
Threshold Exceeded?	No	No	No	No	Yes	No
Comparison to Approved Project						
Approved Project Maximum Annual Emissions	1.78	14.96	27.64	0.04	55.95	6.44
Net Change (Revised Project minus Approved Project)	(0.23)	(3.84)	2.68	0.08	11.70	0.88

Source: Appendix B.

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; MDAQMD= Mojave Desert Air Quality Management District

Values in parentheses indicate that the net change of revised project emissions is a reduction as compared to the approved project. Mitigated emissions account for implementation of MM-AQ-1 (Fugitive Dust Controls) and MM-AQ-2 (Exhaust Controls).

For the revised project, helicopter and blasting emissions were summed with the CalEEMod emissions inventory. Helicopter emissions were split 50% between 2027 and 2028 based on the transmission line replacement schedule. Blasting emissions were also included in 2026 (Line 1) and 2027 (Line 2), based on input from LADWP.

Table 4.2-10. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions - Mitigated

Year	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Pounds per Day					
Revised Project						
Summer						
2026	2.39	165.36	594.34	15.32	457.00	52.23
2027	34.92	615.88	875.64	15.87	1,994.47	208.02
2028	36.26	489.98	467.01	0.98	1,870.65	193.17
2029	2.49	33.67	97.96	0.30	382.29	42.53
Winter						
2026	10.38	227.06	831.21	15.87	1,986.62	208.02
2027	34.72	621.31	873.68	15.91	1,994.59	208.43
2028	36.03	496.95	463.90	1.02	1,920.12	198.83
2029	2.39	34.76	96.69	0.30	382.29	42.53
Revised Project Maximum Daily Emissions	36.26	621.31	875.64	15.91	1,994.59	208.43
MDAQMD Threshold	137	137	548	137	82	65
Threshold Exceeded?	No	Yes	Yes	No	Yes	Yes
Comparison to the Approved Project						
Approved Project Maximum Daily Emissions	41.42	384.82	320.85	0.51	1,055.03	116.64
Net Change (Revised Project minus Approved Project)	(5.16)	236.49	554.79	15.40	939.56	91.79

Source: Appendix B.

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; MDAQMD= Mojave Desert Air Quality Management District

Values in parentheses indicate that the net change of revised project emissions is a reduction as compared to the approved project. Mitigated emissions account for implementation of MM-AQ-1 (Fugitive Dust Controls) and MM-AQ-2 (Exhaust Controls).

For the revised project, helicopter and blasting emissions were summed with the CalEEMod emissions inventory. Helicopter emissions were split 50% between 2027 and 2028 based on the transmission line replacement schedule. Blasting emissions were included in 2026 (Line 1) and 2027 (Line 2), based on input from LADWP.

With MM-AQ-1 and MM-AQ-2, emissions of NO_x, PM₁₀, and PM_{2.5} would be substantially reduced but would still exceed the respective annual and/or daily MDAQMD significance thresholds. MM-AQ-2 requires use of Tier 4 engines for certain equipment pieces, indicating that more efficient engines would generally be required. While the use of Tier 4 engines reduces emissions of O₃ precursors (VOC and NO_x), as well as PM₁₀ and PM_{2.5}, use of Tier 4 engines would increase CO emissions. As such, the project's mitigated construction scenario has slightly higher estimated CO emissions than unmitigated emissions in some years. Nevertheless, MM-AQ-2 is still recommended because it would substantially reduce O₃ and PM₁₀, which are non-attainment pollutants in San Bernardino County (i.e., the County already has substandard air quality for these pollutants), whereas the County is in attainment for CO. Overall, the revised project would result in a short-term, cumulatively considerable net increase of criteria pollutants for which the project region is non-attainment. This impact would be considered significant and unavoidable.

As summarized previously, construction of the approved project would result in a cumulatively considerable and unavoidable net increase of NO_x and PM₁₀ for which the project region is non-attainment for both the NAAQS and

CAAQS. This impact would be increased in severity under the revised project, since maximum daily emissions of NO_x and PM₁₀ would increase and annual emissions of PM₁₀ would increase. Additionally, due to an exceedance of daily emissions thresholds, the revised project would result in new significant, unavoidable impacts for PM_{2.5} and CO, for which the project region is in attainment under both the NAAQS and CAAQS. Impacts for Threshold AQ-2 would thus remain significant and unavoidable and would increase in severity for the revised project.

Long-Term Operational Impacts

For long-term operations, the proposed maintenance activities to service the upgraded transmission lines under the revised project would be similar in nature and scale to the maintenance activities that are currently conducted for the existing lines. Therefore, the revised project would not result in a net increase in emissions and would result in no impact pertaining to operations. Operation of the approved project would also result in no operational impacts. As such, the revised project would not result in a new significant impact or substantial increase in the severity of a previously identified significant impact compared to the approved project.

Threshold AQ-3: Would the project expose sensitive receptors to substantial pollutant concentrations?

Summary of the Certified 2024 EIR Findings

Construction and operation of the approved project would not expose sensitive receptors to substantial pollutant concentrations, including concentrations of CO emissions, TACs, and spores of the *Coccidioides immitis* fungus (which can result in Valley Fever). However, since approved project construction would result in exceedances of MDAQMD significance thresholds for NO_x, PM_{2.5}, and PM₁₀, even after implementation of MM-AQ-1 and MM-AQ-2, the potential health effects associated with criteria air pollutants were conservatively considered significant and unavoidable.

Revised Project Impact Analysis

The potential impact of the revised project-generated air pollutant emissions at sensitive receptors has been considered. The closest sensitive receptors to the construction area for MCC-VIC Lines 1 and 2 would be scattered rural residents located along the alignment. MCC-VIC Lines 1 and 2 consist of approximately 875 steel lattice towers per line. Instead of completing various construction activities along the parallel transmission lines, including as needed replacement of conductor, tower modifications, tower replacement, and tower raising (as proposed under the approved project), the revised project proposes to completely remove and replace the approximately 1,750 existing transmission tower structures as well as both transmission lines with two new parallel overhead transmission lines within the existing approved right-of-way to increase their overall capacity.⁹ As discussed in Section 4.2.1, the land surrounding the revised project work areas consists primarily of undeveloped open space areas in the Mojave Desert. Scattered rural residential land uses are also located in the vicinity of the transmission lines, mostly between Harvard, California and Victorville, California, in the Western Mojave Desert.

Local Carbon Monoxide Concentrations

Health effects associated with CO include chest pain in patients with heart disease, headache, light-headedness, and reduced mental alertness (see Section 4.2.1). The MDAQMD thresholds of significance for local CO emissions is the 1-hour and 8-hour CAAQS of 20 ppm and 9 ppm, respectively. By definition, these thresholds represent levels

⁹ The transmission tower count discussed herein includes all structures to be replaced, including those in Nevada. However, the focus of this environmental review is on the California segment, pursuant to CEQA.

that are protective of public health. As noted previously, the MDAB is currently designated attainment for both state and national CO AAQS.

Title 40 of the Code of Federal Regulations, Section 93.123(c)(5), Procedures for Determining Localized CO, PM₁₀, and PM_{2.5} Concentrations (Hot-Spot Analysis), states that “CO, PM₁₀, and PM_{2.5} hot-spot analyses are not required to consider construction-related activities, which cause temporary increases in emissions. Each site which is affected by construction-related activities shall be considered separately, using established ‘Guideline’ methods. Temporary increases are defined as those which occur only during the construction phase and last five years or less at any individual site” (40 CFR 93.123). While revised project construction could exceed the MDAQMD daily threshold for CO after mitigation (as shown in Table 4.2-10), this exceedance is primarily based on the assumption that blasting could occur at up to 3 different sites on the maximum day. However, blasting would not occur in close proximity to sensitive receptors. In addition, construction activities and associated emissions related to the revised project, including blasting and on-road vehicular traffic, would be dispersed along the 162-mile alignment, which would minimize localized concentrations, and construction would last less than 4 years. Therefore, the revised project would not require a project-level construction hotspot analysis, and localized impacts associated with CO hotspots would thus be less than significant.

Health Effects of Other Criteria Air Pollutants

The California Supreme Court’s *Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502 decision (referred to herein as the Friant Ranch decision) (issued on December 24, 2018) addresses the need to correlate mass emission values for criteria air pollutants to specific health consequences and contains the following direction from the California Supreme Court: “The Environmental Impact Report (EIR) must provide an adequate analysis to inform the public how its bare numbers translate to create potential adverse impacts or it must explain what the agency *does* know and why, given existing scientific constraints, it cannot translate potential health impacts further” (Italics original). Currently, MDAQMD, CARB, and EPA have not approved a quantitative method to reliably, meaningfully, and consistently translate the mass emission estimates for the criteria air pollutants to specific health effects. In addition, there are numerous scientific and technological complexities associated with correlating criteria air pollutant emissions from an individual project to specific health effects or potential additional nonattainment days.

In connection with the judicial proceedings culminating in issuance of the Friant Ranch decision, the SCAQMD and the SJVAPCD filed amicus briefs attesting to the extreme difficulty of correlating an individual project’s criteria air pollutant emissions to specific health impacts. Both SJVAPCD and SCAQMD have among the most sophisticated air quality modeling and health impact evaluation capabilities of the air districts in California. The key, relevant points from SCAQMD and SJVAPCD briefs, which focus particularly on O₃ and PM, are summarized below.

In requiring a health impact type of analysis for criteria air pollutants, it is important to understand how O₃ and PM are formed, dispersed, and regulated. The formation of O₃ and PM in the atmosphere, as secondary pollutants,¹⁰ involves complex chemical and physical interactions of multiple pollutants from natural and anthropogenic sources. The O₃ reaction is self-perpetuating (or catalytic) in the presence of sunlight because NO₂ is photochemically reformed from nitric oxide. In this way, O₃ is controlled by both NO_x and VOC emissions (NRC 2005). The complexity of these interacting cycles of pollutants means that incremental decreases in one emission may not result in proportional decreases in O₃ (NRC 2005). Although these reactions and interactions are well understood, variability in emission source operations and meteorology creates uncertainty in the modeled O₃ concentrations to which downwind populations may be exposed (NRC 2005). Once formed, O₃ can be transported long distances by wind,

¹⁰ Air pollutants formed through chemical reactions in the atmosphere are referred to as secondary pollutants.

and due to atmospheric transport, contributions of precursors from the surrounding region can also be important (EPA 2008). Because of the complexity of O₃ formation, a specific tonnage amount of VOCs or NO_x emitted in a particular area does not equate to a particular concentration of O₃ in that area (SJVAPCD 2015). PM can be divided into two categories: directly emitted PM and secondary PM. Secondary PM, like O₃, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as SO_x and NO_x (SJVAPCD 2015). Because of the complexity of secondary PM formation, including the potential to be transported long distances by wind, the tonnage of PM-forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary PM in that area (SJVAPCD 2015). This is especially true for individual projects, like the approved and revised projects, where project-generated criteria air pollutant emissions are not derived from a single "point source," but from construction equipment and mobile sources (passenger cars and trucks) driving to, from, and around a 162-mile alignment.

Another important technical nuance is that health effects from air pollutants are related to the concentration of the air pollutant that an individual is exposed to, not necessarily the individual mass quantity of emissions associated with an individual project. For example, health effects from O₃ are correlated with increases in the ambient level of O₃ in the air a person breathes (SCAQMD 2015). However, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient O₃ levels over an entire region (SCAQMD 2015). The lack of link between the tonnage of precursor pollutants and the concentration of O₃ and PM_{2.5} formed is important because it is not necessarily the tonnage of precursor pollutants that causes human health effects; rather, it is the concentration of resulting O₃ that causes these effects (SJVAPCD 2015). Indeed, the AAQS, which are statutorily required to be set by EPA at levels that are requisite to protect the public health, are established as concentrations of O₃ and PM_{2.5} and not as tonnages of their precursor pollutants (SJVAPCD 2015). Because the AAQS are focused on achieving a particular concentration region-wide, the tools and plans for attaining the ambient air quality standards are regional in nature. For CEQA analyses, project-generated emissions are typically estimated in pounds per day or tons per year and compared to mass daily or annual emission thresholds. While CEQA thresholds are established at levels that the air basin can accommodate without affecting the attainment date for the AAQS, even if a project exceeds established CEQA significance thresholds, this does not mean that one can easily determine the concentration of O₃ or PM that will be created at or near the project site on a particular day or month of the year or what specific health impacts will occur (SJVAPCD 2015).

In regard to regional concentrations and air basin attainment, the SJVAPCD emphasized that attempting to identify a change in background pollutant concentrations that can be attributed to a single project, even one as large as the entire Friant Ranch Specific Plan,¹¹ is a theoretical exercise. The SJVAPCD brief noted that it “would be extremely difficult to model the impact on NAAQS attainment that the emissions from the Friant Ranch project may have” (SJVAPCD 2015). The situation is further complicated by the fact that background concentrations of regional pollutants are not uniform either temporally or geographically throughout an air basin but are constantly fluctuating based upon meteorology and other environmental factors. SJVAPCD noted that the currently available modeling tools are equipped to model the impact of all emission sources in the San Joaquin Valley Air Basin on attainment (SJVAPCD 2015). The SJVAPCD brief then indicated that, “Running the photochemical grid model used for predicting O₃ attainment with the emissions solely from the Friant Ranch project (which equate to less than one-tenth of one percent of the total NO_x and VOC in the Valley) is not likely to yield valid information given the relative scale involved” (SJVAPCD 2015).

¹¹ The Friant Ranch Specific Plan proposed 2,683 single-family age-restricted units, 83 multifamily age-restricted units, 180 non-age-restricted multifamily units, and 250,000 square feet of commercial village within a Village Core that also provides for up to 50 residential units on approximately 942 acres (County of Fresno 2010).

SCAQMD and SJVAPCD have indicated that it is not feasible to quantify project-level health impacts based on existing modeling (SCAQMD 2015; SJVAPCD 2015). Even if a metric could be calculated, it would not be reliable because the models are equipped to model the impact of all emission sources in an air basin on attainment and would likely not yield valid information or a measurable increase in O₃ concentrations sufficient to accurately quantify O₃-related health impacts for an individual project.

Nonetheless, following the Supreme Court's Friant Ranch decision, some EIRs where estimated criteria air pollutant emissions exceeded applicable air district thresholds have included a quantitative analysis of potential project-generated health effects using a combination of a regional photochemical grid model¹² and the EPA Benefits Mapping and Analysis Program (BenMAP or BenMAP–Community Edition).¹³ The publicly available health impact assessments (HIAs) typically present results in terms of an increase in health incidences and/or the increase in background health incidences for various health outcomes resulting from the project's estimated increase in concentrations of O₃ and PM_{2.5}.¹⁴ To date, the six publicly available HIAs reviewed herein have concluded that the evaluated project's health effects associated with the estimated project-generated increase in concentrations of O₃ and PM_{2.5} represent a small increase in incidences and a very small percent of the number of background incidences, indicating that these health impacts are negligible and potentially within the models' margin of error. Additionally, while the results of the six available HIAs conclude that the project emissions do not result in a substantial increase in health incidences, the estimated emissions and assumed toxicity are also conservatively inputted into the HIA and thus, overestimate health incidences, particularly for PM_{2.5}.

As explained in the SJVAPCD brief and noted previously, running the photochemical grid model used for predicting O₃ attainment with the emissions solely from an individual project like the Friant Ranch Project or the revised project is not likely to yield valid information given the relative scale involved. The six examples reviewed provide support for the SJVAPCD's brief contention that consistent, reliable, and meaningful results may not be provided by methods applied at this time. Accordingly, additional work in the industry and, more importantly, air district participation, is needed to develop a more meaningful analysis to correlate project-level mass criteria air pollutant emissions and health effects for decision makers and the public. Furthermore, at the time of writing, no HIA has concluded that health effects estimated using the photochemical grid model and BenMAP approach are substantial, provided that the estimated project-generated incidences represent a very small percent of the number of background incidences, potentially within the models' margin of error.

¹² The first step in the publicly available HIAs includes running a regional photochemical grid model, such as the Community Multiscale Air Quality model or the Comprehensive Air Quality Model with extensions to estimate the increase in concentrations of O₃ and PM_{2.5} as a result of project-generated emissions of criteria and precursor pollutants. Air districts, such as the SCAQMD, use photochemical air quality models for regional air quality planning. These photochemical models are large-scale air quality models that simulate the changes of pollutant concentrations in the atmosphere using a set of mathematical equations characterizing the chemical and physical processes in the atmosphere (EPA 2017).

¹³ After estimating the increase in concentrations of O₃ and PM_{2.5}, the second step in the six examples includes use of BenMAP or BenMAP–Community Edition to estimate the resulting associated health effects. BenMAP estimates the number of health incidences resulting from changes in air pollution concentrations (EPA 2023). The health impact function in BenMAP–Community Edition incorporates four key sources of data: (i) modeled or monitored air quality changes, (ii) population, (iii) baseline incidence rates, and (iv) an effect estimate. All of the six example HIAs focused on O₃ and PM_{2.5}.

¹⁴ The following CEQA documents included a quantitative HIA to address Friant Ranch: (1) World Logistics Center Revised Final EIR (City of Moreno Valley 2019), (2) March Joint Powers Association K4 Warehouse and Cactus Channel Improvements EIR (March JPA 2019), (3) Mineta San Jose Airport Amendment to the Airport Master Plan EIR (City of San Jose 2019), (4) City of Inglewood Basketball and Entertainment Center Project EIR (City of Inglewood 2019), (5) San Diego State University Mission Valley Campus Master Plan EIR (SDSU 2019), and (6) California State University Dominguez Hills 2018 Campus Master Plan EIR (CSU Dominguez Hills 2019).

Construction of the revised project would result in annual and/or daily emissions that would exceed the MDAQMD thresholds for NO_x, CO, PM₁₀, and PM_{2.5}, even after implementation of MM-AQ-1 and MM-AQ-2. Operation of the revised project, however, would not result in a net increase in emissions and would result in no impact.

As discussed in Section 4.2.1 Existing Conditions, under the heading *Criteria Air Pollutants*, health effects associated with O₃ include respiratory symptoms, worsening of lung disease leading to premature death, and damage to lung tissue. VOCs and NO_x are precursors to O₃, for which the MDAB is designated as nonattainment with respect to the NAAQS and CAAQS. The contribution of VOCs and NO_x to regional ambient O₃ concentrations is the result of complex photochemistry. The increases in O₃ concentrations in the MDAB due to O₃ precursor emissions tend to be found downwind of the source location because of the time required for the photochemical reactions to occur. Further, the potential for exacerbating excessive O₃ concentrations would also depend on the time of year that the O₃ precursor emissions would occur, because exceedances of the O₃ NAAQS and CAAQS tend to occur between April and October when solar radiation is highest. As described above, due to the lack of quantitative methods to assess this complex photochemistry, the holistic effect of a single project's emissions of O₃ precursors is speculative. That being said, because the revised project would exceed the MDAQMD NO_x daily threshold during construction, the revised project could contribute to health effects associated with O₃.

Health effects associated with NO_x and NO₂ include lung irritation and enhanced allergic responses (see Section 4.2.1). Although the MDAB is a designated attainment area for NO₂ (and NO₂ is a constituent of NO_x) and the existing NO₂ concentrations in the area are well below the NAAQS and CAAQS standards,¹⁵ the revised project could still contribute to health effects associated with NO_x and NO₂ because it would exceed the MDAQMD NO_x threshold during construction.

Health effects associated with PM₁₀ and PM_{2.5} include premature death and hospitalization, primarily for worsening of respiratory disease (see Section 4.2.1). Construction of the revised project would exceed the MDAQMD threshold for PM₁₀ and PM_{2.5}. As such, the revised project would potentially contribute to exceedances of the NAAQS and CAAQS for PM and obstruct the MDAB from coming into attainment for these pollutants. Because the revised project has the potential to contribute substantial particulate matter during construction, it could result in associated health effects.

Based on the preceding discussion, there are numerous scientific and technological complexities associated with correlating criteria air pollutant emissions from an individual project to specific health effects or potential additional nonattainment days, and methods available to quantitatively evaluate health effects may not be appropriate to apply to emissions associated with the revised project, which cannot be estimated with a high-level of accuracy. However, as a conservative determination, the revised project could potentially increase health effects from regional emissions of NO_x, PM₁₀, and PM_{2.5} during short-term construction. Therefore, this impact would be significant and unavoidable.

Toxic Air Contaminant Exposure

TACs are defined as substances that may cause or contribute to an increase in deaths or in serious illness, or that may pose a present or potential hazard to human health. State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program and aimed at TACs that are a problem in California. The state has formally identified more than 200 substances as TACs, including

¹⁵ See Table 4.2-2, which shows that ambient concentrations of NO₂ at the nearest monitoring stations (Victorville and Barstow) have not exceeded the NAAQS or CAAQS between 2022 and 2024.

the federal HAPs, and is adopting appropriate control measures for sources of these TACs. During construction of the revised project, DPM would be the primary TAC emitted from diesel-fueled equipment and trucks.

The closest sensitive receptors to the construction area for MCC-VIC Lines 1 and 2 would be scattered rural residents located along the alignment. However, construction of the revised project would occur at 1,750 existing towers along 162 miles of linear transmission corridors and would not require the extensive use of heavy-duty construction equipment or diesel trucks in any one location over the duration of construction, which would limit the exposure of any proximate individual sensitive receptor to project-related TACs. In addition, while there are several proposed material show-up yards in proximity to sensitive receptors where longer-term operations may occur throughout construction, these yards would be used primarily as equipment storage and/or as a place where crews will report, assemble, and prepare before proceeding to construction work locations and therefore would not be a source of significant TAC emissions. Once the yards are cleared and graded, equipment operations would include limited use of forklifts for material handling, loading, and unloading (less than 4 hours per day). Generators may be used at the onset of yard development; however, yards would be tied into temporary accessible power to the extent feasible or would use solar power generation and avoid ongoing use of a generator. Therefore, there would be limited exposure to DPM emissions from the use of the material show-up yards. Notably, the revised project would implement MM-AQ-2 (Exhaust Controls), which requires all 50 hp or greater equipment to have CARB-compliant Tier 4 Final engines, which are the cleanest engines available and reduce potential DPM emissions from construction equipment by up to 93% to 96% compared to equipment with engines meeting Tier 1 or Tier 2 emission standards.¹⁶ CARB has also adopted multiple ATCMs that reduce DPM emissions from off-road equipment and on-road vehicles in the state, as identified in Section 4.2.2 under the subsection *Toxic Air Contaminants*. For long-term operations, the revised project would not change the routine inspection and maintenance of the existing transmission lines or result in a net increase in TAC emissions.

Due to the relatively short period of exposure at any individual sensitive receptor along the alignment and minimal equipment activity at the material show-up yards, TACs emitted during construction of the revised project would not be expected to result in concentrations causing significant health risks. Therefore, this impact would be less than significant. Additionally, as described under Threshold AQ-2, MM-AQ-2 would be required and would substantially reduce DPM emissions from off-road equipment.

Valley Fever

As discussed in Section 4.2.1, under the subsection *Valley Fever*, San Bernardino County is not considered a highly endemic region for Valley Fever, with an incident rate of 10.5 cases per 100,000 people in 2022 (CDPH 2023). Even if present at the tower sites, construction activities may not result in increased incidence of Valley Fever. Propagation of Valley Fever is dependent on climatic conditions, with the potential for growth and surface exposure highest following early seasonal rains and long dry spells. Valley Fever spores can be released when filaments are disturbed by earth-moving activities, although receptors must be exposed to and inhale the spores to be at increased risk of developing Valley Fever. Moreover, exposure to Valley Fever does not guarantee that an individual

¹⁶ Particulate matter emissions benefits are estimated by comparing off-road particulate matter emission standards for Tier 1 and Tier 2 with Tier 4 final emissions standards. Tier 1 particulate matter emissions standards were established for equipment with 25 to <50 horsepower and equipment with horsepower <175. Tier 1 emissions standards for these engines were compared against Tier 4 final emissions standards, resulting in a 96% reduction in particulate matter. The EPA established particulate matter standards for engines with horsepower from 50 to <175 as part of the Tier 2 emission standards. For these engines, Tier 2 emissions standards were compared against Tier 4 final emissions standards, resulting in a 93%–95% reduction in particulate matter.

will become ill—approximately 60% of people exposed to the fungal spores are asymptomatic and show no signs of an infection (USGS 2000).

To reduce fugitive dust from the revised project and minimize adverse air quality impacts, the revised project would employ MM-AQ-1, which requires the development and submittal of a dust control plan to the MDAQMD for approval. The dust control plan would be required to outline BMPs to reduce fugitive dust. These requirements are consistent with California Department of Public Health recommendations for the implementation of dust control measures, including regular application of water during soil-disturbance activities, to reduce exposure to Valley Fever by minimizing the potential for the fungal spores to become airborne (CDPH 2013). Further, regulations designed to minimize exposure to Valley Fever hazards are included in Title 8 of the California Code of Regulations and would be complied with during the revised project's construction phase (California Department of Industrial Relations 2022).

Based on the preceding considerations, the revised project would not result in a significant impact attributable to Valley Fever exposure based on its geographic location and compliance with applicable regulatory standards, which will serve to minimize the release of and exposure to fungal spores. Therefore, impacts associated with Valley Fever exposure for sensitive receptors during construction of the revised project would be less than significant.

Summary

Impacts for the approved project were determined to be significant and unavoidable regarding potential health effects associated with criteria air pollutants in the certified 2024 EIR; however, the potential of construction of the approved project to expose sensitive receptors to substantial pollutant concentrations of TACs and Valley Fever were determined to be less than significant. Under the revised project, these impacts were determined to be similar to those of the approved project. However, as the revised project would result in more emissions of NO_x, PM₁₀, and PM_{2.5}, which were determined to be significant and unavoidable for the approved project, the revised project would result in a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Threshold AQ-4: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Summary of the Certified 2024 EIR Findings

The potential for the approved project to create objectionable odors affecting a substantial number of people was determined to be less than significant.

Revised Project Impact Analysis

Based on available information, the revised project is not anticipated to result in other emissions that have not been addressed under Threshold AQ-1 through Threshold AQ-3, above. As such, this analysis focuses on the potential for the revised project to generate odors.

Land uses most commonly associated with odor complaints generally include agricultural uses (livestock and farming), wastewater treatment plants, food-processing plants, chemical plants, composting operations, refineries, landfills, dairies, and fiberglass molding facilities. The revised project does not include uses that would be substantive sources of objectionable odors. Potential temporary and intermittent odors may result from construction equipment exhaust. However, based on the rural and primarily undeveloped nature of the transmission

corridor, there aren't substantial numbers of people in the vicinity who would be affected. In addition, the revised project would be required to comply with MDAQMD Rule 402 (Nuisance). Rule 402 provides that "[a] person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property" (MDAQMD 1976). Based on the nature of the project area and required compliance with Rule 402, the potential for the revised project to create objectionable odors affecting a substantial number of people would be less than significant.

As the approved project was also determined to result in a less than significant odor impact in the 2024 EIR, the revised project would not result in a new significant impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

4.2.5 Mitigation Measures

MM-AQ-1 **Fugitive Dust Controls.** Comply with all applicable Rules and Regulations of the Mojave Desert Air Quality Management District (MDAQMD), including, but not limited to Rules 401 (Visible Emissions), 402 (Nuisance), and 403 (Fugitive Dust). To ensure compliance with these Rules and Regulations, the Los Angeles Department of Water and Power (LADWP) shall prepare and submit a Dust Control Plan to the MDAQMD for approval. The Dust Control Plan shall document the best management practices (BMPs) that will be implemented during project construction to prevent, to the maximum extent practicable, wind and soil erosion. BMPs that will be included in the Dust Control Plan shall include, but are not limited to, the following:

- Signage compliant with Rule 403 (Attachment B) shall be erected at each project site entrance prior to the commencement of construction.
- Use a water truck to maintain moist disturbed surfaces and actively spread water during earthwork to minimize visible fugitive dust emissions. If the project site has exposed sand or fines deposits, or if the project exposes such soils through earthmoving, chemical stabilization or covering with a stabilizing layer of gravel will be required to eliminate visible dust/sand from the sand/fines deposits.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- All perimeter fencing shall be wind fencing or the equivalent, to a minimum of four feet of height or the top of all perimeter fencing. The project Applicant shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. This wind fencing requirement may be superseded by local ordinance, rule, or project-specific biological mitigation prohibiting wind fencing.
- All maintenance and access vehicular roads and parking areas shall be stabilized with chemical dust suppressants sufficient to eliminate visible fugitive dust from vehicular travel and wind erosion. The project Applicant shall take actions to prevent project-related track out onto paved surfaces and clean any project-related track out within 24 hours. All other disturbed earthen surfaces within the project area shall be stabilized by natural or irrigated vegetation, compaction, chemical, or other means sufficient to prohibit visible dust from wind erosion.

- Obtain MDAQMD permits for any miscellaneous process equipment that may not be exempt under MDAQMD Rule 219 including, but not limited to, internal combustion engines with a manufacturer's maximum continuous rating greater than 50 brake horsepower.

MM-AQ-2 **Exhaust Controls.** During project construction, all internal combustion engines/construction equipment greater than 50 horsepower operating on the project site shall meet U.S. EPA-certified Tier 4 Final emissions standards. LADWP and/or its designated construction contractor shall include this requirement in applicable bid documents, purchase orders, and contracts with successful contractors. Successful contractors must demonstrate the ability to supply the compliant construction equipment for use prior to any ground-disturbing and construction activities. An exemption from these requirements may be granted in the event that LADWP and/or its designated construction contractor documents that equipment with the required tier is not reasonably available and corresponding reductions in criteria air pollutant emissions are achieved from other construction equipment. For example, if a Tier 4 Final piece of equipment is not reasonably available at the time of construction and a lower tier equipment is used instead, other pieces of equipment with engines less than 50 horsepower could be upgraded to Tier 4 or replaced with an alternative-fueled (not diesel-fueled) equipment to offset the emissions associated with using a piece of equipment that does not meet Tier 4 Final standards. Before an exemption may be considered by LADWP, LADWP and/or its designated construction contractor shall be required to demonstrate that at least two construction fleet owners/operators in the High Desert and San Bernardino County Region were contacted and that those owners/operators confirmed Tier 4 Final equipment could not be located within the High Desert and San Bernardino County Region.

4.2.6 Significance Conclusion

Threshold AQ-1: Even with implementation of required mitigation measures, construction of the revised project would conflict with or obstruct implementation of the applicable air quality plan, resulting in potentially significant impacts. Implementation of MM-AQ-1 and MM-AQ-2 would reduce the revised project's impacts; however, impacts would remain significant and unavoidable.

For long-term operations, the revised project would not result in a net increase in emissions and would thus result in no operational impact.

Threshold AQ-2: Even with implementation of required mitigation measures, construction of the revised project would result in a potentially significant cumulatively considerable net increase of criteria pollutants (i.e., NO_x, CO, PM_{2.5}, and PM₁₀). Implementation of MM-AQ-1 and MM-AQ-2 would reduce the revised project's emissions of NO_x, PM_{2.5}, and PM₁₀; however, impacts would remain significant and unavoidable.

For long-term operations, the revised project's operational criteria air pollutant emissions would be similar to existing baseline conditions. The revised project would thus result in no impact pertaining to long-term operations.

Threshold AQ-3: With implementation of required mitigation measures, construction and operation of the revised project would not expose sensitive receptors to substantial pollutant concentrations, including concentrations of CO emissions, TACs, and spores of the *Coccidioides immitis* fungus (which can result in Valley Fever). However, since construction of the revised project would result in exceedances of MDAQMD annual and/or daily significance thresholds for NO_x, PM_{2.5}, and PM₁₀, even after implementation of MM-AQ-1 and MM-AQ-2, the potential health effects associated with criteria air pollutants are conservatively considered significant and unavoidable.

Threshold AQ-4: Construction and operation of the revised project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be less than significant.

4.2.7 Cumulative Effects

As required by CEQA Guidelines Section 15130, the discussion and analysis provided in this section considers whether the revised project's incremental effect(s) may be individually limited but cumulatively considerable. In accordance with CEQA Guidelines Section 15065(a)(3), "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. As indicated above, by its nature, air pollution is largely a cumulative impact. The geographic scope for consideration of cumulative air quality impacts is defined as the entire MDAB because air quality is monitored and regulated based on air basin boundaries. Further, air quality impacts are generally considered to be a cumulative impact because individual land development projects are typically not large enough to create a significant impact independent of the existing air quality conditions and other sources of air pollutant emissions in the region.

Air Quality Plan

As indicated above, by its nature, air pollution is largely a cumulative impact. The geographic context is the MDAB. The nonattainment status of regional pollutants is a result of past and present development, and the MDAQMD develops and implements plans for future attainment of ambient air quality standards. A project is non-conforming with an air quality plan if it conflicts with or delays implementation of any applicable attainment or maintenance plan. As discussed in Section 4.2.4, Threshold AQ-1, although the revised project would conform to local land use plans, would comply with all applicable MDAQMD Rules and Regulations, and would not result in a net increase in operational emissions, construction of the revised project would result in the potential to increase the frequency or severity of a violation in the federal or state AAQS, even after implementation of MM-AQ-1 and MM-AQ-2. Therefore, the cumulative impact related to potentially conflicting with an air quality plan would be significant and unavoidable.

Criteria Air Pollutants

As discussed in Section 4.2.1, the California portion of the revised project alignment is in the MDAB, which is designated as a nonattainment area for O₃ and PM₁₀. This means that concentrations of those pollutants currently exceed the AAQS in the MDAB. When concentrations of O₃ and PM₁₀ exceed the AAQS, people who are sensitive to air pollution, such as children, the elderly, and the infirm, could experience adverse effects described previously. Since the MDAB is nonattainment for O₃ and PM₁₀, it is considered to have an existing significant cumulative health impact without the revised project. Most sources emit criteria air pollutants in quantities that are too small to have a measurable effect on ambient concentrations by themselves; however, when they are considered in a cumulative

sense these emissions result in severe problems to the ambient air quality throughout the MDAB. Based on these considerations, MDAQMD has developed annual and daily emissions thresholds of significance for criteria pollutants to limit the individual contribution of discrete projects, thereby reducing the cumulative impacts of many projects. Individual projects that do not generate operational or construction emissions that exceed the MDAQMD's recommended annual or daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the MDAB is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact.

This analysis considers whether the revised project's contribution to the existing violation of air quality standards is cumulatively considerable. The potential for the revised project to result in a cumulatively considerable air quality impact is evaluated above under Impact 4.2.4, Threshold AQ-2, operational emissions would be similar to baseline conditions and would not result in a cumulatively considerable impact. However, construction emissions associated with the revised project would exceed the MDAQMD significance thresholds for NO_x, CO, PM₁₀, and PM_{2.5} even after implementation of all feasible reduction measures. As such, NO_x, CO, PM₁₀, and PM_{2.5} emissions generated during short-term construction of the revised project would exceed applicable MDAQMD regional thresholds would be significant and unavoidable, and thus, cumulatively considerable.

Substantial Pollutant Concentrations

As discussed under Impact 4.2.4, Threshold AQ-3, construction and operation of the revised project would not expose sensitive receptors to substantial pollutant concentrations, including concentrations of CO emissions, TACs, and Valley Fever, which are localized impacts. However, since construction of the revised project would result in exceedances of MDAQMD significance thresholds for NO_x, PM_{2.5}, and PM₁₀, even after implementation of MM-AQ-1 and MM-AQ-2, the revised project could contribute to cumulative health effects associated with these criteria air pollutants. Thus, the impact would be significant and unavoidable and cumulatively considerable.

Odors

As indicated in Impact 4.2.4, Threshold AQ-4, the impact related to odor from construction and operation of the revised project would be less than significant. As odors are a localized impact, the geographic scope considered in the cumulative analysis related to odors consists of the cumulative projects identified in Chapter 4.0, Environmental Analysis. None of the cumulative projects listed in Chapter 4.0 are odor-producing land uses, such as agricultural uses (livestock and farming), wastewater treatment plants, food-processing plants, chemical plants, composting operations, refineries, landfills, dairies, and fiberglass molding facilities. Additionally, all future projects would be subject to MDAQMD Rule 402 (Nuisance), which prohibits the discharge of air contaminants or other materials which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or which endanger the comfort, repose, health, or safety of any such persons or the public; or which cause, or have a natural tendency to cause, injury or damage to business or property. Therefore, cumulative impacts related to odor would be less than significant.

4.2.8 References

- CAPCOA (California Air Pollution Control Officers Association). 2022. *California Emissions Estimator Model (CalEEMod) User's Guide Version 2022.1*. Prepared by ICF in collaboration with Sacramento Metropolitan Air Quality Management District, Fehr & Peers, STI, and Ramboll. April 2022. Available: https://www.caleemod.com/documents/user-guide/CalEEMod_User_Guide_v2022.1.pdf.
- CARB (California Air Resources Board). 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October 2000. Available: <https://ww2.arb.ca.gov/sites/default/files/classic/diesel/documents/rrpfinal.pdf>.
- CARB. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005. Available: https://ww2.arb.ca.gov/sites/default/files/2023-05/Land%20Use%20Handbook_0.pdf.
- CARB. 2023. "Area Designation Maps/State and National." November 2023. Accessed February 2025. <http://www.arb.ca.gov/desig/adm/adm.htm>.
- CARB. 2024a. "Glossary of Air Pollutant Terms". Accessed June 2024. Available: <https://ww2.arb.ca.gov/glossary>.
- CARB. 2024b. "Common Air Pollutants". Accessed June 2024. Available: <https://ww2.arb.ca.gov/resources/common-air-pollutants>.
- CARB. 2024c. "Ozone & Health." Accessed June 2024. Available: <https://ww2.arb.ca.gov/resources/ozone-and-health>.
- CARB. 2024d. "Nitrogen Dioxide & Health." Accessed June 2024. Available: <https://ww2.arb.ca.gov/resources/nitrogen-dioxide-and-health>.
- CARB. 2024e. "Carbon Monoxide & Health." Accessed June 2024. Available: <https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health>.
- CARB. 2024f. "Sulfur Dioxide & Health." Accessed June 2024. Available: <https://ww2.arb.ca.gov/resources/sulfur-dioxide-and-health>.
- CARB. 2024g. "Inhalable Particulate Matter and Health (PM_{2.5} and PM₁₀).". Accessed June 2024. Available: <https://www.arb.ca.gov/research/aaqs/common-pollutants/pm/pm.htm>.
- CARB. 2024h. "Overview: Diesel Exhaust and Health." Accessed June 2024. Available: <https://www.arb.ca.gov/research/diesel/diesel-health.htm>.
- CARB. 2024i. "California Ambient Air Quality Standards." Accessed February 2025. Available: <https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards>.
- CARB. 2025a. "Ambient Air Quality Data – Trends Summary" [digital CARB data]. iADAM: Air Quality Data Statistics. Accessed December 2025. Available: <https://arb.ca.gov/adam/trends/trends1.php>.
- CARB. 2025b. "Ambient Air Quality Data – Top 4 Summary." [digital CARB data]. iADAM: Air Quality Data Statistics. Accessed December 2025. Available: <http://www.arb.ca.gov/adam/topfour/topfour1.php>.

- California Department of Industrial Relations. 2022. “Protection from Valley Fever.” April 2022. Available: <http://www.dir.ca.gov/dosh/valley-fever-home.html>.
- CDPH (California Department of Public Health). 2013. *Preventing Work-Related Coccidioidomycosis (Valley Fever)*. June 2013. Available: <https://www.cdph.ca.gov/Programs/CCDCPHP/DEODC/OHB/HESIS/CDPH%20Document%20Library/CocciFact.pdf>.
- CDPH (California Department of Public Health). 2023. Epidemiologic Summary of Valley Fever (Coccidioidomycosis) in California, 2022. Available: <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2022.pdf>.
- City of Inglewood. 2019. *Inglewood Basketball and Entertainment Center Project EIR. Appendix D, Air Quality*. December 2019. Available: <https://ceqanet.lci.ca.gov/2018021056/3>.
- City of Moreno Valley. 2019. *Draft Recirculated Sections of the Final Environmental Impact Report. Appendix A-2: Highland Fairview World Logistics Center Additional Information Regarding Potential Health Effects of Air Quality Impacts*. December 2019. Available: <https://ceqanet.opr.ca.gov/2012021045/6>.
- City of San Jose. 2019. *Mineta San Jose Airport Amendment to the Airport Master Plan EIR. Appendix D-1, Supplemental Air Quality Impacts Analysis*. October 2019. Available: <https://www.sanjoseca.gov/home/showpublisheddocument/61650/637304476589170000>.
- CSUDH (California State University Dominguez Hills). 2019. *California State University Dominguez Hills Campus Master Plan EIR. Appendix B, Air Quality*. Available: <https://www.csudh.edu/Assets/csudh-sites/fpdc/docs/campus-master-plan/2019/final-environmental-impact-report-appendices-09-11-19.pdf>.
- County of Fresno. 2010. *Final Environmental Impact Report for the Friant Ranch Community Plan Update & Friant Ranch Specific Plan*. August 2010. Available: <https://www.fresnocountyca.gov/files/sharedassets/county/v/1/vision-files/files/14248-friant-ranch-final-eir.pdf>.
- EPA (U.S. Environmental Protection Agency). 1980. “AP-42, Fifth Edition Compilation of Air Pollutant Emission Factors, Volume 1, Chapter 13, Section 3: Explosives Detonation.” February 1980. https://www.epa.gov/sites/default/files/2020-10/documents/13.3_explosives_detonation.pdf.
- EPA. 1998. “AP-42, Fifth Edition Compilation of Air Pollutant Emission Factors, Volume 1, Chapter 11, Section 9: Western Surface Coal Mining.” October 1998. <https://www.epa.gov/sites/default/files/2020-10/documents/c11s09.pdf>.
- EPA. 2008. *Final Ozone NAAQS Regulatory Impact Analysis*. March 2008. Available: https://www3.epa.gov/ttnecas1/regdata/RIAs/452_R_08_003.pdf.
- EPA. 2009. “AP-42, Fifth Edition Compilation of Air Pollutant Emission Factors, Volume 1, Chapter 15, Section 9: Blasting Caps, Demolition Charges, And Detonators.” July 2009. https://www.epa.gov/sites/default/files/2020-11/documents/d15s09_jul09.pdf.
- EPA. 2016. *Integrated Science Assessment (ISA) for Oxides of Nitrogen – Health Criteria*. January 2016. Available: <https://assessments.epa.gov/isa/document/&deid=310879>.

- EPA. 2017. *Revisions to the Guideline on Air Quality Models: Enhancements to the AERMOD Dispersion Modeling System and Incorporation of Approaches To Address Ozone and Fine Particulate Matter*. Federal Register Vol. 82, No. 10. January 17. Available: <https://www.govinfo.gov/content/pkg/FR-2017-01-17/pdf/2016-31747.pdf>.
- EPA. 2020. *Integrated Science Assessment for Ozone and Related Photochemical Oxidants*. April 2020. Available: <https://www.epa.gov/isa/integrated-science-assessment-isa-ozone-and-related-photochemical-oxidants>.
- EPA. 2023. *Environmental Benefits Mapping and Analysis Program – Community Edition User’s Manual*. March 2023. https://www.epa.gov/sites/production/files/2015-04/documents/benmap-ce_user_manual_march_2015.pdf.
- EPA. 2024a. “Criteria Air Pollutants.” May 2, 2024. Available: <https://www.epa.gov/criteria-air-pollutants>.
- EPA. 2024b. “NAAQS Table.” December 16, 2024. Available: <https://www.epa.gov/criteria-air-pollutants/naaqs-table>.
- EPA. 2025a. “Region 9: Air Quality Analysis, EPA Region 9 Air Quality Maps and Geographic Information.” September 9, 2025. Available: <https://www3.epa.gov/region9/air/maps/index.html>.
- EPA. 2025b. “AirData: Access to Air Pollution Data.” Accessed December 2025. Available: <https://www.epa.gov/outdoor-air-quality-data/monitor-values-report>.
- FOCA (Federal Office of Civil Aviation). 2015. *Guidance on the Determination of Helicopter Emissions*. December 2015.
- March JPA (March Joint Powers Association). 2019. *K4 Warehouse and Cactus Channel Improvements EIR*. April 2019. Available: <https://ceqanet.lci.ca.gov/Project/2018111036>.
- MDAQMD (Mojave Desert Air Quality Management District). 1976. Rule 402 – Nuisance. May 7, 1976. Available: <http://mdaqmd.ca.gov/home/showdocument?id=290>.
- MDAQMD. 1995. *Final Mojave Desert Planning Area Federal Particulate Matter (PM₁₀) Attainment Plan*. July 31, 1995. Available: <https://www.mdaqmd.ca.gov/home/showdocument?id=176>.
- MDAQMD. 2008. *Federal 8-Hour Ozone Attainment Plan (Western Mojave Desert Non-Attainment Area)*. Adopted June 9, 2008. Available: <https://www.mdaqmd.ca.gov/home/showpublisheddocument/168/636305690088330000>.
- MDAQMD. 2020. *MDAQMD California Environmental Quality Act (CEQA) and Federal Conformity Guidelines*. Planning and Rule Making Section, Air Monitoring Section. February 2020. Available: <https://www.mdaqmd.ca.gov/rules/overview>.
- NRC (National Research Council). 2005. *Interim Report of the Committee on Changes in New Source Review Programs for Stationary Sources of Air Pollutants*. Washington, DC: The National Academies Press. Available: <https://doi.org/10.17226/11208>.

- San Bernardino County. 2022. *San Bernardino County Countywide Plan. Policy Plan*. September 2022. Available: https://countywideplan.sbcounty.gov/wp-content/uploads/sites/125/2021/01/CWP_PolicyPlan_HardCopy_MainText_Tables_2022_Sept_Adopted.pdf.
- SCAG. 2024. *Connect SoCal 2024*. Adopted April 4, 2024. Available: <https://scag.ca.gov/sites/default/files/2024-05/23-2987-connect-socal-2024-final-complete-040424.pdf>.
- SCAQMD. 2013. *Final 2012 Air Quality Management Plan*. February 2013. Available: <https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan>.
- SCAQMD. 2015. Brief of Amicus Curiae in Support of Neither Party, *Sierra Club v. County of Fresno*, Case No. S219783 (filed Apr. 13, 2015). Available: <https://www.courts.ca.gov/documents/9-s219783-ac-south-coast-air-quality-mgt-dist-041315.pdf>.
- SCAQMD. 2022. *2022 Air Quality Management Plan*. Adopted December 2, 2022. Available: <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/final-2022-aqmp.pdf?sfvrsn=16>.
- SDSU (San Diego State University). 2019. *San Diego State University Mission Valley Campus Master Plan EIR Additional Information Regarding Potential Health Effects of Air Quality Impacts*. December 2019. Available: <https://missionvalley.sdsu.edu/pdfs/feir/appendices/4-2-3-sdsu-mv-health-effects-memo.pdf>.
- SJVAPCD (San Joaquin Valley Air Pollution Control District). 2015. Brief of Amicus Curiae in Support of Defendant and Respondent, County of Fresno, and Real Party in Interest and Respondent, Friant Ranch, L.P., *Sierra Club v. County of Fresno*, Case No. S219783 (filed Apr. 13, 2015). Available: <https://www.courts.ca.gov/documents/7-s219783-ac-san-joaquin-valley-unified-air-pollution-control-dist-041315.pdf>.
- USGS (U.S. Geological Survey). 2000. *Operational Guidelines (version 1.0) for Geological Fieldwork in Areas 1 Endemic for Coccidioidomycosis (Valley Fever)*. USGS Open-File Report 00-348, Version 1.0. Available: <https://pubs.usgs.gov/of/2000/0348/pdf/of00-348.pdf>.

4.3 Biological Resources

This section of the Subsequent Environmental Impact Report (SEIR) describes the existing biological resources conditions of the revised McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (revised project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the revised project, as applicable. Potential impacts of the revised project are discussed in relation to the previously approved McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (approved project), which was analyzed in the certified 2024 Environmental Impact Report (2024 EIR).

The information and analysis in the section are based, in part, on the following technical appendices:

- **Appendix C:** Biological Resources Technical Report, prepared by Aspen Environmental Group, dated June 2026

Other resources relied upon are listed in Section 4.3.8, References.

Aspen Environmental Group (Aspen) conducted a literature review, geospatial analysis, field surveys, and consultation with local biologists and regional experts. Seasonal fieldwork by Aspen was conducted from April 2021 to June 2026 within the “Project Area,” which is defined for the purposes of this section as the area within the current McCullough-Victorville Lines 1 and 2 (MCC-VIC Lines 1 and 2) right-of-way (ROW) where existing and proposed tower locations, spur roads, and any area that may be subject to project activities and all access roads that would be used for ingress/egress to the ROW, and staging or material show-up yards that occur outside the ROW. For the purposes of this SEIR, the “Project Area” is limited to the California segment of the project. The “Project survey area” includes buffer distances that range from 50 feet to 300 feet from the edge of Project Area for most species and up to two miles for golden eagles. Results of these field surveys and analyses are provided in the Biological Resources Technical Report completed in June 2026 (Appendix C).

Psomas conducted a jurisdictional delineation (JD) in the spring and summer of 2022 to map jurisdictional water resources within the “JD survey area,” which includes the entire transmission line ROW. Results of this delineation are provided in the JD Report prepared by Psomas in March 2023 (see Appendix C3 of the certified 2024 EIR). The Biological Resources Technical Report and the JD report provide a detailed documentation of observed plants and wildlife; existing vegetation communities; special-status species; jurisdictional waters, including wetland; and wildlife corridors. Their results are summarized below.

4.3.1 Regulatory Framework

Federal

Federal Endangered Species Act

The federal Endangered Species Act of 1973 (16 USC 1531 et seq.) (FESA), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS) for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend, and provide programs for the conservation of those species, thus preventing the extinction of plants and wildlife. FESA defines an endangered species as “any species that is in danger of extinction throughout all or a significant

portion of its range.” A threatened species is defined as “any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” Under FESA, it is unlawful to “take” any listed species; “take” is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”

FESA allows for the issuance of Incidental Take Permits (ITPs) for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of Habitat Conservation Plans (HCPs) on private property without any other federal agency involvement.

Federal Land Policy and Management Act

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

California Desert Conservation Area Plan

The California Desert Conservation Area (CDCA) is an approximately 25-million-acre expanse of land in Southern California that was designated by Congress in 1976 through the FLPMA. Approximately 10 million acres are administered by BLM, including all BLM lands in the California Desert region (BLM 1980). The CDCA Plan is a comprehensive, long-range plan for the management, use, development, and protection of lands within the CDCA, and it is required as part of the FLPMA and implemented by BLM. CDCA established direction on uses and management actions on BLM lands addressing a range of plan elements, including Cultural, Native American, Wildlife, Vegetation, Wilderness, Wild Horse and Burro, Livestock Grazing, Recreation, Motorized-Vehicle Access, Geology, Energy and Mineral Resources, Energy Production and Utility Corridors, and Land Tenure Adjustment.

The CDCA Plan also established multiple-use classes and Areas of Critical Environmental Concern (ACECs) on BLM lands in the CDCA. ACECs are special management areas established by the BLM to protect and prevent irreparable damage to important historical, cultural, and scenic values; fish or wildlife resources, or other natural systems or processes; or to protect human life and safety from natural hazards.

As part of Phase I of the Desert Renewable Energy Conservation Plan (DRECP), BLM adopted the Land Use Plan Amendment (LUPA), which amended the CDCA Plan, in September 2016 (BLM 2016). The LUPA and the DRECP are discussed below.

Desert Renewable Energy Conservation Plan

The DRECP is a planning document developed by the California Energy Commission and BLM to advance federal and state natural energy and resource conservation goals and other federal land management goals; meet the requirements of FESA and FLPMA; and facilitate the timely and streamlined permitting of renewable energy projects in the Mojave and Colorado/Sonoran Desert regions of Southern California. The DRECP covers approximately 22.5 million acres in the desert regions of Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego Counties.

The DRECP was planned to be prepared in two phases—Phase I and Phase II. During Phase I, the BLM completed the LUPA, which amended the CDCA and designates development focus areas and conservation areas on BLM lands. DRECP Phase II was intended to focus on better aligning renewable energy development and conservation at the federal, state, and local levels, and it was planned to include a General Conservation Plan for approximately 5.5 million acres of non-federal land and a Conceptual Plan-Wide Natural Community Conservation Plan (NCCP) for the entire DRECP plan area. DRECP Phase II has not been completed and is not currently being planned.

BLM DRECP LUPA

The BLM DRECP LUPA establishes management direction for the permitting of renewable energy and transmission development on nearly 11 million acres of BLM-managed lands in the DRECP area. BLM adopted the LUPA in 2016. The purpose of the LUPA is to conserve biological, environmental, cultural, recreation, scenic, and visual resources; respond to federal renewable energy goals and policies, including state-level renewable energy targets; and comply with the FLPMA. The BLM LUPA prescribes Conservation and Management Actions, which are a specific set of avoidance, minimization, and compensation measures that protect important biological and natural resources in the DRECP area. The Conservation and Management Actions also include allowable and non-allowable actions for siting, design, pre-construction, construction, maintenance, implementation, operation, and decommissioning activities of renewable energy projects on BLM-managed land.

The DRECP LUPA made substantial changes to the CDCA framework and superseded many previous decisions and amendments for BLM lands in the California Desert region. The DRECP LUPA eliminated multiple-use classes and replaced them with conservation and management actions, established new National Conservation Lands (NCLs), revised and added ACECs, and established other designations on BLM lands for renewable energy and recreation, among other changes. The California segment of the proposed project is located within the DRECP LUPA area and extends through 7 ACEC's: Northern Lucerne Wildlife Linkage, Ord-Rodman, Daggett Ridge Monkey Flower, Mojave Fringe-toed Lizard, Superior-Cronese, Shadow Valley, and Ivanpah.

West Mojave Plan

The West Mojave Plan (WEMO) was envisioned to develop management strategies for the Mojave desert tortoise ("desert tortoise"), Mohave ground squirrel, and more than 100 other sensitive plants and animals. The planning area encompassed approximately 9.3 million acres in Inyo, Kern, Los Angeles, and San Bernardino Counties, including approximately 3.3 million acres of public lands administered by BLM, approximately 3 million acres of private lands, and approximately 102,000 acres administered by the State of California. The remaining land is military land administered by the Department of Defense. The WEMO was proposed to conserve those species throughout the western Mojave Desert, while streamlining the WEMO for compliance with the regulatory requirements of FESA and the California Endangered Species Act (CESA). Only the BLM elements of the WEMO were adopted, resulting in a number of amendments to BLM's CDCA Plan. In 2019, the BLM amended the CDCA plan for the West Mojave Route Network Project to address motor vehicle access, recreation, and livestock grazing elements in the West Mojave Planning Area (BLM 2019).

Bald and Golden Eagle Protection Act

The bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are federally protected under the Bald and Golden Eagle Protection Act (BGEPA), which was passed in 1940 to protect the bald eagle and amended in 1962 to include the golden eagle (16 USC Section 668a–d). BGEPA prohibits the take, possession, sale, purchase, barter, offering to sell or purchase, export or import, or transport of bald eagles and golden eagles and

their parts, eggs, or nests without a permit issued by USFWS. The definition of “take” includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb. BGEPA prohibits any form of possession or take of either eagle species, and imposes criminal and civil sanctions, as well as an enhanced penalty provision for subsequent offenses. Further, BGEPA provides for the forfeiture of anything used to acquire eagles in violation of the statute. Regarding its prohibitions on possession, the statute exempts the use of eagles or eagle parts for exhibition, scientific, and Native American religious uses.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the intentional and unintentional take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, “take” is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so (16 USC 703 et seq.). Currently, the Migratory Birds Office considers nests that support eggs, nestlings, or juveniles to be active. Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). Executive Order 13186 requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

Clean Water Act

The Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation’s waters. Section 401 requires a project operator for a federal license or permit that allows activities resulting in a discharge to waters of the United States to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The Regional Water Quality Control Boards (RWQCBs) administer the certification program in California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the United States. Section 404 establishes a permit program administered by the U.S. Army Corps of Engineers (USACE) that regulates the discharge of dredged or fill material into waters of the United States, including wetlands. USACE implementing regulations are found at 33 Code of Federal Regulations (CFR) Parts 320 through 332. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the U.S. Environmental Protection Agency (EPA) in conjunction with USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

Wetlands and Other Waters of the United States

The definition of waters of the United States establishes the geographic scope for authority under Section 404 of the CWA; however, the CWA does not specifically define waters of the United States, leaving the definition open to statutory interpretation and agency rulemaking. The definition of what constitutes “waters of the United States” (provided in 33 CFR Section 328.3[a]) has changed multiple times over the past few decades, starting with the *United States v. Riverside Bayview Homes Inc.* court ruling in 1985. Subsequent court proceedings, rule makings, and congressional acts in 2001 (*Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*), 2006 (*Rapanos v. United States*), 2015 (Clean Water Rule), 2018 (suspension of the Clean Water Rule), 2019 (formal repeal of the Clean Water Rule), 2020 (Navigable Waters Protection Rule), and 2021 (*Pasqua Tribe et al. v. EPA* resulting in remand and vacatur of the Navigable Waters Protection Rule and a return to “the pre-2015 regulatory regime”) have attempted to provide greater clarity to the term and its regulatory implementation.

On December 30, 2022, the agencies announced the final Revised Definition of “Waters of the United States” rule (Rule) (88 CFR 3004–3144). The Rule was published in the Federal Register on January 18, 2023, and became effective on March 20, 2023, restoring federal jurisdiction over waters that were protected prior to 2015 under the Clean Water Act for traditional navigable waters, the territorial seas, interstate waters, and upstream water resources that significantly affect those waters. The Rule re-expanded federal jurisdiction over certain water bodies and wetlands previously exempt pursuant to the 2020 Navigable Waters Protection Rule, reinstating the “Significant Nexus” test and adopting the “Relatively Permanent Standard” test. The Significant Nexus test refers to waters that either alone, or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of traditional navigable waters, interstate waters, or the territorial seas (86 FR 69372–69450). The Significant Nexus test attempts to establish a scientific connection between smaller water bodies, such as ephemeral or intermittent tributaries, and larger, more traditional navigable waters such as rivers. Significant Nexus evaluations take into consideration hydrologic and ecologic factors including, but not limited to, volume, duration, and frequency of surface water flow in the resource and its proximity to a traditional navigable water, and the functions performed by the resource on adjacent wetlands. To meet the Relatively Permanent Standard, water bodies must be relatively permanent, standing, or continuously flowing and have a continuous surface connection to such waters.

On May 25, 2023, the Supreme Court issued its long-anticipated decision in *Sackett v. EPA.*, in which it rejected the EPA's claim that “waters of the United States,” as defined in the CWA, includes wetlands with an ecologically significant nexus to traditional navigable waters. The Supreme Court held that only those wetlands with a continuous surface water connection to traditional navigable waterways would be afforded federal protection under the CWA. Specifically, to assert jurisdiction over an adjacent wetland under the CWA, a party must establish that (1) the adjacent body of water constitutes water[s] of the United States (i.e., a relatively permanent body of water connected to traditional interstate navigable waters), and (2) the wetland has a continuous surface connection with that water, making it difficult to determine where the water ends and the wetland begins. On August 29, 2023, the EPA and USACE announced the final rule amending the 2023 definition of “waters of the United States”, conforming with the *Sackett v. EPA* decision. Some of the key changes include removing the significant nexus test from consideration when identifying tributaries and other waters as federally protected and revising the adjacency test when identifying federally jurisdictional wetlands. Under the EPA's new definition, a “water of the United States” is a relatively permanent, standing, or continuously flowing body of water that has an apparent surface connection to a “traditionally navigable water” to fall within federal purview. The new rule applies to wetlands and streams throughout the U.S. Although the *Sackett* opinion did not specifically reference streams, the EPA's new rule extends the “continuous surface connection” standard to streams, thereby removing non-permanent, ephemeral streams that do not meet these standards from federal jurisdiction.

The term “wetlands” (a subset of waters of the United States) is defined in 33 CFR, Section 328.3(c)(16), as “areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the “ordinary high water mark,” which is defined in 33 CFR 328.3(c)(7) as “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.”

State

California Environmental Quality Act

California Environmental Quality Act (CEQA) requires identification of a project's potentially significant impacts on biological resources, and ways that such impacts can be avoided, minimized, or mitigated. CEQA also provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts.

The CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors." A rare animal or plant is defined in CEQA Guidelines Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or ... [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c).

California Department of Fish and Wildlife (CDFW) has developed a list of "Special Species" as "a general term that refers to all of the taxa the California Natural Diversity Database (CNDDB) is interested in tracking, regardless of their legal or protection status." This is a broader list than those species that are protected under FESA, CESA, and other California Fish and Game Code provisions, and includes lists developed by other organizations, including, for example, the Audubon Watch List. Guidance documents prepared by other agencies, including the California BLM Sensitive Species and USFWS Birds of Conservation Concern (BCC), are also included on this CDFW Special Species list. Additionally, CDFW has concluded that plant species listed as a California Rare Plant Rank (CRPR) 1 and 2 by the California Native Plant Society (CNPS), and potentially some CRPR 3 plants, are covered by CEQA Guidelines Section 15380.

Section IV, Appendix G, Environmental Checklist Form, of the CEQA Guidelines requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or the USFWS."

California Desert Native Plants Act

The purpose of the California Desert Native Plants Act (CDNPA) is to protect certain species of California desert native plants (i.e., species in the families Agavaceae, Cacti, Fouquieriaceae; species in the genera *Prosopis* and *Parkinsonia* (*Cercidium*); and the species *Acacia greggii*, *Atriplex hymenelytra*, *Dalea spinosa*, and *Olneya tesota*) from unlawful harvesting. The CDNPA only applies within the boundaries of Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego Counties. Within these counties, the CDNPA prohibits the harvest, transport, sale, or possession of specific native desert plants unless a person has a valid permit or wood receipt, and the required tags and seals. The appropriate permits, tags, and seals must be obtained from the sheriff or commissioner of the county where collecting will occur, and the county will charge a fee. More information on the CDNPA, including the species protected under the law, is available by reading the provisions of the law.

California Endangered Species Act

CESA (California Fish and Game Code Sections 2050–2068) provides protection and prohibits the take of plant, fish, and wildlife species listed by the State of California. Unlike FESA, under CESA, state-listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed. Take is defined similarly to FESA and is prohibited for both listed and candidate species. Take authorization may be obtained by a project applicant from CDFW under CESA Section 2081, which allows take of a listed species for educational, scientific, or management purposes. In this case, private developers consult with CDFW to develop a set of measures and standards for managing the listed species, including full mitigation for impacts, funding of mitigation implementation, and monitoring of mitigation measures.

Western Joshua Tree

On July 1, 2023, the Western Joshua Tree Conservation Act (WJTCA) was passed. While western Joshua tree is a candidate species, take for western Joshua tree can be received through payment of pre-determined mitigation fees. The WJTCA introduces a streamlined permitting framework that applies to specific development activities and mandates the collection of mitigation fees. These fees are intended to facilitate the acquisition and preservation of western Joshua tree habitat, as well as to support conservation measures aimed at safeguarding the western Joshua tree. The underlying goal is to counterbalance the adverse impacts on western Joshua trees resulting from authorized projects and to promote species conservation on a landscape scale.

Under the WJTCA, CDFW is authorized to perform the following key functions:

- Issue permits for the trimming and removal of hazardous or deceased western Joshua trees.
- Grant permits for the incidental take of western Joshua trees, contingent upon the fulfillment of specific conditions.
- Establish agreements with counties or cities to delegate limited authority for the issuance of the aforementioned permits, provided that predetermined conditions are met.

The WJTCA institutes two categories of mitigation fees: reduced fees and standard fees, depending on the geographical location, as defined in the California Department of Fish and Game Code (Section 1927). It empowers the CDFW to issue permits for the incidental take of one or more western Joshua trees, subject to compliance with stipulated conditions. Permit holders may opt to remit specified fees in lieu of undertaking mitigation activities. Additionally, the WJTCA authorizes the CDFW to issue permits for the removal of deceased western Joshua trees and the trimming of live western Joshua trees under specific circumstances.

Notably, all in-lieu fees collected under the WJTCA are directed to the Western Joshua Tree Conservation Fund, with the explicit purpose of allocation to the CDFW. These funds are designated exclusively for the acquisition, conservation, and management of western Joshua tree conservation lands, as well as the execution of other initiatives designed to safeguard the western Joshua tree.

Permitting

The initial step in the permitting process necessitates the comprehensive survey and documentation of western Joshua trees located on a project site as well as within a 50-foot radius surrounding the Project Area. This census must adhere to precise specifications outlined on the CDFW's official website.

Simultaneously, a permit application, available on the CDFW's website, must be completed. The application mandates that the applicant complies with the CEQA. Notably, there are no stipulated statutory deadlines governing the permitting process; however, CDFW is committed to expeditiously processing the applications upon receipt. Upon successful processing of the application by CDFW, the permittee will be issued an invoice for the mandatory mitigation fee. This fee is to be remitted via check or money order, with the invoice securely attached, following the precise instructions provided by CDFW.

California Fish and Game Code

Fully Protected Species

Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code outline protections for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the "take" of any fully protected species, except under certain circumstances, such as scientific research, under an NCCP, and live capture and relocation of such species pursuant to a permit for the protection of livestock.

Section 1600–1616

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of definable bed and banks, and existing fish or wildlife resources. CDFW takes jurisdiction to the top of bank of the stream or the limit of the adjacent riparian vegetation, which may include oak woodlands in canyon bottoms. Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but reemerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an ordinary high-water mark to be claimed as jurisdictional. CDFW does not have jurisdiction over ocean or shoreline resources.

Under California Fish and Game Code Sections 1600–1616, CDFW has the authority to regulate work that will substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake. CDFW also has the authority to regulate work that will deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all projects. Applications to CDFW must include a complete, certified CEQA document.

California Native Plant Protection Act

The Native Plant Protection Act of 1977 (Sections 1900 et seq. of the California Fish and Game Code) directed CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare," and protect endangered and rare plants from take. CESA expanded on the original Native Plant Protection Act and enhanced legal protection for plants, but the Native Plant Protection Act remains part of the California Fish and Game Code. To align with federal regulations, the categories of "threatened" and "endangered" species were added to CESA. All "rare" animals in CESA were converted to "threatened," but this did not change for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Because rare plants are not included in CESA, mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and project proponents.

Nesting Birds

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3511 states that fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA.

Porter–Cologne Water Quality Control Act

Pursuant to provisions of the Porter–Cologne Act, the RWQCBs regulate discharging waste, or proposing to discharge waste, within any region that could affect a water of the state (California Water Code Section 13260[a]). The State Water Resources Control Board defines a water of the state as “any surface water or groundwater, including saline waters, within the boundaries of the state” (California Water Code, Section 13050[e]). All waters of the United States are waters of the state. Waters of the state include wetlands, and the State Water Resources Control Board definition of wetlands includes the following:

1. Natural wetlands.
2. Wetlands created by modification of a surface water of the state.
3. Artificial wetlands that meet any of the following criteria:
 - a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration.
 - b. Specifically identified in a water quality control plan as a wetland or other water of the state.
 - c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape.
 - d. Greater than or equal to 1 acre in size unless the artificial wetland was constructed and is currently used and maintained, primarily for one or more of the following purposes: industrial or municipal wastewater treatment or disposal; settling of sediment; detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial permitting program; treatment of surface waters; agricultural crop irrigation or stock watering; fire suppression; industrial processing or cooling water; active surface mining—even if the site is managed for interim wetlands functions and values; log storage; treatment, storage, or distribution of recycled water; maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or fields flooded for rice growing.

Wetlands that may not meet all of USACE’s wetland delineation criteria are considered wetland waters of the state if, “under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area’s vegetation is dominated by hydrophytes or the area lacks vegetation” (SWRCB 2019). Additionally, aquatic resources that USACE determines to not be waters of the United States because they lack a significant nexus to a traditional navigable water or are above the ordinary high-water mark limit of federal jurisdiction, may also be considered waters of the state. If a CWA Section 404 permit is not required for a project, the RWQCB may still require a permit (waste discharge requirements) for impacts to waters of the state under the Porter–Cologne Act.

Local

San Bernardino County Countywide Plan and County Policy Plan

The Countywide Plan is a collection of planning tools intended to guide future decisions, investments, and improvements throughout San Bernardino County. The County Policy Plan, one of three components of the Countywide Plan, is a legal document, adopted by County Ordinance, and serves as the County's General Plan for unincorporated areas. The Natural Resources Element of the County Policy Plan establishes goals and policies to ensure that San Bernardino County protects and preserves its biological resources. The biological resources goal and policies relevant to the proposed project include the following (County of San Bernardino 2020):

Goal NR-5 Biological Resources. An interconnected landscape of open spaces and habitat areas that promotes biodiversity and healthy ecosystems, both for their intrinsic value and for the value placed on them by residents and visitors.

Policy NR-5.1 Coordinated habitat planning. We participate in landscape-scale habitat conservation planning and coordinate with existing or proposed habitat conservation and natural resource management plans for private and public lands to increase certainty for both the conservation of species, habitats, wildlife corridors, and other important biological resources and functions; and for land development and infrastructure permitting.

Policy NR-5.2 Capacity for resource protection and management. We coordinate with public and nongovernmental agencies to seek funding and other resources to protect, restore, and maintain open space, habitat, and wildlife corridors for threatened, endangered, and other sensitive species.

Policy NR-5.3 Multiple-resource benefits. We prioritize conservation actions that demonstrate multiple resource preservation benefits, such as biology, climate change adaptation and resiliency, hydrology, cultural, scenic, and community character.

Policy NR-5.4 Off-base recovery efforts. We coordinate with military installations to facilitate off-base recovery of threatened and endangered species and landscape-scale conservation.

Policy NR-5.5 Mitigation and future responsibilities. We require that new development satisfy habitat conservation responsibilities without shifting conservation responsibilities onto military property.

Policy NR-5.6 Mitigation banking. We support the proactive assemblage of lands to protect biological resources and facilitate development through private or public mitigation banking. We require public and private conservation lands or mitigation banks to ensure that easement and fee title agreements provide funding methods sufficient to manage the land in perpetuity.

Policy NR-5.7 Development review, entitlement, and mitigation. We comply with state and federal regulations regarding protected species of animals and vegetation through the development review, entitlement, and environmental clearance processes.

Policy NR-5.8 Invasive species. We require the use of non-invasive plant species with new development and encourage the management of existing invasive plant species that degrade ecological function.

The Policy Plan provides the basis for and is implemented by San Bernardino County's Development Code. San Bernardino County Development Code Chapter 88.01, Plant Protection and Management, provides regulations and guidelines for the management of plant resources in the unincorporated areas of the County, and includes the following relevant sections.

Section 88.01.060 Desert Native Plant Protection

Chapter 88.01.060, Desert Native Plant Protection, of the San Bernardino County Development Code provides regulations for the removal or harvesting of specified native desert plants to preserve and protect the plants and to provide for the conservation and wise use of desert resources. The following desert native plants or any part of them, except the fruit, shall not be removed except under a Tree or Plant Removal Permit in compliance with Section 88.01.050 (Tree or Plant Removal Permits):

- (1) The following desert native plants 6 feet or greater in height or with stems 2 inches or greater in diameter:
 - a. Smoke tree (*Psoralea argophylla* [Synonym: *Dalea spinosa*])
 - b. All species of the genus *Prosopis* (mesquites)
- (2) All species of the family Agavaceae (century plants, nolinias, yuccas)
- (3) Creosote rings, 10 feet or greater in diameter
- (4) All western Joshua trees
- (5) Any part of the following species, whether living or dead:
 - a. *Olneya tesota* (desert ironwood)
 - b. All species of the genus *Prosopis* (mesquites)
 - c. All species of the genera *Cercidium* (palos verdes)

Section 88.01.080 Riparian Plant Conservation

Chapter 88.01.080, Riparian Plant Conservation, of the San Bernardino County Development Code provides regulations to promote healthy and abundant riparian habitats that protect watersheds; control transmission and storage of natural water supplies; provide unique wildlife habitats for rare, endangered and threatened plants and animals; provide attractive environments; control natural soil erosion and sedimentation to protect stream banks subject to erosion and undercutting; and provide sufficient shade to reduce temperature and evaporation and the growth of algae in streams. The removal of vegetation within 200 feet of the bank of a stream, or in an area indicated as a protected riparian area on an overlay map or Specific Plan, shall require approval of a Tree or Plant Removal Permit in compliance with Section 88.01.050 (Tree or Plant Removal Permits) and shall be subject to environmental review:

City of Victorville General Plan 2030

The City's Resource Element is intended to function as a guide to the protection, use and maintenance of the City's natural and cultural resources, including biological resources (City of Victorville 2008). Goal #4 (Conservation of Important Habitat), contains the following goals and policies to preserve land containing native habitat that sustains rare, threatened, or endangered plants and wildlife species (City of Victorville 2008).

Objective 4.1. Preservation of natural communities that support rare, threatened, and or endangered plant and wildlife species throughout the Planning Area.

Policy 4.1.1. Encourage natural habitat that supports rare, threatened, or endangered plants and wildlife (i.e., “sensitive” species), or require restoration of the same type of impacted habitat within an existing, planned, or potential conservation area.

Objective 4.2. Permanent Conservation of Mojave River Corridor Ecological Values.

Policy 4.2.1. Generally prohibit private or public development projects or major infrastructure facilities on land within the Mojave River Corridor, where biological surveys have determined there is habitat that supports rare, threatened, and/or endangered plants or wildlife. Allow minor encroachments into such habitat for critical public facilities and recreational trails, where reliable assurances are provided that no loss of sensitive species would occur.

City of Victorville Municipal Code

Chapter 13.33, Preservation and Removal of Joshua Trees, of the City of Victorville Municipal Code provides protections for western Joshua tree to protect and preserve, to the greatest extent possible, Joshua trees in all areas of the City to preserve the unique natural desert environment throughout the City and for the health, safety, and welfare of the community (Victorville Municipal Code 13.33.010). Section 13.33.040 of the Victorville Municipal Code prohibits any person to cut, damage, destroy, dig up, or harvest any Joshua tree without the prior written consent of the Director of Parks and Recreation or their designee. Furthermore, Section 16-5.02.060 of the Victorville Municipal Code states the following regarding western Joshua trees and as a requirement of the grading and permit requirements of Article 2, Grading Regulations Victorville Municipal Code:

All Joshua trees, as per Chapter 13.33 of the Victorville Municipal Code, shall be indicated by showing the exact center of its trunk as established by a licensed surveyor. Its tag number, trunk diameter and height must be indicated. The health and proposed disposition of the tree must be indicated. Where a tree or trees are to be removed, the applicant shall meet all current requirements and standards as set forth by the California Department of Fish and Wildlife, and proof shall be submitted to the Building Department prior to issuance of a permit. Alternatively, the Applicant may provide a detailed report, from a licensed Arborist or Biologist, for protecting and preserving, the tree or trees in accordance with applicable California Department of Fish and Wildlife standards, which may be affected by the proposed grading.

Town of Apple Valley Multi-Species Conservation Plan MSHCP/NCCP

An ongoing planning effort is underway to develop the Town of Apple Valley Multiple Species Habitat Conservation Plan (MSHCP) and NCCP. A 2017 Planning Agreement between the Town of Apple Valley, CDFW, and USFWS identified the geographic scope of the planning area, which included the Town of Apple Valley, its Sphere of Influence, and unincorporated lands within the County of San Bernardino to the north and east of the Town of Apple Valley, covering a total of approximately 221,180 acres within the western Mojave Desert. The 2017 Planning Agreement also preliminary identified conservation objectives for the planning area, covered activities, and covered species (Town of Apple Valley 2017). The revised project passes through unincorporated portions of the planning area, north of the Town of Apple Valley. However, as of the writing of this SEIR, a draft MSHCP/NCCP has not been prepared and conservation strategies have not been identified.

4.3.2 Existing Conditions

As with the approved project, the revised project is divided into the Nevada segment, which runs for 24 miles from the McCullough Substation to Line 1 Tower 27-5 (MCV1_27-5) and Line 2 Tower 26-7 (MCV2_26-7) at the California Border, and the California segment, which runs for 138 miles from MCV1_27-6 and MCV2_27-1 to the Victorville Switching Station.¹ The utility corridor is entirely within the Mojave Desert and spans 162 miles from Boulder City, Nevada in Clark County, Nevada, to the Victorville Switching Station in Victorville, California within San Bernardino County, California. For purposes of CEQA, only biological resources within the California segment are characterized and analyzed in this SEIR.

The information in the sections below is taken from Appendix C.

4.3.2.1 Vegetation Communities and Land Covers

A summary of the vegetation communities and land cover types within the Project Area is provided below in Table 4.3-1, and a brief description of each community and land cover is provided further below. The spatial distribution of vegetation communities and land cover types are depicted on Figure 6, Vegetation Communities and Other Cover Types, of Appendix C. Most of the Project Area is dominated by xeric upland plant communities that are adapted to the harsh desert conditions. Many of these species require only seasonal precipitation to obtain adequate water resources for growth and reproduction but can flourish during periods of above average rainfall. Similarly, many annual species that occur within perennial vegetation communities are only present if adequate seasonal rainfall occurs.

Vegetation maps were prepared by drawing tentative vegetation type boundaries onto high-resolution aerial images in the field on tablets using a sub-meter Arrow or Skadi GPS unit and an iPad with a Field Maps application. Mapping was done electronically using ArcGIS Pro and a 22-inch-diagonal flat screen monitor with aerial photos. Vegetation descriptions and names are based on nomenclature used in “A Manual of California Vegetation.” A few areas did not fit the specific descriptions described in “A Manual of California Vegetation,” such as areas subject to disturbance or areas that have little to no vegetation. These areas have been listed as “other cover types” and are described below.

¹ The tower numbering uses mileage from the source of the energy feed. For example, Tower 27-5 represents the fifth tower of the 27th mile of the transmission line.

Table 4.3-1. Summary of Vegetation Communities and Land Cover Types Within the California Segment of the Project Area

Vegetation Community or Land Cover Type	State Rank ¹
Vegetation Alliances	
Acton's and Virgin River brittlebush-net-veined goldeneye scrub (<i>Encelia (actoni, virginensis)-Viguiera reticulata</i> Shrubland Alliance)	S3
Allscale scrub (<i>Atriplex polycarpa</i> Shrubland Alliance)	S4
Black brush scrub (<i>Coleogyne ramosissima</i> Shrubland Alliance)	S4
Catclaw acacia-desert lavender-chuparosa scrub (<i>Senegalia greggii-Hyptis emoryi-Justicia californica</i> Shrubland Alliance)	S4
Cheesebush-sweetbush scrub (<i>Ambrosia salsola-Bebbia juncea</i> Shrubland Alliance)	S4
Creosote bush-white bursage scrub (<i>Larrea tridentata-Ambrosia dumosa</i> Shrubland Alliance)	S5
Creosote bush scrub (<i>Larrea tridentata</i> Shrubland Alliance)	S5
Desert almond - Mexican bladdersage scrub (<i>Prunus fasciculata - Salazaria mexicana</i> Shrubland Alliance)	S4
Desert holly scrub (<i>Atriplex hymenelytra</i> Shrubland Alliance)	S4
Fremont cottonwood forest and woodland (<i>Populus fremontii - Fraxinus velutina - Salix gooddingii</i> Forest & Woodland Alliance)	S3.2
Fremont's smokebush-Nevada smokebush scrub (<i>Psorothamnus fremontii-Psorothamnus polydenius</i> Shrubland Alliance)	S3
Joshua tree woodland (<i>Yucca brevifolia</i> Woodland Alliance)	S3
Mojave yucca scrub (<i>Yucca schidigera</i> Shrubland Alliance)	S4
Needleleaf rabbitbrush scrub (<i>Ericameria teretifolia</i> Shrubland Alliance)	S4
Nevada joint fir-Anderson's boxthorn-spiny hop sage scrub (<i>Ephedra nevadensis-Lycium andersonii-Grayia spinosa</i> Shrubland Alliance)	S3
Rigid spineflower-hairy desert sunflower (<i>Chorizanthe rigida-Geraea canescens</i> Desert Pavement Sparsely Vegetated Alliance)	S4
Shadscale scrub (<i>Atriplex confertifolia</i> Shrubland Alliance)	S4
White bursage scrub (<i>Ambrosia dumosa</i> Shrubland Alliance)	S5
Other Land Cover Types	
Agriculture	NA
Developed/disturbed	NA
Dry lakebed	NA
Sparsely vegetated sand dune	NA
Unvegetated wash	NA

Source: Appendix C.

Notes: NA=Not applicable

¹ The conservation status of a vegetation community is designated by a number from 1 to 5, preceded by a letter reflecting the appropriate geographic scale of the assessment (G = global, N = national, and S = subnational). The numbers have the following meaning: 1 = critically imperiled; 2 = imperiled; 3 = vulnerable to extirpation or extinction; 4 = apparently secure; 5 = demonstrably widespread, abundant, and secure; GNR = Global rank not yet assessed.

Acton's and Virgin River brittlebush-net-veined goldeneye scrub (*Encelia [actoni, virginensis]-Viguiera reticulata* Shrubland Alliance). Acton's and Virgin River brittlebush-net-veined goldeneye scrub is characterized by a mixture of Acton's brittle bush (*Encelia actoni*), Virgin River brittle bush (*Encelia virginensis*) or net-veined goldeneye (*Viguiera reticulata*) as dominants or co-dominants within the shrub layer. Typically, Virgin River brittle bush has no

more than two percent absolute cover in the shrub canopy. Additional species observed within the community included Dorr's sage (*Salvia dorrii*), white bursage, cheesebush, California croton (*Croton californicus*) and wire lettuce (*Stephanomeria pauciflora*). This community was observed within the northeastern portion of the California segment along a desert wash from transmission tower location MCV1_32-5 to MCV1_33-1. Acton's and Virgin River brittle brush-net-veined goldeneye scrub is recognized as sensitive by CDFW and has a State Rank of S3.

Allscale scrub (*Atriplex polycarpa* Shrubland Alliance). Allscale scrub is characterized by the dominance of allscale (*Atriplex polycarpa*) comprising two percent or more of the absolute cover in the shrub canopy. Additional species such as cheesebush (*Ambrosia salsola*), and fourwing saltbush (*Atriplex canescens*) are present within the community. This community occupies areas of sandy soils within alluvial fans and along the shores of dry lake beds and washes of the Project Area. It is also fairly disturbance tolerant yet easily invaded. Where this alliance was observed near I-15, railroads, or agricultural lands it was often colonized by abundant patches of Russian thistle (*Salsola tragus*) and saltlover (*Halogeton glomeratus*).

Black brush scrub (*Coleogyne ramosissima* Shrubland Alliance). Black brush scrub is characterized by the presence of black brush (*Coleogyne ramosissima*) comprising two percent or more of the absolute cover in the shrub canopy. Additional species such as fourwing saltbush, needleleaf rabbitbrush (*Ericameria teretifolia*), California buckwheat (*Eriogonum fasciculatum*), California barrel cactus (*Ferocactus cylindraceus*), creosote bush, and Mohave yucca are also present within the community. Black brush scrub was found on rocky slopes at MCV1_33-3 within the California segment.

Catclaw acacia–desert lavender–chuparosa scrub (*Senegalia greggii*–*Hyptis emoryi*–*Justicia californica* shrubland alliance). Catclaw acacia–desert lavender–chuparosa scrub is a desert wash vegetation community that features catclaw acacia (*Senegalia greggii*) as the dominant species in the shrub canopy. Other species observed within the community include cheesebush, buckhorn cholla (*Cylindropuntia acanthocarpa*), Nevada joint fir (*Ephedra nevadensis*), beavertail cactus (*Opuntia basilaris*), and Mojave yucca. This vegetation community was observed within the Clark Mountains.

Cheesebush–sweetbush scrub (*Ambrosia salsola*–*Bebbia juncea* Shrubland Alliance). Cheesebush–sweetbush scrub is a desert wash community characterized by a mixture cheesebush and sweetbush (*Bebbia juncea*) with more than two percent absolute cover of cheesebush in the shrub canopy. Additional species observed within the community include creosote bush, beavertail, silver cholla (*Cylindropuntia echinocarpa*), and California buckwheat. This community was observed within arroyos and washes present in the Ivanpah Valley. In addition, cheesebush is a successful disturbance colonizer and several previously disturbed sites (i.e., construction tailings and revegetated roads) were cheesebush dominated and robust enough to not be considered disturbed and developed.

Creosote bush–white bursage scrub (*Larrea tridentata*–*Ambrosia dumosa* Shrubland Alliance). Creosote bush–white bursage scrub is an upland vegetation that is characterized by creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*) which co-dominate with more than one percent absolute cover of each in the shrub canopy. Additional species observed within the community include cheesebush, fourwing saltbush, allscale, brittle bush, and Anderson thornbush. This community was observed within alluvial fans and upland slopes along much of the Project Area.

Creosote bush scrub (*Larrea tridentata* Shrubland Alliance). Creosote bush scrub is an upland vegetation type that is characterized by creosote bush which is the dominant shrub with white bursage (*Ambrosia Dumosa*) and brittle bush (*Encelia farinose*) absent or less than one percent absolute cover in the shrub layer. Other species observed

within the community (but in much lower numbers) include fourwing saltbush, Nevada joint fir and Anderson thornbush (*Lycium andersonii*). This is the most prevalent vegetation community along much of the Project Area.

Desert almond – Mexican bladder sage scrub (*Prunus fasciculata* – *Salazaria mexicana* Shrubland Alliance). Desert almond – Mexican bladder sage scrub is a desert wash community characterized by a mixture of co-dominant desert almond (*Prunus fasciculata*) and Mexican bladder sage (*Salazaria mexicana*) with more than two percent absolute cover of desert almond in the shrub canopy. Additional species observed within this community include cheesebush, fourwing saltbush, creosote bush, Anderson thornbush, and Mohave yucca (*Yucca schidigera*). This community was observed in Ivanpah Valley.

Desert holly scrub (*Atriplex hymenelytra* Shrubland Alliance). Desert holly scrub is characterized by desert holly (*Atriplex hymenelytra*) with more than one percent absolute cover with no other species with equal or higher cover and with desert holly or honey sweet (*Tidestromia oblongifolia*) with more than 30 percent relative cover in the shrub canopy. Additional species observed within this community include white bursage, shadscale, downy dalea (*Dalea mollissima*), brittlebush, and creosote bush. This community was observed north of Afton and east of Fort Irwin, where it occurs in dry arroyos and washes.

Fremont cottonwood forest and woodland (*Populus fremontii* - *Fraxinus velutina* - *Salix gooddingii* Forest & Woodland Alliance). Fremont cottonwood forest and woodland is characterized by a dominance of Fremont cottonwood (*Populus fremontii*). Additional species such as sandbar willow (*Salix exigua*), polished willow (*Salix laevigata*), mule fat (*Baccharis salicifolia*), and tule (*Schoenoplectus acutus* var. *occidentalis*) are also present. This community was observed in the Mojave River just northeast of the Victorville Switching Station, within the California segment. Fremont cottonwood forest and woodland is considered sensitive by CDFW and has a State Rarity rank of S3.2.

Fremont's smokebush–Nevada smokebush scrub (*Psorothamnus fremontii*–*Psorothamnus polydenius* shrubland alliance). Fremont's smokebush–Nevada smokebush scrub features Mojave indigobush (*Psorothamnus arborescens*), Fremont's smokebush (*Psorothamnus fremontii*), or Nevada smokebush (*Psorothamnus polydenius*) as the dominant or co-dominant species in the shrub canopy. Other species observed within the community include catclaw acacia, cheesebush, sweetbush, winterfat (*Krascheninnikovia lanata*), and Mojave cottonthorn (*Tetradymia stenolepis*). This vegetation community was observed within a wash in the central portion of the Clark Mountains. The Fremont's smokebush–Nevada smokebush scrub alliance is recognized as sensitive by CDFW and has a State Rank of S3.

Joshua tree woodland (*Yucca brevifolia* woodland alliance). Joshua tree woodland features Joshua tree evenly distributed at greater than 1% cover, and less than 1% juniper (*Juniperus* spp.) and/or pines (*Pinus* spp.) in the tree canopy. Other species observed within the community include white bursage, cheesebush, California barrel cactus, California buckwheat, and Mojave yucca. This vegetation community was observed within alluvial fans, ridges, and slopes in the Clark Mountains west to Excelsior Mine Road. The Joshua tree woodland alliance is recognized as sensitive by CDFW and has a State Rank of S3.

Mojave yucca scrub (*Yucca schidigera* shrubland alliance). Mojave yucca scrub features Mojave yucca as the dominant shrub in the shrub or small tree canopy. Other species observed within the community include white bursage, black brush, buckhorn cholla, brittle bush, and creosote bush. This vegetation community was observed within alluvial fans and rocky slopes within the western Ivanpah Valley, Clark Mountains and within the Granite Mountains.

Needleleaf rabbitbrush scrub (*Ericameria teretifolia* Shrubland Alliance). Needleleaf rabbitbrush scrub is characterized by the dominance of needleleaf rabbitbrush (*Ericameria teretifolia*) within the shrub canopy. Additional species observed within this community include buck horn cholla, California buckwheat, desert almond, desert mallow (*Sphaeralcea ambigua*), and Mexican bladder sage. This community is found on rocky slopes on the southwestern portion of the Project Area at MCV1_156-2 to MCV1_156-3 and MCV2_155-2 to MCV2_155-3.

Nevada joint fir-Anderson's boxthorn-spiny hop sage scrub (*Ephedra nevadensis*-*Lycium andersonii*-*Grayia spinosa* Shrubland Alliance). Nevada joint fir-Anderson's boxthorn-spiny hop sage scrub is characterized by a dominance of Nevada joint fir, hop sage (*Grayia spinosa*), and Anderson boxthorn (*Lycium andersonii*) with more than two percent absolute cover in the shrub canopy. Usually there is a strong dominant species with more than two-times the cover relative to other species. Additional species observed within this community include spiny desert olive (*Menodora spinescens*), cheesebush, black bush, California buckwheat, and Mexican bladder sage. This community was observed within arroyos and washes within the western Ivanpah Valley at MCV1_33-5 to MCV1_34-1 and MCV2_33-1 to MCV2_33-2 in the Project Area. This vegetation community is considered sensitive by CDFW and has a State Rank of S3.

Rigid spineflower-hairy desert sunflower (*Chorizanthe rigida*-*Geraea canescens* Desert Pavement) Sparsely Vegetated Alliance). Rigid spineflower-hairy desert sunflower is characterized by a dominance of rigid spineflower (*Chorizanthe rigida*) and/or hairy desert sunflower (*Geraea canescens*) which are usually present in the herbaceous layer. Additional species such as pebble pincushion (*Chaenactis carphoclinia*), desert plantain (*Plantago ovata*), and desert heron's bill (*Erodium texanum*) are also present in low numbers. This vegetation is sparse and seasonal, depending on the amount of seasonal precipitation. The substrate in these areas is distinct and is covered with closely packed, interlocking angular or rounded rock fragments of pebble and cobble size. This vegetation community and associated pavement is found on level or gently sloping desert flats, fans, or bajadas and lake and river terraces. A large area of rigid spineflower-hairy desert sunflower is located near Alvord Mountain Road.

White bursage scrub (*Ambrosia dumosa* Shrubland Alliance). White bursage scrub is characterized by the dominance of white bursage with more than one percent of absolute cover and less than one percent of creosote bush absolute cover within the shrub layer. Additional species observed within this vegetation community consist of black brush, brittle bush, creosote bush, beavertail, and buck horn cholla. This community was observed within alluvial fans and rocky hills at MCV1_105-1 and MCV1_105-5 and MCV2_104-2 and MCV2_105-1.

Other Cover Types

Agriculture. This community consists of fallow agricultural fields located within the developed areas on the southern side of the Mojave River near Barstow in the California segment. Native vegetation within these areas has been removed and current vegetation consists of non-native annuals including red stemmed filaree (*Erodium cicutarium*), Russian thistle, London rocket (*Sisymbrium irio*), and Arabian schismus (*Schismus arabicus*).

Developed/Disturbed. Developed or disturbed consists of existing access roads, public roads, private residences, railroad ROW, and other developed areas.

Dry lakebed. Dry lakebed consists of dry lakes and playas which are largely devoid of vegetation. When vegetation is present, it generally consists of non-native annuals including red stemmed filaree, mustards and annual grasses. Dry lakebeds present in include Silver Lake and playas located to the west near the ROW.

Sparsely Vegetated Sand Dune. Sparsely vegetated sand dune is used to map areas where accumulations of loose, aeolian depositions of sand were observed. These areas are largely unvegetated.

Unvegetated wash. Sparsely vegetated wash is used to map predominantly unvegetated wash features characterized by scattered shrubs such as sweetbush and cheesebush. Shrub seedlings may be present but occur at very low densities. These washes typically support a high abundance of spring annual species. This cover type was observed within the dry riverbed of the Mojave River at MCV1_123-2 and MCV2_122-2.

4.3.2.2 Plant Species Observed

As shown in Attachment D, Plant Species Observed, of Appendix C, more than 300 genera, species, subspecies, or varieties of plants were observed within the Project Area during the surveys. Attachment C of Appendix C provides a list of all plants recorded in the Project Area.

4.3.2.3 Wildlife Species Observed

The Project Area supports a wide variety of common and sensitive wildlife that are typical of Mojave Desert communities. Attachment D, Wildlife Species Observed, of Appendix C provides a list of all the wildlife species that were detected in the Project Area. Upland communities are the dominant vegetation type in the region; however, a small section of riparian habitat is present in the Mojave River approximately 350 feet from MCV1_162-2 near the Victorville Switching Station. The Project Area provides microhabitat conditions for a variety of terrestrial invertebrates. These microhabitats can be found at ground level within friable soils or under vegetation, woody debris, rocks, and trash piles. They can also occur within vegetation which provides refuge from predators, food resources for some species, and substrates for various invertebrate life stages. Attachment E of Appendix C provides a list of all wildlife species detected in the Project Area.

Invertebrates. Some of the common invertebrates that were identified during field surveys included harvester ants (*Pogonomyrmex* sp.), armored stink beetle (*Eleodes armata*), desert hairy scorpion (*Hadrurus arizonensis*), wind scorpion (*Eremorhax* sp.), longhorn beetle (*Plionoma rubens*), western tent caterpillar (*Malacosoma californica*), and yucca moth (*Scyphophorus yuccae*). Other common invertebrates expected to occur include velvet ant (*Dasymutilla* sp.), Say's stink bug (*Chlorochroa sayi*), seven-spotted ladybug (*Coccinella septempunctata*), elegant blister beetle (*Eupompha elegans*), and pallid-winged grasshopper (*Trimerotropis pallidipennis*). Native and non-native bees and butterflies also occur and include western honeybees (*Apis mellifera*), urbane digger bees (*Anthophora urbana*), queen butterfly (*Danaus gilippus*), and painted lady (*Vanessa cardui*). Victorville shoulderband (*Helminthoglypta mohaveana*) was observed near the Mojave River and MCV1_162-1 and MCV2_161-1. In addition, another shoulderband snail of the genus *Cahuillus* sp. has been documented inhabiting rocky talus slopes in the Red Pass area and southwest of Eastgate adjacent to the Fort Irwin National Training Center in San Bernardino County, California. Red Pass is a narrow mountain gap in the Avawatz Mountains, characterized by steep slopes, canyon mouths, and extensive talus accumulations (United States Department of the Army 2024).

Fish. No fish were identified in the Project Area however, as discussed in Appendix C of this SEIR, there are records of several fish species in the Mojave River including three-spined stickleback (*Gasterosteus aculeatus*), largemouth bass (*Micropterus nigricans*), channel catfish (*Ictalurus punctatus*), and mosquito fish (*Gambusia affinis*). These species are associated with areas that support perennial flow and in manmade lakes and reservoirs such as Horseshoe Lake. A portion of the Mojave River which has perennial water is located approximately 350 feet from MCV1_162-2.

Amphibians. Several amphibians have been documented within the Mojave River and Mojave Desert including western toad (*Anaxyrus boreas*), arroyo toad (*A. californicus*), red-spotted toad (*A. punctatus*), Baja California treefrog (*Pseudacris hypochondriaca*), and American bullfrog (*Lithobates catesbeianus*). No amphibians were identified in the Project Area but are expected to occur at the Mojave River and other areas supporting suitable aquatic habitat. Because of climate and vegetation conditions, upland dispersal of juvenile, sub-adult, and adult amphibians from the Mojave River riparian corridor into the surrounding uplands in the Project Area is expected to be limited.

Reptiles. Reptiles were commonly observed during surveys in both disturbed and natural areas. Some of these include Great Basin fence lizard (*Sceloporus occidentalis longipes*), western side-blotched lizard (*Uta stansburiana elegans*), desert iguana (*Dipsosaurus dorsalis*), Great Basin collared lizard (*Crotaphytus bicinctores*), long-nosed leopard lizard (*Gambelia wislizenii*), and common chuckwalla (*Sauromalus ater*). Western zebra-tailed lizard (*Callisaurus draconoides rhodostictus*), southern desert horned lizard (*Phrynosoma platyrhinos calidiarum*), yellow-backed spiny lizard (*Sceloporus uniformis*), Great Basin whiptail (*Aspidoscelis tigris tigris*), red racer (*Coluber flagellum piceus*) and southwestern speckled rattlesnake (*Crotalus mitchellii pyrrhus*) were also observed.

Birds. A variety of birds are known to occur within the Project Area and include resident breeding species, periodic migrants, and wintering species. Some of the common resident species that were observed during biological surveys include ash-throated flycatcher (*Myiarchus cinerascens*), black-throated sparrow (*Amphispiza bilineata*), cactus wren (*Campylorhynchus brunneicapillus*), mourning dove (*Zenaida macroura*), common raven (*Corvus corax*), ladder-backed woodpecker (*Dryobates scalaris*), northern flicker (*Colaptes auratus*), California quail (*Callipepla californica*), and greater roadrunner (*Geococcyx californianus*).

Migrant or wintering birds of the general region include, but not limited to, Brewer's sparrow (*Spizella breweri*), yellow-rumped warbler (*Dendroica coronata*), and white-crowned sparrow (*Zonotrichia leucophrys*). Common raptors in the region include barn owl (*Tyto alba*), Cooper's hawk (*Accipiter cooperii*), great horned owl (*Bubo virginianus*), red-tailed hawk (*Buteo jamaicensis*), and turkey vulture (*Cathartes aura*). In addition, Cooper's hawk, burrowing owl (*Athene cunicularia*), golden eagle (*Aquila chrysaetos*), barn owl, and great horned owl were observed during the surveys. Several exotic species including the house sparrow (*Passer domesticus*), and Eurasian-collared dove (*Streptopelia decaocto*) were also observed.

Mammals. The detection of mammals included direct observation and evidence of use, including tracks, scat, burrows, or other signs. Small mammals or their signs were commonly observed during most of the surveys primarily in the areas around the bases of large shrubs. Species detected or observed included round-tailed ground squirrel (*Xerospermophilus tereticaudus*), white-tailed antelope squirrel (*Ammospermophilus leucurus*), kangaroo rat (*Dipodomys* spp.) and desert woodrat (*Neotoma lepida*). Mid-sized mammals included black-tailed jackrabbit (*Lepus californicus*), striped skunk (*Mephitis mephitis*), desert kit fox (*Vulpes macrotis arsipus*), American badger (*Taxidea taxus*), and coyote (*Canis latrans*). Large mammals including desert bighorn sheep (*Ovis canadensis*), mule deer (*Odocoileus hemionus*) and feral burro (*Equus asinus*) were detected during the surveys. Desert bighorn sheep and burros were most frequently detected in the eastern portion of the Project Area. Mountain lions (*Puma concolor*) are also known from portions of the Project Area, particularly in the mountains near Barstow and Victorville where perennial water sources are present. Domestic animals including dog (*Canis familiaris*), horses (*Equus ferus caballus*) and other agricultural species were also detected close to developed areas.

Bats are expected to occur across the Mojave Desert and foraging bats were detected on several occasions during the 2021 surveys. Bats are likely to forage over most of the Project Area and along desert washes, where they prey on small insects, moths, and other invertebrates. These may include species designated as "special animals" by

CDFW. These include pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and hoary bat (*Lasiurus cinereus*).

4.3.2.4 Special-Status Vegetation, Species, and Habitat

This section provides information on special-status plants and animals that were observed or have a potential to be present within the Project Area. The specific habitat requirements and the locations of known occurrences of each special-status species were the principal criteria used for inclusion in the lists of special-status species potentially occurring within the Project Area. In this report, “special-status species” is generally used to include all plants and animals listed as threatened or endangered under CESA or FESA; plants listed as rare by the state; recognized by the California BLM as sensitive; or identified as a special animal by CDFW. Specifically, special-status species include the following designations:

- Listed, proposed for listing, or candidates for listing as threatened or endangered under the FESA (federally threatened or endangered).
- Listed, or candidates for listing as threatened or endangered under the CESA (state threatened or endangered).
- Designated as sensitive by the California BLM (California BLM Sensitive).
- Designated as a special animal by CDFW (includes species also designated as federally threatened or endangered, state threatened or endangered, CDFW fully protected species [FP], CDFW Species of Special Concern [SSC], CDFW watch list species [WL], California BLM Sensitive, USFWS BCC).
- Designated by California Fish and Game Code Section 4000 as fur-bearing mammals.
- Plants assigned a CRPR by CNPS.²
- Plants listed as rare under the California Native Plant Protection Act.
- Plants considered sensitive or special-status species in local or regional plans, policies, or regulations.

This section also provides an overview of sensitive vegetation types and other land cover types present in the Project Area. Lastly, it provides information on habitats within the Project Area that support special-status species.

Sensitive Natural Communities

Sensitive vegetation communities are defined by CDFW as, “communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects.” More recently CDFW stated that sensitive natural communities with state ranks of S1–S3 (S1=critically imperiled; S2=imperiled; S3=vulnerable) should be addressed in the environmental review processes of CEQA and its equivalents.

² California Rare Plant Rank (CRPR):

CRPR 1A: Plants presumed extirpated in California and either rare or extinct elsewhere.

CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere.

CRPR 2A: Plants presumed extirpated in California but common elsewhere.

CRPR 2B: Plants rare, threatened, or endangered in California but more common elsewhere.

CRPR 3: Plants about which more information is needed—a review list.

CRPR 4: Plants of limited distribution—a watch list

–.1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)

–.2: Moderately threatened in California (20%–80% of occurrences threatened/moderate degree and immediacy of threat)

–.3: Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat)

Five sensitive natural communities were identified within the Project Area: Acton's and Virgin River brittle brush-net-veined goldeneye (S3); Fremont's smokebush–Nevada smokebush scrub (S3); Fremont cottonwood forest and woodland (S3); Joshua tree woodland (S3); and Nevada joint fir–Anderson's boxthorn–spiny hop sage scrub (S3S4). These communities are recognized as sensitive vegetation communities by CDFW, although not documented in CNDDDB. The literature review identified two sensitive vegetation communities documented in the project vicinity: mesquite bosque and crucifixion thorn woodland. Neither community is present within the Project Area.

Special-Status Plants

Based upon a review of the literature, databases, and the completion of botanical surveys, a list of special-status plant species that are known or have the potential to occur in the Project Area and/or broader Project survey area was compiled. The locations of special-status plants observed during 2021, 2024, 2025, and 2026 surveys were also recorded and mapped and are depicted in Figure 7, Special-Status Plant and Wildlife Observations, of Appendix C.

One plant species that is a candidate for listing under CESA, Western Joshua tree (*Yucca brevifolia* var. *brevifolia*; candidate state threatened), was mapped within the Project Area. No other listed plant species were observed or have a potential to occur within the Project alignment.

The following non-listed plant species considered special status in California were observed within the Project Area:

- Small-flowered androstephium (*Androstephium breviflorum*)
- Mojave milkweed (*Asclepias nyctaginifolia*)
- Clark Mountain agave (*Agave utahensis* var. *nevadensis*)
- Nevada onion (*Allium nevadense*)
- Scaly cloak fern (*Astroblepis cochisensis* ssp. *cochisensis*)
- Tidestrom's milkvetch (*Astragalus tidestromii*)
- Black grama (*Bouteloua eriopoda*)
- Three-awned grama (*Bouteloua trifida*)
- Purple-nerve cymopterus (*Cymopterus multinervatus*)
- Harwood's eriastrum (*Eriastrum harwoodii*)
- Clark Mountain buckwheat (*Eriogonum heermannii* var. *floccosum*)
- Desert pincushion (*Escobaria* (= *Coryphantha*) *chloanthra*)
- Parish's club-cholla (*Grusonia parishii*)
- Ribbed cryptantha (*Johnstonella costata*)
- Polished/ elegant blazing star (*Mentzelia polita*)
- Creamy blazing star (*Mentzelia tridentata*)
- Utah mortonia (*Mortonia utahensis*)
- Crowned/pygmy muilla (*Muilla coronata*)
- Cespitose evening-primrose (*Oenothera cespitosa* ssp. *crinite*)
- Cave evening-primrose (*Oenothera cavernae*)
- New York Mountains catseye (*Oreocarya* (= *Cryptantha*) *tumulosa*)

- White margined beardtongue (*Penstemon albomarginatus*)
- Rosy two-toned beardtongue (*Penstemon bicolor* ssp. *roseus*)
- Parish's phacelia (*Phacelia parishii*)
- Mojave fishhook cactus (*Sclerocactus polyancistrus*)
- Rusby's desert-mallow (*Sphaeralcea rusbyi* var. *eremicola*)

The following special-status plant species recognized as sensitive by the BLM or ranked by the CNPS have a moderate or high potential to be present on the California segment, because the species have ranges that contain the Project Area and suitable habitat is present:

- Desert wing-fruit (*Acleisanthes nevadensis*)
- White bear poppy (*Arctomecon merriamii*)
- Emory's crucifixion thorn (*Castela emoryi*)
- Gilman's cymopterus (*Cymopterus gilmanii*)
- Mojave monkeyflower (*Diplacus mohavensis*)
- Nine-awned pappus grass (*Enneapogon desvauxii*)
- Booth's evening-primrose (*Eremothera boothii* ssp. *boothii*)
- Harwood's eriastrum (*Eriastrum harwoodii*)
- Barstow woolly sunflower (*Eriophyllum mohavense*)
- Darlington's blazing star (*Mentzelia puberula*)
- Beaver dam breadroot (*Pediomelum castoreum*)
- White margined beardtongue (*Penstemon albomarginatus*)
- Abert's sanvitalia (*Sanvitalia abertii*)
- Mormon needle grass (*Stipa arida*)

Plants with a CRPR of 4 are on a watch list indicating limited distribution and do not qualify as rare, threatened, or endangered. Therefore, impacts to CRPR 4 plant species are not usually considered significant under CEQA and should be analyzed based on local distribution and trends. Due to their stable distribution within the region, the following CRPR 4 plant species that were observed or have a moderate or higher potential to occur within the Project Area are not addressed further below:

- Clark Mountain agave (*Agave utahensis* var. *nevadensis*)
- White pygmy-poppy (*Canbya candida*)
- Mojave spineflower (*Chorizanthe spinosa*)
- Ashen forget me not (*Johnstonella costata* [Synonym: *Cryptantha costata*])
- Clark Mountain buckwheat (*Eriogonum heermannii* var. *floccosum*)
- Naked stemmed daisy (*Enceliopsis nudicaulis* var. *nudicaulis*)
- New York Mountains catseye (*Cryptantha tumulosa*)

Listed Threatened or Endangered Plants

Western Joshua Tree. Western Joshua tree is a California state Candidate Threatened plant. In July 2023, the WJTCA was enacted which prohibits the take of any western Joshua tree. The act authorizes CDFW to issue permits for the incidental take of Joshua trees. A census of Western Joshua Tree was completed in 2025.

The western Joshua tree is in the asparagus (Asparagaceae) family and typically blooms from April through May and occurs in desert flats and slopes within Joshua tree woodland, montane chaparral, pinyon, and juniper woodland, Mojavean desert scrub communities of the Mojave Desert from the north slopes of the San Bernardino and San Gabriel Mountain ranges, and the Antelope Valley.

Western Joshua trees were observed during the surveys. The highest concentration of this species occurs in the ROW from an area south of Dale Evans Parkway to the Victorville Switching Station. The known range of western Joshua tree intersects the eastern portion of the transmission line between Stoddard Wells Road to the Victorville Switching Station. Western Joshua trees were surveyed following the guidelines of the Western Joshua Tree Census Instructions.

Non-Listed Special-Status Species

Table 4.3-2 lists the remaining special-status plants that have been observed or that have a potential to occur in the Project Area.

Table 4.3-2. Special-Status Plant Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
<i>Acleisanthes nevadensis</i> desert wing-fruit	Perennial herb; rocky slopes and shale outcrops in Joshua tree woodland and Mojavean desert scrub; about 2,600–3,800 ft. elev.; Kingston Range, southeast Inyo County to southwestern Utah, and northwestern Arizona.	FED: none BLM: none CA: S1 CRPR: 2B.1	High: Suitable habitat present. This species has been previously documented near the intersection of I-15 and Kingston Road.
<i>Agave utahensis</i> var. <i>nevadensis</i> Clark Mountain agave	Perennial herb or shrub; limestone or volcanic slopes and cliffs; Joshua tree woodland; about 2,900-5,200 ft. elev.; eastern desert mountains (Ivanpah and Clark Mountains, and Kingston range).	FED: none BLM: none CA: S3 CRPR: 4.2	Present: Approximately 8,000 plants observed in the Clark Mountains, and suitable habitat is present.
<i>Allium nevadense</i> Nevada onion	Perennial herb (bulb); sandy or gravelly slopes in desert mountains within pinyon/juniper woodland and Mojavean desert scrub; about 4,200–5,600 ft. elev.; desert mountains within San Bernardino and Inyo Counties	FED: none BLM: none CA: S3 CRPR: 2B.3	Present: Approximately 240 plants observed in Project Area and buffer, east and west of Clark Mountains.

Table 4.3-2. Special-Status Plant Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
	to Oregon, Idaho, Colorado, and Arizona.		
<i>Aloysia wrightii</i> Wright's beebush	Perennial evergreen shrub; rocky limestone slopes and dry washes; occurs within Joshua tree woodland, and Pinyon and juniper woodland; about 2955 to 5220 ft. elev.; within San Bernadino and Riverside counties of California, southern Nevada, Arizona, Utah and Texas and elsewhere.	FED: none BLM: none CA: S4 CRPR: 4.3	Present: Approximately two plants observed in Project Area in the Clark Mountains.
<i>Androstephium breviflorum</i> Small-flowered androstephium	Perennial herb (bulb); open desert scrub, sandy to rocky soil within Mojavean desert scrub and desert dunes; about 300–5,300 ft. elev.; south Mojave Desert and north Sonoran Desert to western Colorado.	FED: none BLM: none CA: S2 CRPR: 2B.2	Present: Approximately 15 plants observed in the Project Area in Ivanpah Valley and Clark Mountains.
<i>Arctomecon merriamii</i> White bear poppy	Perennial herb; rocky slopes, calcareous soil, loose shale, or sandy washes within chenopod scrub and Mojavean desert scrub; about 2,600–5,300 ft. elev.; northeast Mojave Desert within San Bernardino and Inyo Counties to southern Nevada.	FED: none BLM: none CA: S3 CRPR: 2B.2	Moderate: Marginal habitat is present. Records Clark Mountains and north Halloran Springs.
<i>Asclepias nyctaginifolia</i> Mojave milkweed	Perennial herb; arroyos and dry slopes within Mojavean desert scrub and pinyon/juniper woodland; about 3,300–5,600 ft. elev.; Mojave Desert in San Bernardino County to Nevada and New Mexico.	FED: none BLM: none CA: S2 CRPR: 2B.1	Present: Approximately 30 plants observed within the Project Area in the Ivanpah Valley and east of the Clark Mountains.
<i>Astragalus nyensis</i> Nye milkvetch	Annual herb; occurs in gravelly, sand and alkaline substrates within Mojavean desert scrub; about 2590 - 2675 ft elev.; in California only known in Pahrump Valley;	FED: none BLM: S CA: S1 CRPR: 1B.1	Moderate: Only known in Pahrump Valley. Potential to occur limited to California-Nevada border.
<i>Astragalus tidiestromii</i> Tidiestrom's milkvetch	Perennial herb; washes in sandy or calcareous gravel, within Mojavean desert scrub; about 1,900–5,300 ft. elev.;	FED: none BLM: none CA: S2	Present: Approximately 660 plants observed in the Project Area and buffer, from Ivanpah

Table 4.3-2. Special-Status Plant Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
	Mojave Desert (Cushenbury Canyon) within San Bernardino and Inyo Counties to southern Nevada.	CRPR: 2B.2	Valley to north of Halloran Springs.
<i>Astrolepis cochisensis</i> ssp. <i>cochisensis</i> Scaly cloak fern	Fern; limestone slopes, crevices in desert mountains within Joshua tree woodland and pinyon/juniper woodland; about 3,300–5,300 ft. elev.; Mojave Desert within San Bernardino County.	FED: none BLM: none CA: S2 CRPR: 2B.3	Present: Approximately 2,000 plants observed in Project Area and buffer, east and west of the Clark Mountains.
<i>Bouteloua eriopoda</i> Black grama	Perennial grass, Joshua tree woodland and pinyon/juniper woodland; about 2,900 – 6,200 ft. elev.; eastern desert mountains in San Bernardino County to Wyoming, Oklahoma, and northern Mexico.	FED: none BLM: none CA: S4 CRPR: 4.2	Present: Four plants observed in buffer area, near the Clark Mountains.
<i>Bouteloua trifida</i> Three-awned grama	Perennial grass; dry, rocky, generally calcareous slopes, crevices, washes within Mojavean desert scrub; about 600-5,300 ft. elev.; north and east Mojave Desert (mostly desert mountains) to Utah, Texas, and central Mexico.	FED: none BLM: none CA: S3 CRPR: 2B.3	Present: Approximately 2,680 plants observed in the Project Area and buffer east Clark Mountains.
<i>Canbya candida</i> White pygmy-poppy	Annual herb, gravelly; sandy, granitic places within Joshua tree woodland, Mojavean desert scrub and pinyon/juniper woodland; about 2,000-4,400 ft. elev.; western Mojave Desert and adjacent Sierra Nevada foothills.	FED: none BLM: none CA: S3S4 CRPR: 4.2	Moderate: Suitable habitat present. Historic records for this species occur in the Barstow and Victorville area.
<i>Castela emoryi</i> Emory's crucifixion thorn	Perennial shrub; fine sand or silt, slopes, washes, plains, non-saline bottomland within Mojavean desert scrub, Sonoran Desert scrub and playas; about 350–2,100 ft. elev.; California deserts to Arizona Baja and Sonora.	FED: none BLM: none CA: S2S3 CRPR: 2B.2	High: Suitable habitat present. This species has been documented greater than 10 miles from the Project Area. Detected at reference site over 25 miles from the Project Area.
<i>Chorizanthe spinosa</i> Mojave spineflower	Annual herb; desert shrubland, Chenopod scrub, Joshua Tree Woodland, Mojavean desert scrub and playas; sea level to about	Fed: none BLM: none CA: S4 CRPR: 4.2	Moderate: Suitable habitat present. Project Area at eastern edge of range, near Barstow area.

Table 4.3-2. Special-Status Plant Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
	4,300 ft. elev.; Kern, LA and San Bernardino Counties; W Mojave Desert, east to Rabbit Springs		Approximately 10 plants observed at the Kramer Junction reference site.
<i>Cymopterus gilmanii</i> Gilman's cymopterus/Gilman spring parsley	Perennial herb; limestone, gypsum slopes within Mojavean desert scrub; about 2,900-6,600 ft. elev.; desert mountains of Inyo and San Bernardino Counties to Nevada.	FED: none BLM: none CA: S2 CRPR: 2B.3	High: Suitable habitat present. An occurrence was previously documented in the Clark Mountains.
<i>Cymopterus multinervatus</i> Purple-nerve cymopterus	Perennial herb; sandy and rocky slopes within Mojavean desert scrub and pinyon/juniper woodland; about 2,066-5,905 ft. elev.; Mojave Desert in Inyo, Riverside and San Bernardino Counties to Utah and New Mexico.	FED: none BLM: none CA: S2 CRPR: 2B.2	Present: Approximately 85 plants observed in the Project Area and buffer south of Shadow Mountain, east of Kinston Road.
<i>Diplacus mohavensis</i> Mojave monkeyflower	Annual herb; dry sandy or rocky washes along the Mojave River within Joshua tree woodland and Mojavean desert scrub; about 1,900-3,300 ft. elev.; Mojave Desert in western San Bernardino County.	FED: none BLM: S CA: S2 CRPR: 1B.2	High: Suitable habitat present. This species has previously been documented near Barstow, Newberry Mountains, Stoddard Valley, and Sidewinder Valley.
<i>Enceliopsis nudicaulis</i> var. <i>nudicaulis</i> Naked stemmed daisy	Perennial herb or shrub; found in Great Basin and Mojavean desert scrub in areas of rocky volcanic and carbonate substrate on stony hillsides and canyons; about 4365 to 6595 ft. elev.; found in California and Nevada and elsewhere in western North America.	FED: none BLM CA: CA: S3 CRPR: 4.3	High: Suitable habitat present. This species has previously been documented in the Clark Mountains and Mesquite Wilderness.
<i>Enneapogon desvauxii</i> Nine-awned pappus grass	Perennial grass like herb; rocky slopes, crevices in decomposed granite, or in gravelly limestone soils within pinyon/ juniper woodland; about 4,100-6,000 ft. elev.; eastern Mojave Desert in San Bernardino County to Colorado, western Texas, and northern Mexico.	FED: none BLM: none CA: S3 CRPR: 2B.2	High: Suitable habitat present. This species has previously been documented in the Clark Mountain area.

Table 4.3-2. Special-Status Plant Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
<i>Eremothera boothii</i> ssp. <i>boothii</i> Booth's evening-primrose	Annual herb; sandy flats, steep loose slopes, Joshua tree woodland and pinyon/juniper woodlands; about 2,900-7,900 ft. elev.; foothills of mountains of southern California to Washington and northwestern Arizona.	FED: none BLM: none CA: S3 CRPR: 2B.3	Moderate: Suitable habitat present. This species has previously been documented in Victorville, along I-15 near Baker, and within the Mojave National Preserve.
<i>Eriastrum harwoodii</i> Harwood's eriastrum	Annual herb; sandy soils and desert dunes in creosote-bush scrub; about 410 – 3,000 ft. elev.; in the Mojave and Sonoran Desert, California.	FED: none BLM: S CA: S2 CRPR: 1B.2	High: Suitable habitat present.
<i>Eriogonum heermannii</i> var. <i>floccosum</i> Clark Mountain buckwheat	Shrub; carbonate soils within pinyon/juniper woodland; about 2,955 – 7,875 ft. elev.; desert mountains in San Bernardino to northwestern Arizona and southern Nevada.	FED: none BLM: none CA: S4 CRPR: 4.3	Present: Approximately 94 plants observed in the Project Area and buffer at Clark Mountains.
<i>Eriophyllum mohavense</i> Barstow woolly sunflower	Annual herb; open, silty, or sandy areas with saltbush scrub, or creosote bush scrub, barren ridges, or margins of playas; about 1,600-2,600 ft. elev.; Mojave Desert in Kern, Los Angeles, and San Bernardino Counties.	FED: none BLM: S CA: S2 CRPR: 1B.2	Moderate: Suitable habitat present. This species has previously been documented within 5 miles of the Project Area. Approximately 20 plants observed at the Kramer Junction reference site.
<i>Escobaria</i> (=Coryphantha) <i>chlorantha</i> Desert pincushion	Perennial herb (stem succulent); calcareous substrates, rocky and gravelly sites within Mojavean desert scrub, Joshua tree woodland and pinyon/juniper woodland; about 3,300-7,900 ft. elev.; Mojave Desert in eastern San Bernardino County to southwestern Utah and northwestern Arizona.	FED: none BLM: none CA: S3 CRPR: 2B.1	Present: Approximately 5,800 plants observed in Project Area and buffer, extending from California-Nevada border to north of Hollow Hills Wilderness.
<i>Escobaria</i> (=Coryphantha) <i>vivipara</i> var. <i>rosea</i> Viviparous foxtail cactus	Perennial herb (stem succulent); gravelly limestone or volcanic slopes and brushy hillsides within Mojavean desert scrub and pinyon/juniper woodland; about 4,900-8,900 ft. elev.; desert mountains in northeast	FED: none BLM: none CA: S1 CRPR: 2B.2	Present: Approximately 24 plants observed in the Project Area and buffer, north of Halloran Springs.

Table 4.3-2. Special-Status Plant Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
	San Bernardino County to southern Nevada and northwestern Arizona.		
<i>Galium proliferum</i> Desert bedstraw	Annual herb; rocky banks, limestone ledges within Joshua tree woodland, Mojavean desert scrub, and pinyon/juniper woodland; about 3,600-4,700 ft. elev.; desert mountains in San Bernardino County to Arizona and Mexico.	FED: none BLM: none CA: S2 CRPR: 2B.2	Present: Approximately 500 plants observed in the Project Area and buffer in the Clark Mountains.
<i>Grusonia parishii</i> Parish's club-cholla	Shrub (stem succulent); sandy, gravelly flats generally in Mojavean desert scrub, Sonoran Desert scrub and Joshua tree woodland; about 1,000-3,900 ft. elev.; desert mountains in Riverside and San Bernardino Counties to southern Nevada and western Arizona.	FED: none BLM: none CA: S2 CRPR: 2B.2	Present: Approximately 44 plants observed in Ivanpah Valley.
<i>Johnstonella costata</i> Ribbed cryptantha	Annual herb; sandy areas within sandy desert dunes, Mojavean desert scrub and Sonoran Desert scrub; about - 200-1,600 ft. elev.; eastern Mojave Desert and Sonoran Desert to southern Nevada, Arizona, and Baja California.	FED: none BLM: none CA: S4 CRPR: 4.3	Present: Approximately 100 plants observed in buffer areas north of Baker. Approximately 1,000 plants were documented in the general area.
<i>Menodora spinescens</i> var. <i>mohavensis</i> Mojave menodra	Shrub, Mojavean desert scrub; rocky hillsides, canyons, slopes; about 2265-6560 ft. elev.; desert mountains (Ord, Rodman, and Newberry Mountains) in San Bernardino County.	FED: none BLM: S CA: S2 CRPR: 1B.2	Present: Approximately 15 plants observed in the Project Area between I-40 and SR-247.
<i>Mentzelia polita</i> elegant blazing star/polished blazing star	Annual herb; washes, limestone, white gypsum-rich soils within Mojavean desert scrub; about 3,900-5,000 ft. elev.; desert mountains (Clark Mountain Range) in Inyo and San Bernardino Counties to southern Nevada.	FED: none BLM: S CA: S2? CRPR: 1B.2	Present: Approximately 130 plants observed in the Project Area and buffer, mostly near Clark Mountains and a few plants west of Kingston Road.
<i>Mentzelia puberula</i>	Perennial herb; about 295-4200 feet elevation; habitat Mojavean desert scrub; bases of steep cliffs in crevices	FED: none BLM: none CA: S2	Moderate: Suitable habitat present.

Table 4.3-2. Special-Status Plant Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
Argus blazing star/Darlington's blazing star	granite, limestone, steep gravelly and sand slopes, sandy washes. Found in Imperial, Riverside and San Bernardino CA and Nevada.	CRPR: 2B.2	
<i>Mentzelia tridentata</i> Creamy blazing star	Annual herb; creosote-bush scrub; about 2,200-4,300 ft. elev.; southern California deserts to Colorado and northwestern Arizona.	FED: none BLM: S CA: S3 CRPR: 1B.3	Present: Approximately 40 plants observed in the Project Area south of Barstow. Recorded in the general area of Barstow and south towards Lucerne Valley.
<i>Mortonia utahensis</i> Utah mortonia	Shrub; limestone slopes, canyon bottoms within Joshua tree woodland, Mojavean desert scrub and pinyon/juniper woodland; about 2,495 – 6,890 ft. elev.; northern Mojave Desert in Inyo and San Bernardino Counties to southwestern Utah.	FED: none BLM: none CA: S3 CRPR: 4.3	Present: Over 1,000 plants observed in the Project Area and buffer in Ivanpah Valley and eastern edge of the Clark Mountains.
<i>Muilla coronata</i> crowned/pygmy muilla	Perennial bulbiferous herb; loam, sandy loam in creosote bush scrub, Mojavean desert scrub, pinyon-juniper woodland, and Joshua tree woodland; about 2,200-6,430 ft. elev.; Mojave Desert region of eastern California and southwestern Nevada.	FED: none BLM: none CA: S3 CRPR: 4.2	Present: Approximately 10 plants observed in the Project Area, west of Shadow Mountain.
<i>Oenothera cavernae</i> Cave evening-primrose	Perennial herb; gravelly, often calcareous substrate within Great Basin scrub, Joshua tree woodland and Mojavean desert scrub; about 6,200-7,600 ft. elev.; desert mountains (Clark Mountains, also base of range in Ivanpah Valley) in San Bernardino County to southern Nevada, southern Utah, and northern Arizona.	FED: none BLM: none CA: S1 CRPR: 2B.1	Present: Approximately 65 plants observed in the Project Area and buffer in Ivanpah Valley and Clark Mountains.
<i>Oenothera cespitosa</i> ssp. <i>crinita</i> Caespitose evening-primrose	Perennial rhizomatous herb; Pinyon and juniper woodland, Sonoran desert scrub; about 3,700 to 10,900 ft. elev.; San Bernardino, Lassen, Inyo	FED: none BLM: none CA: S4 CRPR: 4.2	Present: Approximately 360 observed in the Project Area and buffer in Clark Mountains.

Table 4.3-2. Special-Status Plant Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
	Counties; California, Nevada, Arizona, and Utah.		
<i>Opuntia x curvispina</i> Curved-spine beavertail	Perennial stem, Sandy, gravelly, rock soils, washes; Creosote-bursage, Mojavean desert scrub, and Pinyon and juniper woodland; 3250 to 4595 ft. elev.; San Bernardino County to Nevada and Arizona.	FED: none BLM: none CA: none CRPR: 2B.2	Present: Approximately 12 plants observed in the Clark Mountains and north of Hollow Hills Wilderness.
<i>Oreocarya (=Cryptantha) tumulosa</i> New York Mountains catseye	Perennial herb; limestone, occasionally granitic gravel, or clay soils, generally pinyon/juniper woodland; about 4,600-6,900 ft. elev.; desert mountains of Inyo and San Bernardino Counties to southwest Nevada.	FED: none BLM: none CA: S4 CRPR: 4.3	Present: Approximately 970 plants observed in the Project Area and buffer near the Clark Mountains.
<i>Pediomelum castoreum</i> Beaver dam breadroot	Perennial herb; sandy soils; washes and roadcuts. within Joshua tree woodland and Mojavean desert scrub; below 5,700 ft. elev.; Mojave Desert in San Bernardino County to Nevada and Arizona.	FED: none BLM: S CA: S2 CRPR: 1B.2	Moderate: Suitable habitat present.
<i>Penstemon albomarginatus</i> White margined beardtongue	Perennial herb; deep stabilized desert sand, in washes and along roadsides within Mojavean desert scrub and desert dunes; about 1,800-3,510 ft. elev.; San Bernardino County to Nevada and Arizona.	FED: none BLM: S CA: S1 CRPR: 1B.1	High: Suitable habitat present.
<i>Penstemon bicolor</i> ssp. <i>roseus</i> Rosy two-toned beardtongue	Perennial herb; rocky or gravelly sites within Joshua tree woodland and Mojavean desert scrub communities about 2,800-4,900 ft. elevation in the Clark Mountains in San Bernardino County and southern Nevada.	FED: none BLM: S CA: S3 CRPR: 1B.1	Present: Approximately 170 plants observed in the Ivanpah Valley west of Clark Mountains.
<i>Phacelia anelsonii</i> Aven Nelson's phacelia	Annual herb; shady places in rich soil, base of sandstone or limestone cliffs, among rocks or in washes within Joshua tree woodland and pinyon/juniper woodland; about 3,900-4,900 ft. elev.; desert mountains (New York	FED: none BLM: none CA: S2 CRPR: 2B.3	Present: Over 2,500 plants observed in a small area of the Clark Mountains.

Table 4.3-2. Special-Status Plant Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
	Mountains) in San Bernardino County to southwestern Utah.		
<i>Phacelia coerulea</i> Sky-blue phacelia	Annual herb; open, sandy to rocky areas within pinyon/juniper woodland and Mojavean desert scrub; about 4,500-6,600 ft. elev.; Mojave Desert in Inyo and San Bernardino County to Utah, Texas, and northern Mexico.	FED: none BLM: none CA: S2 CRPR: 2B.3	Present: About 15 plants observed in the Project Area in the Clark Mountains.
<i>Phacelia parishii</i> Parish's phacelia	Annual herb; open, alkaline flats and slopes or on clay soils within Mojavean desert scrub and playas; about 1,700-4,000 ft. elev.; Mojave Desert in Inyo and San Bernardino County to Nevada and Arizona.	FED: none BLM: S CA: S1 CRPR: 1B.1	Present: Over 1 million plants observed in the Project Area and buffer north of I-15 and Manix near Harvard Rd.
<i>Pilostyles thurberi</i> Thurber's pilostyles	Perennial herb (parasitic); washes and desert scrub; about 0-1,200 ft. elev.; known to occur in Sonoran desert scrub and south near Salton Sea, also Arizona, Nevada to Texas.	FED: none BLM: none CA: S4 CRPR: 4.3	Present: Four plants observed in the Project Area, three north of Halloran Springs and one south of Daggett. Needs further field verification.
<i>Psoralea argophylla</i> var. <i>argophylla</i> Mojave indigo-bush	Perennial deciduous shrub; desert hillsides and stony flats Mojavean desert scrub and Riparian scrub; about 1,300 to 3,890 ft. elev.; in San Bernardino County to south to Mexico.	FED: none BLM: none CA: S4 CRPR: 4.3	Present: Approximately 200 plants observed in the Project Area and buffer between I-40 and Ord Mountain Road.
<i>Sanvitalia abertii</i> Abert's sanvitalia	Annual herb; rocky limestone slopes and washes within pinyon/juniper woodland and blackbrush scrub; about 4,700-5,800 ft. elev.; deserts mountains (Clark, Mescal, and New York Mountains); in San Bernardino County to Texas and northern Mexico.	FED: none BLM: none CA: S2S3 CRPR: 2B.2	High: Suitable habitat present. This species has been previously documented in the Clark Mountain region.
<i>Sclerocactus johnsonii</i> (=Echinomastus) Johnson's bee-hive cactus	Shrub (stem succulent); granitic slopes and plains within Mojavean desert scrub; about 1,600-4,000 ft. elev.; Mojave Desert in Inyo and San Bernardino Counties to	FED: none BLM: none CA: S2 CRPR: 2B.2	Moderate: Marginal suitable habitat present.

Table 4.3-2. Special-Status Plant Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
	southwestern Utah and northwestern Arizona.		
<i>Sclerocactus polyancistrus</i> Mojave fish hook cactus	Shrub (stem succulent); well-drained soil, on rocky gravelly mesas, slopes & outcrops; Joshua tree woodland, Mojavean desert scrub and Great Basin scrub; about 2,100-7,600 ft. elev.; desert mountains in Kern, Inyo, and San Bernardino Counties to Nevada.	FED: none BLM: none CA: S3 CRPR: 4.2	Present: Two plants observed in the Project Area, north of Victorville and near the Clark Mountains.
<i>Sphaeralcea rusbyi</i> var. <i>eremicola</i> Rusby's desert-mallow	Perennial herb; carbonate soils; sometimes in washes within creosote bush scrub, blackbush scrub and Joshua tree woodland; about 3,300-4,900 ft. elev.; in Inyo County and Clark Mountain Range in San Bernardino County.	FED: none BLM: S CA: S2 CRPR: 1B.2	Present: Approximately 5,800 plants observed at several locations in the Project Area and buffer between Primm and north of Halloran Springs.
<i>Stipa arida</i> Mormon needle grass	Perennial grass like herb; rocky limestone ridges within pinyon/juniper woodland and Joshua tree woodland; about 3,600-6,100 ft. elev.; Mojave Desert in San Bernardino County to Colorado and New Mexico.	FED: none BLM: none CA: S3 CRPR: 2B.3	High: Suitable habitat present. This species has been previously documented near Clark Mountains and Mojave National Preserve.

Source: Appendix C

Notes:

Bureau of Land Management (BLM)

S: Species recognized by the BLM as sensitive.

California

Applied to special-status species; where correct category is uncertain, two categories or question marks are used.

S1: Fewer than 6 occurrences or fewer than 1,000 individuals or less than 2,000 acres.

S2: 6-20 occurrences or 1,000-3,000 individuals or 2,000-10,000 acres (decimal suffixes same as above).

S3: 21-100 occurrences or 3,000-10,000 individuals or 10,000-50,000 acres (decimal suffixes same as above).

S4: Apparently secure in California; this rank is clearly lower than S3, but factors exist to cause some concern, i.e., there is some threat or somewhat narrow habitat. No threat rank.

California Rare Plant Rank

1B: Plants rare and endangered in California and throughout their range.

2B: Plants rare, threatened or endangered in California but more common elsewhere in their range.

4: Plants of limited distribution; a watch list.

Threat designation extensions:

.1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2 Fairly endangered in California (20-80% occurrences threatened)

.3 Not very endangered in California (<20% of occurrences threatened, or no current threats known)

California Desert Native Plants

According to the list of observed plants provided in Appendix C, California desert native plants are present within the California segment of the Project Area, including 19 species of Cactaceae, paloverde (*Parkinsonia* sp.), catclaw (*Senegalia greggii*), desert holly (*Atriplex hymenelytra*), and six species of Agavaceae (also known as Asparagaceae). Of these, the following seven plant species or taxa are considered special-status: desert pincushion (CRPR 2B.1), viviparous foxtail cactus (CRPR 2B.1), Parish's club-cholla (CRPR 2B.2), Johnson's bee-hive cactus (CRPR 2B.2), Mojave fish hook cactus (CRPR 4.2), western Joshua tree (state candidate for listing as threatened), and Clark Mountain agave (CRPR 4.2).

Although the CDNPA is codified in state law (California Food and Agricultural Code Division 23), enforcement powers and administrative responsibilities are given to the subject County commissioner, sheriff, and board of supervisors as stipulated in Chapter 4 of the CDNPA (Enforcement Powers and Administrative Responsibilities). Therefore, potential impacts to desert native plant species are analyzed in the context of project consistency with local policies or ordinances.

Special-Status Wildlife

Based upon the literature review and surveys, a list of special-status wildlife species that are known to occur in the Project Area or the broader Project survey area was compiled. The locations of special-status wildlife species observations during 2021, 2024, 2025, and 2026 surveys are depicted on Figure 7, Special-Status Plant and Wildlife Observation, of Appendix C. Special-status wildlife that were detected during the surveys included:

- Desert tortoise (*Gopherus agassizii*)
- Mojave fringe-toed lizard (*Uma scoparia*)
- Golden eagle (*Aquila chrysaetos*)
- Burrowing owl (*Athene cunicularia hypugaea*)
- Swainson's hawk (*Buteo swainsoni*)
- Costa's hummingbird (*Calypte costae*)
- Gilded flicker (*Colaptes chrysoides*)
- Peregrine falcon (*Falco peregrinus*)
- Loggerhead shrike (*Lanius ludovicianus*)
- LeConte's thrasher (*Toxostoma lecontei*)
- Yellow-headed blackbird (*Xanthocephalus xanthocephalus*)
- Desert bighorn sheep (*Ovis canadensis nelsoni*)
- American badger (*Taxidea taxus*)
- Desert kit fox (*Vulpes macrotis arsipus*)

An additional 26 wildlife species have a moderate or high potential to occur as a resident, during breeding, and/or during roosting and are summarized in Table 4.3-3 along with the species that do occur.

Table 4.3-3. Special-Status Wildlife Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
Invertebrates			
<i>Bombus crotchii</i> Crotch bumble bee	Occurs in open grassland and scrub habitats. This species is a ground nesting species. Occurs in coastal California east to the Sierra-Cascade crest and south into Mexico.	FED: none BLM: none CA: CAN, S1S2	Moderate: Species not observed during surveys. Suitable habitat present. Known range is limited to western portion of Project Area between Victorville and Baker. One recent iNaturalist record near Victorville.
<i>Bombus morrisoni</i> Morrison bumble bee	Requires thistles, bladderpods, sunflower, lupines, rabbitbrush and clovers as food sources. Occurs from the Sierra-Cascade ranges eastward across the intermountain west.	FED: none BLM: none CA: SA, S1S2	Moderate: Species not observed during surveys. Suitable habitat present. Species is known from historic records within the vicinity of the Project Area.
<i>Danaus plexippus</i> Monarch butterfly	Inland migration relies on milkweed or other related genera has host plans for larval feeding and for oviposition. Prefer riparian areas, including washes, during migration. Overwintering sites are in coastal areas of CA and tend to be approximately 1.5 miles of Pacific Ocean.	FED: PT BLM: none CA: none	Moderate: Species not observed during surveys. Limited milkweed and other species are present in various locations. Species may be present during spring and fall migration but not overwintering.
<i>Helminthoglypta mohaveana</i> Victorville shoulderband	Found among granite boulders and at the base of rocky cliffs. Known only from along the Mojave River in San Bernardino County.	FED: none BLM: none CA: SA, S1	Present: Observed during surveys Occurrence of this species is documented near the Mojave River.
<i>Plebulina emigdionis</i> San Emigdio blue butterfly	Found in desert canyons & along riverbeds in Inyo, Kern, Los Angeles, and San Bernardino Counties. Host plant is fourwing saltbush and American bird's foot trefoil.	FED: none BLM: none CA: SA, S1S2	High: Species not observed during surveys. Suitable habitat present. Species known from recent records within the vicinity of the Project Area.
Reptiles			
<i>Actinemys pallida</i> Southwestern pond turtle	Inhabits permanent or nearly permanent bodies of water in various habitat types; requires basking sites. Occurs in the California, west of the Sierra-Cascade crest Mojave Desert along the Mojave River and its tributaries.	FED: Proposed Threatened BLM: S CA: SSC, S3	Low to Moderate: Species not observed during surveys. Potential to occur limited to the Mojave River.

Table 4.3-3. Special-Status Wildlife Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
<i>Gopherus agassizii</i> Desert tortoise	Inhabits, gravelly desert washes, canyon bottoms and rocky hillsides. Associated plant species includes creosote bush, Joshua tree, cheesebush, saltbush, grasses, and cacti. Occurs only in California, extreme southern Nevada, extreme southwest Utah, and extreme northwest Arizona.	FED: END BLM: S CA: THR, S2S3	Present: Individuals, sign of species, and suitable burrows observed along alignment.
<i>Heloderma suspectum cinctum</i> Banded Gila monster	Inhabits the lower slopes of rocky canyons and arroyos and desert flats among scrub and succulents. Eggs are laid in soil in excavated nests; soil must be sandy or friable. Inhabits the eastern Mojave and Colorado Deserts.	FED: none BLM: S CA: SSC, S1	Moderate: Suitable habitat present. Not observed during surveys. Recent records within vicinity of Project Area.
<i>Uma scoparia</i> Mojave fringe-toed lizard	Requires fine, loose, wind-blown sand in sand dunes, dry lakebeds, riverbanks, desert washes, sparse alkali scrub and desert scrub. Shrubs or annual plants may be necessary for arthropods found in the diet. Occurs in desert regions of Inyo, San Bernardino, Los Angeles, and Riverside counties. Elevational range extends from near sea level up to 3,000 ft.	FED: none BLM: S CA: SSC, S3S4	Present: Not observed during initial surveys in 2021 and 2024; however, observed in 2025. Suitable habitat observed within isolated portions of the Project Area.
Birds			
<i>Accipiter cooperii</i> Cooper's hawk	Woodland, chiefly of open, interrupted, or marginal type; nest sites mainly in riparian growths of deciduous trees. Breeds in southern Sierra Nevada foothills, New York Mts., Owens Valley, and other local areas in southern California and Nevada.	FED: none BLM: none CA: WL, S4	Moderate (nesting): No nests, or suitable nesting habitat observed within Project Area. Present (foraging): Observed during surveys.
<i>Agelaius tricolor</i> Tricolored blackbird	Highly colonial species requires open water, protected nesting substrate, and foraging areas with insect prey within a few kilometers of colony. Occurs throughout Central Valley and in coastal districts from Sonoma County south.	FED: BCC BLM CA: S CA: THR, SSC, S1S2	Low (nesting): No nests, or suitable nesting habitat in Project Area except where tower lines cross over the Mojave River. High (foraging): Suitable foraging habitat within 500 feet of the survey area.

Table 4.3-3. Special-Status Wildlife Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
<i>Aquila chrysaetos</i> Golden eagle	Nests in remote trees and cliffs; but will also use transmission line towers. Forages over shrublands and grasslands; breeds throughout western North America, winters to east coast.	FED: BGEPA, BCC BLM: S CA: FP, WL, S3	Present (nesting): Suitable nesting habitat is present within mountainous portions of the Project Area. Observed nesting adjacent to the existing ROW near the Ord Mountains. Present (foraging): Observed during surveys. Suitable foraging habitat throughout the Project Area.
<i>Athene cunicularia hypugaea</i> Western burrowing owl	Nests mainly in wildlife burrows, usually in open grassland or shrubland communities; forages in open habitats. Occurs in California through western U.S. and Mexico.	FED: BCC BLM: S CA: Candidate, S3	Moderate (nesting): Known to nest in Mojave Desert. Present (foraging/overwintering): This species was observed during surveys of the Project Area. Observations included potential and sign. Suitable year-round habitat is present within the Project Area.
<i>Calypte costae</i> Costa's hummingbird	Inhabits Mojave Desert scrub, chaparral, sage scrub, deciduous forest, desert scrub and streams with cottonwoods, brittlebush, fourwing saltbush, and other species from near sea level to 4,000 ft. elev. Breeds in SW North America from central California, southern Nevada, and southwestern Utah. Winters Baja California and coastal Mexico.	FED: BCC BLM: none CA: S4	High (nesting): No nests observed; however, suitable nesting habitat occurs throughout the Project Area. Present (foraging): Observed during survey within California. Suitable foraging habitat occurs throughout the Project Area.
<i>Circus hudsonius</i> Northern harrier	Forages and breeds in annual and perennial grasslands, weed fields, agricultural fields, sagebrush flats, and desert sinks, among others. Occurs across North America, breeding from northern Alaska and Canada south through much of U.S. and northern Baja California. Occurs year-round or during migration throughout open habitats across California and Nevada.	FED: BCC BLM: none CA: SSC, S3	Moderate (nesting): Limited suitable nesting habitat present. Outside known breeding range. Moderate (foraging): Suitable foraging habitat present. Multiple records within 5 miles.
<i>Coccyzus americanus occidentalis</i> Western yellow-billed cuckoo	Nests along broad, lower flood-bottoms of larger river systems; also nests in riparian forests of willow often mixed with	FED: THR, BCC BLM: S CA: END, S1	Low (nesting): No nests or suitable nesting habitat observed within the Project

Table 4.3-3. Special-Status Wildlife Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
	cottonwoods, with an understory of blackberry, nettles, or wild grape. Occurs across western U.S. Within the vicinity of the Project Area occurs along the Mojave River.		Area, except for the in the Mojave River. High (foraging): Suitable foraging habitat present within the Project Area at the Mojave River. iNaturalist records near Clark Mountain over one mile from Project Area.
<i>Colaptes chrysoides</i> Gilded flicker	Occurs in desert riparian, desert wash, and Joshua tree habitats with large mature trees for nesting. Occurs in SE California, NE Baja California, and central Arizona south to southern Baja California and through Sonora to northern Sinaloa.	FED: BCC BLM: S CA: END, S1	High (nesting): Suitable nesting habitat on eastern end of Project Area in the Clark Mountains and Ivanpah Valley. Present (foraging): Observed during surveys near Clark Mountains.
<i>Empidonax traillii</i> Willow flycatcher	Primarily nests within willow thickets along streams in broad valleys, canyon bottoms, mountain-side seepages, and at the margins of lakes and pools. Willow flycatchers can also be found within bushes, brushy fields, and upland stands of trees near streams or marshes. Current breeding range of this species in California is predominantly northern California, within the Sierra Nevada and Cascade Mountains region, ranging from southern Shasta County to the north of Kern County.	FED: none BLM: none CA: END, S3	Moderate (nesting): No nests observed, but suitable nesting habitat is present within 500 feet of the survey area in the Mojave River. Nearest previously documented occurrences are near Baker and Zzyzx. High (foraging): Suitable foraging habitat present, but suitable nesting habitat is present along the Mojave River.
<i>Empidonax traillii</i> <i>extimus</i> Southwestern willow flycatcher	Occurs in riparian woodlands in southern California. Breeding range includes southern California, southern Nevada, southernmost Utah, southernmost Colorado, Arizona, New Mexico, and western Texas. Designated Critical Habitat along the Mojave River between Victorville Switching station and towers north-east of Mojave River.	FED: END BLM: none CA: END, S1	Low (nesting): No nests observed. No suitable nesting habitat is present within 500 feet of the Project Area in the Mojave River. High (foraging): Suitable foraging habitat is present within 500 feet of the Project Area along the Mojave River. Numerous previously documented occurrences of the species along the Mojave River.
<i>Falco mexicanus</i> Prairie falcon	Nests along cliff faces or rocky outcrops, forages over open spaces, agricultural fields.	FED: BCC BLM: none CA: WL, S4	Low (nesting): No nests observed during the surveys and marginal nesting habitat is present throughout most of

Table 4.3-3. Special-Status Wildlife Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
	Occurs throughout arid western U.S. and Mexico.		the Project Area. Could occur in mountainous areas. High (foraging): Observed during surveys. Suitable foraging habitat present throughout Project Area. Multiple eBird records within the vicinity of the Project Area.
<i>Icteria virens</i> Yellow-breasted chat	Inhabits riparian thickets of willow and other brushy tangles near water courses; nests in low, dense riparian vegetation; nests and forages within 10 feet of ground. Widespread in North America.	FED: none BLM: none CA: SSC, S3	Moderate (nesting): No nests documented within Project Area. Suitable nesting habitat present approximately 500 feet from the Project Area in the Mojave River. High (foraging): Suitable habitat is present within 500 feet of the Project Area. Species has previously been documented along the Mojave River. No suitable habitat occurs in the vicinity of the transmission tower locations.
<i>Lanius ludovicianus</i> Loggerhead shrike	Occurs in broken woodland, savannah, pinyon-juniper woodland, Joshua tree woodland, riparian woodland, desert oases, scrub, and washes; prefers open areas for foraging. Nesting widespread in North America.	FED: BCC BLM: none CA: SSC, S4	Present (Nesting): The species was observed during surveys. Suitable nesting habitat observed throughout the Project Area. Present (Foraging): Suitable foraging habitat occurs throughout the entire Project Area. Observed during surveys.
<i>Leiothlypis luciae</i> Lucy's warbler	Prefers to nests on honey mesquite thickets; will use riparian woodland, blue palo verde, ironwood, and tamarisk. Occurs in the Desert Southwest of the U. S. and northwestern Mexico. Breeding range includes Arizona, southern Nevada, and along the lower Colorado River into adjacent parts of California.	FED: BCC BLM: S CA: SSC, S3	Moderate (Nesting): Marginal suitable nesting habitat is present within the Project Area. Moderate (Foraging): Marginal suitable foraging habitat is present within the Project Area. Species has been previously documented east of Clark Mountain, as well as near Baker and Victorville.
<i>Piranga rubra</i> Summer tanager	Requires cottonwood-willow riparian for nesting and foraging; prefers older, dense stands along streams. Summer resident across much of the U.S.	FED: none BLM: none CA: SSC, S1	Moderate (Nesting): No nests or suitable nesting habitat occurs within the Project Area. Suitable nesting habitat occurs within 500 feet of the Project Area along the Mojave River.

Table 4.3-3. Special-Status Wildlife Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
			Moderate (Foraging): No suitable foraging habitat present within the Project Area. Suitable habitat is present occurs within 500 feet of the Project Area along the Mojave River.
<i>Pyrocephalus rubinus</i> Vermilion flycatcher	Inhabits desert riparian adjacent to irrigated fields, irrigation ditches, pastures, and other open, mesic areas. Breeds across the southwest into middle America.	FED: none BLM: none CA: SSC, S2S3	Moderate (Nesting): No nests observed during surveys. Marginal nesting habitat occurs within the Project Area. Multiple eBird records were documented within the vicinity of the Project Area during the breeding season. Suitable nesting habitat occurs within 500 feet of the Project Area along the Mojave River. Moderate (foraging): Marginal foraging habitat occurs throughout Project Area. Multiple records have been previously documented within the vicinity of the Project Area near Barstow.
<i>Setophaga petechia</i> Yellow warbler	Occurs in riparian plant associations; prefers willows, cottonwoods, aspens, sycamores, and alders for nesting and foraging. Widespread across North America.	FED: BCC BLM: none CA: SSC, S3S4	Moderate (Nesting): No suitable nesting habitat occurs within the Project Area. Suitable nesting habitat occurs within 500 feet of the survey area along the Mojave River. High (Foraging): No suitable foraging habitat occurs within the Project Area. Suitable foraging habitat is present within 500 feet of the Project Area. Records of the species have been previously documented along the Mojave River. This includes within the Mojave Narrows Regional Park, downstream of the Project Area. No suitable habitat occurs in the immediate vicinity of the tower locations.
<i>Spizella breweri</i> Brewer's sparrow	Common summer resident and breeder east of the Cascade-Sierra Nevada crest, in mountains and higher valleys of	FED: None BLM: none CA: S4	High (Nesting): Suitable foraging habitat occurs within the Project Area. Multiple records have been previously

Table 4.3-3. Special-Status Wildlife Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
	Mojave Desert; nests in treeless shrub habitats with moderate canopy, especially in sagebrush; migrants in California occur mostly in September - October and April - May.		documented within the vicinity of the Project Area. High (Foraging): Observed during the surveys. Suitable foraging habitat occurs within the Project Area. Multiple records have been previously documented within the vicinity of the Project Area.
<i>Toxostoma bendirei</i> Bendire's thrasher	Breeding range is patchily distributed and extends from southern Nevada, Utah, and Colorado south through southeastern California, Arizona, and western New Mexico; abundance can vary greatly in response to climatic variables. Occurs in flat areas of desert succulent shrub/Joshua tree habitats in Mojave Desert. Nests in cholla, yucca, palo verde.	FED: BCC BLM: S CA: Candidate, SSC, S3	High (Nesting): Suitable nesting habitat occurs within portions of the Project Area. High (Foraging): Project Area supports suitable foraging habitat. Multiple eBird records have previously been documented within the vicinity of Project Area.
<i>Toxostoma crissale</i> Crissal thrasher	Resident of southeastern deserts in desert riparian and desert wash habitats Nests in dense vegetation along streams/washes; mesquite, screwbean mesquite, ironwood, catclaw, acacia, and willow. Occurs across southwestern North America to central Mexico.	FED: none BLM: S CA: SSC, S3	Moderate (Nesting): No nests observed; however, suitable nesting habitat occurs within the Project Area. Present (Foraging): Observed during surveys. Suitable foraging habitat occurs within the Project Area. Multiple records have previously been documented within the vicinity of the Project Area.
<i>Toxostoma lecontei</i> LeConte's thrasher	Occurs in sparse desert scrub such as creosote bush, Joshua tree, and saltbush scrubs, or sandy-soiled cholla-dominated vegetation. Nests in dense, spiny shrubs or densely branched cactus in desert wash habitat. Mojave and Colorado deserts, east to Nevada, Utah, and Arizona.	FED: BCC BLM: none CA: Candidate, SSC, S3	High (Nesting): No nests observed; however, suitable nesting habitat occurs within the Project Area. Present (Foraging): A pair was observed foraging within the Project Area. Suitable foraging habitat is present throughout the Project Area.
<i>Vireo bellii pusillus</i> Least Bell's vireo	Summer resident of southern California in low riparian habitats in vicinity of water or dry river bottoms; found below 2,000 ft. elev.; nests placed along margins of bushes or on twigs projecting into pathways,	FED: END BLM: none CA: END, S2	Moderate (Nesting): Suitable nesting habitat occurs within the Project Area along the Mojave River. Not detected during protocol surveys conducted in 2026.

Table 4.3-3. Special-Status Wildlife Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
	usually willow, and mesquite. Breeds in Central Valley south to the south to Baja California.		High (Foraging): Least Bell's Vireo Habitat Suitability Model shows low to very high along the Mojave River within 500 feet of the Project Area. Records of species have previously been documented along the Mojave River occur within 1,000 feet of the Project Area.
Mammals			
<i>Bassariscus astutus</i> Ringtail	Rocky outcrops, canyons, or talus slopes in deserts, chaparral; woodlands of oak, pinyon pine, and juniper; montane conifer forests; and especially riparian for the abundant prey. From sea level up to 9,500 ft. (2,900 m) but most common below 4,600 ft. Nest in rock recesses, logs, tree hollows, and man-made enclosures. Found throughout northwestern California.	FED: none BLM: none CA: FP; S3	Moderate-High: Suitable habitat occurs within the Project Area; However, the species requires access to perennial water sources which limits the distribution of the species in the Project Area. Known from the Clark Mountains.
<i>Ovis canadensis nelsoni</i> Desert bighorn sheep	Open, rocky, steep areas with available water and herbaceous forage desert shrublands to conifer forest, intermountain west, and southwestern regions, as well as northwestern Mexico.	FED: none BLM: S CA: FP, S3	Present: Remains and live individuals were observed during surveys. Known to occur in the Clark and Ord Mountains. Suitable habitat is present and the species is known to occur within the Project Area.
<i>Puma concolor</i> Mountain lion	Mountain lions will utilize many habitats within their range including riparian, scrub, chaparral, grassland, and woodland habitats.	FED: none BLM: none CA: THR	Moderate: Suitable habitat is present within the Project Area. Not observed during surveys. The Project is not located in an Evolutionarily Significant Unit Area.
<i>Taxidea taxus</i> American badger	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats with friable soils; require sufficient food source, friable soils, and open, uncultivated ground; prey on burrowing rodents. Widespread throughout California and North America.	FED: none BLM: none CA: SSC, S3	Present: Suitable habitat is present within the Project Area, and recent records of this species have been documented in the Project Area. Sign including claw marks in a burrow observed during surveys.

Table 4.3-3. Special-Status Wildlife Occurrence Probabilities in the Project Area

Special-Status	Habitat and Distribution	Conservation Status	Potential to Occur in Project Area
<i>Vulpes macrotis arsipus</i> Desert kit fox	Arid areas with grasslands, agricultural lands, or scrub areas with scattered shrubby vegetation. Requires open, level areas with loose-textured, sandy loamy soils for digging dens. Found in southwest U.S. and Mexico.	FED: none BLM: none CA: SA	Present: Natal den complexes observed during surveys. Suitable habitat occurs within the Project Area.
<i>Xerospermophilus mohavensis</i> Mohave ground squirrel	Occurs in the Mojave Desert in desert scrub and Joshua tree woodlands with winterfat and hopsage. Occur in the Mojave Desert in San Bernardino, Los Angeles, Kern, and Inyo counties.	FED: none BLM: S CA: THR, S2S3	Moderate: Suitable habitat occurs within the Project Area near Victorville; however, most of the Project Area is outside the known range of the species. There are no recent records within the vicinity of the Project Area. Not detected during trapping in 2026.

Source: Appendix C

Note:

Federal designations (Fed): (federal ESA, USFWS)

END: Federally listed, endangered.

THR: Federally listed, threatened.

P: Proposed to be listed as threatened or endangered.

BGEPA: Bald and golden eagle protection act.

BCC: Birds of Conservation Concern.

D: Delisted

Bureau of Land Management (BLM):

S Sensitive: Species recognized by the BLM as sensitive.

State designations (CA): (CESA, CDFW)

END: State listed, endangered.

THR: State listed, threatened.

CAN: State listed, candidate.

SSC: California Species of Special Concern. Considered vulnerable to extinction due to declining numbers, limited geographic ranges, or ongoing threats.

WL: Species that were either previously listed as SC and have not been state listed under CESA; or were previously state or federally listed and now are on neither list; nor are on the list of “Fully Protected” species.

FP: Fully protected.

SA: Special animal. Tracked by the CNDDDB as species of conservation concern.

Candidate, Proposed, Threatened, Endangered, or Fully Protected Wildlife

Crotch’s bumble bee (*Bombus crotchii*). Crotch’s bumble bee is a candidate for listing under the CESA. In October 2018, the Xerces Society for Invertebrate Conservation, Defenders of Wildlife, and the Center for Food Safety submitted a petition to the California Fish and Game Commission to list Crotch’s bumble bee, Franklin’s bumble bee (*Bombus franklini*), Suckley cuckoo bumble bee (*Bombus suckleyi*), and western bumble bee (*Bombus occidentalis occidentalis*) as endangered under CESA. Following an internal review of the petition, CDFW recommended to the California Fish and Game Commission that each of these species be designated as candidates for listing. On June 12, 2019, the Fish and Game Commission designated these four bumble bees as candidate species, affording them the full protection of listing under CESA until a final determination could be made. The candidacy determination was challenged in court in February 2021, although the Third District Court of Appeal

reversed the previous court decision and the candidacy for Crotch's bumble bee was reinstated on September 30, 2022.

Crotch's bumble bee is a large bee with a short head and large eyes. The head is predominantly black with a small patch of yellow sometimes appearing at the back. The upper side of the thorax is yellow, merging with a small patch on the head. The lower side of the thorax is black and merges with the first abdominal segment. The most distinguishing characteristic is the broad band of yellow that is present on the second to fourth abdominal segments. The terminal abdominal segments can vary between two different color variations, including completely black or a reddish orange.

Crotch's bumble bees exhibit social behavior, creating colonies of related individuals that cooperate to maintain the health and survival of the colony. Colonies consist of a caste system which includes queens, workers, and reproductive males. New queens emerge during colony establishment, growing season, or reproductive stage. These life stages are defined as the Colony Active Period by CDFW. During each life stage, the colony exhibits different behaviors, including nesting, foraging, and overwintering. The height of the Colony Active Period for Crotch's bumble bee occurs between February and October; however, the timing of a singular nest can be dependent on climate conditions. For example, a nest at lower elevation with an earlier blooming period will likely be active before a nest with later blooming floral resources at higher elevation.

Crotch's bumble bees prefer smaller flowers that are abundant with pollen and nectar, such as milkweed (*Asclepias* spp.), chaenactis (*Chaenactis* spp.), deerweed (*Acmispon glaber*), buckwheat (*Eriogonum fasciculatum*), lupines (*Lupinus* spp.), clovers (*Medicago* spp.), phacelias, and sages (*Salvia* spp.) . However, it has become apparent that this species is more of a generalist forager and will feed on a wide variety of native and non-native plants.

Approximately 30 miles of the project alignment is within the published range of the species, as shown in Figure 8, Crotch's Bumble Bee Predicted Range, of Appendix C. This commences near the Victorville Switching Station and terminates near the community of Baker. Although the Project Area lies within the possible range of Crotch's bumble bee, most observations of the species are to the west and south of the Project Area outside of the Mojave Desert. If present, Crotch's bumble bee is likely to occur in discrete areas where an abundance of foraging resources is present and the occurrence may fluctuate depending on seasonal rainfall and annual plant expression.

Crotch's bumble bees have not been detected by qualified bumble bee surveyors. However, this species is expected to occur at low densities. One iNaturalist observation of Crotch bumble bee is recorded within five miles of the Project Area southeast of the Victorville Switching station and there is a detection in the high peaks surrounding Death Valley. There was an observation of this species near Las Vegas, but these may not be breeding animals. Based on suitable habitat and recent observations there is a moderate potential for this species to occur within the western edge of the Project Area near Victorville, California.

Monarch butterfly (*Danaus plexippus*) On December 12, 2024, the USFWS proposed to list the monarch butterfly as threatened under FESA. Monarch butterflies are native to North America but can now be found globally. North American migratory monarch butterflies are divided into larger eastern and smaller western populations with the western population is generally found west of the Rocky Mountains. This population can migrate annually up to 300 to 1,000 miles . Non-migratory populations are found from islands in the Pacific Ocean to the western edge of Europe. There are also non-migratory monarchs that remain year-round at the southern end of their breeding range in parts of Florida, the Gulf Coast, and California.

The western population ranges from portions of northern Mexico, along the western U.S. coast into southern Canada. Each fall monarchs migrate to overwintering sites in coastal areas of the United States and portions of Mexico. In California, overwintering sites tend to be located within 1.5 miles of the Pacific Ocean and require specific microclimate conditions which include high humidity and appropriate sunlight. Monarchs also require nectar sources near the overwintering sites.

Monarch butterflies are generalists and occur in a wide variety of habitats when adequate foraging, larval host plant, roosting, and water resources are available. Monarch butterflies are diurnal migrants, meaning they migrate during the day. At night, migratory individuals roost on trees or shrubs and often form large groups of butterflies. During migration, monarchs prefer riparian areas and rivers for roosting using other water sources such as flood plains, washes, and water sources when available.

Western United States populations migrate each spring from their overwintering sites in the south to suitable breeding habitat where they reproduce throughout the summer wherever suitable host plants. Host plants include a variety of milkweed species of the genera *Asclepius* or other closely related genera is required as host plant for larval feeding and for oviposition (89 FR 100662). Monarchs reproduce via multiple generations throughout the summer, wherever milkweed plants occur. Caterpillars feed and form chrysalises on milkweeds, with the adults emerging in 8-10 days. In California, western monarch butterflies rely on moderate temperatures and varied landscape for reproduction and breeding.

The Project Area is outside the known overwintering range for monarch butterflies. However, suitable host plant species are present in the region which provide potential habitat for migratory individuals that may be moving through the area. In addition, milkweed host plants were observed during the botanical surveys including desert milkweed (*Asclepias erosa*), rush milkweed (*Asclepias subulata*), and hairy milkweed (*Funastrum hirtellum*). More broadly, southwestern deserts have suitable habitat for monarch butterflies that include showy milkweed (*A. speciosa*) and narrow leaf milkweed (*A. fascicularis*) as well as a number of other milkweed species that were less common throughout the range such as woollypod milkweed (*A. eriocarpa*), California milkweed (*A. californica*), and heartleaf milkweed *A. cordifolia*).

Western monarch butterflies are known to migrate through the Project Area, and the site is mostly within the summer breeding zone. The western terminus of the Project Area is in or near the Early Breeding Zone. However, monarch butterflies rarely breed in the Mojave Desert. Scientific surveys conducted in the Ivanpah Valley examined use of butterflies on Mojave milkweed (*A. nyctaginifolia*). During spring sampling, no monarch eggs or larvae were found within the sample area while queen butterfly (*Danaus gilippus*) laid 276 eggs on the same plants. This suggests that monarchs do not typically use Mojave Desert habitats for oviposition, likely due to extreme aridity, limited milkweed availability, and seasonal conditions unfavorable for larval development. Nonetheless, recent records of the species have been documented at Zzyzx and Baker, which are within 5 miles of the ROW. It is likely that these records consist of migrant individuals passing through the region to more suitable breeding or overwintering grounds. A few occurrences of monarch butterfly are documented in the Mojave Desert. However, several of the observations appear to be near water sources, for example near the Mojave River near Afton and the Mojave Narrows Regional Park south of the Project site.

There is no designated critical habitat for monarch butterflies within the proposed Project Area. Designated critical habitat has been proposed within coastal areas of California including Ventura and Santa Barbara Counties. The nearest proposed critical habitat is in Ventura County, approximately 120 miles from the Victorville Switching Station.

Southwestern pond turtle (*Actinemys pallida*). The southwestern pond turtle is proposed to be listed as threatened under FESA. This species is considered BLM sensitive in California and is a CDFW Species of Special Concern. This subspecies occurs from northwestern Baja California north through western California to the central region of the state, where it intergrades with the northwestern pond turtle (*C. m. marmorata*).

Southwestern Pond turtles inhabit permanent or nearly permanent bodies of water in a wide variety of habitat types. Suitable basking sites, such as partially submerged logs, vegetation mats, or open mud banks are a required element for this subspecies. The southwestern pond turtle is a subspecies of western pond turtle (*C. marmorata*) which represent the only abundant native turtles in California. This species is thoroughly aquatic and possesses a low carapace typically olive, brown, or blackish in color. The subspecies usually lays a clutch of eggs between April and August as females may move overland up to over 300 feet to find suitable nesting sites. Nests have been observed in many soil types from sandy to very hard and soil must be at least four inches deep for nesting. Most activity is diurnal, but some crepuscular and nocturnal behavior has been observed. Southwestern pond turtles feed on aquatic plants, insects, worms, fish, amphibian eggs and larvae, crayfish, and carrion.

Overwintering sites include muddy ponds uplands, and other aquatic habitats. During the winter and early spring pond turtles may move between overwintering sites and may occasionally emerge from both terrestrial and aquatic sites.

The eastern limits of the western pond turtle range are along the Mojave River near Afton Canyon; however, the Western Pond Turtle Predicted Habitat indicates limited low and moderate habitat with very limited high habitat in Mojave Valley near Harvard Road and Yermo. This species is known to occur along the Mojave River including the area near Victorville. Based on records of occurrence, and presence of limited suitable habitat, southwestern pond turtle has a moderate potential to occur within the California segment of the Project Area at the Mojave River.

Desert tortoise (*Gopherus agassizii*). The Mojave population of desert tortoise was federally listed as threatened by the USFWS on April 2, 1990 (55 FR 12178) after an initial emergency listing as endangered on August 4, 1989 (54 FR 32326). The Mojave population includes those animals living north and west of the Colorado River and includes all wild desert tortoises in California. Critical habitat for the desert tortoise was designated in Arizona, Utah, Nevada, and California on February 8, 1994 (59 FR 5820), as shown in Figure 9, Desert Tortoise Predicted and Critical Habitat, of Appendix C.

In California, the desert tortoise was listed as a threatened species under CESA in 1989. On March 23, 2020, the Desert Tortoise Council, the Desert Tortoise Preserve Committee, and Defenders of Wildlife petitioned to change the status of Mohave desert tortoise from threatened to endangered. CDFW conducted a status review and recommendation to the California Fish and Game commission. On April 2024, the California Fish and Game Commission voted to uplist the desert tortoise to endangered under the CESA.

In California, the USFWS prepared a draft General Conservation Plan and associated draft Environmental Impact Statement, which was prepared in cooperation with BLM, for the desert tortoises. The purpose of this General Conservation Plan is to provide an “can increase efficiency and streamline compliance with section 10(a)(1)(B) of the ESA for activities on certain nonfederal lands in the planning area that have the potential to incidentally take desert tortoises.” Mitigation lands would include “BLM conservation lands California Desert National Conservation Lands [CDNCLs] and areas of critical environmental concern [ACECs], as identified in the California Desert Conservation Area Plan, as amended by the Desert Renewable Energy Conservation Plan”.

This once-widespread and common species is rapidly declining in numbers due to various factors, including the spread of a fatal respiratory disease; predation from ravens and coyotes; mortality associated with roads and off-highway vehicle use; habitat destruction, degradation, and fragmentation.

The desert tortoise is an herbivorous reptile that occurs in the Mojave and Sonoran Deserts in southern California, southern Nevada, Arizona, and the southwestern tip of Utah, as well as Sonora and northern Sinaloa in Mexico. The designated Mojave population of the desert tortoise includes those animals living north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, and southwestern Utah, and in the Sonoran (Colorado) Desert in California. Desert tortoises east and south of the Colorado River are now recognized as a distinct species, Morafka's desert tortoise (*G. morafkai*).

The desert tortoise occupies a variety of habitats from flats and slopes, typically characterized by creosote bush scrub at lower elevations, to rocky slopes in blackbrush scrub and juniper woodland ecotones (transition zones) at higher elevations. Tortoises occur most commonly on gently sloping terrain with sandy-gravel soils and where there are herbaceous (non woody) plants and sparse cover of low-growing shrubs. Soil must be friable (easily crumbled) enough for digging burrows, but firm enough so that burrows do not collapse.

During the winter, desert tortoises will opportunistically use burrows, small caves, rock and caliche crevices, or rock overhangs for cover. Hatchling desert tortoises use abandoned rodent burrows for daily and winter shelter. Desert tortoises spend much of their lives in burrows, even during their seasons of activity. In late winter or early spring, they emerge from over-wintering burrows and typically remain active through fall. Activity decreases in summer and is often crepuscular during the hottest times. Tortoises often emerge after summer rainstorms. Activity and movement is generally influenced by temperature and precipitation, which correlate with food and water resources. Extreme high and low temperatures and periods of drought typically result in reduced tortoise activity. Mating occurs during spring and fall. Tortoises are long-lived and grow slowly, requiring 13 to 20 years to reach sexual maturity [at approximately 180 mm midline carapace length (MCL)]. Eggs are generally laid in friable soil near burrow entrances between April and June and occasionally September and October. Eggs hatch within three to four months.

Desert tortoises occupy home ranges, which are generally defined as the area traversed while carrying out a range of normal activities (e.g., foraging and mating). The size of their home ranges can vary with respect to sex, geographic location, substrate, topography, and climate. Tortoises are philopatric (tending to remain in a particular area), establishing home ranges between 15 and 45 hectares depending on region. Home ranges of females are generally smaller than those of males. Some tortoises have been known to travel great distances, although these movements may occur outside their usual home range.

Most of the Project Area is in desert tortoise habitat, as shown in Figure 9, Desert Tortoise Predicted and Critical Habitat, of Appendix C, and traverses the core range of the Mojave population. However, the distribution of desert tortoise varies along the ROW depending on the location. Generally, lower levels of desert tortoise or their sign was found close to Victorville and Barstow which could be characterized by higher levels of human activity and long-term habitat degradation. The highest density of desert tortoise was detected east of Alvord Mountain Road and in the eastern portion of the ROW.

This information is consistent with the results of a desert tortoise habitat assessment that was conducted in 2025 to support survey planning. The desert tortoise habitat assessment identified sections of the Project Area that have lower quality desert tortoise habitat compared to other regions of the Project Area. The assessment found:

- Lower quality habitat was present between the Victorville switching station and Dale Evans Parkway; between Dale Evans and Barstow Road; between I-15 and I-40; between I-15 and Alvarado Mountain Road; and near the Nevada border.
- Higher quality habitat was found between Barstow Road and I-40; between Alvarado Mountain Road and Death Valley Road; and between Death Valley Road and the Clark Mountains near Ivanpah.

Generally, the observation of live desert tortoises and their sign was lower in more disturbed habitats and higher in locations that supported more intact habitat or was more remote from human disturbance. Higher densities of desert tortoise were documented in the Ivanpah Critical Habitat Unit (CHU), and eastern edge of Superior-Cronese CHU, and Ord-Rodman CHU. As expected, higher concentrations of desert tortoise individuals and sign were documented in the Ord-Rodman CHU compared to the segment west of State Route (SR) 127 to the Mojave River, as shown in Figure 10, Desert Tortoise Observations and Burrows, of Appendix C. In addition, some areas of poor-quality habitat overlap with locations that were identified as low quality desert tortoise habitat in the Maxent model.

Desert tortoise distribution was also lower near developed or disturbed areas near Barstow, portions of Daggett between I-40 and I-15, and between I-15 to Alvord Road near Fort Irwin. East of Alvord Road desert tortoise densities increased however there were still large gaps between detections of live animals or their sign. Sign was found close to Victorville which is characterized by higher levels of human activity and long-term habitat degradation. However, west of SR-247 only one live desert tortoise (a large old male) was observed. However, because signs including potential older burrows were observed, other animals may occur in the area. East of Fort Irwin Road desert tortoise densities increased, and the detection of animals and their sign was well distributed along the ROW. East of this location, habitat quality and desert tortoise sign increased for most of the alignment with localized areas supporting high concentrations of animals and their sign particularly near the Clark Mountains.

For example, during surveys conducted in California during 2025 and 2026, 28 live desert tortoises were observed in the Project Area (Table 4.3-4). This included live female, male, and juvenile desert tortoise. However, in some instances, the sex of the animal could not be determined if the tortoise was in a burrow and partially hidden from full view. In addition, most of these animals appear to be in good health. Desert tortoises were observed walking, including on access and spur roads. One animal was observed on a spur road outside the proposed impact areas, but the animal could not cross the road at this location because of existing berms. Desert tortoises were also observed outside and inside burrows including caliche burrows. The highest concentration of caliche burrows was observed between I-40 and SR-247. In addition, there are several caliche ledges that could be used by desert tortoise west of the Soda Mountains.

Table 4.3-4. Desert Tortoise Observations and Sign Identified in the Survey Area in 2025 and 2026

Type of Sign ¹						Total
Live						
	Adult Female	Adult Male	Adult Unknown	Juvenile	Unknown	28
	3	9	7	4	5	
Carcass						
	Less than 1 year	1-2 years	2-4 years	Greater than 4 years	Other	46
	3	3	7	32	1	
Scat						
	Class 1	Class 2	Class 3	Class 4	Class 5	48
	4	16	19	4	5	
Burrow						
	Class 1	Class 2	Class 3	Class 4	Class 5	435
	26	52	31	144	182	
Pallet						
	—	—	—	—	—	52

Source: Appendix C

Notes:

¹ Burrow Class Definition:

Class 1. currently active, with desert tortoise or recent desert tortoise sign;
 Class 2. good condition, definitely desert tortoise; no evidence of recent use;
 Class 3. deteriorated condition which includes collapsed burrows; definitely desert tortoise;
 Class 4. good condition; possibly desert tortoise;
 Class 5. deteriorated condition which includes collapsed burrows; possibly desert tortoise.

Scat Class Definition:

Class 1. Wet (not from rain or dew) or freshly dried; obvious odor
 Class 2. Dried; with glaze; some odor; dark brown
 Class 3. Dried; with no glaze or odor; signs of bleaching (light brown); tightly packed material
 Class 4. Dried; light brown to pale yellow; loose material; scaly appearance
 Class 5. Bleached; or consisting only of plant fiber

Carcass Class Definition:

Class 1: < 1 year: fresh putrid; scutes mostly adhered; sheen on exposed scutes; unexposed bone waxy and solid.
 Class 2: 1-2 years: scutes mostly adhered to bone; exposed scutes pale without sheen; unexposed bone silky.
 Class 3: 2-4 years: scutes peeling off bone; unexposed scutes pale and without sheen; no growth ring peeling.
 Class 4: more than 4 years: shell bone falling apart; growth rings on scutes peeling; bone fissured.

Tricolored blackbird (*Agelaius tricolor*). Tricolored blackbird is listed as Threatened by California. It is considered Sensitive by the BLM and is a USFWS BCC. This species is a permanent resident across its range in California and occurs throughout the Central Valley and in coastal districts from Sonoma County south to Baja California. The tricolored blackbird breeds near fresh water, preferably in emergent wetlands with tall dense cattails (*Typha* spp.) or tules, but also in thickets of willows, blackberry, wild rose, and tall herbs. This species forages primarily in grassland and cropland habitats.

Tricolored blackbirds were not observed during surveys. As discussed in Appendix C of this SEIR, records include an observation in the Mojave River within 0.5 miles of the Project Area, as well as an observation south of I-15, with one record within five miles of the Project Area. Based on the presence of suitable foraging habitat (i.e. along the

Mojave River) and records, tricolored blackbirds have a low potential to breed but a high potential to occur within the Project Area in California.

Golden eagle (*Aquila chrysaetos*). Golden eagle is federally protected under the BGEPA and is a California Fully Protected Species. It is also considered Sensitive by the BLM.

Golden eagles are year-round residents throughout most of their range in the western U.S. In the southwest, they are more common during winter when eagles that nest in Canada migrate south into the region. They breed from late January through August, mainly during late winter and early spring in the California deserts. In the desert, they generally nest in steep, rugged terrain, often on sites with overhanging ledges, cliffs, or large trees that are used as cover. Golden eagles are wide-ranging predators, especially outside of the nesting season, when they have no need to return daily to tend eggs or young at their nests. Foraging habitat consists of open terrain including grasslands, deserts, savanna, and early successional forest and shrubland habitats. They prey primarily on rabbits and rodents, but will take other mammals, birds, reptiles, and some carrion.

Golden eagle home ranges in the Mojave Desert range from 1.7 square miles to 1,369 square miles and averaged 119 square miles. In any given year, golden eagles may initiate nesting behavior at one nest, without any activity at the other nests. Eagles may complete breeding by laying eggs and raising chicks or may abandon the nest without successfully raising young. In any given year, all or most nests in a territory may be inactive, but eagles may return in future years to nest at previously inactive sites.

An active golden eagle nest has been detected on an existing transmission line structure, not associated with the project, in the Ord Mountains adjacent to the ROW. The active nest was documented within 1,600 meters of a historic nest. Additionally, two other nests, which were inactive, were observed within the golden eagle survey area. In addition, golden eagles have been observed foraging within the Project Area at MCV1_109-1 east of Yermo on the California segment. No suitable natural nesting habitat is present within the Project Area. However, golden eagles have been documented to use artificial nesting sites such as electrical transmission towers for nesting. Suitable foraging habitat is present throughout California. Based on observations, suitable habitat, and records, golden eagle has a high potential to forage and nest in the Project Area.

Surveys for golden eagles are currently being conducted in 2026 and have documented several historic and one active nest close to the Project Area. Based on the presence of suitable nesting and foraging habitat, golden eagle is present and has a high potential to nest and forage in the Project Area.

Burrowing owl (*Athene cunicularia hypugaea*). The western burrowing owl is a candidate for listing under CESA and is a CDFW Species of Special Concern. It is also considered Sensitive by the BLM. The entire Project Area is located within the range of burrowing owls. The western burrowing owl inhabits arid lands throughout much of the western United States and southern interior of western Canada. Suitable habitats for the western burrowing owl generally include open, treeless areas with available burrows, including agricultural fields (active and fallow), creosote scrub, desert saltbush, ephemeral washes, and ruderal areas. However, this species has been detected in relatively dense desert scrub.

Burrowing owl nest and roost in abandoned burrows, especially those created by ground squirrels, kit fox, desert tortoise, and other wildlife, and may also use surrogate burrows such as rubble piles, trash heaps, old tires, or drainage pipes. Though they may excavate their own burrows in soft soil, the western burrowing owl typically relies on existing mammal burrows in California. A study in Nevada determined that earthen burrows were typically excavated by desert tortoise, American badger, and kit fox.

In southern California the breeding season generally occurs from February to August, with peak breeding activity from April through July. Burrowing owls have a strong affinity for previously occupied nesting and wintering sites and will often return to previously used burrows, particularly if they had successful reproduction in previous years. The female incubates the eggs for about 28–30 days, while the male provides food for the family. Young emerge after about 14 days and fledge after 44–53 days, remaining dependent on adults for a short period thereafter.

Burrowing owls are diurnal and crepuscular, hunting at all hours but concentrate their activity around sunrise and sunset, a behavior unusual among owls. Burrowing owls tend to be opportunistic feeders, and a large portion of their diet consists of beetles, grasshoppers, and other large arthropods. Other prey animals include herpetofauna, young cottontail rabbits, bats, and birds such as sparrows and horned larks. Its diet varies seasonally and geographically; females catch more insects, mainly during the day, while males catch mostly vertebrates, mostly at night.

As shown in Figure 11, Western Burrowing Owl Observations and Sign, of Appendix C, one burrowing owl was observed during the June 2026 surveys. This observation was made north of Victorville and west of I-15. Multiple burrows that could be used by this species were detected. A few burrows had signs (i.e., feathers and pellets) which suggest the birds may be overwintering or using these burrows as cover during migration. Burrowing owl pellets were observed at two different locations, occurring south of I-40 and east of SR-247, and suitable burrows occur that could host burrowing owl. This species is expected to occur in the Project Area as a local breeder or seasonal migrant. As discussed in Appendix C of this SEIR, there are records of burrowing owls within five miles of the Project Area. Based on predicted habitat modeling, number of potential burrows, and recent records, burrowing owls have a high potential to nest, forage, or winter in the Project Area.

Swainson's hawk (*Buteo swainsoni*). Swainson's hawk is listed as Threatened under CESA. It is considered Sensitive by the BLM, is a USFWS Bird of Conservation Concern (BCC), and is a covered species under DRECP. It preys on small mammals, birds, large insects, reptiles, and amphibians. Swainson's hawks usually hunt from perches such as fence posts and low trees, or from vantage points on the ground. This species is commonly found over open plains and prairies in the Great Plains and relatively arid areas of western North America. It builds rather flimsy nests in shrubs and trees along wetlands and drainages and in windbreaks in fields and around farms. It nests in the San Joaquin, Owens, and western Antelope Valleys of California and its primary wintering grounds is in Argentina. Swainson's hawks migrate through the southwest every spring and fall. Suitable migration-season foraging habitat is present throughout the Project survey area.

Migratory Swainson's hawks are known to overfly portions of the ROW in California. The Project Area is located outside of the breeding range of the species and Swainson's hawks are not expected to nest near the project. Suitable foraging habitat for migrating Swainson's hawks is present. Although there are records of Swainson's hawks within five miles of the Project Area this species is not expected to nest in the region. Swainson's hawks are unlikely to nest in the Project Area but have a high potential to forage.

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). The western yellow-billed cuckoo is listed as federally threatened and California endangered species. It is considered Sensitive by the BLM. The USFWS listed the western distinct population segment as threatened on October 3, 2014 (79 FR 59992), and subsequently designated critical habitat on April 21, 2021 (86 FR 20798).

The western yellow-billed cuckoo is a long-distance migrant though details of its migration patterns are not well known. The summer distribution includes the United States, southeastern Canada, the Greater Antilles, and Mexico. In California, the preferred habitat is willow-cottonwood but will use mesquite habitats for breeding. Breeding

habitat primarily consists of large blocks of riparian habitat with tall trees, multistoried vegetation understory, and low woody vegetation (79 FR 59992). Isolated patches or narrow linear riparian habitats that are less than 10-20 meters wide have not been documented to be used for nesting but have been documented by single birds during migration (Haltermann et al. 2015).

The species has declined throughout its distribution. In California, yellow-billed cuckoos have declined. It is predicted the pairs of yellow-billed cuckoo within the Mojave River, San Bernardino County, but only found one unmated male. Habitat destruction, modification, and degradation of riparian habitat is the primary reason for the decline in the populations (79 FR 59992). Riparian habitats can be impacted by surface and ground water diversions, channelization and bank stabilization such as flood control structures, non-native species, and other factors.

Western yellow-billed cuckoo was not observed during surveys, but suitable breeding habitat is located along the Mojave River within 500 feet of the Project Area near the Victorville Switching Station. As discussed in Appendix C of this SEIR, there are records along the Mojave River and a record near Clark Mountain that is approximately two miles from the Project Area. Based on the presence of suitable habitat within 500 feet of the Project Area, western yellow-billed cuckoo has low potential to breed but a high potential to forage within the California segment of the Project Area.

Gilded flicker (*Colaptes chrysoides*). Gilded flicker is listed as Endangered under the CESA and is considered Sensitive by the BLM. It is also USFWS BCC. The gilded flicker is a large, distinctive woodpecker and a permanent resident of the Sonoran Desert, reaching the northern and western limits of its range along the lower Colorado River in extreme southeastern California. This species is found within Sonoran, Yuma, and eastern Colorado Desert regions of southeastern California and Arizona south to southern Baja California and through Sonora to northern Sinaloa, Mexico.

This species is strongly associated with giant cactus forests, such as those dominated by the saguaro (*Carnegiea gigantea*) and mature cottonwood-willow riparian forests along the lower Colorado River. Gilded flickers may also occur in desert riparian, desert wash, and Joshua tree habitats and require soft wood of snag or dead branches for nesting. These include cottonwoods, willow, Joshua tree, saguaro cactus, and man-made structures (i.e., wooden power pole) for nesting. The gilded flicker is characterized as a ground forager, feeding extensively on ants and their larvae, as well as beetles and other insects, which it collects by hopping on the ground or probing anthills. In winter, when insect prey is scarce, its diet is supplemented with fruits and seeds, particularly from large columnar cacti.

The breeding season for gilded flickers begins in mid-March, with pairs typically nesting from mid-April to early May. Incubation, performed by both parents, lasts about 11 days, and the young fledge about four weeks later. The species is year-long and diurnal, with pairs generally being monogamous and forming lifelong bonds. Its nesting habitat is critically dependent on large, old trees or columnar cacti, where it excavates unlined nesting cavities, typically 6–20 feet above the ground. The flicker is a primary cavity excavator, creating nest holes that are then utilized by many secondary cavity users, such as elf owls and small mammals, making it a keystone species in the desert. Both sexes participate in cavity excavation, a process that can take a year before the site is inhabited, especially when using saguaros.

The Project Area is situated adjacent to the known geographic range of the gilded flicker, as shown in Figure 12, Gilded Flicker Observations, Range, and Predicted Habitat, of Appendix C. The project Area intersects with sections of potential habitat for the species. While flickers may inhabit various zones across the Project Area, its distribution is expected to be non-uniform, with higher population densities anticipated within the most eastern reach of the Project Area.

Two gilded flickers were identified in 2025 near the Clark Mountains at tower MCV2_37-2 within the California portion of the Project Area. No other gilded flickers have been observed to date. Despite searches for other diagnostic signs such as active nesting cavities, "start" holes, and foraging excavations, field teams identified no nesting cavities or other signs of habitat use. As the only detection was near the California-Nevada border, just north of the mapped range in CDFW data, it is assumed that this species may nest or forage in the broader region. Based on a review of iNaturalist and CNDDDB occurrences, this species has the highest potential to occur near the Clark and Mesquite Mountains.

Based on the presence of individuals observed, suitable nesting and foraging habitat, and presence of nearby CNDDDB and eBird records, gilded flickers are considered present near the Clark Mountains in the eastern section of the Project Area.

Southwestern willow flycatcher (*Empidonax traillii extimus*). The southwestern willow flycatcher is listed as a federally and California endangered species. Designated critical habitat was initially designated on July 22, 1997. Several revisions and redesignated critical habitat led to the final rule of designated critical habitat on January 3, 2013 (78 FR 344). Southwestern willow flycatcher is a riparian obligate typically occurring in areas of dense vegetation and flowing water, or in areas with high soil moisture. Vegetation characteristics typical of breeding habitat include dense tree or shrub cover that has a minimum height of 10 feet with dense twig structure and leaf density. Southwestern willow flycatchers have been documented to use a variety of riparian habitat types for breeding ranging from monotypic stands of willow (*Salix* spp.) to mixed stands of native broadleaf trees and shrubs or mixtures of native broadleaf trees and shrubs cottonwood (*Populus* spp., willows, boxelder (*Acer negundo*), ash (*Fraxinus* spp.), alder (*Alnus* spp.), and buttonbush (*Cephalanthus* spp.). Vegetation in the herbaceous plant layer includes very dense areas of sedges, rushes, nettles, and other riparian or wetland species. Southwestern willow flycatcher begins nesting around mid-May and fledges young in early to mid-July.

Vegetation surrounding the riparian habitat can include open meadows, agricultural lands, pine forests, and upland shrubs. Breeding occurs across a wide elevational range ranging from sea level to 8,500 feet amsl and includes southern California, southern Nevada, southernmost Utah, southernmost Colorado, Arizona, New Mexico, and western Texas. In southern California, southwestern willow flycatchers generally arrive to their breeding grounds in April and remain until September when migration to overwintering begins.

Southwestern willow flycatcher was not observed during surveys, but suitable breeding habitat is located along the Mojave River 500 feet from the Project Area. The CNDDDB contains one record of southwestern willow flycatchers within five miles of the Project Area from 1990. There are no iNaturalist observations of southwestern willow within five miles of the Project Area. Recent records for the species are present along the Mojave River in Victorville. Based on the presence of suitable habitat 500 feet of the Project Area and the presence of recent records, the southwestern willow flycatcher has a low potential to breed but a high potential to forage along the Mojave River in the Project Area.

Designated critical habitat for the southwestern willow flycatcher is present within the Mojave River between Bear Valley Crossing and Vista Road Bridge. Although no large flycatcher nesting populations are in the Mojave Management Unit, southwestern willow flycatchers have been detected nesting in portions of the Mojave River. Furthermore, this area was designated as critical habitat to support conservation because it meets territory and habitat-related recovery goals for the southwestern willow flycatcher.

Bendire's thrasher (*Toxostoma bendirei*). Bendire's thrasher was accepted for candidacy under CESA by the California Fish and Game Commission at its April 15–16, 2026 meeting and is therefore considered a candidate

species pursuant to Section 2068 of the California Fish and Game Code. As a candidate species, it receives the same legal protection as species listed as threatened or endangered under CESA. The species is also recognized as Sensitive by the BLM, is a CDFW Species of Special Concern, and USFWS BCC. In May 2025, a petition was submitted to the USFWS requesting federal protection for the species as Threatened or Endangered.

Bendire's thrasher is a medium-sized, long-billed songbird endemic to the arid lands of the southwestern United States and northwest Mexico, with a small portion of its global population residing in the Mojave and Sonoran deserts of southeastern California). They can occur in scattered desert habitats across the Mojave and Sonoran deserts. For example, they often occupy open desert scrub and woodland ecotones featuring cholla (*Cylindropuntia* spp.), yucca (*Yucca* spp.), or Spanish bayonet (*Hesperoyucca whipplei*), which provide essential cover and nesting sites. However, Bendire's thrashers are more likely to occur in flat areas with compact, clay, or gravelly soils rather than the loose, sandy soils preferred by other desert thrashers. These preferred habitats must provide widely spaced shrubs for foraging, as the species spends significant time running and digging on the ground.

Bendire's thrasher is well-adapted to the arid conditions of the American Southwest. Bendire's thrashers are also known to be secretive, often hiding in dense foliage or running for cover rather than flying when disturbed. The species is predominantly active during the breeding season, which typically spans from February through July, depending on elevation and latitude. However, some populations in the northern part of their range (such as the Mojave Desert) may be migratory or disperse locally during the non-breeding season to avoid harsh winter conditions. It may be active throughout the day, but foraging activity peaks during the cooler morning hours. Mating activity typically begins in late winter, with nest construction often starting in February or March. Eggs are generally laid between March and May.

The Project Area is in the distribution of Bendire's thrasher and overlaps suitable habitat in a few locations, as shown in Figure 13, Bendire's Thrasher Range and Predicted Habitat, of Appendix C. Based on habitat conditions, Bendire's thrasher occupancy is expected to be patchy across the landscape, with the most significant population concentrations predicted to occur from the Hollow Hills Wilderness north of the Soda Mountains to Stateline, or within and near the Clark Mountain range, and the western fringes of the Project Area near the Granite Mountains and Sidewinder Valley within California portion of the Project Area.

There are also CNDDDB, iNaturalist, and eBird occurrences near Kingston Wash within the Clark Mountain range in the eastern portion of the project in California. There are also occurrences in the western portion of the Project Area that appear to be isolated to the Granite Mountains. Nonetheless, this species may occur anywhere within its expected range which generally corresponds to two discontinuous locations totaling 59 miles, spanning in the east from project mile 72 to the state line (46 miles) and in the west spanning from the Victorville Switching Station to project mile 149 (13 miles). The ROW also overlaps the Northern Lucerne Wildlife Linkage, Ivanpah, and Shadow Valley ACECs within the range of Bendire's Thrasher.

Bendire's thrasher was not observed during any of the surveys conducted. However, the Project Area is within the known breeding range of the species and supports suitable nesting and foraging habitat. Therefore, there is a moderate potential for Bendire's thrasher to forage and nest within the Project Area.

LeConte's thrasher (*Toxostoma lecontei*). LeConte's thrasher was accepted for candidacy under CESA by the California Fish and Game Commission at its April 15–16, 2026 meeting and is therefore considered a candidate species pursuant to Section 2068 of the California Fish and Game Code (California Fish and Game Commission 2026). As a candidate species, it receives the same legal protection as species listed as threatened or endangered under CESA. The species is also recognized as a Sensitive species by the BLM and is a CDFW SSC.

LeConte's thrasher is a pale, ground-dwelling songbird that is an obligate resident of the sparsely vegetated, arid scrub communities of the Mojave, Colorado, and San Joaquin Valley deserts in California (Shuford and Gardali 2008). It can occur in some of the hottest and driest desert habitats in North America, typically occupying open desert flats dominated by creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*) at lower elevations, to saltbush (*Atriplex* spp.) scrub and cholla cactus (*Cylindropuntia* spp.) thickets in sandy washes. The species is recognized as a regional specialist that relies on specific habitat structures (large bush and thicket formations) for nesting, foraging, and predator avoidance. It is known to run across open ground between cover rather than flying.

LeConte's thrasher is well-adapted to the variable and sometimes harsh desert environments. The preferred habitats also typically provide sufficient cover, as LeConte's thrashers will nest and roost deep within dense, thorny shrubs or cacti to escape predators and heat. LeConte's thrasher is more likely to occur in habitats with accumulated leaf litter and soft, friable soils to allow for their distinct digging and probing foraging behavior (Fitton 2008). It feeds primarily on a variety of terrestrial arthropods, including beetles, scorpions, spiders, and grasshoppers. Although LeConte's thrasher does require moisture, it is physiologically adapted to obtain nearly all necessary water from their insect diet and can survive indefinitely without freestanding water.

LeConte's thrasher breeding season extends from late January into early June with a peak from mid-March to mid-April. Mating activity typically occurs between January and February, driven by winter rain. Eggs are generally laid during early spring (February to May). Nests are commonly located in dense, spiny shrubs or densely branched cacti. It can be active year-round, as it is a permanent resident that does not migrate. This species may be active intermittently throughout the day, but most foraging activity occurs in the early morning and late evening.

The Project Area is within a portion of LeConte's thrasher range and the species was observed foraging within the Project Area during surveys at MCV1_146-5 and MCV1_151-2, as shown in Figure 14, LeConte's Thrasher Observations, Range, and Predicted Habitat, of Appendix C. In addition, there are records of this species within five miles of the Project Area. Therefore, based on the presence of individuals observed during surveys, suitable foraging and nesting habitat, and recent records, LeConte's thrashers are known to forage and have a high potential to nest within the Project Area.

Least Bell's vireo (*Vireo bellii pusillus*). The least Bell's vireo is a federally and California endangered species. It is considered Sensitive by the BLM. The species is a summer resident, which breeds in riparian scrub and woodland habitats along drainages or near water, including ponded surface water or where moist soil conditions may occur. They generally occur within early successional riparian communities but are also known to nest in riparian woodlands dominated by willow and cottonwood. Suitable breeding habitat generally consists of dense, well-defined vegetative strata, or layers varying from two to ten feet above ground. Individuals may forage in woodlands or scrub habitat near suitable nesting habitat but will also forage in upland vegetation adjacent to riparian corridors late in season. The species breeds in Central Valley south to the south to Baja California; and arrive in southern California as early as mid-March, begin nesting in early April, and remain on the breeding-grounds through September before leaving for its wintering grounds in Baja California.

Least Bell's vireo was not observed during protocol surveys conducted in 2026, but suitable breeding habitat is located directly below the conductor in the Mojave River and within 500 feet of the Victorville Switching Station. As stated in Appendix C of this SEIR, there are seven records of least Bell's vireo within five miles of the Project Area, including records dated from 2005 through 2013. There are a few observations of least Bell's vireo within five miles of the Project Area. Several recent records for the species are present along the Mojave River in Victorville. There is suitable breeding habitat located directly below the proposed ROW along the Mojave River. In addition, large

expanses of riparian habitat are located within 500 feet of the Project Area along the Mojave River. Except for the Mojave River near the Victorville Switching Station, the Project Area does not support suitable habitat. However, this species is expected to move through the Project Area during seasonal migration. Based on the presence of suitable habitat and the presence of recent records, the least Bell's vireo has a moderate to high potential to breed and forage in the Project Area.

Ringtail (*Bassariscus astutus*). The ringtail is designated as Fully Protected by the CDFW, pursuant to California Fish and Game Code Section 4700. It is also considered Sensitive by the BLM. Ringtails can be found from southern Mexico north to Kansas, southern Wyoming, and Oregon. In California, this species is a widely distributed permanent resident that occurs in various riparian habitats and in brush stands of most forest and shrub habitats from sea level up to 9,500 feet but is most common below 4,600 feet. Ringtails occur in a variety of habitats, including chaparral, desert, coastal sage scrub, riparian scrub, oak woodlands, and riparian woodlands. This species prefers habitats in proximity to permanent water. Ringtails are seldomly found more than 0.6 miles from permanent water. Denning sites typically occur in rock recesses, hollow trees, logs, snags, abandoned burrows, or woodrat nests and breeding typically occurs between February and May. Ringtails are opportunistic feeders, but primarily prey on rodents, rabbits, birds, bird eggs, reptiles, and invertebrates.

Most of the Project Area in California is considered low quality habitat with areas of moderate quality and a discrete area of high-quality habitat near the Victorville Switching Station near the Mojave River. Moderate quality habitat is interspersed near the Clark Mountains and westward towards Hollow Hills Wilderness (east of SR-127).

Ringtail was not observed during surveys of the ROW. However, these species are difficult to detect and likely occur in areas near perennial water. Although ringtail was not observed during the surveys, the species has low potential to occur in most of the Project Area, but a moderate potential at discrete locations of the Project Area particularly near the Mojave River.

Desert bighorn sheep (*Ovis canadensis nelson*). Desert bighorn sheep is designated as Fully Protected by the CDFW pursuant to California Fish and Game Code Section 4700. Desert bighorn sheep in eastern San Bernardino County are considered Sensitive by the BLM. Management actions for this species are guided by a recently updated Conservation and Management Plan for Bighorn Sheep in California. This plan focuses explicitly on conservation goals for the non-endangered desert bighorn sheep populations addressing threats such as disease transmission from domestic livestock, habitat fragmentation, and reduced connectivity between herds.

Desert bighorn sheep is a large, strong ungulate highly specialized for life in the arid, mountainous terrain of the southwestern deserts. This species primarily feeds on a diverse array of browse and forbs when grasses are limited. Its diet is diverse, varying over space and time, but is often dominated by browsing from winter into spring (McKinney and Smith 2007). Desert bighorn sheep adapts its foraging behavior to seasonal changes in vegetation and moisture availability.

Desert bighorn sheep occupy a wide range of desert habitats, from elevations near valley floors to high desert mountain peaks. They are obligatory inhabitants of steep, rugged, rocky terrain, which serves as their essential escape and lambing habitat. This terrain is typically adjacent to lower-elevation slopes and alluvial fans used for foraging and periodic movement. Habitats often include steep, sparsely vegetated slopes and alluvial fans used for foraging. They are typically found within a few miles of a reliable water source.

Desert bighorn sheep are predominantly diurnal (active during the day), with most feeding activity occurring during the cooler hours. During the hottest summer months, they often seek thermal refuge in caves or under rock overhangs. Mating activity typically occurs during the late summer and fall.

As shown in Figure 15, Bighorn Sheep Observations, Range, and Core Habitat, of Appendix C, most of the Project Area is within the documented range of desert bighorn sheep and portions of the Project Area, contain areas identified as bighorn sheep habitat by CDFW, and overlap with essential movement corridors. Additionally, core habitat areas identified by the CDFW occur in the desert mountain ranges surrounding the Project Area, overlapping with the Project Area from MCV1_39-7 and MCV2_39-2 through MCV1_28-1 and MCV2_27-2. Population density for the species is anticipated to fluctuate across the Project Area's linear extent; specifically, desert bighorn sheep presence is expected to be concentrated in the eastern regions, near mountain "islands" with steep slopes that serve as habitat for desert bighorn sheep.

The ROW is near areas used by desert bighorn sheep. These include but may not be limited to:

- Clark Mountain/Spring Range (between California-Nevada Stateline and Kingston Road)
- Kingston Range/Mesquite Mountain (west of Kingston Road to west of SR-127/Death Valley Road)
- North Soda Mountains (west of SR-127 three sections on the northern tip)
- Avawatz Mountains (between sections of North Soda Mountains)
- Newberry/Ord Mountains (south of I-40 and east of SR-247) and west of SR-247 and east of I-15.

Habitat for this species varies along the ROW depending on specific mountain ranges and intermediate areas. In California, areas not mapped as predicted habitat are interspersed with areas of high-quality habitat in the general area of Kingston Road. Areas lacking predicted habitat are located between I-15 to I-40 and west of I-15 to Victorville.

During the 2021 surveys, a horn fragment was observed at MCV1_93-5 near the north Soda Mountains where desert bighorn sheep have been documented to occur. In addition, a horn fragment was also observed in 2025 in the Clark Mountains northeast of Ivanpah near MCV2_34-6 within the California portion of the Project Area. Desert bighorn sheep are known to use portions of the Project Area particularly near the mountains where known herds are monitored. Based on the remains observed during surveys, suitable habitat, and known herd locations, desert bighorn sheep have a high potential to occur within the Project Area where suitable habitat exists, at any time of year, and are more likely to occur on the eastward portion of the Project.

Mountain Lion (*Puma concolor*). Mountain lions are considered a California Threatened species under the CESA in portions of its range. In February 2026, the California Fish and Game Commission listed mountain lion populations in Southern California and the Central Coast as threatened under the CESA. However, the listing for this species occurs outside most of the Project Area.

During the evening hours, mountain lions will utilize many habitats within their range to hunt including riparian, scrub, chaparral, grassland, and woodland habitats. While hunting, mountain lions prefer to stalk and pursue their prey along canyon bottoms and gentle slopes. Mountain lions will feed on steeper slopes in habitats with dense understory vegetation for cover. Although they will travel through open or human-disturbed habitat, they prefer expansive, intact, heterogeneous habitat.

The mountain lion is a large solitary felid that is considered both nocturnal and crepuscular but has been observed during daylight hours. In California, mountain lions can be found in a variety of habitat types between sea level and 10,000 feet in elevation. However, mountain lion habitat, population numbers, and genetic diversity have been declining rapidly, especially within Southern California populations.

Mountain lions exist at naturally low population densities, but they are very territorial and require large swaths of intact wilderness. Home ranges vary and one study found they averaged 372 square kilometers for adult males and 134 square kilometers for adult females, which was similar to reported ranges by other researchers (Riley et al. 2021). In southern California, mountain lions have been found to utilize different habitats within a 24-hour period. Mountain lions are mostly active during dusk and dawn, but their peak activity will shift to nocturnal patterns when closer to human developments. During daylight hours, mountain lions were frequently found in riparian habitats, suggesting that they prefer to rest in areas with dense understory vegetation for cover. Mountain lion movement patterns tend to follow the distribution and abundance of deer, a common food source of southern California/Central Coast Evolutionarily Significant Unit populations. Mountain lions are opportunistic hunters and will also feed on other ungulates (such as desert bighorn sheep, pronghorns, and domestic livestock), bobcats, coyotes, fox, skunks, raccoons, squirrels, rabbits, rodents, and insects.

Mountain lions are typically active year-round and can reproduce at any time of the year, but the timing of reproduction may be influenced by prey abundance and climate. In North America, kitten births are most common between April and September. Mountain lions will form dens in rocky outcrops, caves, and other natural cavities when rearing young.

No mountain lions were observed during the surveys. However, suitable habitat is present throughout portions of the Project Area. Records include observations of mountain lions tracks in the Mojave National Preserve near the border with Nevada and near Hesperia. Based on the presence of suitable habitat, large range used by individual mountain lions, and known occurrences, mountain lions have a moderate potential to be present in specific portions of the Project Area.

Mohave ground squirrel (*Xerospermophilus mohavensis*). The Mohave ground squirrel is listed as Threatened under CESA and is recognized as Sensitive by the BLM. Mohave ground squirrel was first listed as Rare under CESA, being one of the first species listed by the State of California under the original enactment of CESA in 1971. It was later reclassified as “Threatened” in 1984 (Section 670.5(b)(6)(A), T14, CCR). The Mohave ground squirrel is not currently listed under FESA; however, it has been the subject of multiple petitions to the USFWS for listing. Most recently, a 2023 petition to list the species as Threatened was found to be “substantial” enough to warrant a status review.

The Mohave ground squirrel is rare throughout its range and typically occurs in desert scrub habitats, usually on flat to gently sloping terrain with alluvial soils. It can also be found in alkali desert scrub, western Joshua tree, and annual grassland habitats. Optimal habitats typically have sandy to gravelly soils, allowing them to dig burrows, which are frequently excavated at the base of shrubs. Mohave ground squirrels can be found between 505 and 11,525 m (1,800 and 5,000 ft) elevations. It typically forages on perennial shrub foliage (from Chenopodiaceae taxa such as winterfat (*Krascheninnikovia lanata*), spiny hopsage (*Grayia spinosa*), and saltbushes (*Atriplex* spp.), and annual leaves, seeds, flowers, and pollen from annual forbs and herbaceous plants.

Mohave ground squirrel is typically above ground and active during the spring and early summer (March through June). Emergence from hibernation varies by location and generally occurs mid-March, but in the southern portion

of their range, it may emerge as early as mid-January (Recht 1977). Aestivation generally begins in July or August. Mating activity occurs in early spring, with young being born between March and May, with a peak of births in April.

The DRECP identifies four core areas for this species including the Coso/Olancha, Little Dixie Wash, Coolgardie Mesa/Superior Valley, and Edwards Air Force Base. These areas support relatively abundant populations and are prioritized for conservation. All these areas are outside the Project Area.

Reconnaissance-level surveys and a Mohave ground squirrel habitat assessment were conducted between August 19 and 21, 2025, by Kathryn Simon and Adam Walters. Two trapping grids were then selected in the most suitable habitat for this species. Trapping conducted in 2026 did not detect this species. Six factors were considered to evaluate habitat suitability in the Project Area including vegetation, soils, distance to recent record, disturbance, Mohave ground squirrel species distribution model, and distance to the Mohave ground squirrel range boundary.

No Mohave ground squirrels, or Mohave ground squirrel burrows were documented within the Survey Area during the 2026 surveys. The Project Area is located outside of all identified Mohave ground squirrel core areas and potential movement corridors. The Project Area is largely located outside of the current range of the species, with the Project Area being located along the eastern extent of the Mohave ground squirrel's range, as shown in Figure 16, Mohave Ground Squirrel Range and Predicted Habitat, of Appendix C. The Project Area is located inside California Wildlife Habitat Relationship predicted habitat which extends from Death Valley Road (SR-127) southwest to five miles south of I-40 and from the Mojave River to the Victorville Switching Station. The modeled habitat quality within these areas varies from low quality habitat throughout the northeast portion of the predicted habitat to medium and high-quality habitat areas south of I-40 towards the Victorville Switching Station.

No trapping data is available along the Project Area from the CNDDDB. Trapping data available is restricted to the Victorville area to the north and west of the Project Area. As discussed in Appendix C of this SEIR, no additional CNDDDB or iNaturalist records are present along the Project Area east of Barstow.

Based on the presence of suitable habitat, the results of a Mohave ground squirrel habitat assessment conducted in 2025, 2026 trapping, and historic records, there is a low to moderate potential for Mohave ground squirrel to occur within portions of the Project Area. The most likely area to support the species is includes approximately 15 miles of the Project Area generally located between the Mojave River and Stoddard Mountain Road near MCV1_146-2. However, trapping conducted in 2026 did not detect this species in this or other areas. Outside of these areas, west of SR-127, there is low potential for the species to occur because of low quality habitat, outside predicted range, and a lack of historical detection. The Project Area east of SR-127 is outside of the range and predicted habitat and lacks historical detections. This species is thus unlikely to occur east of SR-127.

4.3.2.5 Wildlife Corridors and Habitat Linkages

An important component to biodiversity and ecosystem health is the ability for plants and wildlife to move among local populations in adjacent areas. In the short term, movement can support demographic stability of small, localized populations. In the longer term, it can maintain genetic diversity among semi-isolated local populations. This is accomplished by the movement or dispersal of pollen in the wind, seeds transported by birds or animals to other areas, and the dispersal of animals to adjacent habitat. Development, including clearing lands or constructing roads, can hinder this process and isolate species from adjacent populations. In many instances this is species specific and depends on the ecology and behavior of the species.

The ability for wildlife to move freely among populations and habitat areas is important to long-term genetic variation and demography. Fragmentation and isolation of natural habitat may cause loss of native species diversity in fragmented habitats. In the short term, wildlife movement may also be important to individual animals' ability to occupy their home ranges if their ranges extend across a potential movement barrier. These considerations are especially important for rare, threatened, or endangered species and for wide-ranging species such as large mammals, which exist in low population densities.

Depending on home ranges, territories, and the needs of a species, habitat patches can lose entire species when they are no longer large enough to support the species' requirements. Some species may persist, but often population sizes are restricted. The smaller the patch size, the greater the loss of biodiversity (number of species inhabiting the patch). For populations that remain, the loss of connectivity to other populations can result in genetic divergence between discrete populations (i.e., isolated populations become increasingly different from each other genetically). The result is a population that is less genetically robust and more susceptible to extirpation, or localized extinction, than a population with more genetic diversity. Therefore, development patterns that maintain connectivity and avoid creating isolated patches, particularly small patches, are needed to maintain healthy ecosystems.

Wildlife corridors and functions must be evaluated in the context of individual species and their ecology. For example, low-mobility species including snakes, lizards, and small mammals often have restricted home ranges. Animals in this group reproduce with animals in adjacent habitat and gene flow moves slowly along a region. Conserving open areas and linkages is important to prevent these types of species from becoming isolated from other populations. Wide-ranging species, including mountain lions, have broad territories that require the preservation of wildlife corridors and linkages to natural lands.

Movement and dispersal corridors that connect large blocks of habitat are essential to the long-term viability of plant and wildlife populations. The California Essential Habitat Connectivity Project (Connectivity Project) was commissioned by the California Department of Transportation (Caltrans) and CDFW to create a statewide assessment of essential habitat connectivity to be used for conservation and infrastructure planning (Spencer et al. 2010). One of its goals was to create the Essential Connectivity Map, which depicts large, relatively natural habitat blocks that support native biodiversity (Natural Landscape Blocks) and areas essential for ecological connectivity between them (Essential Connectivity Areas). These maps do not reflect the needs of a particular species but are based on overall biological connectivity and ecological integrity.

In the Project Area, mountain ranges and valleys provide corridors for wildlife movement. One such corridor, or Essential Connectivity Area (ECA), is the Mid Hills/Ivanpah Valley/New York Mountains/Calico Mountains ECA located within the eastern portion of the Project Area. Another ECA within the Project Area is the San Bernardino Mountains/Calico Mountains ECA. Wildlife that use these corridors include large mammals like the desert bighorn sheep and smaller reptiles like the desert tortoise. Migratory birds (such as raptors, wading birds, and flycatchers) that utilize the Pacific Flyway or Audubon Important Birds Areas may find suitable habitat within or near the Project Area.

Wildlife corridors are defined as areas that connect suitable habitats for a species in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features (e.g., canyon drainages, ridgelines, or areas with vegetation cover) provide corridors for wildlife travel. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high-population-density areas; and facilitate gene flow between populations. Wildlife corridors are considered sensitive by resource and conservation agencies.

In the Project Area, the existing MCC-VIC Lines 1 and 2 do not pose a significant barrier to the movement of wildlife. However, on a local scale, the berms that are present along access roads can hinder direct line of movement for small species such as desert tortoise, which can become trapped within steeply graded roadbeds.

4.3.2.6 Jurisdictional Aquatic Resources

A Jurisdictional Delineation Report was prepared in March 2023 for the approved project to determine whether jurisdictional water resources are present within or adjacent to the Project Area. The jurisdictional delineation was conducted by Psomas between April and August 2022 (see Appendix C3 of the certified 2024 EIR). The JD survey area generally co-occurs with areas defined as the Project Area in the Biological Resources Technical Report; however, the JD surveys include the entire MCC-VIC transmission line ROW, rather than the anticipated project footprint. A supplemental delineation is being prepared to represent material show-up yards and access roads outside of the ROW that are part of the revised project design analyzed in this SEIR.

The resources identified within the JD survey area consist of non-wetland waters of the U.S., regulated by the USACE; non-wetland waters of the state, some of which are regulated by the RWQCB; and streambeds and associated riparian vegetation regulated by CDFW. During field surveys, Psomas found jurisdictional resources within the jurisdictions of each of these agencies. As such, the Los Angeles Department of Water and Power (LADWP) is required to obtain the appropriate permits with each respective resource agency prior to proceeding with the project. No jurisdictional wetlands as defined by the Clean Water Act Section 404 were identified within the JD survey area.

In total, 269.42 acres of non-wetland waters of the U.S. subject to regulation by USACE and the RWQCB were mapped within the JD survey area. The JD survey area also includes 1,359.99 acres of non-wetland “isolated” waters of the state subject to regulation by the RWQCB only. Streambeds and riparian habitat subject to regulation by CDFW often overlap with non-wetland waters of the U.S., but also often extend further out to the top of the stream bank and adjacent riparian habitat. As such, 1,757.60 acres of streambed and riparian habitat subject to regulation by CDFW were also mapped within the JD survey area. Table 4.3-5 summarizes these jurisdictional aquatic resources.

Table 4.3-5. Summary of Potential Jurisdictional Aquatic Resources in the Jurisdictional Delineation Survey Area

Aquatic Resource Type	Total Acreage ¹
USACE	
Wetland Waters of the U.S.	0.00
Non-Wetland Waters of the U.S.	269.42
Total under USACE Jurisdiction	269.42
RWQCB	
Wetland Waters of the U.S. and State	0.00
Non-Wetland Waters of the U.S. and State	269.42
Non-Wetland “Isolated” Waters of the State	1,359.99
Total under RWQCB Jurisdiction	1,629.42
CDFW	
Streambed and Riparian Habitat	1,757.60
Total under CDFW Jurisdiction	1,757.60

Source: Appendix C3 of the certified 2024 EIR.

Notes: USACE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife; survey area = MCC-VIC transmission line right-of-way.

¹ Totals do not sum due to rounding. The supplemental delineation that is underway is expected to minimally increase these acreages.

4.3.3 Thresholds of Significance

The significance criteria used to evaluate the revised project’s impacts to biological resources are based on CEQA Guidelines Appendix G. A potentially significant impact to biological resources would occur if the revised project would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
3. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.3.4 Impacts Analysis

This section evaluates the potential impacts to biological resources that may result directly or indirectly from implementation of the revised project.

Direct permanent impacts refer to the absolute and permanent physical loss of a biological resource due to grading and/or construction of structures, which can be determined in four ways: (1) permanent loss of vegetation communities, land covers, and general wildlife and their habitat; (2) permanent loss of or harm to individuals of special-status plant and wildlife species; (3) permanent loss of suitable habitat for special-status species; and (4) permanent loss of wildlife movement and habitat connectivity.

Direct temporary impacts refer to a temporary loss of vegetation communities and land covers resulting from vegetation and land cover clearing, or temporary impacts to species habitat (e.g., noise from grading, helicopter use, and blasting near sensitive resources). Direct temporary impacts terminate once the work is completed. The main criterion for direct temporary impacts is that impacts would occur for a short period of time and would terminate or be reversible.

Indirect impacts to biological resources are defined as those effects that occur not directly from the physical footprint of a project, but as a consequence of project-related activities that alter the surrounding environment in ways that affect biological resources. Examples of indirect impacts include edge effects, increased noise or human activity, introduction of non-native species, hydrological changes, and long-term degradation of ecological function of adjacent habitats. For the revised project, it is assumed that the potential indirect impacts resulting from construction activities include fugitive dust from earthmoving activities coating leaves of plants leading to a potential decrease in photosynthesis and general human presence that may temporarily disrupt species and habitat vitality, as well construction-related soil erosion and runoff that could affect downstream resources. Indirect impacts during revised project operations are expected to be similar to the existing baseline conditions.

As part of its standard practice, LADWP would implement best management practices (BMPs), which would partially avoid and minimize impacts to state-listed and other special-status species, sensitive natural communities, and jurisdictional stream and water features, as described in the relevant subsections that follow. The revised project's BMPs are outlined in Section 3.6.5, Best Management Practices, of this SEIR. In cases where implementation of BMPs would not result in less than significant impacts, LADWP would implement the mitigation measures specified in Section 4.3.5 to reduce potential impacts to below a level of significance. Estimated project impact areas are depicted on Figure 3, Permanent and Temporary Impact Area, of Appendix C.

Threshold BIO-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Summary of the Certified 2024 EIR Findings

The approved project had potential impacts to the following FESA and CESA listed species, and candidate CESA species: western Joshua tree, Mojave desert tortoise, Mohave ground squirrel, southwestern willow flycatcher, least Bell's vireo, western yellow-billed cuckoo, tricolored blackbird, Crotch's bumble bee, gilded flicker, Swainson's hawk, western burrowing owl, and mountain lion. The approved project also had the potential to impact 34 non-listed special-status plant species and 23 non-listed special-status wildlife species. Mitigation measures were identified and were found to reduce impacts to below a level of significance.

Revised Project Impact Analysis

Surveys conducted in 2025 and 2026 for the revised project have led to the identification of an additional 13 non-listed special-status plant species and 6 non-listed special-status wildlife species that could potentially be impacted by the revised project. Impacts to these additional non-listed species are integrated into the impacts discussions pertaining to their subject taxa below.

CESA Listed Plant Species

One plant species that is a state candidate for listing, western Joshua tree (candidate state threatened), was observed during 2021 and 2024 surveys within the Project Area. No other state or federally listed or candidate plant species were observed or have a potential to occur within the Project Area.

Western Joshua Tree

A total of 23 western Joshua tree clusters were mapped within the Project Area during 2021 and 2024 surveys, south of Dale Evans Parkway and northwest of North D Street in the southwestern extent of the Project Area. Although the surveys conducted in 2021 and 2024 provide a baseline of general western Joshua tree locations, additional surveys in accordance with the WJTCA census instructions involving a count of individuals as stems or trunks rather than clusters would be necessary within 50 feet of all impact areas prior to submission of the WJTCA ITP application.

Most of the western Joshua trees within the Project Area can be avoided by project activities; however, direct take may be necessary in areas where grading activities cannot be avoided. Direct impacts to any western Joshua tree individuals (e.g., removal, cutting down, relocating without prior approval, trimming) would be considered significant absent mitigation. As a candidate species for listing under CESA and a species protected under the WJTCA, any removal of western Joshua trees would require a WJTCA ITP and payment of statutorily prescribed fees. All western Joshua trees mapped within the Project Area are in the area described in Fish and Game Code Section 1927.3(e) as a reduced fee area; therefore, impacts to western Joshua tree can be mitigated on a per-tree basis as follows:

- 5 meters or greater in height: \$1,000 per tree
- 1 meter or greater but less than 5 meters in height: \$200 per tree
- less than 1 meter in height: \$150 per tree

Mitigation Measure (MM)-BIO-1 (Western Joshua Tree Census, Permitting, and Avoidance) was set forth for the approved project in the certified 2024 EIR. Per MM-BIO-1, mitigation for direct impacts to any western Joshua tree individual (defined by the WJTCA census instructions as a stem or trunk) would be fulfilled through a payment of fees consistent with the WJTCA. MM-BIO-1, as set forth in the 2024 EIR, would still be required for the revised project.

MM-BIO-2 (Authorized Biologist Authority) was also set forth in the 2024 EIR for the approved project. MM-BIO-2 gives the Authorized biologist(s) the authority to stop work if construction is not compliant with the EIR. MM-BIO-3 (Biological Monitoring) in the 2024 EIR required that an experienced biologist oversee compliance with the protective measures, including marking sensitive biological resources for avoidance and delineating limits of the project's impact footprint. MM-BIO-4 (Education Program) in the 2024 EIR requires training for construction personnel related to special-status plants that could potentially occur on or adjacent to the impact footprint. MM-BIO-5 (Delineation of Impact Boundaries) in the 2024 EIR would ensure project impacts do not occur outside of

designated work areas and avoidance of western Joshua trees to be preserved in place. These same mitigation measures would be required for the revised project and remain largely the same as what was set forth in the 2024 EIR.

For the same reasons as those set forth for the approved project, implementation of MM-BIO-1, MM-BIO-2, MM-BIO-3, MM-BIO-4, and MM-BIO-5 would reduce the potential direct impacts of the revised project on western Joshua trees to a less than significant level.

FESA and CESA Listed Wildlife, Candidates for CESA Listing, and California Fully Protected Species

One federally and state listed wildlife species, Mojave desert tortoise, was observed within the Project Area. Additionally, the following nine listed or candidate wildlife species were determined to have a potential to occur within the Project Area: tricolored blackbird, Crotch's bumble bee, Swainson's hawk, gilded flicker, western yellow-billed cuckoo, southwestern willow flycatcher, mountain lion, least Bell's vireo, and Mohave ground squirrel. At the time of the 2024 EIR, western burrowing owl was designated a CDFW Species of Special Concern and had not been approved as a candidate for potential listing as a listed species under CESA. As of October 2024, western burrowing owl was approved by the California Fish and Game Commission as a CESA candidate and is therefore afforded the protection of CESA-listed species while the California Fish and Game Commission decides if listing the species is warranted. No additional listed wildlife species are expected to be impacted by the revised project. Each of these species is analyzed in turn in the subsections that follow.

Desert Tortoise

Mojave desert tortoise (desert tortoise) is a federally- and state-listed reptile species present within the Project Area. Suitable habitat for this species occurs throughout the Project Area. Direct impacts to desert tortoise are expected to occur during the construction of the Project. Direct impacts could include collision or crushing by heavy equipment and vehicles, collapse of burrows from vehicle or heavy equipment traffic, vibration from road traffic, exposure to sound and vibration from the use of controlled detonations to excavate tower footings in rocky areas, noise from helicopter use, exposure to herbicides, chemical spills, and radiator coolant, and displacement from foraging habitat. Construction activities could also result in direct mortality, injury, or harassment of individuals and eggs from encounters with vehicles, or heavy equipment. Desert tortoises are also known to shelter under parked vehicles and be killed, injured, or harassed if the vehicle is moved without inspecting for desert tortoises. Other direct effects could include individual tortoises or eggs being entombed in their burrows, collection or vandalism, disruption of tortoise behavior during construction and disturbance due to noise or vibrations from heavy equipment. Human disturbance, lighting, and noise may disrupt desert tortoises in adjacent lands. Windblown dust can also adversely affect desert tortoise by degrading habitat and decreasing the value of available forage. Desert tortoises may also be attracted to the construction area by the application of water to control dust, placing them at higher risk of injury or mortality by vehicle traffic. Individuals could also be injured or lost during burrow excavation, handling, and during relocation to adjacent habitat.

Indirect impacts to desert tortoise could occur through increasing the opportunities for introduction of invasive non-native plant species that may compete with or replace forage species for the desert tortoise (i.e., grasses and the flowers of annual plants). Human presence in isolated areas of the desert may attract opportunistic predators (e.g., coyote, feral dogs [*Canis lupus familiaris*], and ravens), which are threats to the species. Additionally, temporary increases in human activity and noise could lead to behavioral disruptions.

MM-BIO-6 (Mojave Desert Tortoise Protocol Surveys), set forth in the 2024 EIR for the approved project, required protocol surveys for Mojave desert tortoise, which were completed in 2026. As part of this SEIR, MM-BIO-6 (Desert Tortoise Permitting) has been revised to reflect completion of the originally required protocol surveys. However, other portions of the original MM-BIO-6 have been retained for the revised project, including a requirement for acquisition of an ITP for potential take of desert tortoise that may occur as a result of project activities. MM-BIO-6 also requires LADWP to adhere to any additional measures and conditions set forth within the ITP and provide compensatory mitigation as determined through the ITP process. MM-BIO-6, as set forth in both the 2024 EIR and in this SEIR, has been developed to minimize the potential for injury or killing of desert tortoises to the extent possible and to conform with DRECP requirements.

Suitable habitat for desert tortoise may be impacted by surface-disturbing activities within the Project Area. Potential impacts to suitable habitat include temporary disturbances during vegetation clearance and grading at construction work areas. Consistent with the 2024 EIR, MM-BIO-6 would still require that LADWP provide compensatory mitigation for any direct impacts to Mojave desert tortoise occupied habitat and critical habitat at ratios pursuant to the DRECP. Consistent with the 2024 EIR, MM-BIO-6 also sets forth requirements to minimize human contact with desert tortoises and to minimize the potential for disruptions in desert tortoise movement and behaviors. MM-BIO-2, MM-BIO-3, MM-BIO-4, and MM-BIO-5, which remain generally consistent with the corresponding measures from the 2024 EIR, would further ensure avoidance and minimization of impacts to Mojave desert tortoise. Accordingly, implementation of MM-BIO-2, MM-BIO-3, MM-BIO-4, MM-BIO-5, and MM-BIO-6 would reduce potential impacts of the revised project to Mojave desert tortoise to less than significant.

Mohave Ground Squirrel

The Project Area is in the southern portion of the Mohave ground squirrel range where Mohave ground squirrel occurrences are rare, and where population densities have historically been low. In addition, the Project Area is located outside the core and peripheral population areas of Mohave ground squirrel, as well as outside linkage areas of the species, as described in the 2019 CDFW Mohave Ground Squirrel Conservation Strategy (CDFW 2019). All but two of the ten CNDDDB records within 5 miles of the Project Area are historical, dating between 1919 and 1987. The two recent occurrences from 2005 and 2008 are located 3.6 miles northwest of the Project Area near MCV1_136-6 and 4.7 miles northwest of the Victorville Switching Station, respectively (CDFW 2026). Two trapping grids were established in 2026 in the most suitable habitat for the species and no individuals were captured. While the Project Area is located outside of the core and peripheral population areas, linkage areas, and BLM Conservation Areas for the species, and surveys were negative for the species, the Project Area does contain suitable habitat (e.g., creosote bush scrub with gentle topography and sandy soils) in addition to the nearby recent occurrences. As such, Mohave ground squirrel has a low to moderate potential to occur where Project Areas overlap with suitable habitat within the species' current range.

Direct impacts on Mohave ground squirrel from project activities could result from crushing or burying of individuals within subterranean habitat during grading activities. In addition, any individuals that are flushed from burrows by construction activities would also be highly vulnerable to stress and vehicle strikes.

Indirect impacts to Mohave ground squirrel could occur through increasing the opportunities for introduction of invasive non-native plant species that may compete with or replace forage species for the Mohave ground squirrel (i.e., seeds, fruit, and leafy vegetation of native desert forbs, grasses, and shrubs). Human presence in isolated areas of the desert may attract opportunistic predators, such as coyotes, which are threats to this species.

MM-BIO-7 (Mohave Ground Squirrel Habitat Assessments and Protocol Surveys) set forth in the 2024 EIR for the approved project required habitat assessments, which were conducted in August 2025. As part of this SEIR, MM-BIO-7 (Mohave Ground Squirrel Permitting) has been revised to reflect completion of the originally required habitat assessments. The updated version of MM-BIO-7 set forth herein requires the acquisition of an ITP for potential take of Mohave ground squirrel, compensatory habitat mitigation, and a relocation plan for the species.

Suitable Mohave ground squirrel habitat may be impacted by surface-disturbing activities within the Project Area. Potential impacts to suitable habitat include temporary disturbances during vegetation clearance and grading at construction work areas. Loss of occupied habitat would be significant absent mitigation. Consistent with mitigation from the 2024 EIR, MM-BIO-7 continues to require that LADWP provide compensatory mitigation for any direct impacts to Mohave ground squirrel occupied habitat at ratios determined in coordination with CDFW.

Furthermore, MM-BIO-2, MM-BIO-3, MM-BIO-4, and MM-BIO-5, which remain generally consistent with the corresponding measures from the 2024 EIR, would further ensure avoidance and minimization of impacts to Mohave ground squirrel. Accordingly, implementation of MM-BIO-2, MM-BIO-3, MM-BIO-4, MM-BIO-5, and MM-BIO-7 would reduce potential impacts of the revised project to Mohave ground squirrel to less than significant.

Listed Riparian Birds

The Project Area supports riparian vegetation within the Mojave River near the Victorville Switching Station that would provide marginal breeding habitat and potential foraging habitat for the following listed riparian bird species: western yellow-billed cuckoo, southwestern willow flycatcher, and least Bell's vireo. The project would be able to avoid direct take of individuals and impacts to occupied and foraging habitat. However, the revised project has the potential to indirectly impact these species if project activities were to occur within 500 feet of occupied riparian habitat during breeding season. Visual disturbance, noise, or vibrations from project activities such as nearby grading and vegetation removal, helicopter use, overhead line stringing, or crane operations could disrupt breeding activities and cause nest failure. The construction and use of access roads near the Mojave River could disturb nesting riparian birds from noise, fugitive dust, and vehicle lighting. Indirect impacts include minor degradation of vegetation from dust, incidental trampling, or edge-related disturbances, as well as the introduction or spread of invasive plant species that can reduce habitat quality. Changes in hydrologic conditions, such as altered drainage patterns, could introduce sediment or weeds into the Mojave River during periodic storm events. Increased human activity may elevate predation risk which can affect reproductive success.

MM-BIO-8 (Protocol Survey for Listed Riparian Birds and Avoidance) has been modified from the 2024 EIR due to the negative findings of surveys for the species and the downgrading of the potential for southwestern willow flycatcher and western yellow-billed cuckoo to "low" since suitable nesting habitat for the two species occurs more than 500 feet from the Project Area. As such MM-BIO-8 (Pre-construction Surveys for Least Bell's Vireo) has been modified to require pre-construction surveys for least Bell's vireo only and requires complete avoidance of their occupied habitat and a buffer determined by an Authorized Biologist around the occupied habitat until conclusion of the species' nesting season.

Critical habitat for the southwestern willow flycatcher occurs where the project alignment crosses the Mojave River. The project would not impact any riparian habitat within the Mojave River. MM-BIO-2, MM-BIO-3, MM-BIO-4, and MM-BIO-5, which remain generally consistent with the corresponding measures from the 2024 EIR, would ensure that project encroachment into the Mojave River Corridor would not occur. As such, impacts to southwestern willow flycatcher critical habitat are not expected to occur as a result of project implementation.

Accordingly, implementation of MM-BIO-2, MM-BIO-3, MM-BIO-4, MM-BIO-5, and MM-BIO-8 would reduce potential impacts of the revised project to listed riparian bird species to less than significant.

Tricolored Blackbird

Areas within 500 feet of the Project Area support marginal breeding habitat for tricolored blackbird with nearby foraging areas within the Mojave River near the Victorville Switching Station. Therefore, tricolored blackbird has a low potential to breed within 500 feet of the Project Area. The project would be able to avoid direct take of individuals and impacts to occupied breeding habitat. However, the project has the potential to directly impact these species if project activities occur within 500 feet of occupied riparian habitat during their breeding season. Visual disturbance, noise, or vibrations from project activities such as nearby grading and vegetation removal, helicopter use, overhead line stringing, or crane operations could disrupt breeding activities and cause nest failure.

This conspicuous species is known to nest within wetlands and riparian thickets, and presence of an active nest would be detectable during a general nesting bird survey. MM-BIO-9 (Nesting Bird Surveys and Avoidance) was set forth in the 2024 EIR to require a pre-construction nesting bird survey if project activities occur during the general nesting bird season (February 1 through August 31). This measure would continue to be required for the revised project. MM-BIO-9 also provides avoidance and minimization measures in the event that active nests containing eggs or young are found. Implementation of MM-BIO-9 would reduce the revised project's potential direct impacts to tricolored blackbird to less than significant. Indirect impacts to breeding and foraging habitat are not expected.

Bendire's Thrasher and LeConte's Thrasher

LeConte's thrasher was observed foraging in the Project Area and has a high potential to nest. Bendire's thrasher has a high potential to nest and forage in the Project Area. Both species could be directly impacted by having active nests removed during vegetation removal and grading or if adults abandoned a nest due to project activities, including blasting and helicopter use. MM-BIO-9 was set forth in the 2024 EIR to require a pre-construction nesting bird survey if project activities occur during the general nesting bird season (February 1 through August 31). This measure would continue to be required for the revised project. MM-BIO-9 also provides avoidance and minimization measures in the event that active nests containing eggs or young are found. Implementation of MM-BIO-9 would reduce the revised project's potential direct impacts to Bendire's thrasher and LeConte's thrasher to less than significant. The temporary indirect impact due to the loss of suitable habitat for Bendire's thrasher and LeConte's thrasher would not be significant due to abundant suitable habitat present in the project region. These areas will continue to provide habitat opportunities for this species during and after project implementation. Therefore, indirect impacts to Bendire's thrasher and LeConte's thrasher are not expected to occur as a result of revised project implementation.

Crotch's Bumble Bee

Crotch's bumble bee has a moderate potential to occur in the Project Area. There is also potential for the project to support nesting and wintering sites for Crotch's bumble bee colonies, which are primarily located underground in abandoned holes made by ground squirrels, mice, and rats, but may be above ground in abandoned bird nests or empty cavities (Williams et al. 2014).

Implementation of the revised project could result in direct impacts to Crotch's bumble bee through the removal of potentially suitable nesting and foraging habitat. However, this impact would not be significant due to abundant suitable habitat present in the project region. The project vicinity would continue to provide habitat opportunities for this species, with or without revised project implementation. As a result, minor losses of suitable habitat would not substantially reduce the habitat for the species and would not cause the species population to drop below self-sustaining levels.

Because Crotch's bumble bee typically nest and overwinter underground, individuals if present at a given work area would be vulnerable to injury and mortality during construction. Harm to, or the loss of, an active colony during construction could be a significant direct impact, absent mitigation. Implementation of MM-BIO-10 (Pre-Construction Crotch's Bumble Bee Survey and Avoidance), as set forth in the 2024 EIR, would continue to be required for the revised project. However, MM-BIO-10 (Crotch's Bumble Bee Incidental Take Permit and Surveys and Avoidance) has been modified to require an ITP from CDFW for take of the species and to conduct pre-construction surveys to identify any Crotch's bumble bee nest(s) present within the project impact footprint. The measure would require no-impact buffers to be established around nests if found, thereby avoiding potential direct impacts to Crotch's bumble bee. Accordingly, implementation of MM-BIO-10 would reduce potential direct impacts of the revised project to Crotch's bumble bee to less than significant. The temporary indirect impact due to the loss of suitable foraging habitat for Crotch's bumble bee would not be significant due to abundant suitable habitat present in the project region. These areas will continue to provide habitat opportunities for this species during and after project implementation. Therefore, indirect impacts to Crotch's bumble bee are not expected to occur as a result of revised project implementation.

Swainson's Hawk

Swainson's hawks are not expected to nest within the Project Area; therefore, direct impacts to nesting individuals are not expected to occur as a result of project activities. Direct impacts could occur due to individuals striking the transmission line during seasonal migration; however, the operating conditions of the project are expected to be the same as the existing baseline conditions. Suitable foraging habitat is present, and transient Swainson's hawks have a high potential to forage within the Project Area during migration. The loss of suitable foraging habitat (e.g., open grasslands or agricultural lands) for migrating Swainson's hawks would not be significant due to abundant suitable habitat present in the project region. These areas will continue to provide foraging habitat opportunities for this species during and after project implementation. As a result, the temporary loss of foraging habitat is not expected to have an adverse effect on the species. Therefore, impacts to Swainson's hawk are not expected to occur as a result of project implementation.

Gilded Flicker

Gilded flicker are known to forage and have a high potential to nest in the Project Area within Joshua tree or desert riparian woodlands in the Ivanpah Valley and the foothills of the Clark Mountains. If project activities occur during the nesting bird season, the project has the potential to directly take individuals or occupied habitat. Specifically,

vegetation removal of suitable nesting habitat could result in loss of active nests. Additionally, increased noise, visual disturbances, and ground vibrations from project activities in the vicinity have the potential to disturb nesting activities if project activities are conducted adjacent to occupied habitat and cause nests to fail.

This conspicuous species is known to nest within cavities of large willows (*Salix* spp.), cottonwoods (*Populus* spp.), and Joshua trees within desert riparian or Joshua tree woodland, and presence of an active nest would be detectable during a general nesting bird survey. MM-BIO-9 (Nesting Bird Surveys and Avoidance) was set forth in the 2024 EIR to require a pre-construction nesting bird survey if project activities occur during the general nesting bird season (February 1 through August 31). This measure would continue to be required for the revised project. MM-BIO-9 also provides avoidance and minimization measures in the event that active nests containing eggs or young are found. Implementation of MM-BIO-9 would reduce the revised project's potential impacts to gilded flicker to less than significant.

Many project activities would occur in areas that have been previously disturbed, such as existing access roads and tower sites; however, some areas outside of previously disturbed work areas may require vegetation removal and ground disturbance and indirect impacts due to the loss of foraging and nesting habitat could occur. Loss of suitable foraging habitat would not be significant due to abundant suitable habitat present in the project region. These areas will continue to provide habitat opportunities for this species during and after project implementation. As a result, the temporary loss of foraging habitat is not expected to have an adverse effect on the species.

Mountain Lion

Mountain lion have large ranges that may include the Project Area, so the species is expected to be a transient through the area. The species is not expected to have natal dens within the Project Area since suitable habitat (areas of dense vegetation and rocky terrain) are absent or limited in the Project Area; therefore, direct impacts due to the removal of a natal den are not expected. Vehicle traffic associated with project construction could cause direct impacts due to vehicle strikes, but the education program (MM-BIO-4) would be required for all employees, agents, or contractors, and it would include discussion of the sensitive wildlife (including mountain lion) and also includes information on the speed limits within the Project Area. As such, direct impacts due to vehicle strikes and other types of human interaction would be reduced to less than significant upon implementation of MM-BIO-4. Suitable live-in and foraging habitat for mountain lion is present throughout the Project Area. However, project activities would primarily occur or be adjacent to areas that have been previously disturbed. The project would not involve the building of any permanent barriers that would restrict movement for this species or restrict foraging opportunities. Additionally, the temporary indirect impact due to the loss of suitable habitat for this species would not be significant due to abundant suitable habitat present in the project region. These areas will continue to provide habitat opportunities for this species during and after project implementation. Therefore, indirect impacts to mountain lion are not expected to occur as a result of revised project implementation.

Golden Eagle

One golden eagle nest and foraging individuals have been detected within the ROW and in the Project Area. In areas where nests are close enough to proposed activities, the revised project may directly affect nesting golden eagles by causing the adults to abandon the nest due to noise from project activities, including blasting and helicopter use. MM-BIO-9 and MM-BIO-13 (Avoidance and Minimization of Impacts to Golden Eagle) would reduce impacts to nesting golden eagles to less than significant by requiring surveys and non-disturbance buffers until the nests are determined to be inactive. These same measures were also set forth for the approved project and remain largely unchanged in this SEIR. Direct impacts could also occur due to individuals striking the transmission line during

seasonal migration; however, the operating conditions of the project are expected to be the same as the existing baseline conditions. The temporary indirect impact due to the loss of suitable habitat for golden eagle would not be significant due to abundant suitable habitat present in the project region. These areas will continue to provide habitat opportunities for this species during and after project implementation. Therefore, indirect impacts to golden eagle are not expected to occur as a result of revised project implementation.

Burrowing Owl

Burrowing owl are a low-density nester in the Project Area as evident by only one individual being observed and pellets being observed at only two burrows during the surveys for the project. However, the project is within the range of the species and burrow opportunities are present, so burrowing owl generally has a high potential to occur throughout the Project Area. Direct impacts could occur to burrowing owl if nesting or overwintering individuals occur within the Project Area during project activities. Ground disturbance activities could cause mortality or injury to individuals in burrows and disruptions to breeding activities if present within the disturbance footprint during project activities. Harm to, or loss of, individuals as a result of construction activities would be significant absent mitigation. Based upon the low level of occurrence documented within the Project Area, MM-BIO-14 (Burrowing Owl Protocol Surveys) from the 2024 EIR is would be modified to include only pre-construction surveys in portions of the Project Area with suitable habitat for the species. The measure also provides minimization if avoidance is not feasible. Implementation of MM-BIO-14 (Pre-Construction Burrowing Owl Surveys) would reduce the revised project's impacts to burrowing owl to less than significant. The temporary indirect impact due to the loss of suitable habitat for burrowing owl would not be significant due to abundant suitable habitat present in the project region. These areas will continue to provide habitat opportunities for this species during and after project implementation. Therefore, indirect impacts to burrowing owl are not expected to occur as a result of revised project implementation.

Desert Bighorn Sheep

Desert bighorn sheep have a high potential to occur within the Project Area and are known to lamb along and adjacent to the project alignment in the Clark and Ord mountains. Horn fragments of desert bighorn sheep were observed near the project alignment during 2021 and 2025 surveys. Visual and aural disturbances associated with the project's helicopter use and blasting could result in mortality during the lambing season due to ewes abandoning their lambs resulting in a direct impact to the species. A desert bighorn sheep avoidance measure was set forth in the 2024 EIR, MM-BIO-15 (Desert Bighorn Sheep Avoidance), which requires consultation with CDFW on obtaining an ITP and imposes restrictions of particularly noisy construction activities during lambing season within core habitat areas, as well as an avoidance buffer for incidental observations. However, MM-BIO-15 (Desert Bighorn Sheep Incidental Take Permit and Avoidance) has been expanded for the revised project to provide the consultation with additional specificity and protections, given the expanded intensity of construction, and to incorporate additional information and requirements that have been provided by CDFW. Vehicle traffic associated with project construction could cause direct impacts due to vehicle strikes, but the education program (MM-BIO-4) would be required for all employees, agents, or contractors, and it would include discussion of the sensitive wildlife (including desert bighorn sheep) and also includes information on the speed limits within the Project Area. As such, direct impacts due to vehicle strikes and other types of human interaction would be reduced to less than significant through implementation of MM-BIO-4. Upon implementation of MM-BIO-4 and MM-BIO-15, direct impacts to desert bighorn sheep would be reduced to less than significant. The temporary indirect impact due to the loss of suitable habitat for desert bighorn sheep would not be significant due to abundant suitable habitat present in the project region. These areas will continue to provide habitat opportunities for this species during and after project implementation. Therefore, indirect impacts to desert bighorn sheep are not expected to occur as a result of revised project implementation.

Non-Listed Plant Species

Of the non-listed, non-candidate special-status plant species discussed for the project in Section 4.3.2, a total of 26 special-status plant species were recorded within the Project Area during surveys, and 21 special-status plant species have a moderate to high potential to occur within portions of the Project Area, depending on the species' ranges and specific habitat requirements. This includes impacts to 178 desert pincushion (CRPR 2B.1), found from the California-Nevada border to north of Hollow Hills Wilderness; 254 viviparous foxtail cactus (CRPR 2B.2), found north of Halloran Springs; 18 Parish's club-cholla (CRPR 2B.2), found in Ivanpah Valley; and 63 Rusby's desert-mallow (CRPR 1B.2), found between Primm and north of Halloran Springs. Grading, vegetation clearance, and vehicle and foot traffic associated with the project have the potential to result in the direct loss of special-status plant species. Equipment and vehicles may also introduce noxious weeds that would compete with special-status species and negatively affect special-status plant species and habitat quality. In addition, impacts such as increased fugitive dust could reduce the growth and vigor of special-status plant species.

MM-BIO-11 (Pre-Construction Surveys and Avoidance and Minimization Measures for Special-Status Plants) was set forth in the 2024 EIR to require focused surveys for special-status plant species to identify existing populations, marking and avoidance of identified populations, avoidance, and compensatory mitigation. This measure has been revised due to special-status plant surveys having been conducted and species were mapped since the time of the 2024 EIR. MM-BIO-11 requires the demarcation of special-status plants adjacent to the Project Area for avoidance; seed collection, storage, and broadcasting following completion of construction; special-status cacti salvage and relocation; and topsoil salvage for proposed impacted areas where special-status plants were identified. Additionally, implementation of MM-BIO-2, MM-BIO-3, MM-BIO-4, MM-BIO-5, which remain generally consistent with the corresponding measures from the 2024 EIR, together with the revised project's BMPs outlined in Section 3.6.5 of this SEIR, would reduce potential impacts to non-listed, non-candidate special-status plants to less than significant.

Accordingly, implementation of MM-BIO-2, MM-BIO-3, MM-BIO-4, MM-BIO-5, and MM-BIO-11 would reduce the revised project's potential impacts to non-listed, non-candidate special-status plants to less than significant.

Other regulated plant species include species of California desert native plants (i.e., species in the genera *Prosopis* and *Parkinsonia* (*Cercidium*) and the species *Senegalia greggii*, *Atriplex hymenelytra*, *Dalea spinosa*, and *Olneya tesota*) that could be impacted by the revised project due to grading, vegetation clearance, and vehicle and foot traffic associated with the project and for which harvest is prohibited under the CDNPA absent appropriate permits. Over 100,000 individuals of these genera were observed within the Project Area. For all desert native plants that cannot be avoided, the CDNPA requires that all impacts to protected native desert plants regulated by this law be preceded by issuance of a permit by the County in accordance with Food and Agricultural Code Division 23. MM-BIO-12 (Relocation of Desert Native Plants) was set forth in the 2024 EIR and requires submittal of a permit application form and an applicable fee to San Bernardino County, proper handling of tags or seals issued with the permit, and additional actions that would ensure successful transplantation of salvaged plants. This measure, as set forth in the 2024 EIR, would still be required for the revised project and would still reduce impacts to below a level of significance. Impacts to plant species protected under the CDNPA would be less than significant with implementation of MM-BIO-12.

Non-Listed Wildlife Species

Of the non-listed, non-candidate special-status wildlife species discussed for the project in Section 4.3.2, ten special-status wildlife species were recorded within the Project Area during surveys, and 20 special-status wildlife species have a moderate to high potential to occur within portions of the Project Area, depending on the species' ranges and specific habitat requirements.³

Direct impacts can potentially occur to special-status wildlife species from impacts to habitat and impacts to the species from injury or mortality of individuals from construction activities, and the project could thus result in significant, direct and indirect impacts to non-listed special-status wildlife species. Effects on specific species are analyzed in the subsections that follow.

Special-Status Birds and Nesting Birds

The following fifteen non-listed special-status bird species were observed during surveys or have a moderate to high potential to occur: Costa's hummingbird, loggerhead shrike, summer tanager, Lucy's warbler, yellow-headed blackbird, Cooper's hawk, northern harrier, prairie falcon, peregrine falcon, yellow-breasted chat, vermilion flycatcher, yellow warbler, and Crissal thrasher.

Trees and shrub habitat within the Project Area provides suitable nesting habitat for these special-status bird species, as well as other bird species protected under the MBTA (16 USC 703-712) and California Fish and Game Code Sections 3503.5, 3503, and 3513. Vegetation removal or grading activities conducted during the general nesting bird season (February 1 through August 31) could result in the direct take of a bird (i.e., individuals, active nests, eggs, or young) if nesting within proposed disturbance areas during construction. Additional direct impacts could occur if adults abandoned a nest due to project activities, including blasting and helicopter use. Harm to or the loss of individuals during construction could be significant, absent mitigation. MM-BIO-9 (Nesting Bird Surveys and Avoidance), consistent with the corresponding measure from the 2024 EIR, requires a pre-construction nesting bird survey if project activities occur during the general nesting bird season (February 1 through August 31) and provides avoidance and minimization measures in the event that active nests containing eggs or young are found. Accordingly, direct impacts to special-status birds and nesting birds protected under the MBTA and California Fish and Game Code would be less than significant with implementation of MM-BIO-9. The temporary indirect impact due to the loss of suitable habitat for special-status birds would not be significant due to abundant suitable habitat present in the project region. These areas will continue to provide habitat opportunities for this species during and after project implementation. Therefore, indirect impacts to special-status birds are not expected to occur as a result of revised project implementation.

Special-Status Meso-Carnivores

Desert kitfox, ringtail, American badger are special-status meso-carnivores known to occur and/or have a high potential to occur year-round throughout the Project Area. Desert kit fox is also protected by Title 14, Division 1, Subdivision 2, Chapter 5 (Furbearing Mammals) and take is not allowed. Ground disturbance activities could cause direct impacts through mortality and injury to individuals in dens if present within work areas. In addition, any individuals that are flushed from burrows by construction activities would also be highly vulnerable to stress and vehicle strikes, also resulting in potential direct impacts. Harm to, or the loss of, individuals during construction could be significant, absent mitigation. MM-BIO-16 (Special-Status Meso-Carnivore Avoidance and Minimization),

³ Additional information on each species' occurrence record locations and respective ranges is provided in Appendix C, Table 5, Special-Status Wildlife Occurrence Probabilities in the Project Area.

which remains unchanged from the 2024 EIR, would require pre-construction surveys and provides avoidance and minimization measures. Impacts to desert kitfox, ringtail, American badger would be reduced to less than significant. The temporary indirect impact due to the loss of suitable habitat for special-status meso-carnivores would not be significant due to abundant suitable habitat present in the project region. These areas will continue to provide habitat opportunities for this species during and after project implementation. Therefore, indirect impacts to special-status meso-carnivores are not expected to occur as a result of revised project implementation.

Special-Status Invertebrates

Morrison bumble bee, Victorville shoulderband snail, and San Emigdio blue butterfly are special-status invertebrates that have a moderate potential to occur within the Project Area. Ground disturbance activities could cause mortality to individuals if present within work areas, resulting in potential direct impacts. Biological monitoring and pre-construction sweeps required in MM-BIO-3, which is similar to the corresponding measure from the 2024 EIR, would ensure that impacts to Morrison bumble bee, Victorville shoulderband snail, and San Emigdio blue butterfly would be reduced to less than significant. The temporary indirect impact due to the loss of suitable habitat for special-status invertebrates would not be significant due to abundant suitable habitat present in the project region. These areas will continue to provide habitat opportunities for this species during and after project implementation. Therefore, indirect impacts to special-status invertebrates are not expected to occur as a result of revised project implementation.

Special-Status Bats

No large winter or maternity roosts were identified within the Project Area. Special-status bats have a moderate potential to forage within the Project Area. Some project activities could occur at night, and lighting of work areas may cause a reduction in foraging; however, the temporary loss in foraging habitat would not be significant due to abundant suitable habitat present in the project region. These areas will continue to provide habitat opportunities outside of any lit work areas. As a result, the temporary loss of foraging habitat is not expected to have an adverse effect on the species. Impacts to foraging special-status bats are not expected to occur as a result of project activities.

Western Pond Turtle

Western pond turtle has a moderate potential to occur within the Mojave River. The project would be able to avoid direct impacts to suitable habitat. Project areas adjacent to the Mojave River would not provide suitable upland habitat for this species due to the steep, rocky banks. As such, impacts to western pond turtle are not expected to occur as a result of project activities.

Special-Status Terrestrial Reptiles

Mojave fringe-toed lizard and banded Gila monster are special-status terrestrial reptiles that were observed during surveys or have a moderate potential to occur within select portions of the Project Area. Specifically, banded Gila monster has a high potential to occur in the Clark Mountain Range. Mojave fringe-toed lizard was observed during 2025 surveys and has a moderate potential to occur in isolated pockets of suitable habitat such as fine, loose sand on sand dunes, dry lakebeds, riverbanks, desert washes, and sparse alkali or desert scrub within its range, generally between MCV2_62-5 and the Victorville Switching Station. These species are cryptic, and project-associated vehicular traffic and ground disturbance activities could cause direct impacts to individuals if present within work areas. These species and speed limits would be discussed during the education program required in MM-BIO-4,

and MM-BIO-3 would require biological monitoring and pre-construction sweeps. As such, direct impacts to Mojave fringe-toed lizard and banded Gila monster would be reduced to less than significant. The temporary indirect impact due to the loss of suitable habitat for special-status terrestrial reptiles would not be significant due to abundant suitable habitat present in the project region. These areas will continue to provide habitat opportunities for this species during and after project implementation. Therefore, indirect impacts to special-status terrestrial reptiles are not expected to occur as a result of revised project implementation.

Revised Project Impact Analysis Conclusions

Impacts for the approved project were determined to be less than significant with mitigation incorporated in the certified 2024 EIR. Under the revised project, the impact would increase due to the expanded project footprint and the intensity of construction activities associated with the new transmission tower locations. Additionally, focused surveys were conducted subsequent to the 2024 EIR that identified additional plant species that occur in the Project Area. MM-BIO-1 through MM-BIO-5, MM-BIO-9, MM-BIO-12, MM-BIO-13, and MM-BIO-16 from the certified EIR are still applicable without extensive revisions. MM-BIO-6 was revised by removing the protocol desert tortoise survey requirement since protocol desert tortoise surveys have been completed since the time of the 2024 EIR. MM-BIO-7 was revised by removing the need for habitat assessments for Mohave ground squirrel since the assessments have been completed since the time of the 2024 EIR. MM-BIO-8 has been revised to reflect recent survey findings. MM-BIO-10 has been updated to require pre-construction surveys for Crotch's bumble bee. MM-BIO-11 has been revised and expanded for the revised project to capture additional special-status plant species that have been identified as having the potential to occur in the Project Area since the time of the 2024 EIR. MM-BIO-14 has been updated to include only pre-construction surveys for burrowing owl (as opposed to protocol surveys) as a result of the low level of documented occurrences in recent surveys. MM-BIO-15 has been revised by including more specific avoidance and minimization measures for desert bighorn sheep that were provided by CDFW. Upon implementation of mitigation measures MM-BIO-1 through MM-BIO-16, as revised in this SEIR, the revised project's potentially significant impacts to special-status species would be reduced to less than significant. The revised project would thus not result in a new significant impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Threshold BIO-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Summary of the Certified 2024 EIR Findings

The approved project area overlapped with 22 natural vegetation communities and 5 unvegetated or developed land cover types, of which there are 5 sensitive vegetation communities: Acton's and Virgin River brittle brush-net-veined goldeneye; Fremont's smokebush-Nevada smokebush scrub; Fremont cottonwood forest and woodland; Joshua tree woodland; and Nevada joint fir-Anderson's boxthorn-spiny hop sage scrub. Table 4.3-6 summarizes the maximum direct impacts to sensitive vegetation communities under the previously approved project. Mitigation measures were identified and were found to reduce impacts to below a level of significance.

Table 4.3-6. Approved Project Impacts to Sensitive Vegetation Communities

Sensitive Vegetation Community	State Ranking ¹	Existing Impacts (acres)	Temporary Impacts (acres)	Total Impacts (acres)
Acton's and Virgin River brittle brush-net-veined goldeneye	S3	0.01	0.00	0.01
Fremont's smokebush-Nevada smokebush scrub	S3	0.02	0.13	0.15
Fremont cottonwood forest and woodland	S3	0.00	0.00	0.00
Joshua tree woodland	S3	26.41	38.37	64.78
Nevada joint fir-Anderson's boxthorn-spiny hop sage scrub	S3S4	2.97	0.09	3.06
Total²		29.42	38.59	68.01

Notes:

- ¹ The conservation status of a vegetation community is designated by a number from 1 to 5, preceded by a letter reflecting the appropriate geographic scale of the assessment (S = subnational). The numbers have the following meaning (NatureServe 2024): 3 = vulnerable to extirpation or extinction 4 = apparently secure.
- ² Total acreages may not sum exactly due to rounding.

Revised Project Impact Analysis

The revised project area overlaps with 13 natural vegetation communities and 5 unvegetated or developed land cover types, of which there are 5 sensitive vegetation communities: Acton's and Virgin River brittlebush-net-veined goldeneye scrub; Death Valley joint fir scrub; Fremont's smokebush-Nevada smokebush scrub; Joshua tree woodland; and Nevada joint fir-Anderson's boxthorn-spiny hop sage scrub. Table 4.3-7 summarizes the maximum direct impacts to sensitive vegetation communities under the revised project.

Table 4.3-7. Revised Project Impacts to Sensitive Vegetation Communities

Sensitive Vegetation Community	State Ranking ¹	Permanent Impacts (acres)	Temporary Impacts (acres)	Total Impacts (acres)
Acton's and Virgin River brittlebush-net-veined goldeneye scrub (<i>Encelia (actoni, virginensis)-Viguiera reticulata</i> Shrubland Alliance)	S3	0.10	0.65	0.75
Death Valley joint fir scrub (<i>Ephedra funerea</i> Shrubland Alliance)	S3	0.13	0.64	0.76
Fremont's smokebush-Nevada smokebush scrub (<i>Psorothamnus fremontii-Psorothamnus polydenius</i> Shrubland Alliance)	S3	0.01	0.39	0.40
Joshua tree woodland (<i>Yucca brevifolia</i> Woodland Alliance)	S3	42.48	256.3	298.78
Nevada joint fir-Anderson's boxthorn-spiny hop sage scrub (<i>Ephedra nevadensis-Lycium andersonii-Grayia spinosa</i> Shrubland Alliance)	S3S4	4.80	29.45	34.25
Total²		47.52	287.44	334.96

Notes:

- ¹ The conservation status of a vegetation community is designated by a number from 1 to 5, preceded by a letter reflecting the appropriate geographic scale of the assessment (S = subnational). The numbers have the following meaning (NatureServe 2024): 3 = vulnerable to extirpation or extinction 4 = apparently secure.
- ² Total acreages may not sum exactly due to rounding.

Impacts to sensitive natural communities may result from vegetation removal and grading associated with establishment of construction work areas. Although expected to be small and localized, impacts could include the alteration of soils, topography, and/or vegetation, and ultimately the character and quality of a given sensitive natural community. Some sensitive natural communities are associated with water features, and impacts could change the ecological functions of these water features. Surface-disturbing activities can also result in indirect effects through increasing the opportunities for introduction of invasive non-native plant species that may degrade sensitive natural communities. Erosion and sedimentation from project activities may also degrade adjacent sensitive communities.

Revised project activities have the potential to result in a maximum of 47.52 acres of permanent impacts and 287.44 acres of temporary impacts to sensitive natural communities, which would be significant absent mitigation. Biological monitoring would be required by MM-BIO-3 and impact boundaries would be demarcated per MM-BIO-5. Additionally, these sensitive resources would be discussed during the education program required in MM-BIO-4. Furthermore, MM-BIO-17 (Compensatory Mitigation for Special-Status Vegetation Communities) requires compensatory mitigation at a 1:1 ratio for impacts to special-status vegetation communities. Upon implementation with MM-BIO-3, MM-BIO-4, MM-BIO-5, and MM-BIO-17, impacts to riparian habitat or other sensitive natural communities would be less than significant.

Revised Project Impact Analysis Conclusions

Under the revised project, the impact would increase, resulting in a 62% increase in impacts to sensitive vegetation communities when compared to those of the approved project. However, MM-BIO-3, MM-BIO-4, MM-BIO-5, and MM-BIO-17 from the certified EIR remain applicable, generally without revisions. Upon implementation of mitigation measures MM-BIO-3, MM-BIO-4, MM-BIO-5, and MM-BIO-17, the revised project's potentially significant impacts to sensitive vegetation communities would be reduced to less than significant. The revised project would thus not result in a new significant impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Threshold BIO-3: Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Summary of the Certified 2024 EIR Findings

The approved project area was found to contain a total of 269.42 acres of potential non-wetland waters of the U.S. subject to regulation by USACE and the RWQCB; 1,359.99 acres of non-wetland "isolated" waters of the state subject to regulation by the RWQCB only; and 1,757.60 acres of streambeds and riparian habitat subject to regulation by CDFW. Mitigation measures were identified and were found to reduce impacts to below a level of significance.

Revised Project Impact Analysis

The revised project will adhere to MM-BIO-18 that was provided in the 2024 EIR for the approved project, requiring that direct impacts to protected wetlands be trued up/calculated after final project design and implementation. Direct impacts would occur from vegetation removal, grading, vehicle access, blasting, and erosion generated by the project. The revised project's potential direct impacts to jurisdictional waters and wetlands would be significant absent mitigation.

Permits would be required from each of the regulatory agencies and entail providing mitigation to offset the impacts and loss of beneficial uses, functions, and values to the jurisdictional waters and habitats. MM-BIO-18 (Aquatic Resources Mitigation) would require obtaining permits from each of the regulatory agencies with jurisdiction over waters and riverine and lake features (expected to be RWQCB and CDFW). The measure also provides minimization measures to maintain water quality and habitat integrity, which would be implemented alongside conditions for the Construction General Permit and associated Stormwater Pollution Prevention Plan that would be required for the project. Moreover, required implementation of MM-BIO-2, MM-BIO-3, MM-BIO-4, MM-BIO-5, and BMPs would ensure that indirect impacts are reduced to less than significant. Upon implementation of MM-BIO-2, MM-BIO-3, MM-BIO-4, MM-BIO-5, and MM-BIO-18, the revised project's impacts to state or federally protected wetlands would be reduced to less than significant.

Revised Project Impact Analysis Conclusions

Under the revised project, the impact is anticipated to increase when compared to the approved project based on expanded ground disturbance. However, MM-BIO-2, MM-BIO-3, MM-BIO-4, MM-BIO-5, and MM-BIO-18 from the certified EIR remain applicable, generally without revisions. Upon implementation of mitigation measures MM-BIO-3, MM-BIO-4, MM-BIO-5, and MM-BIO-18, the revised project's potentially significant impacts to wetlands would be reduced to less than significant. The revised project would thus not result in a new significant impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Threshold BIO-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Summary of the Certified 2024 EIR Findings

The approved project area crosses two essential connectivity areas: Mid Hills/Ivanpah Valley/New York Mountains/Calico Mountains Essential Connectivity Area; and San Bernardino Mountains/Calico Mountains Essential Connectivity Area. However, impacts for the approved project were determined to be less than significant based on the small, short term, localized, and dispersed nature of the approved project's activities when compared with the larger open spaces in the vicinity.

Revised Project Impact Analysis

The revised project crosses the same essential connectivity areas as the approved project. Impacts to native wildlife movement may result from temporary disturbance in areas that have been previously disturbed, such as the existing ROW and existing access roads. These wildlife corridors would also support stopover habitat for migratory birds that utilize the Pacific Flyway or Audubon Important Birds Areas within or near the project (Audubon 2026). In addition, most of the work locations for the revised project support natural vegetation communities and are located within sparsely developed to almost completely undeveloped areas that would provide live-in habitat for wildlife and allow for wildlife movement to nearby undeveloped natural spaces.

The removal and construction of new transmission facilities, presence of construction equipment and personnel, and associated noise could divert wildlife using linkages. However, as with the approved project, most revised project activities would remain relatively small, short term, and localized as compared with the large open spaces that surround the Project Area as well as the size of each linkage area. Overall, project activities would be temporary at any location throughout the project, and wildlife would be able to use temporary construction areas freely after

work crews are gone. Since the revised project is dispersed and occurring within an existing transmission line ROW, typical construction methods would not impede wildlife movement over a large area at any one time. Most work areas would remain unfenced during and after construction, with the exception of staging areas and/or material yards, some of which may be fenced. Furthermore, incorporation of mitigation measures addressing impacts to wildlife would reduce the amount of disturbance to linkage habitat while also protecting species actively moving through the Project Area.

Therefore, the revised project would not interfere substantially with the movement of fish and wildlife species through the Project Area; any effects would be less than significant.

Revised Project Impact Analysis Conclusions

Under the revised project, the impact would remain the same as the approved project. The revised project would thus not result in a new significant impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Threshold BIO-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Summary of the Certified 2024 EIR Findings

The approved project was subject to the San Bernardino County Countywide Plan and County Policy Plan, San Bernardino Development Code, the City of Victorville General Plan, City of Victorville Municipal Code, Town of Apple Valley Multi-Species Conservation Plan MSHCP/NCCP, and the CDNPA. Impacts were determined to be less than significant with mitigation incorporated.

Revised Project Impact Analysis

The revised project would be subject to the same local policies and ordinances as identified above for the approved project. Western Joshua tree and California desert native plants are still the only biological resources protected under these ordinances and policies present within the revised Project Area. With implementation of MM-BIO-1 and MM-BIO-11, the revised project would maintain consistency with local policies and ordinances protecting biological resources.

Revised Project Impact Analysis Conclusions

Under the revised project, the impact would remain the same as the approved project. MM-BIO-1 and MM-BIO-11 from the certified EIR remain applicable without revisions, with the exception of additional plants species added based upon subsequent surveys. Upon implementation of mitigation measures MM-BIO-1 and MM-BIO-11, the revised project's potentially significant impacts relative to conflicts with local policies and ordinances would be reduced to less than significant. The revised project would thus not result in a new significant impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Threshold BIO-6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Summary of the Certified 2024 EIR Findings

The approved project is located within the boundaries the DRECP. Impacts were determined to be less than significant with mitigation incorporated.

Revised Project Impact Analysis

The revised project still occurs within the boundaries of the DRECP. The DRECP establishes mitigation and habitat compensation ratios for project impacts that would occur within designated ACEC units (including habitat linkage ACECs), California Desert NCL units, non-ACEC areas, and critical habitat areas.

The BLM DRECP LUPA identifies disturbance caps for each ACEC and NCL unit. Disturbance caps are a limitation on cumulative (past and present) ground disturbance activities allowable in each unit under the LUPA. Projects/activities that result in ground disturbance in units that are cumulatively below their disturbance cap require no additional disturbance mitigation, whereas projects/activities that result in ground disturbance in units that are cumulatively at or above their disturbance cap require ground disturbance mitigation. Ground disturbance impacts within units over the cap would require mitigation at a ratio of 3-to-1; mitigation for impacts within overlapping ACEC/NCL units are not double counted. Where ground disturbance impacts within units over the cap co-occur with impacts to other resources that require mitigation (i.e., desert tortoise critical habitat), the higher mitigation ratio applies and the mitigation is assumed to be nested (i.e., mitigation for desert tortoise critical habitat would also fulfill the ground disturbance mitigation). MM-BIO-19 (Ground Disturbance Mitigation) requires compensatory mitigation for impacts to ACEC and NCL units at a 3-to-1 ratio in accordance with the LUPA, and MM-BIO-6 requires compensatory mitigation for impacts to desert tortoise habitat at a 5-to-1 ratio as required by the LUPA. MM-BIO-6 also requires implementation of LUPA-wide Conservation Management Action (CMA) measures for desert tortoise. Upon incorporation of MM-BIO-6 and MM-BIO-19, the project would not conflict with provisions of the DRECP.

The BLM also has two adopted land use plans that provide specifications for biological resource protection that apply to the Project Area. These are the WEMO and the Northern and Eastern Mojave Desert Management Plan (NEMO).

The WEMO Plan identifies take-avoidance measures to be implemented for protection of species and habitat within designated management areas, such as Desert Wildlife Management Areas, as well as outside designated areas. These avoidance measures apply to siting new ROWs, as well as operation and maintenance activities. Examples of avoidance measures include requiring tortoise surveys to be conducted prior to ground disturbance (intensity varying from one designated area to another), establishing criteria for environmental monitors overseeing ground-disturbing activities, limiting project activities to existing access roads, and other BMPs to be implemented during construction. BMPs and take-avoidance measures consistent with the WEMO Plan have been integrated into the project as design features or as mitigation measures. Upon implementation of MM-BIO-2, MM-BIO-3, MM-BIO-4, MM-BIO-5, and MM-BIO-6, pre-construction surveys, take avoidance measures, biological monitoring, and compensatory mitigation would occur. These measures would ensure consistency with the WEMO Plan, and impacts would be less than significant with mitigation incorporated.

The NEMO plan addresses recovery of the desert tortoise and management of a few additional species of concern on public lands. The NEMO Plan states that existing utility corridors will be retained, and new utilities will be placed within them. Cumulative new surface-disturbing projects on BLM lands in each tortoise Desert Wildlife Management Area are required to be limited to 1% of BLM lands in that area, and no new access roads are allowed in Desert Wildlife Management Areas. The size of each project is required to be minimized, and other standard mitigation measures apply to limit impacts. The project would comply with these goals, as project impacts would only occur within an existing ROW and within the footprints of existing facilities and access roads.

The project occurs within the Town of Apple Valley Multi-Species Conservation Plan MSHCP/NCCP; however, a draft MSHCP/NCCP has not been prepared and conservation strategies have not been identified. Therefore, project activities would not conflict with the provisions of any adopted HCP, NCCP, or other approved local, regional, or state HCP, including the DRECP, the WEMO Plan, or the NEMO Plan.

Upon implementation of MM-BIO-2, MM-BIO-3, MM-BIO-4, MM-BIO-5, MM-BIO-6, and MM-BIO-19, the revised project would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP. Therefore, impacts would be less than significant with mitigation incorporated.

Revised Project Impact Analysis Conclusions

Under the revised project, the impact would be similar to the approved project but would increase in size based on the increased disturbance areas. MM-BIO-2, MM-BIO-3, MM-BIO-4, MM-BIO-5, MM-BIO-6, and MM-BIO-19 from the certified EIR remain applicable with limited revisions. MM-BIO-6 was revised since protocol surveys for desert tortoise were conducted. Upon implementation of MM-BIO-2, MM-BIO-3, MM-BIO-4, MM-BIO-5, MM-BIO-6, and MM-BIO-19, the revised project would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP. The revised project would thus not result in a new significant impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

4.3.5 Mitigation Measures

MM-BIO-1 **Western Joshua Tree Census, Permitting, and Avoidance.** LADWP shall implement the mitigation measure below.

Western Joshua Tree Conservation Act Census. In sections of the Project Area within which western Joshua tree has been documented (i.e., between MCV1_156-1 and MCV2_155-1 to the Victorville Switching Station), an individual stem or trunk of western Joshua tree including dead trees must be mapped by a certified arborist who shall conduct a census within the Project Area and a 50-foot buffer (census area) per the Western Joshua Tree Conservation Act census instructions. The certified arborist shall systematically search the entire census area using parallel transects for all western Joshua trees and their locations using high-accuracy (<1-meter [approximately 3-foot]) GPS technology. Additionally, the size class of each tree must be determined based on measurement methods described in the census instructions (i.e., from the middle of the base of the trunk to the top of the leaf that is furthest away from the base for the entire path of growth of the tree). The western Joshua tree height classes are defined as follows: Size Class A = 0–1 meter in height; Class B = 1 meter or greater but less than 5 meters in height; and Class C = 5 meters or greater in height. Other data must be gathered in accordance with the census instructions, which include but are not limited to tree maturity, presence of flowers and/or fruit, and photos of each stem. The certified arborist shall make written recommendations to the California Department of

Fish and Wildlife (CDFW) regarding western Joshua tree relocation in consideration of the Western Joshua Tree Relocation Guidelines and Protocols and shall include:

- Number of trees to be lethally taken (greater than 20 trees removed);
- Area of impacted western Joshua tree habitat within a project site (greater than 20 acres impacts);
- Avoidance and minimization measures proposed by LADWP to reduce project impacts to western Joshua tree;
- Quality of habitat on, and adjacent to, the project site (e.g., ecologically core or intact);
- Overall population health on the project site (e.g., declining versus stable or increasing);
- Whether the project is within predicted climate refugia for western Joshua tree;
- Extent of permanent project impacts;
- Density of clonal growth; and
- Anticipated temporal impacts of a project including operation or maintenance activities, where applicable.

Western Joshua Tree Conservation Act Permitting. If it is determined that certain western Joshua tree individuals cannot be avoided, LADWP shall apply for a Western Joshua Tree Conservation Act Incidental Take Permit (ITP) by which mitigation for take of western Joshua trees would be fulfilled through payment of the elected fees as described in California Fish and Game Code Section 1927.3 and relocation efforts deemed appropriate by CDFW pursuant to Section 1927.3, subdivision (a)(4)(A) of the California Fish and Game Code. In conformance with the reduced fee schedule prescribed for the Project Area, mitigation will consist of payment of \$1,000 for each western Joshua tree five meters or greater in height, \$200 for each western Joshua tree less than five meters but greater than 1 meter in height; and \$150 for each western Joshua tree less than 1 meter in height.

Other local regulations (i.e., City of Victorville Municipal Code, Chapter 13.33 and San Bernardino County Development Code, Chapter 88.01) also require permitting or notification prior to removal of western Joshua trees. Therefore, the project must also receive written consent from the City of Victorville's Director of Parks and Recreation prior to the removal or relocation of western Joshua trees located within the City of Victorville in accordance with City of Victorville Municipal Code, Chapter 13.33, Preservation and Removal of Joshua Trees. Additionally, the LADWP shall submit an application for a Tree or Plant Removal Permit for all western Joshua trees to be removed within unincorporated areas of San Bernardino County in accordance with San Bernardino County Development Code Chapter 88.01.050.

Western Joshua Tree Avoidance. To ensure avoidance of western Joshua trees to be preserved in place, all western Joshua trees within the census area (Project Area between MCV1_156-1 and MCV2_155-1 to the Victorville Switching Station and a 50-foot buffer) for which a permit has not been attained must be clearly marked in the field prior to the start of construction.

MM-BIO-2 **Authorized Biologist Authority.** The Authorized biologist(s) or biological monitor(s) shall have authority and obligation, to immediately stop any activity by a project proponent, LADWP staff, contractor, or subcontractor that does not comply with biological mitigation measures and/or to

order any reasonable measure to avoid the unauthorized take of Mojave desert tortoise, Mohave ground squirrel, western Joshua tree, bighorn sheep, desert kit fox, burrowing owl, golden eagle, or other sensitive biological resources. The authorized biologist shall coordinate with the LADWP construction manager and environmental project manager if a stop work order is directed.

MM-BIO-3 Biological Monitoring. At minimum, biological monitoring shall include the following tasks and responsibilities:

- The Authorized biologist(s) and/or monitor(s) shall be on site daily during project activities to conduct compliance inspections to prevent unauthorized take of Mojave desert tortoise, Mohave ground squirrel, and western Joshua tree, bighorn sheep, desert kit fox, burrowing owl, or golden eagle.
- Enforcement of biological mitigation measures, permit conditions, and protective measures associated with project approvals.
- Ensure that signs, stakes, and fencing are intact.
- Ensure that project activities are only occurring within the direct impact footprint.
- Inspect all open holes and trenches daily and just prior to back-filling or covering. At the end of each workday, LADWP or its construction contractor shall place an escape ramp at each end of trenches to allow any animals that may have become trapped in the hole or trench to climb out overnight. The ramp may be constructed of either dirt fill or wood planking or other suitable material that is placed at an angle no greater than 30 degrees. If any worker discovers that special-status wildlife has become trapped, they shall notify the LADWP construction manager and environmental project manager immediately, and LADWP shall halt the project activity and notify the Authorized biologist(s) or biological monitor(s) immediately. Project workers and the Authorized biologist(s) or biological monitor(s) shall allow the individual to escape unimpeded if possible, or an appropriately permitted biologist may move the individual out of harm's way before allowing work to continue.
- Conduct pre-construction sweeps in areas with suitable habitat to support special-status wildlife. Supervise and conduct regular spot checks during vegetation clearing, grubbing, and grading. If permits are not necessary to handle or harass the species, flush or move wildlife from work areas ahead of ground disturbance activities during pre-construction sweeps.
- If slow-moving and/or fossorial special-status species that do not easily flush are detected in the work area, a biologist possessing an appropriate California scientific collecting permit to handle special-status species will capture and relocate individuals to nearby undisturbed areas with suitable habitat outside of the construction area, but as close to their origin as possible. All wildlife moved during project activities shall be documented by the biologist on site.
- Periodically monitor the construction site to see that dust is minimized. If the Authorized biologist or biological monitor determines that dust is adversely affecting special-status species, the Authorized biologist or biological monitor shall require the construction personnel to implement best available control measures to reduce dust. Examples of such best available control measures include periodic watering of work areas, application of environmentally safe soil stabilization materials, and/or roll compaction (also required by MM-AQ-1 [Fugitive Dust Controls]).

MM-BIO-4 Education Program. LADWP shall conduct an education program prior to all project activities for all employees, agents, or contractors that will be working on behalf of the LADWP in the Project Area. The education program shall include a discussion of the biology and general behavior of desert tortoise and Mohave ground squirrel and the biology of western Joshua tree; information about the distribution and habitat needs of these species; sensitivity of these species to human activity; the legal status of these species under CESA, including their protected status, recovery efforts, penalties for violations; and project-specific protective measures detailed in ITPs. The education program shall consist of an in-person presentation from the Authorized Biologist or Biological Monitor and/or a digital presentation that can be accessed in the field via cellular phones, tablets, laptop computers, and/or similar portable devices. LADWP shall prepare and distribute wallet-sized cards or a fact sheet handout (hard copy or digital) detailing the information presented during the education program for workers to carry in the Project Area. In addition, a tail-gate presentation prior to surface-disturbing project activities shall also be presented by the Authorized Biologist or Biological Monitor prior to the start of any project-specific activities to identify specific on-site resources identified for avoidance during pre-activity surveys. For the education program and each tailgate presentation, LADWP shall provide interpretation for non-English speaking workers, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project Area. Upon completion of the program and after each tail-gate presentation, employees shall sign a form (hard-copy or digital) stating they attended the program and presentation and understand all protection measures. The form shall be made available to CDFW upon request. The program shall:

- Be developed by or in consultation with the Authorized Biologist and consist of an on-site presentation with supporting written material and/or electronic media, including photographs of special-status species, available to all participants.
- Provide an explanation of the function of flagging that designates authorized work areas or resources marked for avoidance and specify the prohibition of soil disturbance or vehicle travel outside designated areas.
- Discuss general safety protocols such as vehicle speed limits (15 miles per hour), hazardous substance spill prevention and containment measures, and fire prevention and protection measures.
- Review avoidance, minimization, and mitigation requirements.
- Explain the sensitivity of the vegetation and habitat within and adjacent to work areas and proper identification of these resources.
- Discuss the relevant policies and plans, and the consequences of non-compliance with these acts and/or any permit conditions.
- Discuss the locations and types of special-status resources in the Project Area and adjacent areas and explain the reasons for protecting these resources.
- Inform participants that no snakes, other reptiles, mammals, birds, bats, or any other wildlife will be harmed or harassed.
- Place special emphasis on special-status plant and wildlife species that are known to occur in the Project Area.
- Provide contact information for the Authorized Biologist and instructions for notification of any vehicle-wildlife collisions or dead or injured wildlife species encountered during project activities.

MM-BIO-5 **Delineation of Impact Boundaries.** Before beginning activities that will cause impacts, the contractor shall clearly delineate work area boundaries with fencing, stakes, or flags within which the impacts will take place, and in consultation with the Authorized biologist, mark or delineate where sensitive biological resources occur within the impact footprint if being avoided. All impacts outside the fenced, staked, or flagged areas shall be avoided, and all fencing, stakes, and flags shall be maintained until the completion of impacts in that area. LADWP shall avoid direct impacts to vegetation within the Mojave River corridor.

MM-BIO-6 **Desert Tortoise Permitting.** LADWP shall obtain an Incidental Take Permit (ITP) for potential take of desert tortoise prior to impacting undisturbed desert tortoise habitat.

Desert Tortoise Take Authorization. LADWP shall obtain take authorization federally with USFWS through Section 7 consultation or Section 10 permitting, and with the state through a California Fish and Game Code Section 2080.1 consistency determination or Section 2081 ITP from CDFW. Upon project implementation, LADWP shall adhere to any additional measures and conditions that USFWS and/or CDFW may require in the applicable take authorizations. No take of desert tortoise shall occur without authorization from USFWS and CDFW pursuant to the federal Endangered Species Act and California Endangered Species Act.

Desert Tortoise Compensatory Mitigation. LADWP will coordinate with USFWS and CDFW to determine what portions of the project would be considered occupied desert tortoise habitat based on survey results. LADWP shall provide compensatory mitigation as determined through the consultation and permitting processes with BLM, USFWS and CDFW. At minimum, LADWP shall provide compensatory mitigation for impacts to desert tortoise critical habitat in accordance with the requirements outlined in the Bureau of Land Management's Desert Renewable Energy Conservation Plan Land Use Plan Amendment (BLM DRECP LUPA). Where impacts to desert tortoise critical habitat co-occur within ground disturbance impacts within Areas of Critical Environmental Concern (ACEC) and California Desert National Conservation Lands (NCL) units that are cumulatively over their respective disturbance caps, the higher mitigation ratio applies, and the implemented mitigation is nested (mitigation for desert tortoise critical habitat fulfills the ground disturbance mitigation that is required). Compensatory mitigation shall be implemented consistent with the BLM DRECP and conditions set forth in USFWS and/or CDFW take authorizations. LADWP shall complete the required compensation in accordance with the LUPA Conservation Management Action (CMA) measure for timing of compensation activities for third party actions (LUPA-COMP-1).

In addition, as outlined in the LUPA, LUPA-wide CMA measures for desert tortoise shall be implemented (LUPA-BIO-IFS-1 through LUPA BIO-IFS-9). CMAs specific to impacts within ACEC areas shall be implemented in accordance with Section 11.4.2.3 Ecological and Cultural Conservation of the LUPA.

In addition to the measures outlined in the DRECP LUPA, the following protective measures shall also be implemented:

- LADWP shall provide a sufficient number of biological monitors who are authorized by the USFWS and the CDFW to handle desert tortoises to provide adequate coverage for the active work crews.

- Preconstruction surveys for desert tortoise shall be conducted for each work area prior to any ground disturbance. All work areas shall be cleared by an authorized biologist within 48 hours of the onset of construction at any work location.
- To prevent inadvertent entrapment of tortoise or other wildlife during construction, all excavated, steep-walled holes or trenches shall be covered with tarp, plywood or similar materials at the close of each working day to prevent animals from being trapped. Ramps shall be constructed of earth fill or wooden planks within deep walled trenches to allow for animals to escape, if necessary. Before such holes or trenches are backfilled, they shall be thoroughly inspected for trapped animals. Any wildlife observed shall be removed prior to backfilling.
- Tortoise handling shall be prohibited except by an authorized biologist or a biological monitor who is working under the direct supervision of an authorized biologist and only when it is necessary to do so. Should it be necessary to handle a tortoise, the authorized biologist or trainee shall do so using the techniques outlined in the most current version of the Desert Tortoise Field Manual produced by USFWS.
- All access roads not required for construction activities shall be avoided.
- Vehicles shall not exceed a speed of 15 miles per hour in desert tortoise habitat.
- Overnight parking and storage of equipment and material shall be restricted to previously disturbed areas (i.e., access roads and other disturbed areas lacking vegetation). These areas shall be marked by the biological monitor. If previously disturbed areas are not available, these activities shall be restricted to the right-of-way and shall be cleared of desert tortoises by the biological monitor prior to use.
- Within desert tortoise habitat, workers shall limit their activities and equipment to construction areas and routes of travel that have been flagged to eliminate adverse impacts to desert tortoises and their habitat. Cross-country travel is prohibited. All workers shall be instructed of this requirement.
- During proposed activities, construction personnel shall immediately report any sightings of desert tortoises within the construction zone to the biological monitor.
- Trash and food items shall be removed daily or placed in raven-proof containers.
- Within 30 days following completion of project activities, LADWP and the authorized biologist shall prepare a report that includes the following:
 - All tortoises encountered or moved
 - Any tortoise that was injured or killed or found dead by project personnel
 - The practical application of these proposed mitigation measures and any measures that may further the protection of the tortoise during future projects
 - A total of acreage disturbed by jurisdiction
 - Site photos

MM-BIO-7 Mohave Ground Squirrel Permitting. For project activities taking place in the range of Mohave ground squirrel, a permitted biologist shall develop a relocation plan for the areas assessed as highly suitable habitat and may conduct protocol level trapping surveys to determine presence. The relocation plan will be submitted to CDFW for approval prior to implementation.

Mohave Ground Squirrel Incidental Take Permit. LADWP shall acquire an ITP from CDFW for the species prior to the start of project activities in areas where the habitat assessment has determined that suitable habitat is present and animals likely occur or for areas where occupancy has been confirmed. Upon project implementation, LADWP shall adhere to any additional measures and conditions set forth within the ITP. No take of Mohave ground squirrel shall occur without authorization in the form of an ITP pursuant to California Fish and Game Code Section 2081.

Mohave Ground Squirrel Compensatory Mitigation. LADWP will coordinate with CDFW to determine what portions of the project would be considered occupied Mohave ground squirrel habitat based on survey results. LADWP shall provide compensatory mitigation as determined through the ITP process. Where impacts to Mohave ground-squirrel occupied habitat co-occur within ground disturbance impacts within ACEC and NCL units that are cumulatively over their respective disturbance caps, the higher mitigation ratio applies, and the implemented mitigation is nested (mitigation for Mohave ground-squirrel occupied habitat fulfills the ground disturbance mitigation that is required). Compensatory mitigation shall be implemented in consistency with the BLM DRECP LUPA and the ITP.

MM-BIO-8 Pre-construction Surveys for Least Bell's Vireo. Prior to project activities, LADWP will conduct pre-construction surveys for least Bell's vireo in riparian habitat along the Mojave River located within 500 feet of the Project Area if Project activities commence in that area between April 10 and July 31.

Prior to the start of construction, LADWP shall have a permitted or qualified biologist, as applicable, conduct three focused surveys for least Bell's vireo using the USFWS' 2001 Least Bell's Vireo Survey Guidelines survey methodology. The surveys will be conducted 28, 14, and 3 days prior to the start of construction. If a survey determines presence of least Bell's vireo, LADWP shall avoid project activities within 500 feet of the occupied habitat during the species' breeding season (April 10 through July 31). The buffer will be removed when the permitted or qualified biologist determines that the nest is no longer active.

MM-BIO-9 Nesting Bird Surveys and Avoidance. If project activities take place during the avian nesting season, a preconstruction clearance survey shall be conducted by qualified biologists in areas of suitable nesting habitat, to ensure direct or incidental take does not occur during project activities. A Nesting Bird Plan will be prepared that will include the methodology for the surveys and the nest buffers for the species expected based upon the project activity occurring. The plan will be submitted to CDFW for approval.

Surveys for raptor nests shall focus on potential nesting sites (e.g., cliffs, transmission line structures) within a 500-foot buffer around the work areas; and surveys for nesting passerines shall be conducted within 200 feet of the work areas. The clearance survey shall take place no more than 7 days prior to the commencement of project activities and may occur in conjunction with on-site monitoring for other sensitive wildlife species.

If active nests containing eggs or young are found during the clearance survey, an adequate buffer area will be established by a biological monitor, within which no construction will occur to protect the active nest during the duration of the project. LADWP shall have a qualified avian biologist document species, baseline behavior, stage of reproduction, and existing site conditions including vertical and horizontal distances from proposed work areas, visual or acoustic barriers, and existing level of disturbance to avoid impacts to nesting birds, eggs, and nests, as set forth in the approved Nesting Bird Plan. The biologist shall establish an appropriate nest buffer based on the Nesting Bird Plan. The on-site biologist shall increase buffer sizes as needed if nesting individuals show signs of disturbance. The buffer zone may be decreased, at the biologist's discretion, based on the individual's sensitivity to visual or audible disturbances but shall not be decreased below 300 feet for special-status avian species or raptor species. The nest buffer area shall be avoided and demarcated in the field with flagging and stakes or construction fencing. Active nests shall be monitored until the biologist has determined the young have fledged or the project is finished. The biologist has the authority to halt or stop work if nesting individuals exhibit signs of disturbance. Established buffers shall remain until the biologist determines whether the young have fledged or the nest is no longer active, or until project activities cease.

MM-BIO-10 **Crotch's Bumble Bee Incidental Take Permit and Surveys and Avoidance.** During candidacy or if Crotch's bumble bee is listed under CESA, LADWP shall implement the mitigation measure below.

Incidental Take Permit. LADWP shall consult with the California Department of Fish and Wildlife on obtaining an Incidental Take Permit (ITP), per California Fish and Game Code 2081, for the take of Crotch's bumble bee. The Applicant shall provide the County with a copy of the ITP, or proof that an ITP is not required. Mitigation for impacts to Crotch's bumble bee shall be fulfilled through compensatory mitigation at a minimum of 1:1 habitat replacement of equal or better functions and values to those impacted by the project, or as otherwise determined through the ITP process. LADWP shall be obligated to implement all minimization and avoidance measures conditions that are included in the ITP.

Pre-Construction Surveys. For project activities that commence between April 1 and August 31 in areas that were assessed as having potential for Crotch's bumble bee nests, as determined during the focused surveys, pre-construction surveys will be conducted. Surveys will be conducted using the same methodology as the focused surveys, but only one survey will be conducted within seven days of the commencement of activities. If nest resources occupied by Crotch's bumble bee are detected within the construction area, no construction activities shall occur within 50 feet of the nest or a different buffer as determined by a qualified biologist through evaluation of topographic features or distribution of floral resources. The buffer will be staked and the Authorized biologist(s) and/or monitor(s) will monitor the buffer and nest and include information about both in their monitoring forms. The buffer will be removed when the qualified biologist deems the nest to be inactive.

- MM-BIO-11 Pre-Construction Surveys and Avoidance and Minimization Measures for Special-Status Plants. Prior to project activities, LADWP shall conduct focused surveys and apply avoidance and minimization measures for special-status plants as outlined in the mitigation measure below.

Pre-Construction Special-Status Plant Surveys. Pre-construction surveys shall be conducted within impact areas where special-status plant species have been recorded or have a moderate or high potential to occur. The surveys shall occur prior to construction and, if feasible, shall be conducted during a period when the target species would be observable and identifiable (e.g., blooming period for annuals). Surveys shall be conducted by qualified biologists according to the CNPS' 2001 Botanical Survey Guidelines; CDFW's 2018 Protocols for Surveying and Evaluating Impacts to Special Status Native Populations and Natural Communities; and USFWS' 2002 General Rare Plant Survey Guidelines.

Avoidance and Minimization. If special-status plant species are detected during focused survey efforts described above, the full extent of the occurrence within the area shall be recorded. The location of each special-status plant occurrence shall be mapped and number of individuals for each occurrence documented. If feasible, the following measures shall be implemented:

- Special-status plants in the vicinity of the disturbance will be temporarily fenced or prominently flagged and a buffer established around the populations to prevent inadvertent encroachment by vehicles and equipment during the activity;
- Viviparous foxtail cactus, Parish's club-cholla, and any other special-status cacti found during the surveys will be salvaged and relocated to unimpacted portions of the right-of-way.
- When feasible, seeds will be collected from desert pincushion, Rusby's desert mallow, and any other special-status annuals or perennials found during the surveys and stored in appropriate storage conditions (e.g., cool and dry), and dispersed/transplanted following the construction activity and reapplication of salvaged topsoil; and
- Where feasible, the top 6 inches of topsoil will be salvaged, stockpiled, and replaced as soon as practicable after project completion. Soil stockpiles shall be stabilized, consistent with the project's Stormwater Pollution Prevention Plan. The salvaged topsoil shall be redistributed and contoured to blend with surrounding grades.

In the event that a federally or state-listed plant is observed during focused survey, LADWP shall consult with the applicable agency (i.e., CDFW and/or USFWS) and obtain written concurrence for measures required for federally or state-listed plant species, if observed.

- MM-BIO-12 Relocation of Desert Native Plants. If required, LADWP shall apply for a permit with the County of San Bernardino (County) for removal or relocation of protected native desert plants per the California Desert Native Plants Act (Food and Agricultural Code, Division 23). The permit application form shall specify information outlined in the California Desert Native Plant Act Section 80114, which includes but is not limited to, the number and species of native plants to be relocated, a description of the real property from which the plants are to be removed, the destination of the native plants, and the manner in which the plants are to be salvaged. If the County deems that relocation is necessary, then, pursuant to the California Desert Native Plants Act, tags or seals issued by the County must be attached to the native plants at the time of harvesting and before transporting to their permanent relocation site(s) and must remain attached to the plant until

transplanted into its ultimate destination. Transport of salvaged plants will occur as prescribed by the County. The following actions shall also be implemented to ensure successful relocation of desert native plants for which salvage is necessary:

- Salvaged plants shall be transplanted expeditiously to either their final on-site location or to an approved off-site area. If the plants cannot be expeditiously taken to their permanent relocation area at the time of excavation, they may be transplanted in a temporary area (stockpiled) prior to being moved to their permanent relocation site(s).
- Transplanted plants shall be watered prior to and at the time of transplantation. Watering of the transplanted plants shall continue for one year.

MM-BIO-13 **Avoidance and Minimization of Impacts to Golden Eagle.** Project activities that take place adjacent to areas where active or inactive golden eagle nests have been discovered shall be subject to the following:

- A qualified eagle biologist shall determine the nesting status of any golden eagle nest within 1 mile of any project activities. LADWP shall provide the name(s) and qualifications of each raptor biologist to the CDFW two weeks prior to project activities.
- No work shall occur within 1 mile of an active golden eagle nest, or a lesser distance determined by the qualified eagle biologist and approved by CDFW, during the breeding season (January 31 through August 31) unless a written determination which shows the nest is no longer active has been provided to and approved by the CDFW. Upon approval of a report showing an inactive nest, the CDFW may approve work within 1 mile of an eagle nest.
- If an injured golden eagle is observed within or adjacent to an active work area, all work shall immediately stop and the CDFW shall be contacted for further instructions.

MM-BIO-14 **Pre-Construction Burrowing Owl Surveys.** A pre-construction burrowing owl survey shall be completed no more than 14 days before initiation of vegetation removal or grading activities. If ground-disturbing activities are delayed or suspended for more than 30 days after the pre-construction surveys, the project work area shall be re-surveyed. If burrowing owls are located within or adjacent to an area subject to impact from a project activity, LADWP shall postpone the activity, if possible, until burrowing owls are no longer present. If postponement of impacts is not feasible due to project activity urgency, LADWP shall implement the following actions to minimize impacts.

- LADWP shall implement measures consistent with practices identified in the 2012 Staff Report to minimize potential impacts to burrowing owl. Measures may include, but are not limited to, the use of buffer zones, visual screens (e.g., hay bales monitored during the day and removed at night to prevent raptor perching; screens shall not exceed 4 feet in height and shall be at least 30 feet from active burrows), or other measures while project activities are occurring.
- Buffers will be established around occupied burrows as determined by a qualified biologist, taking into account existing vegetation, human development, and land uses in an area. The buffer zone may be increased or decreased based on the individual owl's sensitivity to visual or audible disturbances. Project activities may occur within 50 meters to 500 meters of an active burrow (based on level of disturbance). No project activities shall be allowed to encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain

in place until it is determined that occupied burrows have been vacated or the nesting season has completed

- LADWP shall make every effort to minimize impacts to occupied owl burrows.
- If LADWP proposes to relocate burrowing owls from an active burrow or if an active burrow will be impacted, a burrowing owl relocation plan shall be prepared for CDFW review and approval that will be performed outside of breeding season and after fledgling independence, and any relocation shall be subject to compensatory mitigation.
- Outside of the nesting season, passive owl relocation techniques approved by CDFW shall be implemented. Owls shall be excluded from burrows in the immediate project area and within a buffer zone if there is a threat to the surface or subterranean burrow structure by installing one-way doors in burrow entrances. These doors will be placed at least 48 hours prior to ground-disturbing activities. The project area shall be monitored daily for 1 week to confirm owl departure from burrows prior to any ground-disturbing activities. Compensatory mitigation for permanent loss of owl habitat will be provided following the guidance in the 2012 Staff Report.
- If impacts occur to an occupied burrow or if a burrowing owl relocation plan is implemented, LADWP shall provide compensatory mitigation. Compensatory mitigation shall be implemented consistent with the recommendations in the CDFW's 2012 Staff Report such that the habitat acreage, number of burrows, and burrowing owls impacted are replaced at a minimum of 1:1 in-kind habitat replacement of equal or better functions and values to those impacted by the project, or as otherwise determined through coordination with CDFW.
- If take is unavoidable, then LADWP shall obtain an ITP. In addition, LADWP shall implement compensatory mitigation such that impacted occupied areas are replaced at a minimum of 1:1 in-kind habitat replacement of equal or better functions and values to those impacted by the project, or as otherwise determined through coordination with CDFW during the ITP process. Additionally, LADWP will implement the above measures and conditions set forth in the ITP to avoid and minimize impacts to the species.

MM-BIO-15 Desert Bighorn Sheep Incidental Take Permit and Avoidance.

Incidental Take Permit. LADWP shall consult with the California Department of Fish and Wildlife on obtaining an Incidental Take Permit (ITP), per California Fish and Game Code 2081, for the take of desert bighorn sheep. The Applicant shall provide the County with a copy of the ITP, or proof that an ITP is not required. Mitigation for impacts to desert bighorn sheep shall be determined through the ITP process. LADWP shall be obligated to implement all minimization and avoidance measures conditions that are included in the ITP.

Avoidance. The following will be implemented or otherwise applied as required/stipulated by CDFW 2081 permit. CDFW has provided mapping that delineates a 1-kilometer buffer around core desert bighorn sheep habitat (referred to herein as the BHS Core Habitat Polygon), within which lambing is likely to occur during the lambing season, December 31–June 30, also called the Limited Operating Period (LOP). During the LOP, LADWP shall limit aircraft flights such that a minimum altitude above ground level (AGL) of 1,500 feet is maintained over the BHS Core Habitat Polygon. In addition, loud sounds that may startle desert bighorn sheep (e.g., blasting, pile driving) shall be avoided, such that instantaneous sound levels do not exceed 90 unweighted decibels (dBZ) as measured with calibrated equipment at the perimeter of the BHS Core Habitat Polygon.

Outside of the LOP, aircraft flights below 1,500 feet and noise exceeding 90 dBZ should be restricted to the immediate project area where the project alignment overlaps with a 1-kilometer buffer of the desert bighorn sheep range (referred to herein as the BHS Habitat Overlap Polygon).

At all times of the year, a qualified biological monitor should perform a visual survey prior to commencement of daily construction activities and before resuming activity after any cessation of work that is greater than 1 hour. If desert bighorn sheep are detected, construction activities shall immediately halt until desert bighorn sheep move more than 1 kilometer from project activity on their own accord. Monitors shall maintain the maximum feasible observation distance at all times and avoid actions that would elicit a behavioral response from desert bighorn sheep. All desert bighorn sheep observations within the BHS Habitat Overlap Polygon shall be reported, in writing, to CDFW within 24 hours of observation.

MM-BIO-16 *Special-Status Meso-Carnivore Avoidance and Minimization.* Within 14 days prior to project activities, LADWP shall have a qualified biologist conduct a pre-construction survey within planned project work areas and a 500-foot buffer to determine if active or potential desert kit fox, American badger, or ringtail dens are present. Surveys shall attain 100% visual coverage and be conducted using 10-meter (33-foot) transects (or reduced based on topography and vegetation), to determine the presence or absence of individuals, dens, and sign.

If potential desert kit fox, American badger, or ringtail dens are located, LADWP shall have a qualified wildlife biologist monitor the dens using observation and tracking material and/or trail cameras over a three (3) day period to determine the status of the den. If non-natal active dens can be avoided and buffered from project activities, the biologist shall flag a minimum 100-foot disturbance-free buffer zone. A minimum 500-foot disturbance-free buffer shall be placed around the natal den and maintained until juvenile independence is determined by the biologist. If the project requires encroaching within a 500-foot buffer, LADWP shall consult with CDFW. The biologist shall block inactive dens within the project work area or buffer zones that will not be directly impacted by project activities with rocks and sticks to discourage use. The biologist shall periodically check and ensure the inactive burrows remain blocked and are not occupied. The biologist shall remove the obstruction when project activities are complete. The biologist has the authority to halt or stop work in coordination with the LADWP construction manager and environmental project manager if individuals exhibit signs of disturbance. Established buffers shall remain until the biologist determines the young have dispersed or the den is no longer active, or until Project activities cease. If desert kit fox, American badger, or ringtail are proposed to be relocated from an active den or an active den will be impacted, an exclusion plan shall be prepared for CDFW review and approval that will be performed outside of breeding/pupping season and after juvenile dispersal. LADWP shall implement compensatory mitigation such that the habitat acreage, number of dens, and individuals impacted are replaced at a minimum of 1:1 in-kind habitat replacement of equal or better functions and values to those impacted by the project, or as otherwise determined through coordination with CDFW.

MM-BIO-17 *Compensatory Mitigation for Special-Status Vegetation Communities.* LADWP shall provide compensatory mitigation for permanent impacts to special-status vegetation communities at a minimum of 1:1 in-kind habitat replacement of equal or better functions and values to those impacted by the project, or as otherwise determined through coordination with CDFW. MM-BIO-6

and MM-BIO-19 would fulfill compensatory mitigation for special-status vegetation communities if impacts occur within an ACEC, NCL, or desert tortoise critical habitat.

MM-BIO-18 *Aquatic Resources Mitigation.* Prior to project initiation, LADWP shall coordinate with the USACE, CDFW, and RWQCB (collectively the resource agencies) to determine which of the following permits for impacts to jurisdictional aquatic resources would be required:

- USACE Section 404 Permit
- RWQCB Section 401 Water Quality Certification
- RWQCB Waste Discharge Requirements
- CDFW Section 1602 Notification of Lake or Streambed Alteration

In addition to conditions of the above applicable permits and the RWQCB Construction General Permit Coverage/SWPPP that would be acquired for the project, LADWP shall implement practices identified below to minimize adverse impacts to streams and watersheds.

- Vehicles and equipment shall not be operated in ponded or flowing water.
- LADWP shall minimize road building and vegetation clearing within ephemeral streams to the extent feasible.
- Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources resulting from project-related activities shall be prevented from contaminating the soil and/or entering ephemeral streams. LADWP shall ensure that safety precautions specified by this measure, as well as all other safety requirements of other measures and permit conditions, are followed during all phases of the project.
- No petroleum products or other pollutants from the equipment shall be allowed to enter any state or federal jurisdictional waters under any flow.
- LADWP shall ensure that project activities do not impair water flow (velocity and low flow channel width).
- No broken concrete, debris, soil, silt, sand, bark, slash, sawdust, rubbish, or other organic or earthen material from any construction or associated activity of whatever nature shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into any waters of the U.S. or state.
- Stationary equipment such as motors, pumps, generators, and welders located within or adjacent to a drainage shall be positioned over drip pans. Stationary heavy equipment shall have suitable containment to handle a catastrophic spill/leak. Clean up equipment such as brooms, absorbent pads, and skimmers shall be on site prior to the start of construction.
- The resources agencies will calculate and identify the final amount of required compensatory mitigation as provided by this measure prior to issuance of respective permits using the following criteria:
 - For any project activity that impacts a river, stream, or lake and associated fish and wildlife resources which permanently alters the physical and ecological function of the feature or installs permanent structures or materials into the areas subject to CFGC Section 1602, LADWP shall mitigate impacts to rivers, streams, or lakes at a minimum 1:1 ratio.

MM-BIO-19 **Ground Disturbance Mitigation.** LADWP shall provide ground disturbance mitigation for impacts within Areas of Critical Environmental Concern (ACEC) and California Desert National Conservation Lands (NCL) units that are cumulatively at or above their respective disturbance caps. A portion of these impacts may co-occur with impacts to desert tortoise critical habitat. Where impacts requiring mitigation co-occur, the implemented mitigation is nested. As such, mitigation for desert tortoise critical habitat, as required in MM-BIO-6, will fulfill the ground disturbance mitigation that is required for impacts in ACECs and NCLs that co-occur with impacts to desert tortoise critical habitat. LADWP shall initiate and/or complete the required compensation at a time to be determined by the BLM and in accordance with the Land Use Plan Amendment (LUPA) Conservation Management Action (CMA) measure for timing of compensation activities for third party actions (LUPA-COMP-1).

4.3.6 Significance Conclusions

- Threshold BIO-1:** The revised project could result in potentially significant impacts to species identified as a special-status species or resources in local or regional plans, policies, or regulations, or by CDFW or USFWS. Implementation of MM-BIO-1 through MM-BIO-16 is required to reduce impacts to special-status species to less-than-significant levels.
- Threshold BIO-2:** The revised project could result in potentially significant impacts to riparian habitat or other sensitive natural communities. Implementation of MM-BIO-3 through MM-BIO-5 and MM-BIO-17 is required to reduce impacts to riparian habitat or other sensitive natural communities to less-than-significant levels.
- Threshold BIO-3:** The revised project could result in potentially significant impacts to state or federally protected wetlands. Implementation of MM-BIO-2 through MM-BIO-5 and MM-BIO-18 is required to reduce impacts to state or federally protected wetlands to less-than-significant levels.
- Threshold BIO-4:** The revised project would result in a less-than-significant impact to the movement of fish and wildlife species through the Project Area. No mitigation is required.
- Threshold BIO-5:** The revised project could result in potentially significant impacts related to conflicts with local policies or ordinances protecting biological resources. Implementation of MM-BIO-1 and MM-BIO-11 is required to reduce impacts to less-than-significant levels.
- Threshold BIO-6:** The revised project could result in potentially significant impacts related to conflicts with an adopted HCP, NCCP, or other approved local, regional, or state HCP. Implementation of MM-BIO-2 through MM-BIO-6 and MM-BIO-19 is required to reduce impacts to less-than-significant levels.

4.3.7 Cumulative Effects

As required by CEQA Guidelines Section 15130, the discussion and analysis provided in this section considers whether the project's incremental effect(s) may be individually limited but cumulatively considerable. In accordance with CEQA Guidelines Section 15065(a)(3), "cumulatively considerable" means that the incremental effects of an

individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

As described in Section 4.3.4, Impact Analysis, after implementation of required mitigation measures, project activities would have a less-than-significant impact on special-status species, sensitive natural communities, and jurisdictional waters, and would not conflict with local policies or conservation plans. Impacts to native wildlife movement would be less than significant. As such, after implementation of the required project-specific mitigation outlined herein, the revised project thus would not contribute to a cumulative impact. Temporary disturbances from project activities would include vegetation clearing, soil excavation, soil stockpiling, repair work to the ROW and access roads, conductor pulling and re-tensioning, and grading at some construction work areas. Project activities would result in a minimal amount of permanent habitat disturbance. Cumulative impacts to biological resources could occur as a result of increased ground-disturbing activities by multiple projects in the region. These cumulative activities could increase the disruption of normal animal breeding, foraging, and migration behavior; the removal of suitable habitat for multiple special-status plant and wildlife species; and the degradation of jurisdictional water features.

While the revised project and other planned and proposed projects would have impacts to special-status plant species, any project within the cumulative scenario would be subject to the same permitting requirements under FESA and CESA, which are intended to avoid and minimize impacts to species, both at the project level and in a regional context. Accordingly, the incremental contribution from project activities to cumulative special-status plant species impacts, caused by other past, present, and probable future projects would not be expected to be cumulatively considerable or significant.

Although LADWP's project activities associated with operations and maintenance are not anticipated to result in increased impacts to desert tortoise from the current baseline, the ongoing activities could contribute to a cumulative impact to desert tortoise due to the extensive coverage of the project. As such, in combination with other planned and proposed projects within the region, the revised project could contribute to habitat fragmentation and degradation, removal of food and shelter resources, changes to normal behavior patterns, and attracting predator species such as ravens and coyotes. However, MM-BIO-6 requires that LADWP provide compensatory mitigation for disturbance to desert tortoise habitat, which would be on a landscape level due to the amount of mitigation that will likely be required. This landscape-level approach is more beneficial for the species than mitigating in habitat fragments on a project-by-project basis. Additionally, with incorporation of required mitigation measures listed in Section 4.3.5 into the project activities, potential direct and indirect impacts to special-status wildlife species and their habitat would be avoided and/or minimized. Other projects would likely implement similar measures. These mitigation measures would reduce the project activities' contribution to cumulative impacts. Other projects in the region would be subject to permitting and mitigation requirements under FESA and CESA, which are intended to minimize and mitigate for impacts to species, both at the project level and in a regional context. Accordingly, the incremental contribution from project activities to cumulative impacts, caused by other past, present, and probable future projects, would not be expected to be cumulatively considerable or significant after project-specific mitigation identified herein is implemented.

4.3.8 References

Audubon. 2026. "Important Bird Areas." Accessed January 2026. <https://ca.audubon.org/important-bird-areas-9>.

BLM (Bureau of Land Management). 1980. The California Desert Conservation Area Plan. 1980, as amended. Accessed June 2026. <https://ia902905.us.archive.org/9/items/californiadesert5115unit/californiadesert5115unit.pdf>.

BLM. 2016. Land Use Plan Amendment to the California Desert Conservation Plan, Bishop Resource Management Plan, and Bakersfield Resource Management Plan. BLM/CA/PL 2016/03+1793+8321. Prepared by the BLM. September 2016.

CDFW (California Department of Fish and Wildlife). 2019. A Conservation Strategy for the Mohave Ground Squirrel. Accessed June 2026. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=171301&inline>.

CDFW. 2026. State and Federally Listed Endangered and Threatened Animals of California. Accessed January 2026. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405&inline>.

County of San Bernardino. 2020. San Bernardino County Countywide Plan. Policy Plan. October 2020. Accessed January 2026. <https://countywideplan.sbcounty.gov/policy-plan/natural-resources/>.

NatureServe. 2026. NatureServe Explorer. Accessed June 2026. <https://explorer.natureserve.org>.

Town of Apple Valley. 2017. *Town of Apple Valley NCCP Planning Agreement*. March 2017.

Williams et al. 2014 – Williams, P.H., R.W. Thorp, L.L. Richardson, and S.R. Colla. The Bumble Bees of North America: An Identification Guide. Princeton University Press, Princeton, NJ.

INTENTIONALLY LEFT BLANK

4.4 Cultural Resources

This section of the Subsequent Environmental Impact Report (SEIR) describes the existing cultural resources conditions of the revised McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (revised project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the revised project, as applicable. Potential impacts of the revised project are discussed in relation to the previously approved McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (approved project), which was analyzed in the certified 2024 Environmental Impact Report (2024 EIR).

Aspen Environmental Group prepared this section of the SEIR. The information and analysis in the section are based, in part, on the following technical appendix:

- **Confidential Appendix D.** Class I Cultural Resources Record Search Report for the McCullough-Victorville Transmission Line Retrofit Project, prepared by Aspen Environmental Group, dated August 2025.

4.4.1 Existing Conditions

This section incorporates by reference the cultural resources analysis contained in the EIR for the approved project, certified in October 2024, pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15022(d).

The environmental setting, regulatory framework, and previously identified cultural resources described in Section 4.3, Cultural Resources, of the 2024 EIR remain applicable to the revised project, except as updated herein to reflect the results of the new records search conducted for the revised project footprint and an updated analysis to reflect the revised project description.

Summary of 2024 EIR Impact Analysis

The 2024 EIR evaluated potential impacts to cultural resources using significance criteria based on CEQA Guidelines Section 15064.5 and Appendix G. The analysis considered impacts on historical resources, archaeological resources, and human remains, and concluded that with implementation of adopted mitigation measures, impacts would be less than significant.

Changes in Existing Conditions Since 2024

The environmental setting of the revised project area, including the regional context, ethnographic background, and historic context, remains unchanged since the 2024 EIR.

The primary change prompting this SEIR is a modification to the project description and footprint. The physical and cultural setting of the revised project area has not changed; however, the revised project footprint required an updated records search to ensure all cultural resources within the revised project area are adequately identified and considered in the analysis.

Definitions of Project Area and Study Area

The revised project area is defined as all areas of proposed ground disturbance, such as but not limited to, access roads, spur roads, material show-up yards, staging areas, transmission tower work areas, conductor pulling and tensioning work areas, and guard structures and their associated work areas.

The study area is defined as a 1-mile buffer around the revised project area. The study area is primarily used for cultural record search purposes to gain an understanding of the anticipated site types that may occur within the revised project area.

Cultural Resources Data Collection Methodology and Results

As of the writing of this analysis, cultural resources surveys and evaluations are on-going, and the results are expected to be available in late 2026. This analysis is based on the following assumptions:

- All cultural resources identified within the revised project area (whether identified at the time of this writing or ahead of construction once final disturbance areas are determined) that are considered historical resources, unique archaeological resources under CEQA, or human remains, will be avoided.
- All revised project components, such as access roads, conductor pulling and tensioning work areas, material show-up yards, and staging areas, will be subjected to an intensive cultural resources assessment survey and study prior to construction.
- Long linear access roads that extend outside the current study area will be subject to a record search and an intensive cultural resources assessment study prior to construction, which is slated for 2027.
- Should the revised project area change, shift or increase in size, the additional footprint will be subjected to an intensive cultural resources assessment study prior to construction, which would be slated for 2027.
- Should future survey efforts identify historical resources, unique archaeological resources, or human remains within the revised project area that cannot be avoided, those resources will be managed according to the mitigation measures outlined in this SEIR.

Records Search

The following record search summary is comprehensive and includes all information obtained for both the approved project and the revised project footprint analyzed in this SEIR, ensuring that this summary provides a complete overview of cultural resources identified to date.

Between December 2023 and March 2025, Aspen Environmental Group, in coordination with the Los Angeles Department of Water and Power (LADWP) and the U.S. Department of Interior Bureau of Land Management (BLM), completed a full record search of a 1-mile buffer around the revised project footprint.

The record search identified a total of 290 previously conducted studies within the 1-mile buffer of the revised project. Of the 290 previous studies identified, 113 cross over and cover some portion of the revised project and span from 1937 to 2016.

The record search also resulted in the identification of 1,360 previously recorded cultural resources within the 1-mile buffer of the revised project, 293 of which are located within the revised project area. These resources include 110 precontact-age resources primarily consisting of lithic scatters and quarries, 140 historic-age resources primarily consisting of energy infrastructure and can scatters and dumps, 15 sites containing both precontact and historic components (known as multicomponent), and 28 resources of unknown age. Twenty-six (26) previously recorded resources have been determined or recommended National Register of Historic Places (NRHP) eligible and are thus considered historical resources for the purposes of CEQA. Those resources are presented below in Table 4.4-1.

Table 4.4-1. Historical Resources within the Revised Project Area

Primary Number	CA or NVCRIS Trinomial	Age	Description	Land Ownership
P-36-000140	CA-SBR-000140	Precontact	Lake Mojave Site	BLM, Private
P-36-000434	CA-SBR-000434	Precontact	Lithic scatter, quarry	BLM, DOD; California State Lands Commission
P-36-001590	CA-SBR-001590H	Multicomponent	Baker High School Shelter	Private
P-36-001910	CA-SBR-001910H	Historic	Union Pacific Railroad: Dagget To Nevada Border; San Pedro-Los Angeles And Salt Lake Railroad	Private
P-36-002100	CA-SBR-002100	Precontact	Toomey Hills Quarry; Yermo Quarry	BLM
P-36-002910	CA-SBR-002910H	Historic	National Old Trails Highway; Historic Route 66	BLM, DOD, Private
P-36-003048	CA-SBR-003048H	Historic	The Old Traction Road	BLM
P-36-003168	CA-SBR-003168	Precontact	Toomey Powerline Site	BLM
P-36-003176	CA-SBR-003176	Precontact	Transmission Line Road Site; Private Road Site	BLM, DOD
P-36-003183	CA-SBR-003183	Precontact	Quarry And Chipping Station	BLM, DOD
P-36-003186	CA-SBR-003186	Precontact	Aboriginal Rock Cairn Complex	BLM
P-36-003727	CA-SBR-003727	Precontact	Lithic Scatter, habitation site	BLM
P-36-004272	CA-SBR-004272H	Historic	Old Spanish Trail; Salt Lake - Santa Fe Trail; Mojave Trail	BLM, DOD, Private
P-36-006693	CA-SBR-006693H	Historic	Atchison, Topeka and Santa Fe Railroad; Burlington Northern Railroad; BNSF Railroad	BLM, DOD
P-36-007694	CA-SBR-007694H	Historic	LADWP Boulder Transmission Lines	BLM, DOD, California State Lands Commission, Private
P-36-010315	CA-SBR-010315H	Historic	Edison Company Boulder Dam-San Bernardino Electrical Transmission Line	BLM, Private
P-36-010627	CA-SBR-010627H	Historic	Barstow-Daggett Airport Flight Station; Barstow Daggett County Airport	Private
P-36-023423	CA-SBR-014798H	Historic	Powerline Road / Stoddard Valley Road Retaining Walls And Water Diversion Feature	BLM
P-36-027410	CA-SBR-017863H	Historic	Barstow Road / State Route 247	BLM
N/A	26-CK-1618	Precontact	Rockshelter	Private
N/A	26-CK-1620	Precontact	Lithic and Ceramic Scatter	Private
N/A	26-CK-1621	Precontact	Open Habitation site	Private
N/A	26-CK-2632	Precontact	Lithic and Ceramic Scatter	Private

Table 4.4-1. Historical Resources within the Revised Project Area

Primary Number	CA or NVCRIS Trinomial	Age	Description	Land Ownership
N/A	26-CK-4429	Historic	Segments of Union Pacific Railroad, St. Thomas Branch	BLM, Private
N/A	26-CK-6238	Historic	Transmission line	Private
N/A	26-CK-6242	Historic	Transmission line	Private

Source: Appendix D

4.4.2 Regulatory Framework

State

California Environmental Quality Act

Various laws apply to the evaluation and treatment of cultural resources. CEQA requires lead agencies to evaluate cultural resources by determining whether these evaluations meet sets of specified criteria that make such resources eligible to the California Register of Historical Resources (CRHR). Those cultural resources eligible to the CRHR are historical resources. The evaluation then influences the analysis of potential impacts to such historical resources and the mitigation that may be required to reduce any such impacts.

CEQA and the CEQA Guidelines define significant cultural resources under two regulatory definitions: historical resources and unique archaeological resources. A historical resource is defined as a “resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources”, or “a resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code,” or “any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency’s determination is supported by substantial evidence in light of the whole record.” (Cal. Code Regs., tit. 14, Section 15064.5[a]). Historical resources that are automatically listed in the CRHR include California historical resources listed in or formally determined eligible for the NRHP and California Registered Historical Landmarks from No. 770 onward (Public Resources Code [PRC] Section 5024.1[d]).

Under CEQA, a resource is generally considered historically significant if it meets the criteria for listing in the CRHR. In addition to being at least 50 years old, a resource must meet one or more of the following four criteria (PRC Section 5024.1):

- **Criterion 1**, is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- **Criterion 2**, is associated with the lives of persons important in our past;
- **Criterion 3**, embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- **Criterion 4**, has yielded, or may be likely to yield, information important in prehistory or history.

In addition, historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association (Cal. Code Regs., tit. 14, Section 4852[c]).

Even if a resource is not listed or determined to be eligible for listing in the CRHR, CEQA requires the lead agency to make a determination as to whether the resource is a historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

In addition to historical resources, archaeological artifacts, objects, or sites can meet CEQA's definition of a unique archaeological resource, even if the resource does not qualify as a historical resource (Cal. Code Regs., tit. 14, Section 15064.5[c][3]). Archaeological artifacts, objects, or sites are considered unique archaeological resources if it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that the resource meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person. (Public Resources Code, Section 21083.2[g]).

To determine whether a proposed project may have a significant effect on the environment, the analysis evaluates the project's potential to cause a substantial adverse change in the significance of historical or unique archaeological resources. The magnitude of an impact depends on:

- the affected historical resource(s);
- the specific historic significances of any potentially impacted historical resource(s);
- how the historical resource(s) significance is manifested physically and perceptually;
- appraisals of those aspects of any historical resource's integrity that figure importantly in the manifestation of the resource's historical significance; and
- how much the impact will change historical resource integrity appraisals.

Title 14, California Code of Regulations, section 15064.5(b) defines a "substantial adverse change" as the "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired."

4.4.3 Thresholds of Significance

The significance criteria used to evaluate the revised project's impacts to cultural resources are based on CEQA Guidelines Appendix G. A potentially significant impact to cultural resources would occur if the revised project would:

1. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.3.
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.3.
3. Disturb any human remains, including those interred outside of dedicated cemeteries.

4.4.4 Impacts Analysis

Threshold CUL-1: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.3?

Summary of the Certified 2024 EIR Findings

The 2024 EIR determined that the approved project could cause a substantial adverse change in the significance of historical resources, specifically the LADWP Boulder Transmission Lines (McCullough-Victorville Transmission Lines 1 and 2 [MCC-VIC Lines 1 and 2]), a built environment resource (P-36-007694). This resource is eligible for listing in the NRHP and CRHR under criteria A/1 and C/3 and are considered historical resources under CEQA.

Potential impacts would occur primarily during construction activities involving some tower replacement or modification. However, the EIR concluded that with implementation of mitigation measures, such as adherence to the Secretary of the Interior's Standards for treatment of historic properties, preparation of a Built Environment Treatment Plan, and documentation protocols, impacts would be reduced to less than significant with mitigation.

No impacts to historical resources were anticipated during operation and maintenance. Cumulative impacts were also found to be less than significant.

Revised Project Impact Analysis

Construction: Archaeology and Unanticipated Discoveries

As described above under "Cultural Resources Data Collection and Methodology," there are 13 known archaeological resources, mostly precontact lithic scatters and quarries, within the revised project area that are considered historical resources under CEQA. As of the writing of this analysis, cultural resource surveys and evaluations are on-going, the results of which will not be known until Summer 2026. While the exact scope and disturbance areas of the revised project will not be known until the revised project's design is final, the assumptions outlined above in the Cultural Resources Data Collection and Methodology subsection of Section 4.4.1 Existing Conditions are made for the purposes of this analysis.

As mentioned above, it is assumed that the revised project will avoid known historical archaeological resources; however, significant impacts absent mitigation could still occur if it is determined during the design process that avoidance is not feasible. Additionally, there is the potential for unknown buried resources to be encountered during the course of the revised project, especially considering the amount of previously recorded resources that were identified during the record search located within and directly adjacent to the revised project area. Inadvertent disturbance of an unidentified cultural resource, that could be considered a historical resource, could damage or destroy the resource or change its context. In the event of an inadvertent discovery, the revised project would be subject to California PRC Section 21083.2(i) regarding provisions related to the accidental discovery of archaeological resources and MM-CUL-7, which is discussed in more detail below.

The approved project included the following seven mitigation measures to address potential impacts to known and unknown historical resources: MM-CUL-1 (Retain a Qualified Project Archeologist), MM-CUL-2 (Treatment Plan), MM-CUL-3 (Cultural Resources Monitoring Plan), MM-CUL-4 (Worker Environmental Awareness Program), MM-CUL-5 (Archaeological Monitoring), MM-CUL-6 (Monitoring Report), and MM-CUL-7 (Unanticipated Discoveries), which are still appropriate for mitigating impacts of the revised project.

Impacts to archaeological resources or unanticipated discoveries that are considered historical resources for the approved project were determined to be less than significant with mitigation incorporated in the certified 2024 EIR. Under the revised project, the impact would remain the same. The revised project would thus not result in a new significant impact or a substantial increase in the level of severity of a previously identified significant impact compared to the approved project, specifically for archaeological resources and unanticipated discoveries that are considered historical resources.

Construction: Built Environment

As described above under “Cultural Resources Data Collection and Methodology,” 13 known built environment resources within the revised project area are considered historical resources under CEQA. These are: two existing transmission lines (i.e., the Edison Company Boulder Dam-San Bernardino Electrical Transmission Line and the LADWP Boulder Transmission Lines), which are the subject of this project; the existing Powerline Road; Route 66; State Route 247; segments of the Union Pacific Railroad and the Topeka/Santa Fe Railroad; segments of the Old Spanish Trail; various transmission lines; and the Barstow Daggett Airport Flight Station. While the exact scope and disturbance areas of the revised project will not be known until the revised project’s final design, the assumptions outlined above in the Cultural Resources Data Collection and Methodology subsection of Section 4.4.1 Existing Conditions are made for the purposes of this analysis.

Based on the revised project description, there are two historical resources that cannot be avoided, Powerline Road (P-36-023423), and LADWP Boulder Transmission Lines (P-36-007694), as discussed in the following analysis.

Powerline Road (P-36-023423) was built in the 1930s specifically for the construction of LADWPs Boulder Transmission Lines. Since its construction, it has continuously been used as the main access road for maintenance and minor construction activities for approximately the last 100 years. Powerline Road has been regularly maintained since the 1930s, which generally has included grading activities and repairs from weather (wind and rain). The revised project proposes the use of all existing access roads for construction, including Powerline Road, and outlines the methods for access road use, including grubbing, drainage improvements, grading to reduce washboarding, and cut and fill and slope stabilization activities in areas of rolling and mountainous terrain. Powerline Road is not proposed to be realigned. The proposed Powerline Road minor improvements would not lead to adverse effects on the resource’s integrity and would ultimately allow the road to be safely used as the road was originally intended. The revised project would not cause a substantial adverse change in the significance of Powerline Road and impacts to P-36-023423 would be less than significant.

The LADWP Boulder Transmission Lines are NRHP/CRHR eligible under Criterion A/1 for their association with regional power transmission and Criterion C/3 for their distinctive engineering and structural characteristics. The character-defining features of these transmission lines include the original tower design, materials, workmanship and alignment. The proposed replacement would result in the loss of all original historic-age transmission towers and a substantial alteration of the alignment, materially impairing the integrity of location, design, setting, materials, workmanship, feeling, and association.

The revised project involves the replacement of all existing transmission towers along the entire alignment of MCC-VIC Lines 1 and 2 and the realignment of approximately 95 miles of MCC-VIC Line 1. Unlike the approved project, which assumed in-kind replacement and retention of the alignment, the revised project would result in the complete removal of original historic-age towers and alteration of portions of the historic alignment.

Pursuant to CEQA Guidelines Section 15064.5(b)(2), a substantial adverse change occurs when a project “demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources.” The revised project would result in the demolition of two out of the three NRHP/CRHR eligible LADWP Boulder Transmission Lines, and no original historic-age towers would remain along MCC-VIC Lines 1 and 2 resulting in a significant impact. While MM-CUL-8, which includes measures such as documentation, preparation of a Built Environment Treatment Plan and public interpretation, would be implemented, consistent with the 2024 EIR, these measures cannot fully avoid or reduce the impact to a less than significant level. Compliance with the Secretary of the Interior’s Standards is infeasible in this case, as the defining features and integrity of the resource would be lost. Therefore, the impact to historical built environment resources under the revised project would be significant and unavoidable.

Impacts for the approved project were determined to be less than significant with mitigation incorporated in the certified 2024 EIR. Under the revised project, the level of severity of the impact would increase, resulting in a significant and unavoidable impact to historical built environment resources under the revised project. Therefore, the revised project would result in a new significant impact compared to the approved project.

Threshold CUL-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.3?

Summary of the Certified 2024 EIR Findings

The 2024 EIR determined that the approved project could cause a substantial adverse change in the significance of archaeological resources within the project area. While avoidance was assumed where feasible, ground-disturbing activities posed a risk of impacting these resources.

To address this, the 2024 EIR included mitigation measures such as retaining a qualified archaeologist, preparing a Treatment Plan, implementing a Cultural Resources Monitoring Plan, conducting archaeological monitoring during construction, and providing worker environmental awareness training. These measures ensure proper evaluation, documentation, and treatment of any resources that cannot be avoided.

With implementation of these mitigation measures, impacts to archaeological resources were reduced to less than significant with mitigation.

No impacts were anticipated during operation, and cumulative impacts were also found to be less than significant.

Revised Project Impact Analysis

As described above under “Cultural Resources Data Collection and Methodology,” there are no known unique archaeological resources within the revised project area. As of the writing of this analysis, cultural resource surveys and evaluations are on-going, the results of which will not be known until the Summer 2026. While the exact scope and disturbance areas of the revised project will not be known until the revised project’s design is final the assumptions outlined above in the Cultural Resources Data Collection and Methodology subsection of Section 4.4.1 Existing Conditions are made for the purposes of this analysis.

As mentioned above, it is assumed that the revised project will avoid known unique archaeological resources; however, significant impacts absent mitigation could still occur if it is determined during the design process that

avoidance is not feasible. Additionally, there is the potential for unknown buried resources to be encountered during the course of the revised project, especially considering the amount of previously recorded resources that were identified during the record search located within and directly adjacent to the revised project area. Inadvertent disturbance of an unidentified cultural resource, that could be considered a unique archaeological resource, could damage or destroy the resource or change its context. In the event of an inadvertent discovery, the revised project would be subject to PRC Section 21083.2(i) regarding provisions related to the accidental discovery of archaeological resources.

The approved project included the following seven mitigation measures to address potential impacts to known and unknown historical resources: MM-CUL-1 (Retain a qualified Project Archeologist), MM-CUL-2 (Treatment Plan), MM-CUL-3 (Cultural Resources Monitoring Plan), MM-CUL-4 (Worker Environmental Awareness Program), MM-CUL-5 (Archaeological Monitoring), MM-CUL-6 (Monitoring Report), and MM-CUL-7 (Unanticipated Discoveries), which are still appropriate for mitigating impacts of the revised project.

Impacts to cultural resources or unanticipated discoveries that are considered unique archaeological resources for the approved project were determined to be less than significant with mitigation incorporated in the certified 2024 EIR. Under the revised project and with the assumptions listed above, the impact would remain the same. The revised project would thus not result in a new significant impact or a substantial increase in the level of severity of a previously identified significant impact compared to the approved project.

Threshold CUL-3: Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Summary of the Certified 2024 EIR Findings

The 2024 EIR determined that no known human remains or burials were present within the approved project area; however, the potential for inadvertent discovery during ground-disturbing activities could not be ruled out.

To address this possibility, the EIR included mitigation measures consistent with PRC Section 5097.98 and Health and Safety Code Section 7050.5, requiring immediate work stoppage within 50 feet of a discovery, notification of the County Coroner, and consultation with the Native American Heritage Commission and Most Likely Descendant if remains are determined to be Native American. These requirements were incorporated into MM-CUL-9 (Treatment of Human Remains).

With implementation of MM-CUL-9, together with MM-CUL-1 through MM-CUL-7, impacts related to human remains were reduced to less than significant with mitigation.

No impacts were anticipated during operation, and cumulative impacts were also found to be less than significant.

Revised Project Impact Analysis

As described under “Cultural Resources Data Collection and Methodology,” there are no known burials or human remains within the revised project area. As of the writing of this analysis, cultural resource surveys and evaluations are on-going, the results of which will not be known until the Summer 2026. While the exact scope and disturbance areas of the revised project will not be known until the revised project’s design is final the assumptions outlined above in the Cultural Resources Data Collection and Methodology subsection of Section 4.4.1 Existing Conditions are made for the purposes of this analysis.

As with any project that involves ground disturbing activity, there is the possibility that burials or human remains, including cremains, could be encountered during ground disturbance related to the revised project. In the event unknown buried remains are discovered, they shall be treated in compliance with PRC Section 5097.98(b) and (e), Section 5097.99, and Section 5097.

The approved project included the following eight mitigation measures that address potential impacts to burials or human remains: MM-CUL-1 (Retain a qualified Project Archeologist), MM-CUL-2 (Treatment Plan), MM-CUL-3 (Cultural Resources Monitoring Plan), MM-CUL-4 (Worker Environmental Awareness Program), MM-CUL-5 (Archaeological Monitoring), MM-CUL-6 (Monitoring Report), MM-CUL-7 (Unanticipated Discoveries), and MM-CUL-9 (Treatment of Human Remains), which are still appropriate for mitigating impacts of the revised project.

Impacts to human remains for the approved project were determined to be less than significant with mitigation incorporated in the certified 2024 EIR. Under the revised project, the impact would remain the same. The revised project would thus not result in a new significant impact or a substantial increase in the level of severity of a previously identified significant impact compared to the approved project.

4.4.5 Mitigation Measures

MM-CUL-1 **Retain a Qualified Project Archeologist.** Prior to project implementation, a Project Archaeologist whose training and background conforms to the U.S. Secretary of the Interior's Professional Qualifications Standards, as published in Title 36, Code of Federal Regulations, part 61 (36 C.F.R., part 61), will be retained by LADWP to oversee all cultural resources compliance for the project. The resume of the selected Project Archaeologist shall be sent to the Los Angeles Department of Water and Power (LADWP) and the U.S. Department of Interior Bureau of Land Management (BLM) for their records.

MM-CUL-2 **Treatment Plan.** Prior to start of construction, the Project Archaeologist shall develop and implement a Treatment Plan specific to those significant eligible resources that cannot be avoided by construction. This plan shall address the expected loss of significant archaeological data through the scientific excavation, analysis, and interpretation of the site's archaeological materials.

At a minimum, the Treatment Plan shall describe the methodology proposed for archaeological excavation, transportation and storage of all archaeological material, laboratory and analysis methods, curation of archaeological material at a specified repository or repatriation of resources at the BLM's discretion, and schedule for subsequent reporting. A draft of the Treatment Plan must be submitted to LADWP and the BLM for a 30-day review and approval period. The Treatment Plan must be approved by LADWP and the BLM before construction commences. If the resource(s) subject to treatment is/are located on BLM lands, additional permitting requirements, such as obtaining an Archaeological Resources Protection Act (ARPA) permit, shall be required.

MM-CUL-3 **Cultural Resources Monitoring Plan.** Prior to start of construction, the Project Archaeologist shall develop a Cultural Resource Monitoring Plan (CRMP or Plan) that addresses the details of all activities and provides procedures that must be followed to reduce the potential impacts to undiscovered buried archaeological resources associated with the project. A draft of the Plan must be submitted to LADWP and the BLM for a 30-day review and approval period. The Plan must be approved by LADWP and the BLM before construction commences.

At a minimum, the Plan shall:

- Describe the methodology and a program for avoiding and monitoring significant eligible cultural resources identified in a Class III Cultural Survey Report approved by the BLM that can be avoided during project construction;
- Require that protective fencing or other markers, be erected and maintained to protect these resources from inadvertent adverse effects during construction, at the discretion of the BLM and/or LADWP (depending on land ownership);
- Include maps and a narrative discussion of areas considered to be of high sensitivity for discovery of buried archaeological resources, in the event they are encountered during construction;
- Detail the specific protocols for monitoring construction activities in these high-sensitivity areas;
- Detail the methods, consultation procedures, and timelines for addressing all post-review discoveries;
- Identify the person(s) expected to perform monitoring tasks, their responsibilities, and the reporting relationships between project construction management and the mitigation and compliance monitoring team;
- Specify daily monitoring reporting and identify the forms and/or documentation that need to be completed daily during monitoring.
- Address the authority given to the qualified archaeological monitors to temporarily halt ground disturbance during construction. If a cultural resource over 50 years of age is found (or if younger, but determined exceptionally significant by the BLM on federal lands or LADWP on private lands; or considered a unique archaeological resource under CEQA), ground disturbance shall be halted or redirected in the immediate vicinity of the discovery sufficient to ensure that the resource is protected from ground disturbance. Monitoring and daily reporting shall continue during the project's ground-disturbing activities elsewhere. Additional procedures regarding halting ground disturbance, like communication protocols and flagging the resource for avoidance plus a 50-foot buffer, to address a post-review discovery or unanticipated effects shall be described in the Plan.

MM-CUL-4 **Worker Environmental Awareness Program.** Prior to the start of construction and for the duration of ground disturbance activities, the Project Archaeologist shall develop a Worker Environmental Awareness Program (WEAP). This training shall be given to all Construction Contractor staff including all subconsultants within one (1) week of employment at the project site, for all areas along the linear facilities routes, and at material show-up yards, access roads, and other ancillary areas such as staging areas. The training shall be prepared by the Project Archaeologist and may be conducted by the Project Archaeologist or designated Field Director. The Project Archaeologist shall be available (by telephone or in person) to answer questions posed by employees related to the identification and protection of cultural resources. The training may be discontinued when ground disturbance is completed or suspended but must be resumed if ground disturbance resumes. Training shall include:

- A detailed discussion of applicable laws, and penalties under the law;
- Samples or visuals of artifacts that might be found in the project vicinity;

- A brief overview of the cultural sensitivity of the project and the surrounding area;
- A discussion of what such artifacts may look like when partially buried, or wholly buried and then freshly exposed;
- A discussion of what prehistoric and historical archaeological deposits look like at the surface and when exposed during construction, and the range of variation in the appearance of such deposits;
- Express instruction that only the Project Archaeologist, alternate Project Archaeologist, and supervisory cultural resource field staff have the authority to halt ground disturbance in the area of a discovery to an extent sufficient to ensure that the resource is protected from further impacts, as determined by the Project Archaeologist;
- Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources discovery and shall contact their supervisor and the Project Archaeologist or supervisory cultural resource field staff, and that redirection of work shall be determined by the construction supervisor and the Project Archaeologist;
- An informational brochure that identifies reporting procedures in the event of a discovery; and
- A log signed by each worker indicating that they have received the training.

This is a mandatory training, and all construction personnel must attend prior to beginning work on the project's sites. A copy of the sign-in sheet shall be kept ensuring compliance with this mitigation measure and will be provided to LADWP and the BLM after each WEAP training is given.

MM-CUL-5 **Archaeological Monitoring.** Qualified archaeological monitors, overseen by a BLM-approved Field Director and the selected Project Archaeologist, shall be present for initial grading activities in undisturbed soil, in areas of high sensitivity, or within 500 feet of a known significant cultural resource. The archaeological monitor(s) shall complete daily monitoring forms. The Project Archaeologist will have the authority to increase or decrease the monitoring effort should the monitoring results indicate that a change is warranted, in consultation with LADWP and BLM.

MM-CUL-6 **Monitoring Report.** Within six (6) months of finishing construction of the project, a Cultural Resources Monitoring Report shall be prepared and provided to the BLM and LADWP. The report shall include evidence of the required WEAP for the construction staff held during the required pre-construction meeting(s) and evidence that any artifacts have been treated in accordance with procedures stipulated in the Cultural Resources Monitoring Plan (MM-CUL-3).

MM-CUL-7 **Unanticipated Discoveries.** During project construction, should unanticipated archaeological resources be discovered during grading, foundation work, or other construction activities, all construction work occurring within 50 feet of the find shall immediately stop until the Project Archaeologist can evaluate the significance of the find and determine (in consultation with the BLM if the find is on federal land and/or LADWP's designated point of contact if the find is on private land, as appropriate) whether additional study or testing is warranted. Depending upon the significance of the find, the archaeological monitors, as directed by the Project Archaeologist, may record the find and allow work to continue. If the discovery proves significant and cannot be avoided, treatment of the resource will be conducted in accordance with the approved Treatment Plan (MM-CUL-2). During the assessment and recovery time, construction work may proceed in other areas.

MM-CUL-8 **Built Environment Treatment Plan.** Prior to construction, LADWP will retain the services of a qualified architectural historian meeting the Secretary of the Interior's Professional Qualification Standards for Architectural History to prepare and implement a Built Environment Treatment Plan in coordination with the LADWP and the BLM. The treatment plan shall include, but is not limited to, photo-documentation, creation of a website for public research, and public interpretation of the resource in accordance with BLM Manual 8170. The treatment plan will be submitted to LADWP and the BLM for a 30-day review and approval prior to implementation and prior to the start of construction.

If subsequent significant eligible built environment resources other than MCC-VIC Lines 1 and 2 are identified within the project area and avoidance is determined to be infeasible as project design is finalized, the preparation and implementation of a separate treatment plan shall be required specific to the type of resource that cannot be avoided. The treatment plan shall include, but is not limited to, photo-documentation, creation of website for public research, and public interpretation of the resource. The treatment plan will be submitted to LADWP and the BLM for a 30-day review and approval prior to implementation and prior to the start of construction

MM-CUL-9 **Treatment of Human Remains.** In accordance with State of California law (Health and Safety Code Section 7050.5; Public Resources Code Section 5097.98), if human remains are found, all ground disturbing activities shall halt within 165 feet (50 meters) of the discovery. The BLM and the County Coroner shall be notified within 24 hours of the discovery. No further excavation or disturbance of the discovery or any nearby area reasonably suspected to overlie potential remains shall occur until the County Coroner has determined whether the remains are subject to its authority. The County Coroner must make this determination within two (2) working days of notification of the discovery (pursuant to Health and Safety Code Section 7050.5, subd. (b)). If the County Coroner determines that the remains do not require an assessment of cause of death and that the remains are, or are believed to be Native American, the Coroner must notify the Native American Heritage Commission (NAHC) by telephone within 24 hours, which must in turn immediately notify those persons it believes to be the Most Likely Descendant (MLD) of the deceased Native American. The MLD shall complete its inspection and make recommendations within 48 hours of being granted access to the site. The MLD may recommend means for treatment or disposition, with appropriate dignity, of the human remains and any associated grave goods.

4.4.6 Significance Conclusions

- Threshold CUL-1:** Even with implementation of MM-CUL-1 through MM-CUL-8, identified above, the revised project would cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.3, and impacts to historical resources would be significant and unavoidable.
- Threshold CUL-2:** With implementation of MM-CUL-1 through MM-CUL-7, identified above, the revised project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.3, and impacts to unique archaeological resources would be less than significant with mitigation.
- Threshold CUL-3:** With the implementation of MM-CUL-1 through MM-CUL-7 and MM-CUL-9, identified above, impacts related to disturbance of human remains, including those interred outside of cemeteries, would be less than significant with mitigation.

4.4.7 Cumulative Effects

As required by CEQA Guidelines Section 15130, the discussion and analysis provided in this section considers whether the Project's incremental effect(s) may be individually limited but cumulatively considerable. In accordance with CEQA Guidelines Section 15065(a)(3), "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. The cumulative geographic study area used to assess potential impacts to cultural resources is site specific as identified in Table 4-1, Geographic Area for Cumulative Impacts (see Section 4, Environmental Analysis).

Impacts to cultural resources tend to be site specific and are assessed on a site-by-site basis and generally mitigated on a project-by-project basis. The cumulative projects list identified in Table 4-2, Cumulative Projects List, identified 14 projects, the majority of which are linear transportation or utility projects (extending for tens or even hundreds of miles). At least a portion of each of the projects listed come within approximately 2 miles of the project alignment. Of these 14 projects identified in the cumulative projects list, only two projects (specifically, Path 46 Transmission Line Project and Brightline West) are known to occur within, or overlap with, the revised project's transmission line right-of-way and thus may affect the same historical resource as the revised project (i.e., the LADWP Boulder Transmission Lines [P-36-007694]). The Path 46 Transmission Line Project has been adjusted since the finalization of the CEQA document and now only includes the 230kV Mead to Victorville Line 1 (M-VIC L1) as the proposed project. M-VIC Line 1 is still part of the historical resource LADWP Boulder Transmission Lines (P-36-007694) and is therefore included in the analysis below. The CEQA Mitigated Negative Declaration prepared for the Path 46 Transmission Line Project concluded that impacts to this historical resource would be less than significant, based on the scope of work proposed for that project and implementation of applicable mitigation measures. Brightline West only overlaps with the revised project alignment at several select and limited locations. Moreover, Brightline West completed extensive mitigation within that project's limits of disturbance, which is contained within or adjacent to the I-15, and that project is subject to extensive avoidance and minimization measures to reduce its effects on cultural resources. The analysis for Brightline West resulted in the determination by the Federal Railroad Administration that Brightline West would not result in cumulative adverse effects. Based on these findings, and given the limited overlap and implementation of extensive cultural resources monitoring, the revised MCC-VIC project is not anticipated to combine with Brightline West to result in cumulatively considerable

impacts. No other projects in the cumulative projects list were identified that overlap the revised project area or affect the same historical resources.

Historical Resources

The revised project would result in a significant and unavoidable impact to historical built environment resources, specifically the LADWP Boulder Transmission Lines (MCC-VIC Lines 1 and 2 [P-36-007694]), due to the complete removal of historic-age transmission towers and alteration of portions of the historic alignment within the revised project corridor. The Path 46 project also has effects on the LADWP Boulder Transmission Lines (P-36-007694) by raising the height of two M-VIC L1 towers to ensure LADWP is in compliance with California Public Utilities Commission's General Order 95 Clearance Code Requirements. However, the CEQA Mitigated Negative Declaration for that project determined that its impacts would be less than significant because of more limited modifications that do not result in the loss of all historic-age transmission towers or a substantial alteration of the historic alignment.

When considering their combined effects, the revised project and the Path 46 project would incrementally contribute to changes affecting the same historical resource. Although the Path 46 project alone would not result in a significant impact. The revised project would remove all historic-age towers along MCC-VIC Lines 1 and 2 and alter the historic alignment, materially impairing the integrity of the resource, even if M-VIC L1 remains. Because the revised project's impact to the LADWP Boulder Transmission Lines is significant and unavoidable at the project level, its incremental contribution to impacts on this historical resource, when viewed in combination with the Path 46 project, would be cumulatively considerable. Mitigation measures such as documentation, preparation of a Built Environment Treatment Plan, and public interpretation would reduce informational loss but would not avoid or reduce the cumulative impact to a less than significant level. Cumulative impacts would be significant and unavoidable.

Archeological Resources

At the project level, impacts to unique archaeological resources associated with the revised project would be less than significant with mitigation, based on implementation of preconstruction surveys, archaeological monitoring, worker environmental awareness training, and procedures for the treatment of any resources that cannot be avoided. The Path 46 project was subject to its own CEQA review and requires implementation of similar avoidance and mitigation measures. Because impacts to archaeological resources are generally site-specific and addressed through project-level mitigation, the revised project would not combine with other projects to result in a cumulatively considerable impact to unique archaeological resources. Cumulative impacts would be less than significant with mitigation incorporated.

Human Remains

The revised project includes mitigation measures consistent with State law that require immediate work stoppage, notification of appropriate authorities, and consultation with the Native American Heritage Commission and Most Likely Descendant in the event of discovery of human remains. These statutory requirements apply uniformly to all projects, including the Path 46 project and Brightline West. Because these procedures are mandatory and effective at avoiding or minimizing impacts, and because no known human remains have been identified within the revised project area, the revised project would not result in a cumulatively considerable impact on human remains. Cumulative impacts would be less than significant with mitigation incorporated.

INTENTIONALLY LEFT BLANK

4.5 Noise

This section of the Subsequent Environmental Impact Report (SEIR) describes the existing noise environment of the revised McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (revised project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the revised project, as applicable. Potential impacts of the revised project are discussed in relation to the previously approved McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (approved project), which was analyzed in the certified 2024 Environmental Impact Report (“2024 EIR” or “certified EIR”).

The information and analysis in the section are based, in part, on the following technical appendices:

- **Appendix E.** Noise and Vibration Worksheets

Other resources relied upon are listed in Section 4.5.8, References.

4.5.1 Existing Conditions

Noise Definitions

Sound is mechanical energy transmitted by pressure waves in a compressible medium, such as air. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired. The sound-pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. The unit of measurement of sound pressure is a decibel (dB). Under controlled conditions in an acoustics laboratory, the trained, healthy human ear is able to discern changes in sound levels of 1 dB when exposed to steady, single-frequency signals in the mid-frequency range. Outside such controlled conditions, the trained ear can detect changes of 2 dB in normal environmental noise. It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dB. A change of 5 dB is readily perceptible, and a change of 10 dB is perceived as twice or half as loud. A doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g., doubling the volume of traffic on a road) would result in a barely perceptible change in the sound level.

Since the human ear is not equally sensitive to all sound frequencies within the entire spectrum, noise levels at maximum human sensitivity are factored more heavily into sound descriptions in a process called “A-weighting,” the measurement of which is expressed as dBA. Hourly average noise levels are usually expressed as dBA L_{eq} or the equivalent sound level over that period of time. Therefore, all sound levels discussed in this section are A-weighted. Because community receptors are more sensitive to noise intrusion during the evening and at night, state law requires that an artificial dBA increment be added to quiet-time noise levels in 24-hour noise metrics such as the Community Noise Equivalent Level (CNEL) or day-night sound level (L_{dn}).

The project alignment spans from Boulder City, in Clark County, Nevada to Victorville, in San Bernardino County in California, as shown in Figure 3-1, Project Location in Chapter 3, Project Description of this SEIR. The revised project would be located within an established transmission corridor and right-of-way (ROW) (specifically the existing single-circuit MCV1 and MCV2). Generally, as the transmission line corridor is mostly isolated away from development, the project route primarily crosses undeveloped state and federal lands, including lands under the jurisdiction of California State Lands Commission and Bureau of Land Management. The project also crosses rural and low-density residential land uses on non-federal land in San Bernardino County, California and Clark County, Nevada.

Noise-Sensitive Receptors

Noise-sensitive receptors are typically land uses such as residences, schools, hospitals, religious facilities, theaters, concert halls, libraries, and parks. Along the project alignment, adjacent noise-sensitive uses consist of scattered residences located near Barstow and isolated points west. The nearest noise sensitive receptors for most construction and operational activities are residential receivers approximately 30 feet from MCV1_151-4. Regarding noise/vibration associated with blasting, the nearest noise-sensitive receptor is a hotel use near Primm, Nevada, approximately 3,360 feet from a blasting site. In California, the nearest noise-sensitive receptor is approximately 17,100 feet (or over 3 miles) from the nearest blasting site.

Existing Noise Levels

Existing noise sources in the study area include highways, roadways, off-highway vehicle noise, agricultural activities, population centers (namely, Victorville and Barstow), and natural noise-producing sources such as wind, insects, and other animals. The majority of the project area and surrounding area are isolated with no major noise sources in the vicinity. In the Barstow area and points west, the project alignment crosses several highways and rail lines, both of which contribute to the noise environment. Another low-level source of noise is from existing transmission lines in the vicinity that emit corona noise under certain atmospheric conditions (i.e., wet weather or high humidity).

The existing noise environment in a project area can be characterized by the area's general level of development because the level of development and ambient noise levels tend to be closely correlated. Areas that are not urbanized are relatively quiet, while areas that are more urbanized are noisier as a result of roadway traffic, industrial activities, and other human activities.

Table 4.5-1 summarizes typical ambient noise levels based on level of development. Given the rural nature of the project area, ambient noise levels are expected to be in the range of 40 to 50 L_{dn} . During daytime hours, the corresponding typical hourly average noise levels would be approximately 37 to 47 dBA L_{eq} .¹

Table 4.5-1. Population Density and Associated Ambient Noise Levels

Land Use Type	dBA, L_{dn}
Rural	40–50
Small Town or quiet suburban residential	50
Normal suburban residential	55
Urban residential	60
Noisy urban residential	65
Very noisy urban residential	70
Downtown, major metropolis	75–80
Area adjoining freeway or near major airport	80–90

Source: Hoover and Keith 2000.

dBA = A-weighted decibel; L_{dn} = day/night sound level

¹ Based on average hourly time patterns of noise levels from a 100-site survey (per Bishop and Simpson 1977).

4.5.2 Regulatory Framework

Federal

Guidance and methodologies from the Federal Transit Administration's (FTA) Transit Noise and Vibration Impact Assessment Manual (FTA 2018) pertaining to construction noise are used in this analysis.

Federal Transit Administration

In its Transit Noise and Vibration Impact Assessment Manual, the FTA recommends a daytime construction noise level threshold of 80 dBA L_{eq} over an 8-hour period when detailed construction noise assessments are performed to evaluate potential impacts to community residences surrounding a project (FTA 2018). The FTA also recommends using a construction noise threshold of 75 dBA L_{dn} averaged over 30 days for residences exposed to construction noise lasting 30 days or longer. Although this FTA guidance is not a regulation, it can serve as a quantified standard in the absence of such limits at the state and local jurisdictional levels.

Federal Interagency Committee on Noise

Some guidance regarding the determination of a substantial permanent increase in ambient noise levels in the project vicinity above existing levels is provided by the 1992 findings of the Federal Interagency Committee on Noise (FICON; FICON 1992), which assessed the annoyance effects of changes in ambient noise levels resulting from aircraft operations. The FICON recommendations are based upon studies that relate aircraft and traffic noise levels to the percentage of persons highly annoyed by the noise. Annoyance is a qualitative measure of the adverse reaction of people to noise that generates speech interference, sleep disturbance, or interference with the desire for a tranquil environment.

The rationale for the FICON recommendations is that it is possible to consistently describe the annoyance of people exposed to transportation noise in terms of L_{dn} . The changes in noise exposure that are shown below are expected to result in equal changes in annoyance at sensitive land uses. Although the FICON recommendations were specifically developed to address aircraft noise impacts, they are used in this analysis to define a substantial increase in community noise levels related to all transportation noise sources and permanent non-transportation noise sources.

- Outdoor ambient sound level without the project is less than 60 dBA L_{dn} , then a project-attributed increase of 5 dBA or more would be considered significant;
- Outdoor ambient sound level without the project is between 60 and 65 dBA L_{dn} , project-attributed increase of 3 dBA or more would be considered significant; and
- Outdoor ambient sound level without the project is greater than 65 dBA L_{dn} , then project-attributed increase of 1.5 dBA or more would be considered significant.

State

California Department of Transportation

In its Transportation and Construction Vibration Guidance Manual (Caltrans 2020), Caltrans recommends 0.5 inches per second (ips) peak particle velocity (PPV) as a threshold for the avoidance of structural damage to typical newer residential buildings and for commercial and industrial buildings exposed to continuous or frequent

intermittent sources of groundborne vibration. For transient vibration events, such as blasting, the damage risk threshold would be 1.0 ips PPV (Caltrans 2020) at the same type of commercial, industrial, and newer residential structures. For older residential structures, these guidance thresholds would be more stringent: 0.3 ips PPV for continuous/intermittent vibration sources, and 0.5 ips PPV for transient vibration events. With respect to human annoyance, Caltrans guidance indicates that building occupants exposed to continuous groundborne vibration in the range of 0.2 ips to 0.6 ips PPV would find it “unpleasant” or “annoying.” Although these Caltrans guidance thresholds are not regulations and the project is not subject to Caltrans authorization, they can serve as quantified standards in the absence of such limits at the local jurisdictional level.

Government Code Section 65302(g)

California Government Code Section 65302(g) requires the preparation of a noise element in a general plan, which must identify and appraise the noise problems in the community. The noise element must recognize the guidelines adopted by the Office of Noise Control in the State Department of Health Services and shall quantify, to the extent practicable, current and projected noise levels for the following sources in the general plan’s planning area:

- Highways and freeways
- Primary arterials and major local streets
- Passenger and freight on-line railroad operations and ground rapid transit systems
- Aviation and airport-related operations
- Local industrial plants
- Other ground stationary noise sources contributing to the community noise environment

California General Plan Guidelines

The California General Plan Guidelines, published by the Governor’s Office of Planning and Research, provides guidance for the acceptability of specific land use types within areas of specific noise exposure. Table 4.5-2 presents guidelines for determining acceptable and unacceptable community noise exposure limits for land use categories within or near the project area. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community’s sensitivity to noise, and the community’s assessment of the relative importance of noise pollution. The Governor’s Office of Planning and Research guidelines are advisory in nature. Local jurisdictions, including the County of San Bernardino, have the responsibility to set specific noise standards based on local conditions.

Table 4.5-2. Land Use Compatibility for Community Noise Environments

Land Use	Community Noise Exposure (CNEL)			
	Normally Acceptable ¹	Conditionally Acceptable ²	Normally Unacceptable ³	Clearly Unacceptable ⁴
Residential-low density, single-family, duplex, mobile homes	50-60	55-70	70-75	75-85
Residential – multiple-family	50-65	60-70	70-75	70-85
Transit lodging – motel, hotels	50-65	60-70	70-80	80-85

Source: OPR 2017.

Notes: CNEL = community noise equivalent level

- ¹ Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
- ² Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features have been included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
- ³ Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise-insulation features must be included in the design.
- ⁴ Clearly Unacceptable: New construction or development should generally not be undertaken.

Local

County of San Bernardino Municipal Code

Section 83.01.080(c)(1) of the County of San Bernardino Development Code describes the noise standards for noise generated by a stationary source at an affected land use during daytime and nighttime hours. The San Bernardino County threshold for affected residential land uses is 55 dBA L_{eq} during daytime hours and 45 dBA L_{eq} during nighttime hours. For affected commercial land uses, the San Bernardino County threshold is 60 dBA L_{eq} for daytime and nighttime hours. For affected industrial land uses, the threshold is 70 dBA L_{eq} for daytime and nighttime hours.

Pursuant to Section 83.01.080(g)(3) of the County of San Bernardino Development Code, construction noise that occurs during daytime hours – defined as 7:00 a.m. to 7:00 p.m., excluding Sundays and federal holidays – is exempt from the noise limits specified in the Development Code. Because project-related construction activities are primarily expected to occur on weekdays (and, potentially, on Saturdays) during daylight hours, project construction would not generally exceed the standards established by the County of San Bernardino Development Code. Construction activity during nighttime hours is not planned. However, as stated in Chapter 3.0, Project Description, some nighttime construction may be necessary to limit daytime customer outages during the summer/early fall, for safety and public health purposes. Section 24.0708 (Other Public Agency Exception) states: “The provisions of this Chapter shall not be construed to prohibit any work at different hours by or under the direction of any other public agency or public or private utility companies in cases of necessity or emergency.” As such, nighttime construction would be allowable, if deemed necessary.

Because the County’s Development Code does not establish numerical construction noise thresholds for construction activities that occur during the hours permitted by the County of San Bernardino Development Code, the FTA’s construction noise standard for permissible exposure over an eight-hour workday of 80 dBA at a residential land use is used as the significance threshold for project construction activities. In the event that construction activities were to occur during nighttime hours (between 7:00 p.m. and 7:00 a.m.), such activities would be allowable under Section 24.0708.

Additionally, Section 83.01.090 (Vibration) specifies a numerical limit for groundborne vibration of 0.20 ips PPV at or beyond the lot line. This vibration threshold is exempt for temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and federal holidays.

City of Victorville Municipal Code

There are no noise sensitive receptors located adjacent to construction work areas in the City of Victorville. The nearest sensitive receptors are residences located approximately 0.25 miles west of a proposed material show-up yard adjacent to the Victorville Switching Station. The impact analysis presented in Section 4.5.4 herein focuses on the on the relative “worst-case scenario” for noise impacts, which are associated with residences adjacent to proposed work areas in unincorporated San Bernadino County. Nevertheless, some temporary construction and construction-related activities would occur within the City of Victorville; thus, the city’s applicable construction noise standards are noted briefly below.

The City of Victorville Municipal Code Noise Ordinance establishes noise regulations within the city through Sections 13.01.04 and 13.01.05. For construction noise, the Victorville Municipal Code prohibits the use of construction equipment between the hours of 7:00 p.m. and 7:00 a.m., Monday through Saturday, or at any time on Sunday or federal holidays. There are no established city noise standards for construction noise within the permissible hours. In the event that construction activities were to occur during nighttime hours (between 7:00 p.m. and 7:00 a.m.), such activities would be allowable under Section 8.54.060 (Exemptions) of the Victorville Municipal Code.

Town of Apple Valley Municipal Code

An approximately 0.3-mile segment of unpaved roadway in the Town of Apple Valley (Willow Springs Road) is anticipated to require some improvements, which may include minor vegetation clearing, blading, grading, and recompacting to fill potholes, removal of ruts/washboarding, and repair of surface irregularities to provide a smooth surface capable of supporting trucks and heavy construction equipment. There are no noise-sensitive sensitive receptors adjacent to this existing roadway. The nearest sensitive receptor is a residence located approximately 0.7 miles to the east of the affected roadway segment. The impact analysis presented in Section 4.5.4 herein focuses on the on the relative “worst-case scenario” for noise impacts, which are associated with residences adjacent to proposed work areas in unincorporated San Bernadino County. Nevertheless, as temporary construction activities would occur within the Town of Apple Valley, the town’s noise standards are noted briefly below.

Apple Valley Municipal Code Section 9.73.060(F)(1), Construction/Demolition, limits construction work to between weekday hours of 7:00 p.m. and 7:00 a.m., or at any time on weekends or holidays, except for emergency work of public service utilities or by variance issued by the town. In addition, Municipal Code Section 9.73.060(F)(2) requires construction activities to be conducted in such a manner that the noise levels at affected residential properties will not exceed the daytime (7:00 a.m. to 7:00 p.m.) mobile exterior noise level limit of 75 dBA Leq and 60 dBA Leq during the nighttime hours of 7:00 p.m. to 7:00 a.m. In the event that construction activities were to occur during nighttime hours (between 7:00 p.m. and 7:00 a.m.), such activities would be allowable under Section 9.73.060(F)(1), as the revised project is a public utility project.

4.5.3 Thresholds of Significance

The significance criteria used to evaluate the revised project's impacts to noise resources are based on California Environmental Quality Act (CEQA) Guidelines Appendix G. A potentially significant impact to noise would occur if the revised project would result in:

1. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
2. Generation of excessive groundborne vibration or groundborne noise levels.
3. Exposure of people residing or working in the project area to excessive noise levels (for a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport).

Threshold NOI-3 was determined to be less than significant and is addressed in Section 5.1.10, Noise in Chapter 5, Other CEQA Considerations, of this Draft SEIR. Thresholds NOI-1 and NOI-2 are addressed in detail below.

4.5.4 Impacts Analysis

The following analysis considers potential noise and vibration impacts under CEQA within California. Potential impacts in Nevada will be addressed in a separate environmental document pursuant to the National Environmental Policy Act.

Threshold NOI-1: Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Summary of the Certified 2024 EIR Findings

In the 2024 certified EIR, the study indicated that:

- Off-site construction noise would be less than significant with mitigation (MM-NOI-1: Construction Noise Reduction);
- Helicopter noise would be less than significant;
- Off-site (construction-related traffic) noise would be less than significant;
- Operations noise, including maintenance of the project alignment, corona noise, and off-site (operations-related traffic) noise would be less than significant; and
- Aviation noise was found to be less than significant.

The 2024 certified EIR did not analyze impacts related to blasting noise and vibration as blasting was not included in the project construction at that time.

Revised Project Impact Analysis

Construction Noise Analysis Methodology

Construction noise occurring during the County's allowable hours is considered exempt from the County of San Bernadino (County) noise limits. Because the County Development Code does not establish numerical construction noise thresholds for construction activities that occur during the hours permitted by the County Development Code, the FTA's construction noise standard for permissible exposure over an eight-hour workday of 80 dBA at a residential land use is used as the significance threshold for project construction activities. Nighttime construction work (between the hours of 7:00 p.m. to 7:00 a.m.) is exempted under Section 24.0708 of the County Development Code, which specifies that utilities are not prohibited from working at different hours in cases of necessity or emergency. In the event that construction activities occur during nighttime hours (between 7:00 p.m. and 7:00 a.m.), such activities would be conducted to avoid outages during hot weather, for safety or public health purposes, and are thus anticipated to be allowable under Section 24.0708.

Construction noise is considered a short-term and temporary impact and would be considered significant if construction activities exceed either the County's allowable hours of operation or exceed the FTA guidelines of an 8-hour average sound level of 80 dBA at a residence. Construction of the revised project is expected to occur over an approximately 38-month construction duration. Additionally, while most of the construction work would occur between 7:00 a.m. and 7:00 p.m. (i.e., during the daytime), some construction work during nighttime hours may be required during the summer and early fall months. As stated above, the Los Angeles Department of Wate and Power (LADWP), in proposing to construct/maintain a necessary utility (i.e., MCC-VIC Lines 1 and 2), is exempt from work hour restrictions. For the minor construction work that would occur within the City of Victorville and Town of Appley Valley, the noise regulations of those jurisdictions would govern construction hours and noise limits. As shown in Section 4.5.2 above, the noise regulations of the City of Victorville and Town of Appley Valley are largely similar to those of the County.

Equipment that would be used during construction would include, in part, backhoes, excavators, concrete saws, dozers, pavers, rollers, and front-end loaders. The typical maximum and equivalent noise levels at a distance of 50 feet from various pieces of construction equipment and activities anticipated for use on the alignment are presented in Table 4.5-3. Usually, construction equipment operates in alternating cycles of full power and low power, producing average noise levels over time that are less than the maximum noise level. The average sound level of construction activity also depends on the amount of time that the equipment operates and the intensity of construction activities during that time.

Table 4.5-3. Sound Levels of Typical Construction Equipment

Equipment	Maximum Sound Level (dBA L_{max}) – 50 feet from Source	Equivalent Sound Level (dBA L_{eq}) – 50 feet from Source
Air Compressor	67	66
Aerial Lift (Man Lift)	73	72
Backhoe	84	76
Compactor (Plate)	75	N/A
Compactor (Roller)	83	N/A
Concrete Mixer	82	81
Concrete Saw	88	85
Crane, Mobile	76	74
Dozer	86	80
Forklift	88	N/A
Generator	68	67
Grader	79	N/A
Horizontal Bore Drill	88	87
Loader	81	72
Paving - Asphalt	83	N/A
Paving - Concrete	88	85
Pump	74	73
Scraper	92	N/A
Flatbed Truck	74	N/A
Welding Machine	72	71

Notes: dBA = A-weighted decibel; L_{max} = maximum instantaneous noise level. N/A = Equipment without average (L_{eq}) noise levels are non-stationary and best represented only by maximum instantaneous noise level (L_{max}).

Source: NASEM 2018

Off-Site Construction Noise Assessment

Noise-sensitive land uses include single family residential land uses scattered throughout the project alignment. Although additional residences and other noise-sensitive receivers are further afield, this construction noise assessment focuses on project-attributed noise exposure levels at the nearest noise-sensitive receptors, since those levels would be representative of a worst-case scenario. Construction noise levels at more distant receptors would be substantially lower, as construction noise would be anticipated to drop off at a rate of 6 dB to 7.5 dB per each doubling of distance, consistent with established acoustical principles of attenuation with geometric divergence and would be reduced further by other factors such as intervening structures.

A Microsoft Excel-based noise prediction model emulating and utilizing reference data from the Federal Highway Administration Roadway Construction Noise Model version 2.0 was used to estimate construction noise levels at the nearest occupied noise-sensitive land uses (FHWA 2018). Although the Roadway Construction Noise Model was funded and promulgated by the Federal Highway Administration, it is often used for non-roadway projects, because the same types of construction equipment used for roadway projects are often used for other types of construction. Input variables for the predictive modeling consist of the equipment type and number of each (e.g., a front end loader, a backhoe, a paver, and an excavator), the measured level across four locations for the determination of the L_{eq} (for stationary sources) or L_{max} (for non-stationary sources) at 50 feet from the source, and the distance from the construction noise source to the noise-sensitive receptor. The predictive model also considers how many hours

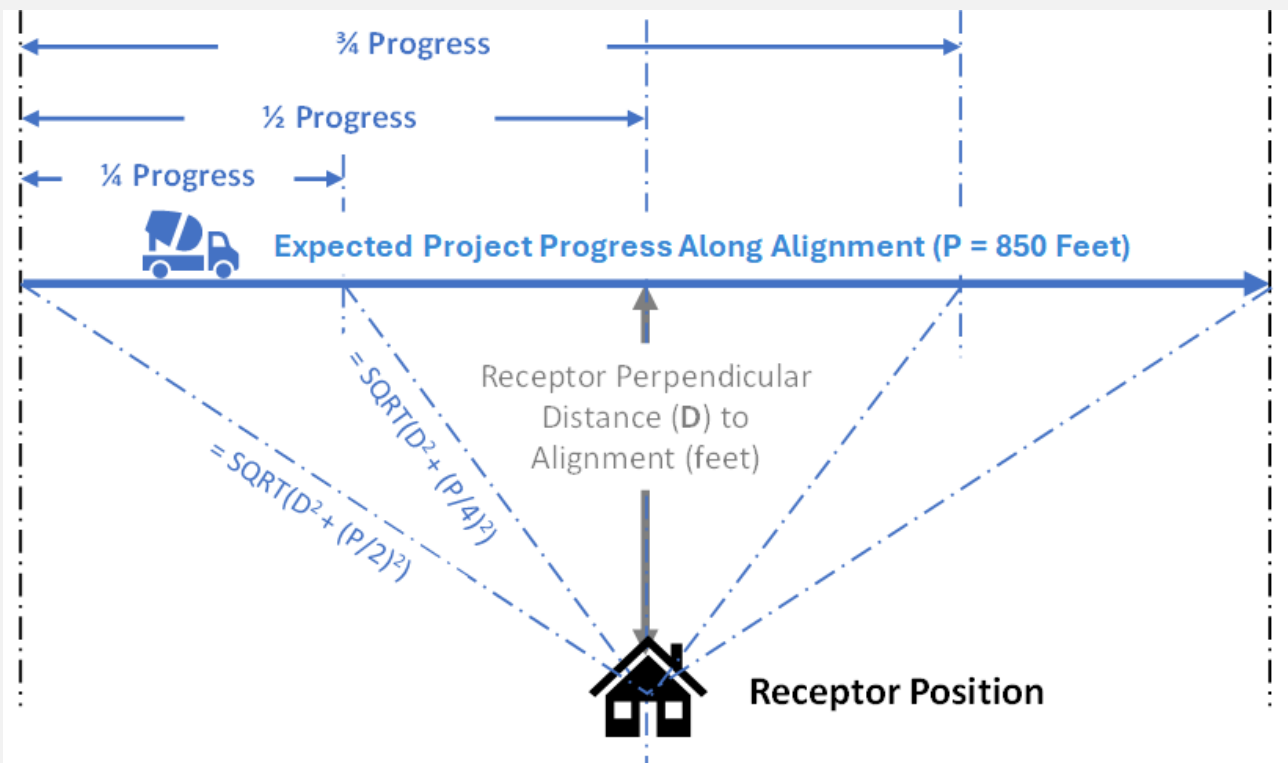
that equipment may be on-site and operating (or idling) within an established work shift. Table 4.2-6, Revised Project Construction Scenario Assumptions – Maximum Day, of Section 4.2, Air Quality, presents the equipment list used for the construction noise analysis. Conservatively, no topographical or structural shielding was assumed in the modeling. All parameters used in the analysis are detailed in Appendix E-1.

Using the provided construction information, and following general FTA construction noise assessment methodologies, prediction results are summarized using the shortest activity-to-receptor distance for the loudest two pieces of equipment operating during each construction phase. These methods are considered to be conservative approaches to assess what might be characterized as a worst-case exposure level, applicable to not more than approximately 10% to 15% of the total construction period and when the studied construction activity is taking place with all equipment along the property boundary nearest to the nearest off-site receivers. This “nearest” method assumes that the two loudest pieces of heavy construction equipment would be at these nearest distances. Therefore, the loudest heavy construction equipment unrealistically “stacks” near the construction phase boundary and would be considered a conservative predictive analysis.

By a process of input variable iteration, the Federal Highway Administration Roadway Construction Noise Model 2 emulator worksheet was used to estimate the minimum perpendicular horizontal distances between the proposed work areas and the nearest noise-sensitive receptor position (considered to be as close as 25 feet from the construction boundary and a total distance of 30 feet from the construction source to the receptor). Assumptions used include the following:

- As shown in Exhibit I, construction progress along the project alignment is a finite length (approximately 850 feet per day,² denoted as “P”), which means heavy equipment involved in the construction of the revised project will not be located at the closest perpendicular distance to an offsite receptor for an entire 8-hour work day; instead, this analysis approximates detail of project daily progress as follows:
 - 40% of the total usage hours at the start and end positions of the 850-foot-long segment, where they are most distant from the offsite receptor position;
 - 40% of the total usage hours at the first-quarter and third-quarter progress positions of the 850-foot-long segment, where they are closer to the offsite receptor position; and
 - 20% of the total usage hours at the halfway point (a.k.a., the closest or perpendicular distance between the activity and the receptor position).

² 850 feet is the length of the project alignment divided by the estimated number of construction work days. While the actual progression of construction along the alignment is not known and work may occur in an iterative fashion along the alignment, this segment length nevertheless allows for reasonable estimates of daily construction noise generated by a linear project. In practice, daily work may occur along a longer or shorter segment at any given location, depending on the activity that is being performed.

Exhibit I. Diagram of Project Construction Activity Progress and Change in Distance to Receptor

Appendix E-1 contains the worksheets used to predict the construction noise levels per activity phase. Table 4.5-4 presents the predicted construction noise levels per activity phase using the methodologies described above.

Table 4.5-4. Predicted Construction Noise Levels per Activity Phase at Nearest Receptors (Unmitigated)

Construction Phase (and duration of each phase)	Distance from Construction Source to Noise Sensitive Receptor (feet)	Predicted Construction Noise Level at Noise Sensitive Receptor (dBA L_{eq})
Residence / MCV1_151-4 - Nearest Receiver = 30 feet		
Grading (Access Road Rehabilitation)	40	81
Yard Operation	605*	55
Grading (Laydown/Staging/Site Grading)	30	84
Transmission Line Construction (Line 1)	75	79
Transmission Line Construction (Lines 1 and 2) Overlap	105	72
Transmission Line Construction (Line 2)	330	68
Recontouring/Soil Stabilization (Line 1)	40	78
Recontouring/Soil Stabilization (Line 2)	245	61
Residences / MCV1_139-6 to 140-2 - Nearest Receiver = 80 feet		
Grading (Access Road Rehabilitation)	165	65
Yard Operation	605*	55
Grading (Laydown/Staging/Site Grading) (	80	73
Transmission Line Construction (Line 1)	245	69
Transmission Line Construction (Lines 1 and 2) Overlap	245	66
Transmission Line Construction (Line 2)	400	66
Recontouring/Soil Stabilization (Line 1)	125	66
Recontouring/Soil Stabilization (Line 2)	300	60

Source: Appendix E-1.

Notes: L_{eq} = equivalent noise level; dBA = A-weighted decibels.

* In general, yard operations would occur at distance (300 feet or further) from sensitive receptors, with the exception of one material show-up yard located in Baker, California, which is discussed in detail in the paragraphs below.

Based on the levels reported in Table 4.5-4, access road rehabilitation grading and laydown/staging/site grading site would exceed the FTA threshold of 80 dBA L_{eq} over 8 hours at the nearest noise sensitive receptor, located as close as 30 feet from temporary work areas. In addition to the single-phase construction noise levels provided in Table 4.5-4, a concurrency analysis was conducted due to overlapping phases in the project construction schedule. The combined noise exposure at a common off-site receptor from potential concurrent project construction activities

would be a logarithmic sum of those contributions, which in summary means it will be dominated by the loudest sound source or be no greater than a 3 dB adjustment if both of two sources are equivalent. As shown in Appendix E-1, the predicted noise level would be as high as 86 dBA at the nearest noise sensitive receptor (adjacent to MCV1_151-4) when multiple construction phases are expected to occur concurrently, which is greater than the FTA threshold of 80 dBA L_{eq8h} . At the noise sensitive receptors adjacent to MCV1_139-6 through MCV2_140-2 (located 80 feet from work areas), the predicted noise level would be as high as 75 dBA when multiple construction phases are expected to occur concurrently, which is lower than the FTA threshold of 80 dBA L_{eq8h} . Receptors located further than 80 feet from work areas would similarly experience less-than-significant noise levels during construction.

Material show-up yards are scattered throughout the project area, to be utilized as worker drop-off/meet-up locations before traveling to work areas and collection/storage areas for project-related construction materials. One of the proposed material show-up yards is located adjacent to sensitive receptors, including residences and a school. This material show-up yard is located in the community of Baker, California, to the northwest of I-15. Specifically, this proposed material show-up yard is bound by Hillview Drive to the north, Van Ella Road to the east, Sheridan Avenue to the south, and Stadium Way to the west. This material show-up yard will be hereafter referred to in this section as the “Baker material show-up yard.”³ Grading, erection of temporary fencing and aggregate laydown (where needed), and subsequent use of this material show-up yard has the potential to significantly impact the adjacent noise-sensitive receptors. Using the aforementioned FTA methodologies, the nearest noise-sensitive receptor (approximately 15 feet from potential construction noise sources at the material show-up yard) is predicted to experience noise levels up to 97 dBA L_{eq8h} during the grading phase and up to 93 dBA L_{eq8h} during yard operations, which would exceed the FTA threshold of 80 dBA L_{eq8h} . All other material show-up yards are located 300 feet or further from sensitive receptors and would not experience significant noise levels from construction noise due to this distance.

For these reasons, construction noise from the revised project is considered to be potentially significant, and noise impacts would increase under the revised project, when compared to the impacts of the approved project. A revision to MM-NOI-1 from the approved project’s Mitigation Monitoring and Reporting Program is required to further reduce construction noise at the nearest noise-sensitive receivers, which are adjacent to MCV1_151-4 and the Baker material show-up yard.

Construction noise levels are predicted to exceed FTA thresholds for daytime construction noise for the receptor adjacent to MCV1_151-4. As such, MM-NOI-1 requires the use of best management practices for construction and localized temporary noise barriers. The temporary barrier provision in MM-NOI-1 shall only be applicable at the nearest noise sensitive receptor to the project ROW, a residence north of Line 1, adjacent to MCV1_151-4. A barrier or a setback would also be required for the Baker material show-up yard, as further discussed below. The remaining provisions within MM-NOI-1 are applicable to general construction activities (such as requiring noise-reducing features on construction equipment and vehicles with internal combustion engines) and/or construction activities occurring within a certain distance of noise sensitive land uses.

As demonstrated in Table 4.5-5, implementation of MM-NOI-1 would reduce project construction noise to less than significant levels for the sensitive receptor adjacent to MCV1_151-4. Given that the noise levels shown in Table 4.5-5 are modeled at 30 feet to 600 feet from sensitive receptor locations, and all levels are at or below the 80 dBA L_{eq} , the FTA threshold would be met after mitigation for the receptor adjacent to MCV1_151-4.

³ It is noted that there is a second, larger proposed material show-up yard near Baker, California, located adjacent to I-15 and just south of the community of Baker. This other material show-up yard near Baker is not in proximity to noise-sensitive receptors.

During the grading phase and yard operations for the Baker material show-up yard, construction noise levels are predicted to exceed FTA thresholds for daytime construction noise. As such, MM-NOI-1 requires the use of best management practices for construction, buffer areas between noise sensitive receptors and construction sources, and/or localized temporary noise barriers. The temporary barrier provisions in MM-NOI-1 for the Baker material show-up yard shall only be applicable at noise sensitive receptors within 75 feet of the yard boundary. The remaining provisions within MM-NOI-1 are applicable to general construction activities (such as requiring noise-reducing features on construction equipment and vehicles with internal combustion engines) and/or construction activities occurring within a certain distance of noise sensitive land uses. Construction noise levels at the nearest noise-sensitive receptors near the Baker material show-up yard would be reduced to 80 dBA L_{eq} after mitigation, as shown in Table 4.5-6 below, which meets the FTA threshold.

For informational purposes, Table 4.5-6 compares the maximum construction noise level (with and without mitigation incorporated) to estimated ambient noise levels (from Table 4.5-1) for the closest noise-sensitive receivers, which would be receivers adjacent to the Baker material show-up yard. As shown in Table 4.5-6, noise levels at the nearest modeled sensitive receptor location would meet FTA requirements for daytime construction noise with mitigation incorporated. It is noted that residents in the area would have the option to remain indoors during construction hours to avoid potential annoyance or disruption of outdoor speech or other activities. Indoors, and after being attenuated by the process of exterior-to-interior noise intrusion through the envelope of a receiving enclosed structure, the resulting construction noise exposure levels would not be anticipated to exceed 60 dBA L_{eq} , which would not interfere with conversations or other daytime indoor activities (FHWA 2011).

Table 4.5-5. Predicted Construction Noise Levels per Activity Phase at Nearest Receptor (Mitigated)

Construction Phase	Distance from Construction Source to Noise Sensitive Receptor (feet)	Predicted Construction Noise Level at Noise Sensitive Receptor with 8' Temporary Noise Barrier (dBA L_{eq})
Residence / MCV1_151-4 - Nearest Receiver = 30 feet		
Grading (Access Road Rehabilitation)	40	67
Yard Operation	605*	55
Grading (Laydown/Staging/Site Grading)	30	70
Transmission Line Construction (Line 1)	75	68
Transmission Line Construction (Lines 1 and 2) Overlap	105	72
Transmission Line Construction (Line 2)	330	68
Recontouring/Soil Stabilization (Line 1)	40	65
Recontouring/Soil Stabilization (Line 2)	245	61

Source: Appendix E-1.

Notes: L_{eq} = equivalent noise level; dBA = A-weighted decibels.

* In general, yard operations would occur at distance (300 feet or further) from sensitive receptors, with the exception of one material show-up yard located in Baker, California, which is discussed in detail in the paragraphs above.

Table 4.5-6. Highest Predicted Construction Noise Level Compared to Ambient Noise Levels

Existing Estimated Daytime Noise Level L_{eq} (dBA)	Highest Predicted Unmitigated Construction Noise Level L_{eq} (dBA)	Amount of Largest Increase – Unmitigated Construction Noise Levels Over Existing (dBA)	Highest Predicted Mitigated Construction Noise Level L_{eq} (dBA)	Amount of Largest Increase – Mitigated Construction Noise Levels Over Existing (dBA)
40 – 50	97*	37 – 47	80	30 - 40

Source: Appendix E-1.

Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibels

* Highest predicted concurrent phase construction noise level at noise-sensitive receptors adjacent to the Baker material show-up yard.

Construction noise impacts are thus considered less than significant with mitigation incorporated.

Helicopter Noise

Where the terrain is steep or access is limited, helicopter use may be required for transportation of personnel, delivery of equipment and materials, removal of existing transmission towers, transmission tower construction, and hardware installation. Helicopters would also be used along most of the project alignment for conductor pulling and tensioning (i.e., stringing). The helicopters used for transmission tower installations and removals are expected to be heavy-lift helicopters (specifically, Sikorsky UH-60A Blackhawk and/or Boeing CH-47D Chinook helicopters) that are suited for hauling transmission structure components and other heavy equipment/materials. Light-lift helicopters (specifically Bell 407/MD 530 or Bell 206/AS350) used for conductor pulling and tensioning, hardware installation, and transportation of personnel are expected to be smaller and lighter, as less power is required for these types of activities. A Bell 407 helicopter has a noise level of approximately 96 dBA L_{max} when hovering at 100 feet (National Park Service 2007) and is used as the representative light-duty helicopter for the noise calculations presented in the paragraph below. The Bell 407 is expected to have comparable or louder noise levels relative to the Bell 206. Based on information provided by LADWP and its construction contractor, helicopter use would typically occur for an average 4 to 6 hours per day, with a maximum work time of 8 hours per day.

Helicopter operations would be limited to daytime working hours and would be short-term in nature. Furthermore, heavy-lift helicopter use for transmission tower installation and removal activities would primarily occur in remote locations far from residential or other noise-sensitive uses, would be infrequent, and would occur for relatively short durations (on average, 4 to 6 hours per day during daytime working hours). However, light-lift helicopter use for conductor pulling and tensioning activities would occur along the majority of the project alignment, including in the vicinity of residences. In instances where a helicopter is hovering for the maximum time period of 8 hours per day, the distance at which a potentially significant impact (utilizing the FTA threshold of 80 dBA L_{eq8h} for construction-related noise) from helicopter noise could be expected is within 620 feet of a noise sensitive receiver. In instances where a helicopter is hovering for the expected average of 6 hours per day, the distance at which a potentially significant impact (utilizing the FTA threshold of 80 dBA L_{eq8h} for construction-related noise) from helicopter noise could be expected is within 530 feet of a noise sensitive receiver. In instances where a helicopter is hovering at approximately the same location for 3 hours per day, the distance at which a potentially significant impact from helicopter noise could be expected is within 370 feet of a noise sensitive receiver. As shown in Table 4.5-4, multiple noise sensitive receivers are located well within 620 feet, 530 feet, and 370 feet of transmission tower locations, where helicopters may be hovering for 3–8 hours per day.

Thus, helicopter use within 620 feet of noise sensitive receivers would exceed the applicable FTA threshold and the impact would be potentially significant. There are no feasible mitigation measures available that would reduce this impact to a less than significant level as there is no feasible way to block the line of sight from the elevated helicopter noise sources to the groundborne noise-sensitive receivers. Therefore, the impact from helicopter noise is considered significant and unavoidable.

Blasting Noise

In locations where conventional earthmoving equipment cannot suffice to complete the work due to subsurface rock formations, blasting may be necessary to remove rock for new transmission tower excavations and spur roads within the existing ROW. (Please refer to Section 3.6.4.2, Blasting in Chapter 3, Project Description, of this SEIR, for a description of the proposed blasting activities.) A worksheet utilizing DynoNobel calculations for airblast noise (DynoNobel 2010) and LADWP-provided blasting information—including the number of blasting sites, the maximum number of sites per day, the total pounds of explosives per site, the cubic yardage of material removed by each blast, and the number of blasting caps per site—were used for the blasting noise analysis. Detailed blasting data and the DynoNobel worksheet can be found in Appendix E-2. At the nearest noise sensitive receiver to a blasting site (Primm Valley Country Club; approximately 17,100 feet south of MV2_29-3), the predicted noise level is 78 dBA L_{max} and 54 dBA L_{eq8h} . As noted in Section 4.5.2, construction noise would be considered exempt from the County of San Bernardino noise thresholds for construction activities occurring during daytime hours. The predicted noise levels of 61 dBA L_{max} and 37 dBA L_{eq8h} is lower than the FTA's 80 dBA L_{eq8h} . Further, blasting would only occur during daytime hours and the noise generated would be extremely brief, as each blast lasts for a duration of approximately one to two seconds. Therefore, noise due to blasting for construction purposes would be considered less than significant.

Off-Site (Construction-Related Traffic) Noise

As discussed in greater detail in Section 5.1.14, Transportation in Chapter 5, Other CEQA Considerations of this SEIR, during construction up to 580 worker trips, 38 vendor truck trips, and 150 haul truck trips would be generated daily. These trips would be distributed across the 162-mile-long ROW and access roads in the surrounding vicinity throughout the construction period. Once construction equipment is delivered to the designated staging areas and material show-up yards, equipment and construction material would be transported to temporary work areas within the existing ROW, as needed. Based on the distance between temporary work areas, the construction trucks and equipment would occasionally use highways such as I-15 to access the next work area or travel along existing roads, access roads and existing or proposed spur roads. Increases in construction traffic (and associated traffic noise) in the vicinity of the project area would be temporary and dispersed. The project area is generally undeveloped, and the surrounding land uses primarily consist of vacant land, with some agricultural and industrial land uses, and only occasional/isolated instances of residential uses. Therefore, traffic related to construction activities would not be expected to result in a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of the FICON thresholds presented in Section 4.5.2 above (i.e., an increase of more than 5 dBA when the ambient level is less than 60 dBA $L_{dn}/CNEL$). As such, potential increases in construction traffic noise in the vicinity of the ROW and other temporary work areas would be less than significant.

Construction Conclusion Summary

Impacts for the approved project were determined to be less than significant with mitigation incorporated for construction noise in the certified 2024 EIR. Under the revised project, impacts would increase due to the expanded use of helicopters in the vicinity of noise-sensitive receivers (i.e., residences). There are no feasible mitigation

measures to reduce the noise impact related to helicopters to a less than significant level. Thus, the construction noise impacts of the revised project would be significant and unavoidable. Therefore, the revised project would result in a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Operations and Maintenance

Upon completion of revised project construction, on-site construction noise as well as on-road construction-worker and truck trips would cease. Noise sources associated with operation of the revised project would consist of periodic inspection and maintenance. As with the existing 500-kilovolt (kV) lines, the proposed 575 kV transmission lines would be inspected several times annually. Maintenance would be performed as needed. Traffic related to maintenance activities would not change compared to existing operational conditions and thus would not result in a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of the FICON thresholds presented in Section 4.5.2 above (i.e. an increase of more than 5 dBA when the ambient level is less than 60 dBA $L_{dn}/CNEL$). Because noise from such activities would be similar to that under the existing conditions, no impacts would occur from noise associated with inspection and maintenance.

Corona Noise

Some noise would be generated during operation by so-called “corona effect” noise. Corona is an electrical discharge associated with transmission lines produced by the ionization of fluid (most often humidity in the air) surrounding an electrically charged conductor. This phenomenon can produce low-level audible noise. Corona discharge is not a steady source of noise; rather, it varies with humidity conditions and occurs mostly during very damp or wet conditions. Based upon information provided by LADWP staff, the Department would require that the proposed 575 kV transmission lines be designed to meet an audible noise limit of 55 dBA at the edge of the ROW. This is the same design standard that was used for a prior project involving modifications to the existing 500 kV transmission lines (TRC Companies 2022). As such, no change would occur in corona noise compared to existing conditions in the vicinity of the transmission corridor. Therefore, operational noise impacts due to corona would be less than significant.

Off-Site (Operation-Related Traffic) Noise

The operation of the revised project would require maintenance trips, which would be the same as under existing operations and would not occur on a daily basis. As such, the revised project is not anticipated to generate new operational vehicle trips. Therefore, traffic noise related to the revised project would be less than significant.

Operations Conclusion Summary

Operational noise impacts for the approved project were determined to be less than significant in the certified 2024 EIR. Under the revised project, the impact would remain the same, resulting in less than significant impacts for the revised project. The revised project would not result in a new significant impact or a substantial increase in the severity of a previously identified significant impact compared to the approved Project.

Threshold NOI-2: Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Summary of the Certified 2024 EIR Findings

In the 2024 certified EIR, the study indicated that vibration from construction and operation of the approved project was found to be less than significant.

Revised Project Impact Analysis

Section 83.01.090 (Vibration) of the County Development Code specifies a numerical limit for groundborne vibration of 0.20 ips at or beyond the lot line. Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m. (except Sundays and federal holidays) are exempted from this vibration threshold. Because the County Development Code does not establish numerical construction vibration thresholds for construction activities, Caltrans’ guide for vibration is used in this analysis. Caltrans recommends 0.5 ips PPV as a threshold for the avoidance of structural damage to typical newer residential buildings and for commercial and industrial buildings exposed to continuous or frequent intermittent sources of groundborne vibration. For transient vibration events, such as blasting, the damage risk threshold is 1.0 ips PPV (Caltrans 2020) at the same type of commercial, industrial, and newer residential structures. For older residential structures, these guidance thresholds are more stringent: 0.3 ips PPV for continuous/intermittent vibration sources and 0.5 ips PPV for transient vibration events. With respect to human annoyance, Caltrans guidance indicates that building occupants exposed to continuous groundborne vibration in the range of 0.2 ips to 0.6 ips PPV would find it “unpleasant” or “annoying.”

Construction activities may expose persons to excessive groundborne vibration or groundborne noise, causing a potentially significant impact. Caltrans has collected groundborne vibration information related to construction activities (Caltrans 2020). Table 4.5-7 shows groundborne vibration levels from typical construction equipment (Caltrans 2020).

Table 4.5-7. Vibration Velocities for Typical Construction Equipment

Equipment	PPV at 25 Feet (Inches Per Second)
Vibratory Roller	0.210
Large Bulldozer	0.089
Loaded Trucks	0.076
Small Bulldozer	0.003

Source: Caltrans 2020.

Note: PPV = peak particle velocity; VdB = vibration decibel.

Groundborne vibration attenuates rapidly, even over short distances. The attenuation of groundborne vibration as it propagates from source to receptor through intervening soils and rock strata can be estimated with expressions found in FTA and Caltrans guidance. The revised project would produce vibration effects during construction as a result of equipment operations and blasting activities. Of the equipment fleet that would be used for project construction, the most vibrationally intensive would be large bulldozers. Project-related equipment could operate as close as 30 feet from a residential structure that is located near the project alignment. For a bulldozer operating 30 feet from a structure, the estimated vibration velocity would be 0.068 ips per the equation as follows (FTA 2018):

$$PPV_{rcvr} = PPV_{ref} * (25/D)^{1.5} = 0.068 = 0.089 * (25/30)^{1.5}$$

In the above equation, PPV_{rcvr} is the predicted vibration velocity at the receptor position, PPV_{ref} is the reference value at 25 feet from the vibration source (the large bulldozer), and D is the actual horizontal distance to the receptor. Therefore, at this predicted PPV, the impact of vibration-induced annoyance to the nearest existing residence would be below the threshold for potential structural damage, as well as below the threshold for human annoyance.

The revised project would require blasting at select locations, which has the potential to produce vibration. As shown in the Appendix E-2 DynoNobel-based worksheet, the estimated vibration velocity associated with blasting during construction operations would be approximately 0.003 ips at the nearest sensitive receptor (Primm Valley Country Club; approximately 17,100 feet south of MV2_29-3). This level is below the threshold for potential structural damage, as well as below the threshold for human annoyance. Construction vibration is therefore considered less than significant.

Operational conditions for the revised project would not change compared to existing operational conditions and would thus not be expected to feature major producers of groundborne vibration. On this basis, potential vibration impacts due to revised project operation would be less than significant.

Vibration Conclusion Summary

Vibration impacts for the approved project were determined to be less than significant in the certified 2024 EIR. Under the revised project, potential construction vibration sources for the revised project would increase due to the inclusion of proposed blasting, but the impact would remain less than significant for the reasons discussed above. Thus, the revised project would not result in a new significant impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project

4.5.5 Mitigation Measures

MM-NOI-1 Construction Noise Reduction. The Los Angeles Department of Water and Power (LADWP) and/or its construction contractor shall comply with the following measures during construction:

- LADWP or its construction contractor shall provide written notification to noise-sensitive receptors within 700 feet of active construction areas at least 10 days prior to commencement of such activities. The notification shall include details of the schedule, duration, and progress of construction, including any planned nighttime work or helicopter operations, as well as contact information for noise-related complaints. The County of San Bernardino Land Use Services Department shall also be notified of construction activities planned to occur within 700 feet of noise-sensitive receptors, with notification also provided at least 10 days prior to commencement of such activities.
- Equipment (e.g., portable generators) shall be located as far as possible from noise-sensitive receptors to minimize noise at nearby noise-sensitive receptors.
- Staging of construction equipment shall take place as far from noise- or vibration-sensitive land uses as practicable.
- All noise-producing equipment and vehicles using internal combustion engines shall be equipped with mufflers; air-inlet silencers, where appropriate; and any other shrouds, shields, or other noise reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed “package” equipment (e.g., arc-welders, air compressors)

shall be equipped with shrouds and noise control features that are readily available for that type of equipment.

- All mobile or fixed noise-producing equipment used for the project that are regulated for noise output by a local, state, or federal agency shall comply with such regulations.
- Idling equipment shall be kept to a minimum and moved as far as practicable from noise-sensitive land uses.
- Electrically powered equipment shall be used instead of pneumatic or internal-combustion-powered equipment, where feasible.
- Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receptors.
- The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.
- If construction equipment (e.g., grader, bulldozer, roller, excavator, generator, and/or forklift) will be used at the material show-up yard in Baker CA, then a 75-foot buffer zone shall be established between construction activities and adjacent noise-sensitive receptors and/or a temporary noise barrier shall be erected with a minimum required height of 16 feet along the project boundary when noise-sensitive receptors are within 75 feet of the material show-up yard in Baker, CA. If the barrier option is selected, the barrier shall consist of any combination of the following, as determined most feasible by LADWP or its construction contractor:
 - A temporary solid noise barrier, constructed of 3/4-inch Medium Density Overlay (MDO) plywood sheeting or other material of equivalent utility and appearance having a surface weight of 2 pounds per square foot or greater
 - A temporary curtain barrier hung in place on construction fencing (the curtain barrier could also be hung on K-rails, assuming the rails have been extended to the required height based upon the activity, as specified above)
 - A temporary K-rail mounted sound barrier.
- A temporary noise barrier shall be erected with a minimum required height of 8 feet along the project boundary between the residence north of MCV1_151-4 when construction activities occur within 1,000 feet of the residence. The barrier shall consist of any combination of the following, as determined most feasible by LADWP or its construction contractor:
 - A temporary solid noise barrier, constructed of 3/4-inch Medium Density Overlay (MDO) plywood sheeting, or other material of equivalent utility and appearance having a surface weight of 2 pounds per square foot or greater
 - A temporary curtain barrier hung in place on construction fencing (the curtain barrier could also be hung on K-rails, assuming the rails have been extended to the required height based upon the activity, as specified above)
 - A temporary K-rail mounted sound barrier.

4.5.6 Significance Conclusions

Threshold NOI-1: During construction, the revised project would result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the revised project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies due to helicopter noise. Impacts related to helicopter noise would be considered significant and unavoidable. Impacts related to general construction noise would be considered less than significant with mitigation incorporated. Impacts related to blasting noise, off-site construction-related, and traffic noise would be considered less than significant. Operational impacts from corona and off-site operation-related traffic noise would both be less than significant. Operational impacts from maintenance would have no impact.

Threshold NOI-2: The revised project would not result in generation of excessive groundborne vibration or groundborne noise levels. Impacts related to construction (including blasting) and operations would be less than significant.

4.5.7 Cumulative Effects

As required by CEQA Guidelines Section 15130, the discussion and analysis provided in this section considers whether the project's incremental effect(s) may be individually limited but cumulatively considerable. In accordance with CEQA Guidelines Section 15065(a)(3), "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. The cumulative geographic study area used to assess potential impacts related to noise and vibration is generally the ROW as well as all access and spur roads and other work areas outside of the ROW (i.e., material show-up yards) and the surrounding vicinities within California.

Future development within the project area, including the revised project, would affect the future (cumulative) ambient noise environment. While it is difficult to predict exactly how the ambient noise conditions within the area would change, it is expected that traffic noise levels would increase due to the additional traffic generated by other development within the County. In the cumulative scenario, ongoing development in the project vicinity would be expected to increase the ambient noise environment in the area as a result of increased traffic volumes, increased residential population and commercial activities.

The primary factor for the cumulative noise impact analysis is the consideration of future traffic volumes. Non-transportation noise sources (e.g., revised project operation) and construction noise impacts are typically project-specific and highly localized. Construction activities associated with anticipated development within the area would contribute temporarily to the noise levels in the cumulative ambient noise environment, but in a highly localized and transient manner. As other development occurs in the area, noise from different types of uses (e.g., traffic, aircraft, fixed noise sources) would continue to combine, albeit on a localized basis, to cause increases in overall background noise conditions within the area. As a result, such sources do not significantly contribute to cumulative noise impacts at distant locations and are not evaluated on a cumulative level.

Temporary/Periodic Increases in Ambient Noise Levels

The revised project would result in temporary noise increases during construction activities, as discussed under Threshold NOI-1, above. The construction period of the revised project has the potential to overlap with the

construction of other development projects in the project vicinity. Due to the decrease in noise levels with distance and the presence of physical barriers (e.g., intervening distance and topography), noise due to construction of other projects would not meaningfully combine with the revised project to produce a cumulative noise effect during construction. By way of illustration, if there are two concurrent construction projects of comparable sound emission intensity, and the activity nearest to the studied noise-sensitive receptor is compliant with County applicable noise thresholds, the other activity could be no closer than three times the distance of the receptor to the nearest activity and not make a cumulatively measurable contribution to the total and still result in a County compliant noise exposure level. If two concurrent projects were close to a receptor, the cumulative noise would be one of the following:

- the louder (in dBA) of the two concurrent activities; or,
- a logarithmic sum of the two activity noise levels that, per acoustic principles, cannot be more than 3 dBA greater than the louder of the two individual noise-producing activities.

In sum, cumulative construction noise is likely to be dominated by the nearest or loudest activity to the receptor, and the combination will be no more than a barely perceptible difference (i.e., up to a 3 dBA change). Based on the cumulative project list for the project, there are no construction projects that would potentially contribute construction noise that would, in combination with the project, result in cumulative impacts. Thus, cumulative impacts associated with temporary increases in ambient noise levels would not be cumulatively considerable and would be considered less than significant.

Permanent Increase in Ambient Noise Levels

Off-Site Traffic

There would be no change to operational traffic compared to existing conditions as a result of the revised project. Thus, the project's contributions to any potential cumulative off-site traffic noise impacts would not be cumulatively considerable.

Stationary Sources

Noise from operation of stationary mechanical equipment added to the outdoor ambient sound environment as a result of revised project implementation would include permanent on-site noise sources (e.g., corona noise) as addressed in Section 4.5.4, under Threshold NOI-1. A cumulative impact could occur if noise produced from such sources due to implementation of the project were to combine with noise produced from the operation of other cumulative projects in the vicinity to create a cumulatively significant permanent increase in ambient noise levels. However, corona noise emission from transmission lines attenuates with distance and can be occluded by structures and terrain. Additionally, the operation of the revised project, along with the operation of other cumulative projects, would be subject to applicable requirements from the County noise ordinance, which limits the exterior noise levels at residences. Finally, corona noise under the revised project would not change considerably compared to existing conditions. Hence, for these reasons, cumulative impacts to outdoor ambient noise levels resulting from revised project stationary sources would not be cumulatively considerable and would be less than significant.

Vibration

Groundborne vibration attenuates very rapidly with distance. For example, at 25 feet from an operating heavy dozer the reported vibration level is 0.089 ips PPV; at a distance of 50 feet the vibration level would be 0.03 ips PPV; and

at 200 feet the vibration level would be 0.004 ips PPV. No portion of the revised project construction limits would be closer than approximately 200 feet from any of the cumulative projects. With a project construction-related vibration contribution of no greater than 0.004 ips PPV to construction vibration levels occurring at one of the cumulative project sites, there would be a less than significant impact and the project would not result in a cumulatively-considerable contribution regarding generation of excessive groundborne vibration or groundborne noise levels.

4.5.8 References

- Caltrans (California Department of Transportation). 2020. *Transportation and Construction Vibration Guidance Manual*. April 2020. Accessed June 2026. <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf>.
- DynoNobel. 2010. *Blasting and Explosives Quick Reference Guide*. Accessed May 2026. https://www.leg.mn.gov/docs/2015/other/150681/PFEISref_1/Dyno%20Nobel%202010.pdf.
- National Park Service. 2007. Report No: GRCA-07-05. *Sound levels of helicopters used for administrative purposes at Grand Canyon National Park*. Accessed May 2026. https://www.sandiegocounty.gov/content/dam/sdc/pds/ceqa/Soitec-Documents/Final-EIR-Files/references/rtcref/ch2.6/2014-12-19_NPS2007.pdf.
- FHWA (Federal Highway Administration). 2018. *Roadway Construction Noise Model (RCNM)*, Software Version 2.0. U.S. Department of Transportation, Research and Innovative Technology Administration, John A. Volpe National Transportation Systems Center, Environmental Measurement and Modeling Division.
- FTA (U.S. Department of Transportation, Federal Transit Administration). 2018. *Transit Noise and Vibration Impact Assessment Manual*. September 2018.
- Hoover and Keith. 2000. *Noise Control for Buildings, Manufacturing Plants, Equipment and Product*. Lecture notes, first published 1981.
- OPR (California Governor's Office of Planning and Research). 2017. *State of California General Plan Guidelines 2017: Appendix D, Noise Element Guidelines: Guidelines for the Preparation and Content of the Noise Element of the General Plan*.

INTENTIONALLY LEFT BLANK

4.6 Paleontological Resources

This section of the Subsequent Environmental Impact Report describes the existing paleontological resources conditions of the revised McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (revised project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the revised project, as applicable. Potential impacts of the revised project are discussed in relation to the previously approved McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (approved project), which was analyzed in the certified 2024 Environmental Impact Report (2024 EIR).

The information and analysis in the section are based, in part, on the following technical appendices:

- **Confidential Appendix F. Paleontological Resources Review – LADWP McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project, California and Nevada, prepared by Dudek, dated April 2024 (revised June 2026)**

Additional literature sources relied upon for this analysis are listed in Section 4.6.8, References.

4.6.1 Existing Conditions

The Los Angeles Department of Water and Power utility corridor in which the transmission lines are found is within the Mojave Desert Geomorphic Province of California and extends into the Mojave Desert region of Nevada. This province and region are characterized by isolated mountain ranges separated by expanses of desert plains with interior enclosed drainages and many playas. The area contains numerous faults that control the topography of the region (CGS 2002). Numerous geological units are spanned within this area and are crossed by the project alignment and the access roads. Below are generalized descriptions of the geological units that the project alignment crosses and their general associated paleontological sensitivity. More detailed geological and Potential Fossil Yield Classification information can be found within Appendix F. Geological ages referenced below are from the International Stratigraphic Chart by Cohen et al. (2024). Not all formations listed below were recognized and/or were differentiated within the bore logs in the geotechnical report for the project (GeoPentech 2021). For those formations, no depths are noted in the descriptions below.

The list of geological units below is descriptive of both the California and Nevada segments of the revised project. However, the impacts analysis in this section is focused on paleontological resources within the California segment only, for the purposes of California Environmental Quality Act (CEQA). A separate National Environmental Policy Act document is being prepared that will address potential effects in Nevada.

Quaternary Geological Units

Young alluvial sediments (Holocene): Young alluvial sediments are usually composed of varying amounts sand, silt, gravels, cobbles, and boulders that are poorly to moderately sorted and loose to lightly compacted and include wash, landslide, aeolian, and fan deposits that are generally too young (less than 11,700 years) to preserve paleontological resources. These units generally have not been shown to produce fossil resources and so are assigned low paleontological sensitivity, but that sensitivity transitions to high with depth, below a depth of 5 feet. Sediments underlying these young units and the depth of disturbance should be considered when deciding whether paleontological monitoring is needed (BLM 2022). The project's geotechnical report notes these sediments

occurring anywhere from 0 feet to 56.5 feet below ground surface along the transmission line corridor. For exact locations and depths, refer to the geotechnical report (GeoPentech 2021).

Old alluvial sediments (late Pleistocene): Old alluvial sediments generally consist of varying amounts of silt, sand, gravel, cobbles, and boulders, and poorly to moderately sorted, compacted to lightly consolidated sediments, and include old fan deposits, old landslide deposits, and old wash deposits. These types of late Pleistocene (approximately 11,700 to 129,000 years ago) deposits may preserve a large diversity of terrestrial vertebrates and occasionally freshwater vertebrates and invertebrates. Old alluvial sediments have high paleontological sensitivity (BLM 2022). The project's geotechnical report shows these sediments occurring anywhere from 0 feet to 56.5 feet below ground surface along the transmission line corridor. For exact locations and depths, refer to the geotechnical report (GeoPentech 2021).

Lake Manix sediments or equivalent (Manix Formation/Manix Lake Beds) (late to middle Pleistocene): Lake Manix sediments consist of rounded gravel and gravelly sand of pluvial lacustrine deposits that are mostly unconsolidated, fine-grained, light grayish-green colored sand, silt, mud, and clay from fresh water (lacustrine) lakes and saline (playa) dry lakes. These late to middle Pleistocene (approximately 11,700 to 774,000 years ago) Lake Manix equivalent sediments are slightly to moderately consolidated, moderately dissected fine-grained sand, silt, mud, and clay from lake, playa, and estuarine deposits of various types, including lacustrine and old lacustrine deposits. Significant fossils from the Lake Manix sediments include lacustrine invertebrates (mollusks, crustaceans), vertebrates (fish, numerous reptiles, numerous birds, amphibians), and terrestrial mammals (horse, sloth, wolf, bear, sabertooth cat, camels, llama, proboscideans, and numerous rodents) (Buwalda 1914; Byers 1960; Mindat.org 2024). Lake Manix sediments and their equivalent have high paleontological sensitivity (BLM 2022).

Very old alluvial sediments (early Pleistocene): Very old alluvial sediments generally consist of moderately to well-consolidated, highly dissected boulder, cobble, gravel, sand, and silt deposits and include very old alluvial fan and very old alluvial deposits. These types of early Pleistocene (approximately 1.8 to 2.58 million years ago [mya]) deposits may preserve a large diversity of terrestrial vertebrates and occasionally freshwater vertebrates and invertebrates. Very old alluvial sediments have high paleontological sensitivity (BLM 2022). The project's geotechnical report shows these sediments occurring anywhere from 0 feet to 51.5 feet below ground surface along the transmission line corridor. For exact locations and depths, refer to the geotechnical report (GeoPentech 2021).

Neogene and Paleogene/Cenozoic Geological Units

Avawatz Formation (early Pliocene to late Miocene)/Sediments that compared favorably to the Avawatz Formation: There is an unknown unit crossed by several of the access roads, which may or may not require improvement, that compares favorably to the Barstow/Avawatz Formations. This early Pliocene to late Miocene (approximately 3.6 to 11.63 mya) formation is characterized by four informal members: a coarse conglomerate (fanglomerate), green and brown clays (lake beds), resistant breccia (atmoclastic breccia), and arkosic sands and tuffs (fluvial deposits) (Henshaw 1940). The formation unconformably underlies a coarse conglomerate believed to be Quaternary in age. Mammalian fossils are known from the upper 4th member, the fanglomerate. The Avawatz Formation contains the best known early Clarendonian (North American Land Mammal Age, Carrasco et al. 2005) mammal fossils and vertebrate fossil trackways (notably birds, camels, and felids) from the Mojave Desert. These tracks occur in the upper part of the formation, the lake beds (Henshaw 1940; Lofgren et al. 2006). The Avawatz Formation has high paleontological sensitivity (BLM 2022).

Barstow Formation (late to middle Miocene)/Sediments including or attributed to the Barstow Formation: The Barstow Formation consists of moderately consolidated sedimentary rocks of fluvial and lacustrine origin with a few pyroclastic strata, interbedded sandstones and shales, poorly bedded conglomerates and breccias, fanglomerates, massive to coarsely laminated limestone, sandstones, and tuff. This late to middle Miocene (approximately 7.24 to 20.44 mya) formation has produced numerous significant Barstovian and Hemingfordian North American Land Mammal Age (Carrasco et al. 2005) fossils, which include numerous plants, invertebrates (insects, crustaceans, arthropods, mollusks), reptiles (tortoises), birds (raptors, geese, quail, wading birds), and mammals (antelope, camels, canids, horses, proboscideans, oreodont, peccary, bear-dog, dog-bears, rhino). The formation is unconformably overlain by Quaternary alluvium. The Barstow Formation and sediments attributed to the formation have very high paleontological sensitivity (BLM 2022; Dibblee 1967; Hershey 1902).

Volcanics (Miocene), possibly associated with Barstow Formation: Miocene (approximately 5.33 to 23.03 mya) volcanic units are located within the Calico Mountains, where the Barstow Formation is highly prevalent; therefore, these extrusive volcanic, pyroclastic, and sedimentary rocks may be unrecognized or unknown units associated the Barstow Formation. Although no fossils have been reported from these sediments, due to their location and possible association with the Barstow Formation, they have the potential to preserve fossils and would have moderate to high paleontological sensitivity (BLM 2022).

Hector Formation (Oligo-Miocene): The Oligo-Miocene (approximately 20.44 to 27.82 mya) Hector Formation consists of tan-grayish brown tuffaceous sandstone, orangish brown-reddish brown tuffaceous sandstone, brown-brownish gray conglomeratic sandstone, “marker tuff bed,” tuffaceous sandstone with coarse conglomeratic sandstone with tuff bed, and a coarsely conglomeratic northern facies. The Hector Formation unconformably underlies Pleistocene alluvium. This formation contains important late Arikareean and early Hemingfordian (North American Land Mammal Age) (Carrasco et al. 2005) mammals, including camelids, horses, oreodonts, mustelids, and amphicyonids, and has high paleontological sensitivity (BLM 2022; Woodburne et al. 1974).

Paleozoic Geological Units

Bird Spring Formation (early Permian to late Mississippian): The early Permian to late Mississippian (approximately 290 to 330.9 mya) Bird Spring Formation consists of gray limestone and dolomite, separated by shale and sandstone, and rests unconformably on the Monte Cristo Limestone. Marine microfossils and macroinvertebrate fossils have been recovered from the formation, as have conodonts (Hewett 1931). The Bird Spring Formation has moderate paleontological sensitivity (BLM 2022).

Monte Cristo Formation (middle to early Mississippian): This middle to early Mississippian (approximately 330.9 to 358.9 mya) formation primarily contains limestones and dolomites. Invertebrate fossils consisting of corals, bryozoans, articulate brachiopods, mollusks, crinoids, trilobites, and ostracods are found within the formation. It unconformably underlies the Bird Spring Formation and overlies the Sultan Limestone geological unit (Hewett 1931, 1956). The Monte Cristo Formation has moderate paleontological sensitivity (BLM 2022).

Sultan Limestone (early Mississippian to middle Devonian): This early Mississippian to middle Devonian (approximately 346.7 to 393.3 mya) geological unit consists of dark gray to brown dolostone with numerous stromatoporoids (sponges) and represents shallow marine carbonates with shallow marine invertebrate fauna that have been recovered from the middle and upper portions of the unit. It underlies the Monte Cristo Formation and is underlain by the Good Springs Dolomite geological unit (Hewett 1931, 1956). The Sultan Limestone geological unit has moderate paleontological sensitivity (BLM 2022).

Good Springs Dolomite (middle Devonian to late Cambrian): This middle Devonian to late Cambrian (approximately 382.7 to 497 mya) geological unit consists of thinly bedded light and dark gray mottled dolomite with manganese, with sandy shale locally at the top of the unit. It underlies the Sultan Limestone geological unit. It contains common invertebrate/plants, intermittently (Hewett 1931). The Good Springs Dolomite geological unit has moderate paleontological sensitivity (BLM 2022).

Metasedimentary Rocks (all ages): These rocks of marine and terrestrial origin are composed of metamorphosed sedimentary units of carbonate, shales, and sandstones that can be found within hillslope materials such as colluvium, talus, regolith, and landslide deposits. Fossils are rare, but the potential for preservation exists. Most of these units have an unknown paleontological sensitivity (BLM 2022).

Volcanic Deposits/Granite Deposits/Metamorphic Deposits/Precambrian Rocks (all ages): Precambrian (greater than 538.8 mya) volcanic, granitic, and metamorphic rocks do not contain any fossils. These units have low to no paleontological sensitivity, and as such, do not require further paleontological review.

4.6.2 Regulatory Framework

The laws and regulations regarding paleontological resources are implemented at the federal level and include protection measures on federal lands (i.e., federally managed lands such as those of the U.S. Department of the Interior and Bureau of Land Management [BLM]). CEQA is the primary state law governing and affecting the management and protection of paleontological resources at the state level. Relevant regulations at the local level include the San Bernardino Countywide Plan EIR. A description of the applicable laws, regulations, and guidelines is provided in the following subsections.

Federal

Paleontological Resources Protection Act of 2009

The Paleontological Resources Protection Act was signed into law as part of the Omnibus Public Lands Management Act of 2009. The Omnibus Public Lands Management Act Paleontological Resources Protection Act requires the Secretary of the Interior to manage and protect paleontological resources on federal land using scientific principles and expertise and requires federal agencies to develop appropriate plans for inventorying, monitoring, and the scientific and educational use of paleontological resources, in accordance with applicable agency laws, regulations, and policies. Where possible, these plans should emphasize interagency coordination and collaborative efforts with non-federal partners, the scientific community, and the general public. The Omnibus Public Lands Management Act Paleontological Resources Protection Act is the authority for federal land managing agencies for permits to collect paleontological resources, as well as curation of these resources in an approved repository. It provides authority for the protection of significant paleontological resources on federal lands, including criminal and civil penalties for fossil theft and vandalism.

State

California Environmental Quality Act

CEQA is the principal statute governing environmental review of programs occurring in the state. CEQA requires lead agencies to determine if a project would have a significant impact on paleontological resources. In particular, Appendix G (part V) of the CEQA Guidelines provides guidance relative to significant impacts on paleontological

resources, stating that “a project will normally result in a significant impact on the environment if it will...directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.” According to the Standard Environmental Reference chapter for paleontology, prepared by the California Department of Transportation (Caltrans 2014), the significance of a paleontological resource may be stated for a particular fossil species, fossil assemblage, or for a rock unit as a whole. There are two generally recognized types of paleontological significance:

- **National:** A National Natural Landmark–eligible paleontological resource is an area of national significance defined by the Code of Federal Regulations (CFR) (36 CFR 62) that contains an outstanding example of fossil evidence of the development of life on earth.
- **Scientific:** Definitions of a scientifically significant paleontological resource can vary by jurisdictional agency and paleontological practitioner.

This document uses an abbreviated summary defining significance in paleontological resources: All vertebrate fossils that can be related to a stratigraphic context are significant and are considered significant nonrenewable paleontological resources. Invertebrate and plant fossils, as well as other environmental indicators associated with vertebrate fossils, are considered significant. Certain invertebrate and plant fossils that are regionally rare or uncommon, or help to define stratigraphy, age, or taxonomic relationships, are considered significant.

Additional guidelines for paleontological resource evaluation and management are provided by the Society of Vertebrate Paleontology (SVP 2010).

Generally, scientifically significant paleontological resources are identified sites or geological deposits containing individual fossils or assemblages of fossils that are unique or unusual, diagnostically or stratigraphically important, and add to the existing body of knowledge in specific areas, stratigraphically, taxonomically, or regionally (SVP 2010). Particularly important are fossils found in situ (undisturbed) in primary context (i.e., fossils that have not been subjected to disturbance subsequent to their burial and fossilization). As such, they aid in stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, paleoclimatology, the relationships between aquatic and terrestrial species, and evolution in general. Discovery of in-situ fossil-bearing deposits is rare for many species, especially vertebrates. Terrestrial vertebrate fossils are often assigned greater significance than other fossils because they are rarer than other types of fossils.

The Society of Vertebrate Paleontology (SVP 2010) provides the following definitions of significance:

- Significant Nonrenewable Paleontological Resources are fossils and fossiliferous deposits here restricted to vertebrate fossils and their taphonomic and associated environmental indicators. This definition excludes invertebrate and botanic fossils except when present within a given vertebrate assemblage. Certain plant and invertebrate fossils or assemblages may be defined as significant by a project paleontologist, local paleontologist, specialist, or special interest groups, or by lead agencies or local governments.
- A Significant Fossiliferous Deposit is a rock unit or formation that contains significant nonrenewable paleontological resources, here defined as comprising one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils, traces, and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information (ichnites and trace fossils generated by vertebrate animals [e.g., trackways or nests and middens, which provide datable material and climatic information]). Paleontological resources are considered to be older than recorded history and/or older than 5,000 years before present (BP).

Local

San Bernardino Countywide Plan

San Bernardino County has numerous fossils reported from within its geological units, and so the protection of these fossil resources is addressed in the San Bernardino Countywide Plan Draft EIR (County of San Bernardino 2019). Following are the Mitigation Measures provided in the Countywide Plan EIR that address paleontological resources. Because the revised project extends through San Bernardino County, the project-specific mitigation measure for this project (see Section 4.6.5) has been developed in accordance with these countywide measures.

CUL-5 In areas of documented or inferred paleontological resource presence, development projects proposed on previously undisturbed soils shall require consultation with a qualified paleontologist meeting the standards of the Society for Vertebrate Paleontology [SVP] (2010). The initial consultation may be provided by a qualified paleontologist on staff at the County Museum. The qualified paleontologist will determine the degree of paleontological resource sensitivity, as outlined below, and will recommend a project specific paleontological resources monitoring and mitigation plan (PRMMP). This plan will address specifics of monitoring and mitigation for the development project, and will take into account updated geologic mapping, geotechnical data, updated paleontological records searches, and any changes to the regulatory framework. This PRMMP should usually meet the standards of the SVP (2010), unless the project is on BLM [Bureau of Land Management] land or subject to federal jurisdiction, in which case the BLM standards (2009) should be used. The following provisions would be typical for units mapped with the different levels of paleontological sensitivity:

- High (SVP)/Class 4–5 (BLM)—All projects involving ground disturbances in previously undisturbed areas sediments mapped as having high paleontological sensitivity will be monitored by a qualified paleontological monitor on a full-time basis under the supervision of the Qualified Paleontologist. Undisturbed sediments may be present at the surface, or present in the subsurface, beneath earlier developments. This monitoring will include inspection of exposed sedimentary units during active excavations within sensitive geologic sediments. The monitor will have authority to temporarily divert activity away from exposed fossils to evaluate the significance of the find and, should the fossils be determined to be significant, professionally and efficiently recover the fossil specimens and collect associated data. Paleontological monitors will use field data forms to record pertinent location and geologic data, will measure stratigraphic sections (if applicable), and collect appropriate sediment samples from any fossil localities.
- Low to High (SVP)/Class 2 to Class 4–5 (BLM)—All projects involving ground disturbance in previously undisturbed areas mapped with low-to-high paleontological sensitivity will only require monitoring if construction activity will exceed the depth of the low sensitivity surficial sediments. The underlying sediments may have high paleontological sensitivity, and therefore work in those units might require paleontological monitoring, as designated by the Qualified Paleontologist in the PRMMP. When determining the depth at which the transition to high sensitivity occurs and monitoring becomes necessary, the Qualified Paleontologist should take into account: a) the most recent local geologic mapping, b) depths at which fossils have been

found in the vicinity of the project area, as revealed by the museum records search, and c) geotechnical studies of the project area, if available.

- Low (SVP)/Class 2–3 (BLM)—All projects involving ground disturbance in previously undisturbed areas mapped as having low paleontological sensitivity should incorporate worker training to make construction workers aware that while paleontological sensitivity is low, fossils might still be encountered. The Qualified Paleontologist should oversee this training as well as remain on-call in the event fossils are found. Paleontological monitoring is usually not required for sediments with low (Low / Class 2–3) paleontological sensitivity.
- None (SVP)/Class 1 (BLM)—Projects determined by the Qualified Paleontologist to involve ground-disturbing activities in areas mapped as having no paleontological sensitivity (i.e., plutonic igneous or high-grade metamorphic rocks) will not require further paleontological mitigation measures.

CUL-6 In the event of any fossil discovery, regardless of depth or geologic formation, construction work will halt within a 50-ft. radius of the find until its significance can be determined by a Qualified Paleontologist. Significant fossils will be recovered, prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility in accordance with the standards of the SVP (2010) and BLM (2009). A repository will be identified and a curatorial arrangement will be signed prior to collection of the fossils. Although the San Bernardino County Museum is specified as the repository for fossils found in the county in the current General Plan (San Bernardino County 2007), the museum may not always be available as a repository. Therefore, any accredited institution may serve as a repository.

4.6.3 Thresholds of Significance

The significance criteria used to evaluate the revised project's impacts to paleontological resources are based on CEQA Guidelines Appendix G. A potentially significant impact to paleontological resources would occur if the revised project would:

1. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

4.6.4 Impacts Analysis

Threshold PALEO-1: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Summary of the Certified 2024 EIR Findings

The 2024 EIR determined that the impacts to paleontological resources would be less than significant with mitigation incorporated for areas of moderate to high paleontological sensitivity in areas where undisturbed sediments could be impacted by earth-moving activities. Other approved project activities would either not be sited on paleontologically sensitive sediments or would not be subject to ground disturbance.

Revised Project Impact Analysis

While the general project area remains largely unchanged between the approved and revised projects, construction of the revised project would have an increased potential for encountering paleontological resources, because it involves more extensive areas of ground disturbance and excavation. As documented in Section 4.6.1 above and further detailed in Appendix F, proposed areas of ground disturbance extend through several geological formations with very high, high, and moderate sensitivity for fossil discoveries. Additionally, proposed areas of ground disturbance have also been identified in areas of unknown paleontological sensitivity. As documented in Appendix F, several fossil discoveries have been reported within and in the vicinity of the right-of-way, indicating that additional discoveries during project construction are possible.

The following construction activities associated with the revised project could have the potential to uncover previously undiscovered paleontological resources, wherever such activities overlap with areas designated for very high, high, or moderate paleontological sensitivity: improving roads and improving or creating spur roads; removing existing transmission towers; installing new transmission towers; installing temporary guard structures; and establishing temporary material show-up yards, staging areas, and conductor pulling/tensioning work areas. Appendix F contains additional details about specific sections of the revised project that overlap with areas designated for very high, high, or moderate paleontological sensitivity. If resources were to be uncovered but not properly treated, they could be destroyed or damaged, resulting in a potentially significant impact.

Mitigation measure MM-PALEO-1 would be required prior to and during construction to address the potentially significant impacts to paleontological resources. The currently proposed MM-PALEO-1 is similar to MM-PALEO-1 from the approved project's Mitigation Monitoring and Reporting Program, in that both measures require preparation of a paleontological resources monitoring and mitigation plan (PRMMP). However, the currently proposed MM-PALEO-1 has been expanded given the revised project's additional ground-disturbing activities and provides additional detail on the required contents of the PRMMP. The currently proposed MM-PALEO-1 requires detailed records searches for the alignment, as well as preconstruction surveys for areas of the project underlain by geological units with moderate, high, and unknown paleontological sensitivity. The results of the detailed records searches and preconstruction surveys will assist the paleontological principal investigator in developing a PRMMP to be implemented during construction. The required elements of the PRMMP are outlined in MM-PALEO-1 and include delineations of the proposed construction areas that would be subject to monitoring by a paleontologist, steps to be taken in the event of a paleontological resources find, proper disposition of any uncovered resources, and reporting requirements. Upon implementation of MM-PALEO-1, any paleontological resources that may be encountered during project-related ground-disturbing activities would be protected to the extent required by law. As such, construction impacts are considered less than significant with mitigation incorporated.

For long-term operations, the proposed maintenance activities to service the upgraded transmission lines under the revised project would be similar in nature and scale to the maintenance activities that are currently conducted for the existing lines. Such activities may consist of access and spur road maintenance, transmission line inspections, transmission tower checks, insulator replacement, maintaining restored areas, and hardware inspections and replacement. Access and spur road maintenance activities would occur in areas that have already been disturbed during the construction activities analyzed above and thus would not be expected to uncover or otherwise affect paleontological resources. The other types of maintenance activities would not result in ground disturbance and thus would not have the potential to encounter or affect paleontological resources. Therefore, operations of the revised project would not result in operational impacts to paleontological resources.

Impacts for the approved project were determined to be less than significant with mitigation incorporated in the certified 2024 EIR. Under the revised project, the impact would increase based on the expanded areas of ground disturbance during construction; however, impacts would remain less than significant with mitigation for the reasons described above. The revised project would not result in a new significant impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

4.6.5 Mitigation Measures

MM-PALEO-1 Paleontological Resources Monitoring and Mitigation Plan. The following measures shall be implemented prior to and during construction:

- Prior to any construction activities, a paleontological principal investigator, as defined by the Society of Vertebrate Paleontology (SVP 2010), will initiate a paleontological records search of all proposed disturbance areas. Concurrently or after the records search, the paleontological principal investigator will oversee qualified paleontological surveyors to survey areas of the project within private and state-owned lands that are underlain by geological units with moderate, high, and unknown paleontological sensitivity to assess these areas for paleontological resources and assign paleontological sensitivity to areas that have unknown sensitivities and/or upgrade or downgrade sensitivities based on survey results. Survey requirements on federally owned lands shall be determined in consultation with the Bureau of Land Management (BLM), as federal lead agency for the project.
- After the pre-construction records search and survey are completed, a paleontological principal investigator will prepare a paleontological resources monitoring and mitigation plan (PRMMP) in compliance with the guidance in the San Bernardino County General Plan. The PRMMP shall include:
 - Planned ground disturbing construction activities that require monitoring (based on the survey and records search results) and the proposed depth of excavation into native, undisturbed sediments
 - Areas where paleontological resource monitoring shall take place in relation to postmiles or tower structure numbers
 - Geological units that might be encountered and their paleontological sensitivity
 - An excavation monitoring and resource recovery program, including required avoidance buffers in the event of a find
 - Requirements and protocol for cleaning, stabilization, and inventory of specimens
 - Requirements for a final monitoring report describing the monitoring results for submittal to LADWP and the designated repository (if significant fossils are recovered); and curation of specimens into a local established museum repository, such as the San Bernardino County Museum and/or the Las Vegas Museum of Natural History, as appropriate
- The paleontological principal investigator will provide and supervise a trained paleontological or dual-qualified paleontological and cultural monitor/monitors who will be present during ground-disturbing activities at identified areas with potentially fossiliferous sediments, as outlined in the PRMMP. The monitor will be empowered to temporarily halt or redirect ground-disturbing activities to ensure avoidance of adverse impacts to paleontological resources. The monitor will be equipped to rapidly remove any large fossil specimens encountered during

excavation. During monitoring, samples will be collected and processed to recover microvertebrate fossils. Processing will include wet screen washing and microscopic examination of the residual materials to identify small vertebrate remains.

- Upon encountering a large deposit of fossils, salvage of all fossils in the area will be conducted with additional field staff and in accordance with modern paleontological techniques.
- All fossils collected during the project will be prepared to a reasonable point of identification. Excess sediment or matrix will be removed from the specimens to reduce the bulk and cost of storage. Itemized catalogs of all material collected and identified will be provided to the museum repository, along with the specimens.
- A report documenting the results of the monitoring and salvage activities and the significance of the fossils will be prepared.
- All fossils collected during this work, along with the itemized inventory of these specimens, will be deposited in a museum repository for permanent curation and storage.

4.6.6 Significance Conclusions

Threshold PALEO-1: With implementation of MM-PALEO-1, the revised project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature and impacts would be less than significant with mitigation incorporated.

4.6.7 Cumulative Effects

As required by CEQA Guidelines Section 15130, the discussion and analysis provided in this section considers whether the Project's incremental effect(s) may be individually limited but cumulatively considerable. In accordance with CEQA Guidelines Section 15065(a)(3), "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Cumulative projects, as listed in Section 4.0, Table 4.2, that affect the same or similar underlying geologic formations as the revised, project could have the potential to result in similar impacts to important paleontological resources, especially within geologic units that have very high, high, and moderate paleontological sensitivity.

Potential cumulative impacts to paleontological resources would result from projects that combine to create an environment where fossils, exposed on the surface, are vulnerable to destruction by earthmoving equipment, looting by the public, and natural causes such as weathering and erosion. The majority of impacts to paleontological resources are site-specific and are therefore generally mitigated on a project-by-project basis. Cumulative projects would be required to assess impacts to paleontological resources. Additionally, as needed, projects would incorporate individual mitigation for site-specific geological units present on each individual project site. Furthermore, the revised project does not propose construction (including grading/excavation) or design features that could directly or indirectly contribute to an increase in a cumulative impact to paleontological resources, as the mitigation measure provided in this analysis ensures any significant paleontological resources uncovered during project excavations would be properly analyzed and salvaged by the on-site paleontological monitor. Therefore, the revised project, in combination with the past, present, and reasonably foreseeable future projects in the project vicinity, would result in less-than-significant cumulative impacts to paleontological resources, and no further mitigation measures are required. Moreover, impacts to paleontological resources would be avoided and/or

mitigated with implementation of a paleontological mitigation program during excavations into paleontologically sensitive geological units (MM-PALEO-1). Therefore, the revised project's contribution to cumulative impacts would not be cumulatively considerable. As such, cumulative impacts on paleontological resources would be less than significant with mitigation incorporated.

4.6.8 References

- BLM (U.S. Department of the Interior, Bureau of Land Management). 2022. BLM Natl PFYC Potential Fossil Yield Classification Geologic Formation Map Index 2022 Polygons. BLM Geospatial Business Platform National Hub Publisher (arcgis.com). Accessed March, 2024. <https://gbp-blm-gis.hub.arcgis.com/datasets/813066f798704622ac8abf75d8786c69/about>.
- Buwalda, J.P. 1914. "Pleistocene Beds at Manix in the Eastern Mohave Desert Region." University of California Publications in Geological Sciences 7(24):443–464.
- Byers, F.M. Jr. 1960. "Geology of the Alvord Mountain Quadrangle, San Bernardino County, California." Geologic Investigations of Southern California Deserts. U.S. Geological Survey Bulletin, 1089-A, p. A1–A69.
- Caltrans (California Department of Transportation). 2014. Standard Environmental Reference (SER), Chapter 8, Paleontology. Content last updated August 11, 2014. <https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-8-paleontology>.
- Carrasco, M.A., B.P. Kraatz, E.B. Davis, and A.D. Barnosky. 2005. "Miocene Mammal Mapping Project (MIOMAP)." University of California Museum of Paleontology. <https://ucmp.berkeley.edu/miomap/>.
- CGS (California Geological Survey). 2002. "California Geomorphic Provinces." CGS Note 36.
- Cohen, K.M., S.C. Finney, P.L. Gibbard, and J. Fan. 2024. "The ICS International Chronostratigraphic Chart." Episodes 36: 199–204. <https://stratigraphy.org/ICSchart/ChronostratChart2024-12.pdf>.
- County of San Bernardino. 2019. San Bernardino Countywide Plan Draft Environmental Impact Report, Section 5.5, Cultural Resources. State Clearinghouse No. 2017101033. June 2019. https://countywideplan.com/wp-content/uploads/sites/68/2021/01/Ch_05-05-CUL.pdf?x23421.
- Dibblee, T.W., Jr. 1967. "Areal Geology of the Western Mojave Desert, California." U.S. Geological Survey Professional Paper, 522, 153 p., (incl. geologic map, scale 1:125,000).
- GeoPentech. 2021. Geotechnical Data Report McCullough-Victorville Transmission Line Upgrade Boulder City, Nevada – Victorville, California. January 29, 2021.
- Henshaw, P.C. 1940. "A Tertiary Mammalian Fauna from the Avawatz Mountains, San Bernardino County, California." In Studies of Cenozoic Vertebrates and Stratigraphy of Western North America. Carnegie Institution of Washington Publication, No. 514, p. 1–30. Issued May 18, 1939, Balch Grad. School Geol. Sci. Contr., No. 263. See also "Upper Miocene Equidae from the San Antonio Mountains near Tonopah, Nevada." GSA Bulletin v. 51, no. 12, pt. 2, p. 1983, 1940.
- Hershey, O.H. 1902. "Some Tertiary Formations of Southern California." American Geologist 29:349–372.

- Hewett, D.F. 1931. “Geology and Ore Deposits of the Goodsprings Quadrangle, Nevada.” U.S. Geological Survey Professional Paper, 162, 172 p.
- Hewett, D.F. 1956. “Geology and Mineral Resources of the Ivanpah Quadrangle, California and Nevada.” U.S. Geological Survey Professional Paper, 275, 172 p.
- Lofgren, D.L., J.A. Greening, C.F. Johnson, S.J. Lewis, and M.A. Torres. 2006. “Fossil Tracks at the Raymond Alf Museum of Paleontology and Management of Tracks on Public Lands.” New Mexico Museum of Natural History and Science Bulletin 34:109–118.
- Mindat.org. 2024. San Bernardino County, California, USA; Clark County, Nevada, USA. Accessed March 28, 2024.
- SVP (Society of Vertebrate Paleontology). 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. 11 p. https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines-1.pdf.
- Woodburne, M.O., R.H. Tedford, M.S. Stevens, and B.E. Taylor. 1974. “Early Miocene Mammalian Faunas, Mojave Desert, California.” *Journal of Paleontology* 48(1):6–26.

4.7 Tribal Cultural Resources

This section of the Subsequent Environmental Impact Report (SEIR) describes the existing Tribal Cultural Resources (TCRs) conditions of the revised McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (revised project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the revised project, as applicable. Potential impacts of the revised project are discussed in relation to the previously approved McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (approved project), which was analyzed in the certified 2024 Environmental Impact Report (2024 EIR).

Aspen Environmental Group prepared this section of the SEIR. The information and analysis in the section are based, in part, on the following technical appendix and the results of formal Assembly Bill 52 (AB 52) Tribal Consultation:

- **Confidential Appendix D.** Class I Cultural Resources Record Search Report for the McCullough-Victorville Transmission Line Retrofit Project, prepared by Aspen Environmental Group, dated August 2025.

4.7.1 Existing Conditions

This section incorporates by reference the cultural resources analysis contained in the 2024 EIR for the approved project, certified in October 2024, pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15022(d).

The environmental setting and regulatory framework described in Section 4.5, Tribal Cultural Resources, of the 2024 EIR remain applicable to the revised project, except as updated herein to reflect the results of the new tribal consultation effort conducted for the revised project footprint and an updated analysis to reflect the revised project description.

Summary of 2024 EIR Impact Analysis

The 2024 EIR evaluated potential impacts to TCRs using significance criteria based on CEQA Guidelines Section 15064.5 and Appendix G. The analysis considered impacts on TCRs, either eligible to the California Register of Historical Resources (CRHR) or determined by the CEQA lead agency, and concluded that with implementation of adopted mitigation measures, impacts would be less than significant.

Changes in Existing Conditions Since 2024

The environmental setting of the revised project area, including the regional context and ethnographic background, remains unchanged since the 2024 EIR.

The primary change prompting this SEIR is a modification to the project description and footprint. The physical and cultural setting of the revised project area has not changed; however, the revised project footprint required additional AB 52 Tribal Consultation to ensure all cultural resources within the revised project area are adequately identified and considered in the analysis. The below section describes the AB 52 effort undertaken by the CEQA lead agency for the SEIR.

Project Notification

CEQA requires lead agencies to consult with all California Native American tribes that have traditional and cultural affiliation with the geographic area of a project, and that have previously requested consultation. To invoke an agency's requirement to consult under CEQA, a tribe must first send the lead agency a written request for formal notification of any projects within the geographic area with which they are traditionally and culturally affiliated. (Public Resources Code [PRC] Section 21080.3.1[b]). The Native American Heritage Commission was contacted on June 24, 2024, with a request to search their Sacred Lands File and provide a contact list. The Native American Heritage Commission responded on November 1, 2024, indicating a search of its Sacred Lands File was positive and provided a tribal contact list. The Los Angeles Department of Water and Power (LADWP) notified all contacts provided by the Native American Heritage Commission that have traditional and cultural affiliation with the geographic area of the revised project. Letters including information about the revised project, and an invitation to consult regarding the project changes were mailed via USPS certified mail on December 15, 2025. Letters were sent to the following 29 tribes:

- Agua Caliente Band of Cahuilla Indians
- Augustine Band of Cahuilla Mission Indians
- Cabazon Band of Mission Indians
- Cahuilla Band of Indians
- Chemehuevi Indian Tribe
- Colorado River Indian Tribes
- Fort Mojave Indian Tribe
- Gabrieleno Band of Mission Indians - Kizh Nation
- Gabrieleno/Tongva San Gabriel Band of Mission Indians
- Gabrielino /Tongva Nation
- Gabrielino Tongva Indians of California Tribal Council
- Gabrielino-Tongva Tribe
- Juaneno Band of Mission Indians Acjachemen Nation – Belardes
- Juaneno Band of Mission Indians Acjachemen Nation 84A
- Kern Valley Indian Community
- Los Coyotes Band of Cahuilla and Cupeño Indians
- Morongo Band of Mission Indians
- Pala Band of Mission Indians
- Pechanga Band of Indians
- Quechan Tribe of the Fort Yuma Reservation
- Ramona Band of Cahuilla
- Rincon Band of Luiseno Indians
- San Fernando Band of Mission Indians
- Santa Rosa Band of Cahuilla Indians
- Serrano Nation of Mission Indians
- Soboba Band of Luiseno Indians

- Torres-Martinez Desert Cahuilla Indians
- Twenty-Nine Palms Band of Mission Indians
- Yuhaaviatam of San Manuel Nation

Summary of AB 52 Tribal Consultation for the Revised Project

LADWP received one response from Yuhaaviatam of San Manuel Nation. Additionally, LADWP continued consultation with Morongo Band of Mission Indians. The discussion below provides a high-level summary of AB 52 consultations, as information exchanged during the consultation process is confidential.

Morongo Band of Mission Indians

LADWP continued consultation with Morongo Band of Mission Indians. LADWP held a continued consultation meeting on May 6, 2026, to discuss changes to the project plans. A follow-up consultation meeting was held on June 5, 2026. No TCRs have been identified to date. Consultation is on-going.

Yuhaaviatam of San Manuel Nation

Yuhaaviatam of San Manuel Nation requested continued consultation via email on December 30, 2025. Yuhaaviatam of San Manuel Nation has requested to review the cultural resources study, geotechnical reports, and project plans describing the depth of disturbance. To date, no TCRs have been identified. Consultation is on-going.

Tribal Cultural Resources Revised Project Assumptions

As of the writing of this analysis, AB 52 consultations are on-going, as are cultural resources surveys and evaluations. This analysis is based on the information provided thus far during formal AB 52 consultations and following assumptions:

- All cultural resources identified within the revised project area (whether identified at the time of this writing or during future continued AB 52 consultation meetings) that are considered TCRs will be avoided.

4.7.2 Regulatory Framework

California Environmental Quality Act

CEQA provides definitions for California Native American tribes, lead agency responsibilities to consult with California Native American tribes, and TCRs. Assembly Bill 52 establishes a formal role for California Native American tribes in the CEQA process. If consultation is requested, CEQA lead agencies are required to consult with tribes about potential TCRs, a recognized category of “historical resources” within the Survey Area and immediately surrounding area; the potential significance of project impacts; the development of project alternatives; and the type of environmental document that should be prepared.

A “California Native American tribe” is a “Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission for the purposes of Chapter 905 of the Statutes of 2004” (PRC Section 21073). Lead agencies implementing CEQA are responsible for consultation with California Native American tribes about TCRs within specific timeframes, observant of tribal confidentiality, and if TCRs could be impacted by a CEQA project, lead agencies are to exhaust the consultation to points of agreement or termination.

Under CEQA, TCRs are defined as either of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
 - a. Included or determined to be eligible for inclusion in the CRHR.
 - b. Included in a local register of historical resources as defined in the PRC Section 5020.1(k).
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in the PRC Section 5024.1(c).

In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe (PRC Section 21074[a]). To qualify as a TCR, it must be: (1) listed on or eligible for listing on the CRHR or a local historic register, or (2) a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a TCR (PRC Section 21074). TCRs include “non-unique archaeological resources” that, instead of being important for “scientific” value as a resource, can also be significant because of the sacred and/or cultural tribal value of the resource. Tribal representatives are considered experts appropriate for providing substantial evidence regarding the locations, types, and significance of TCRs within their traditionally and cultural affiliated geographic area (PRC Section 21080.3.1[a]). A cultural landscape that meets the criteria of PRC Section 21074(a), is a TCR to the extent that the landscape is geographically defined in terms of its size and scope (PRC Section 21074[b]). Historical resources, unique archaeological resources, and non-unique archaeological resources, as defined at PRC Sections 21084.1, 21083.2(g), and 21083.2(h), may also be TCRs if they conform to the criteria of PRC Section 21074(a).

CEQA also states that a project with an impact that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment (PRC Section 21084.2).

4.7.3 Thresholds of Significance

The significance criteria used to evaluate the revised project’s impacts to TCRs are based on CEQA Guidelines Appendix G. A potentially significant impact to TCRs would occur if the revised project would:

1. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
 - a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).
 - b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

4.7.4 Impacts Analysis

Threshold TCR-1: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

Summary of the Certified 2024 EIR Findings

The 2024 EIR did not identify any known TCRs but determined that the approved project could cause a substantial adverse change to unknown buried resources should they be considered TCRs. However, the 2024 EIR concluded that with implementation of mitigation measures, such as requiring Native American monitoring during ground disturbance and unanticipated discovery protocols, impacts would be reduced to less than significant with mitigation.

No impacts to TCRs were anticipated during operation and maintenance. Cumulative impacts were also found to be less than significant.

Revised Project Impact Analysis

To date, there are no known TCRs listed or eligible for listing on the CRHR, or other state registers, NRHP, or local register of historical resource, that have been identified within the revised project area; therefore, no impacts would occur during construction.

While AB 52 consultation meetings are ongoing and the exact scope and disturbance areas of the revised project will not be known until the project is designed, the assumptions outlined above in Section 4.7.1, Existing Conditions under the subheading “Tribal Cultural Resources Revised Project Assumptions” are made for the purposes of this analysis.

As with any project that involves ground disturbing activity, there is the potential for unknown buried resources to be encountered during the course of the revised project. Inadvertent disturbance of an unidentified cultural resource, that could be considered a Tribal Cultural Resource, could damage or destroy the resource or change its context.

The approved project included the following nine mitigation measures to address potential impacts to known and unknown TCRs: MM-TCR-1 (Native American Monitoring), MM-CUL-1 (Retain a Qualified Project Archeologist), MM-CUL-2 (Treatment Plan), MM-CUL-3 (Cultural Resources Monitoring Plan), MM-CUL-4 (Worker Environmental Awareness Program), MM-CUL-5 (Archaeological Monitoring), MM-CUL-6 (Monitoring Report), and MM-CUL-7 (Unanticipated Discoveries), and MM-CUL-9 (Treatment of Human Remains) which are still appropriate for mitigating impacts of the revised project.

Impacts to known and unknown buried TCRs for the approved project were determined to be less than significant with mitigation incorporated in the certified 2024 EIR. Under the revised project, the impact would remain the same. The revised project would thus not result in a new significant impact or a substantial increase in the level of severity of a previously identified significant impact compared to the approved project.

Threshold TCR-2: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Summary of the Certified 2024 EIR Findings

The 2024 EIR did not identify any known TCRs as determined by the CEQA lead agency but determined that the approved project could cause a substantial adverse change to unknown buried resources should they be considered TCRs by the CEQA lead agency. However, the 2024 EIR concluded that with implementation of mitigation measures, such as requiring Native American monitoring during ground disturbance and unanticipated discovery protocols, impacts would be reduced to less than significant with mitigation.

No impacts to lead-agency-determined TCRs were anticipated during operation and maintenance. Cumulative impacts were also found to be less than significant.

Revised Project Impact Analysis

To date, there are no known TCRs, determined by the CEQA lead agency, that have been identified within the revised project area; therefore, no impacts would occur during construction.

While AB 52 consultation meetings are ongoing and the exact scope and disturbance areas of the revised project will not be known until the project is designed, the assumptions outlined above in Section 4.7.1, Existing Conditions, under the subheading “Tribal Cultural Resources Revised Project Assumptions” are made for the purposes of this analysis.

As with any project that involves ground disturbing activity, there is the potential for unknown buried resources to be encountered during the course of the revised project. Inadvertent disturbance of an unidentified cultural resource, that could be considered a TCR by the CEQA lead agency, could damage or destroy the resource or change its context.

The approved project included the following nine mitigation measures to address potential impacts to known and unknown TCRs: MM-TCR-1 (Native American Monitoring); and the following applicable cultural resources mitigation measures: MM-CUL-1 (Retain a Qualified Project Archeologist), MM-CUL-2 (Treatment Plan), MM-CUL-3 (Cultural Resources Monitoring Plan), MM-CUL-4 (Worker Environmental Awareness Program), MM-CUL-5 (Archaeological Monitoring), MM-CUL-6 (Monitoring Report), and MM-CUL-7 (Unanticipated Discoveries), and MM-CUL-9 (Treatment of Human Remains) which are still appropriate for mitigating impacts of the revised project.

Impacts to known and unknown buried TCRs, as determined by the CEQA lead agency, for the approved project were determined to be less than significant with mitigation incorporated in the certified 2024 EIR. Under the revised project, the impact would remain the same. The revised project would thus not result in a new significant impact or a substantial increase in the level of severity of a previously identified significant impact compared to the approved project.

4.7.5 Mitigation Measures

In addition to MM-CUL-1 through MM-CUL-7 and MM-CUL-9, the following mitigation measure is required to address potentially significant impacts to TCRs.

MM-TCR-1 **Native American Monitoring.** Prior to any ground disturbances within the Project Area, LADWP shall enter into a contract with and retain Native American monitors designated by Tribal representatives pursuant to its AB 52 consultation efforts. These monitors shall have the same authority as the archaeological monitors for this Project. Documentation of retention shall be submitted to the BLM and kept on file with LADWP.

4.7.6 Significance Conclusions

Threshold TCR-1: With the implementation of MM-TCR-1, MM-CUL-1 through MM-CUL-7 and MM-CUL-9 identified above, the revised project would not cause a substantial adverse change to TCRs eligible or listed in the CRHR or on a local registry of historical resources and impacts would be less than significant with mitigation.

Threshold TCR-2: With the implementation of MM-TCR-1, MM-CUL-1 through MM-CUL-7 and MM-CUL-9, identified above, the revised project would not cause a substantial adverse change to TCRs determined by the CEQA lead agency and impacts would be less than significant with mitigation.

4.7.7 Cumulative Effects

As required by CEQA Guidelines Section 15130, the discussion and analysis provided in this section considers whether a project's incremental effect(s) may be individually limited but cumulatively considerable. In accordance with CEQA Guidelines Section 15065(a)(3), "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. The cumulative geographic study area used to assess potential impacts to TCRs is site specific as identified in Table 4-1, Geographic Area for Cumulative Impacts (see Section 4, Environmental Analysis).

The cumulative projects list identified in Table 4-2, Cumulative Projects List, identified 14 projects, the majority of which are linear transportation or utility projects (extending for tens or even hundreds of miles). At least a portion of each of the projects on the cumulative projects list come within approximately 2 miles of the revised project alignment.

Of these 14 projects, two projects identified in the cumulative projects list (the Path 46 Transmission Project and Brightline West) are known to occur within, or overlap with, the revised project's transmission line right-of-way. The CEQA MND prepared for the Path 46 project did not identify any TCRs and concluded that impacts to TCRs would be less than significant with mitigation. No other projects in the cumulative projects list are anticipated to overlap the revised project.

To date, no TCRs listed or eligible for listing in the CRHR or otherwise determined to be TCRs by the CEQA lead agency, have been identified within the revised project area. While AB 52 consultation for the revised project is

ongoing, this analysis assumes that avoidance of identified TCRs and implementation of mitigation measures would occur, consistent with the approach taken in the certified 2024 EIR.

Although the Path 46 project affects a different component of the same historical transmission line resource as the revised project (specifically, Mead-Victorville Transmission Line 1, which is a component of the broader LADWP Boulder Transmission Lines [P-36-007694]), its CEQA MND did not identify specific TCRs that were present and determined that the project would not result in significant impacts to known TCRs. Based on the available information, the revised project in combination with the Path 46 project would not result in a cumulatively considerable impact. Brightline West would be largely constructed within or adjacent to the I-15 and thus would generally occur within previously disturbed areas. Brightline West has been subject to tribal consultation and will be subject to any monitoring requirements imposed as a result of such consultation, similar to the revised project. On Brightline West, the Federal Railroad Administration determined that the project would not result in adverse cumulative effects to archaeological resources that carried tribal cultural significance. For these reasons, the revised MCC-VIC project in combination with Brightline West would not result in cumulatively considerable impacts.

Because the revised project's potential impacts to known or unknown TCRs would be less than significant with mitigation, and because no other cumulative projects have been identified that would affect the same TCRs within the site-specific geographic study area, the revised project would not combine with other projects to result in cumulatively considerable impacts to TCRs. Cumulative impacts would be less than significant with mitigation incorporated.

5 Other CEQA Considerations

5.1 Effects Found Not to Be Significant

Section 15128 of the California Environmental Quality Act (CEQA) guidelines requires that an environmental impact report (EIR) briefly describe potential environmental effects that were determined not to be significant and therefore were not discussed in detail in the EIR. The environmental issues discussed in the following sections are not considered significant, and the reasons for the conclusion of non-significance are discussed below.

As discussed in Chapter 3, Project Description of this Subsequent Environmental Impact Report (SEIR), the project alignment and right-of-way (ROW) extend from Boulder City in Clark County, Nevada to Victorville within San Bernardino County, California. Access and spur roads associated with the transmission lines are also located throughout the alignment, both within and outside of the ROW.¹ However, in accordance with CEQA, the environmental analyses below focus on potential impacts within California only and limits discussion of revised project components or activities within Nevada to the existing conditions discussions for the purposes of disclosure. Potential impacts in Nevada areas will be considered in a separate environmental document in accordance with the National Environmental Policy Act.

5.1.1 Aesthetics

Substantial Adverse Effect on a Scenic Vista: The 2024 EIR determined that construction and operation of the approved project would not have a substantial adverse effect on a scenic vista, and impacts would be less than significant.

Scenic vistas generally refer to views of expansive open space areas or other natural features, such as mountains, undeveloped hillsides, large natural water bodies, or coastlines. Less commonly, certain urban settings or features, such as a striking or renowned skyline, may also represent a scenic vista. Under CEQA, scenic vistas also generally refer to views that are publicly accessible, rather than those available to a limited number of private entities (such as residences or other private property).

While there are no known and designated scenic vistas in the project area, the existing transmission line alignment and ROW traverses a primarily flat desert landscape with occasional rugged, mountainous terrain. As such, the project area provides opportunities for particularly long and broad views of the western and central Mojave Desert. Primary receptors afforded views of the project area desert landscape include interstate, highway, and local roadway motorists and dispersed, trail-based recreationists on public lands managed by the Bureau of Land Management (BLM). Trail-based recreationists within the northernmost portion of the Mojave National Preserve encompassing the southern extent of the Clark Mountain Range are also afforded views of the project-area landscape.

As with the approved project, the revised project would involve activities at all transmission tower work areas as well as along various access and spur roads. However, the revised project would increase the intensity and disturbance area of construction activities. As discussed in Chapter 3, Project Description, revised project

¹ Access roads are main roads that provide access to the ROW and alignment. Spur roads are short segments that connect to the individual transmission towers, taking access off the main access roads.

construction would involve the following activities: maintenance and rehabilitation of existing access and spur roads; construction of new spur roads within the existing transmission line ROW; complete tower replacement; and replacement of all conductors, ground wires, insulators, and associated hardware assemblies. Similar to the approved project, after construction is complete, each tower site and temporary disturbance areas (including guard structure sites) would be subject to site stabilization to recontour and stabilize work areas. Following soil stabilization, reclamation activities would be implemented to reestablish native vegetation growth in temporary disturbance areas, as needed, to mimic natural and/or pre-project conditions. Existing access and spur roads, transmission towers, and transmission line infrastructure are visible from segments of Interstate 40 (I-40), I-15, state highways (i.e., State Route 247 [SR-247], and SR-127), local roadways, and from public lands.

Although project construction would involve a temporary influx of workers and equipment visible within the project ROW, along existing access and spur roads, and within and around other temporary work areas outside of the project ROW (e.g., material show-up yards), construction activities would occur incrementally along the project alignment such that flurries of worker activity and collections of equipment/materials would not be present in any one location for an extended period of time.

When viewed from elevated vantage points such as hiking trails on rising terrain in the surrounding area or mountain peaks, grading and clearing activities could result in additional smooth-texture and linear bands of discoloration in the desert landscape. However, due to the existing presence of access and spur roads and other disturbance areas along the ROW and given the broad, sweeping nature of views from elevated vantage points in the desert landscape, grading and clearing associated with temporary work areas and new or improved access and spur roads would not have substantial adverse effect on scenic views.

Helicopters would be used for a variety of construction activities (including transportation of personnel, delivery of equipment and materials, hardware installation, conductor pulling and tensioning, and installation/removal of transmission towers and other structures) and would be visible flying in proximity to the lines and towers throughout the alignment. However, the helicopters would be mobile while working along the lines and would not block or mar a specific view for an extended period. As stated above, most viewers would be mobile themselves (e.g. hikers, motorists). Additionally, temporary guard structures would be built as required next to highways, railroads, other power lines, utility infrastructure, and other major obstacles to protect the area underneath during wire stringing activities. The guard structures would not exceed the height of the transmission towers and would be removed after work area activities are completed. Thus, composite views of the project area would not be substantially altered by temporary guard structures and ariel helicopter activity.

Once construction of the project is complete, the level of noticeable change to the transmission line ROW and surrounding areas is anticipated to be low and would not substantially alter the existing character of the ROW or the existing high desert landscape. Although the alignment along a segment of Line 1 and the location of all existing Lines 1 and 2 tower sites would shift compared to existing conditions, the tall, geometric form of transmission line towers already exists throughout the project area landscape. As the majority of the alignment is surrounded by open space and is primarily viewed in composite and from a distance, the shifting alignment and tower locations would not substantially alter views compared to existing (or approved project) conditions.

All existing towers are anticipated to be replaced by new towers with the same structural style. As with the approved project, tower heights would generally increase under the revised project. Existing transmission towers range in height from approximately 82 feet to 179 feet tall, with approximately 81% of the existing transmission towers falling within the 101-foot to 120-foot range. Under the approved project, transmission tower raising activities were going to involve the insertion of vertical extensions onto existing transmission tower bodies for all towers with

ground-to-clearance violations. Tower heights for raised towers were anticipated to increase between 5 feet and 45 feet. Under the revised project, replacement towers would range in height from approximately 92 feet to approximately 179 feet. As shown in Table 3-1 in Chapter 3, Project Description, of this SEIR, while the maximum height of the transmission towers along the alignment would not exceed 179 feet, the average transmission tower height would increase from approximately 113 feet under existing conditions to approximately 121 feet under the revised project. Most revised project transmission towers (approximately 57%) would remain within the 101-foot to 120-foot range, as under existing conditions, and less than 1% would be over 160 feet. Overall, the range of replacement transmission tower heights would be comparable to the heights of the existing transmission towers and the raised and taller replacement towers analyzed under the approved project. The replacement transmission towers would not result in a substantial adverse visual effect due to height, as the heights of most transmission towers were already anticipated to increase between 5 feet and 45 feet under the approved project and the vertical forms of the existing transmission towers (ranging from 82 feet to 179 feet) are already present in the viewshed. Thus, views containing the taller towers would not be substantially altered, as the tower sites would continue to display the tall, geometric form of transmission towers. Conductor, insulator, and hardware assembly replacements on the transmission towers would not substantially alter views either, as the replacement equipment would appear practically identical in form as the existing.

After tower and conductor replacement is complete, the transmission line would present a similar form and line in the landscape and would display a similar character as the existing and approved project transmission lines. Although some new spur roads may be visible from public vantage points, these linear features are already present in the existing landscape. As such, taken as a composite view, the transmission line ROW and surrounding areas would look similar to existing and approved project conditions.

As stated above, impacts for the approved project were determined to be less than significant in the certified 2024 EIR. Under the revised project, visual impacts to a scenic vista would marginally increase but would remain less than significant. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Degrade Existing Visual Character or Quality: The 2024 EIR determined that construction and operation of the approved project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings, and impacts would be less than significant.

The transmission line ROW and surrounding areas includes native vegetation, like grasses and small bushes typical of the western Mojave Desert,² as well as broad desert plains, rocky mountain ranges, narrow ephemeral channels, broad sandy desert washes, and dry lake beds. These features are all within view of the project alignment. The project alignment crosses multiple bajadas,³ intermittent drainages, dry lakes, mountains, and several BLM-designated conservation lands. The project alignment also crosses rural and low-density residential land uses on non-federal land in San Bernardino County, California and Clark County, Nevada.

Construction activities could temporarily degrade the existing visual character or quality of public views of the project alignment and its surroundings through temporary visual disturbances associated with mobile equipment operation (including heavy construction equipment, trucks, vehicles, and helicopters), material delivery, tower and conductor removal/replacement, and generation of fugitive dust associated with these activities. These activities

² Local vegetation communities in the project vicinity consist primarily of creosote bush scrub, burrobrush scrub, saltbush scrub, and Joshua tree woodland.

³ A bajada consists of a series of coalescing alluvial fans along a mountain front. These fan-shaped deposits form by the deposition of sediment within a stream onto flat land at the base of a mountain.

may be visible to motorists on I-15, I-40, SR-247, SR-127, and local roads due to the flat, relatively open viewing conditions surrounding the project area. Dispersed trail-based recreationists on public lands surrounding the transmission line ROW may also be afforded views of construction activities and dust generation. However, construction activities would occur incrementally along the existing 162-mile-long ROW, such that visible dust emissions would not be produced in any one location for an extended period of time. Similarly, construction vehicles, equipment, helicopters, and workers would not remain in any one location for an extended period of time. In addition, construction activities would comply with all applicable air quality regulations and would require the regular application of water or other materials to suppress fugitive dust emissions. Additionally, construction activities would occur in areas marked by existing tall, primarily steel lattice transmission towers, multiple existing transmission lines, and linear discoloration and disturbance associated with existing access and spur roads. Temporary guard structures would not exceed the height of the existing or proposed transmission towers and would be removed after construction activities are completed.

After construction, recontouring, soil stabilization, and revegetation activities would occur (as needed) within the temporary work areas to restore these areas to pre-project conditions, which would help minimize line, color, and texture contrasts resulting from tower removal and grading activities scattered throughout the transmission line ROW (as well as in some adjacent areas outside of the ROW used for material show-up yards). Although the project would include new spur roads within the ROW and improved access and spur roads within and outside of the ROW, these new and improved linear features would not be overly distinguishable from the existing roadways in the project area.

Once construction and recontouring/soil stabilization/revegetation activities are complete, the level of noticeable change to the transmission line ROW and surrounding areas is anticipated to be low and would not substantially degrade the existing character or quality of the ROW or the existing high desert landscape. As stated above, and discussed in further detail in Section 3.5.1, Project Alignment, of Chapter 3, Project Description of this SEIR, although the alignment along a segment of Line 1 and the location of all existing Line 1 and Line 2 tower sites would shift compared to existing conditions, the tall, geometric form of transmission line towers already exists throughout the project area landscape. As the majority of the alignment is surrounded by open space and is primarily viewed in composite and from a distance, the shifting alignment and tower locations would not substantially alter views compared to existing (or approved project) conditions.

As discussed above, all existing transmission towers are anticipated to be replaced by new transmission towers with the same structural style. Although average tower heights would increase under the revised project, most revised project transmission towers would remain within the 121-foot to 140-foot range, as under existing conditions. The replacement transmission towers would not substantially degrade the existing visual quality or character of the area, as tower heights were already anticipated to increase under the approved project and the existing vertical forms of transmission towers (averaging approximately 113 feet across the alignment) are already present in the viewshed. Thus, views containing the taller towers would not be substantially altered, as the tower sites would continue to display the tall, geometric form of steel lattice or other similar type structures. Conductor, insulator, and hardware assembly replacements on the transmission towers would not substantially alter visual character/quality either, as the replacement equipment would appear practically identical in form as the existing. After tower and conductor replacement is complete, the transmission lines would present a similar form and line in the landscape and would display a similar character as the existing and approved project transmission lines. Although some new spur roads within the ROW and improved access and spur roads within and outside of the ROW may be visible from public vantage points, these linear features are already present in the existing landscape. As

such, taken as a composite view, the transmission line ROW and surrounding areas would look similar to existing and approved project conditions.

Impacts for the approved project were determined to be less than significant in the certified 2024 EIR. Under the revised project, impacts related to the visual character and quality of public views would marginally increase but would remain less than significant. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

New Substantial Light or Glare: The 2024 EIR determined that construction and operation of the approved project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area, and impacts would be less than significant.

Construction of the revised project would occur incrementally along the transmission line ROW and surrounding areas. During construction, the increased presence of construction equipment and materials, including traffic control signage, may result in a slight increase in daytime glare compared to existing conditions. Project activities would be carried out within and surrounding the existing transmission line ROW in which maintenance vehicles can occasionally be seen by passing motorists and recreationalists under existing conditions. With the exception of glass (e.g., windshields), construction vehicles and equipment contain limited amounts of potentially reflective materials capable of generating daytime glare. With regard to the tower removal and replacement, the towers and their component parts would be constructed of a similar material (e.g., steel) as the existing towers. All other construction activities would produce negligible visual change in light or glare. Therefore, the construction activities would not constitute a new source of potential daytime glare that would adversely affect existing day views.

It is expected that construction of the revised project would occur between sunrise and sunset; as such, temporary construction lighting is not anticipated to be required. Nighttime work is not planned but could potentially occur between sunset and sunrise during the summer and early fall months to limit daytime customer outages, if deemed necessary. The transmission lines travel through relatively undeveloped and sparse lands without a large number of sensitive receptors, such as nearby residences. Thus, any temporary nighttime lighting that may be employed during the summer and/or early fall would not substantially disrupt the views of nearby light-sensitive receptors.

After construction is complete, the level of noticeable change to the transmission line ROW and surrounding area is anticipated to be low, and the revised project would not introduce any new permanent or significant sources of light or glare that would adversely affect day or nighttime views. As under existing conditions, the transmission line would be subject to periodic maintenance involving temporary lighting and glare associated with maintenance-vehicle headlights and windows. Non-specular replacement conductor would be strung along the project alignment.⁴ Conductor materials would be similar to existing conditions (e.g., would have a matte finish). To area receptors, the replacement conductor would generally be indistinguishable from the existing conductor in appearance. Notably, the new lines would use polymer insulators for conductors, which are not reflective. Shield wires would be insulated with a single bell insulator. While insulator bells can be a source of glare, particularly if they are made from glass, use of a single insulator bell for the shield wire would not generate a significant source of glare. The size of the insulator bells relative to the length of the conductor and the scale of transmission towers

⁴ The conductor is required to have a non-specular dull finished per LADWP Exhibit A, Attachment I, Section 3, Subsection 4, Overhead Conductor Specifications and ASTM B979.

is minor. As such, insulator bells would not be visually prominent and would be unobtrusive to receptors in the surrounding area.

The replacement transmission towers would display a similar character as the existing towers within the transmission line ROW. Color finishes for the transmission towers would be determined in concert with BLM so as not to conflict with the color palette of the surrounding natural landscape. Initially, the replacement transmission towers would look newer and more “polished” in contrast to the existing structures. As such, the new structures could temporarily be more reflective relative to the existing structures in the corridor. However, after several years, the finish of the structures would fade, becoming similar in reflectivity to the existing structures along the alignment. Furthermore, the taller replacement towers would not exceed 200 feet above ground level (at which point marking and/or lighting is required by the Federal Aviation Administration). Due to the existing presence of steel transmission towers, non-specular conductor, and associated equipment in the existing transmission line ROW, the replacement transmission towers and lines would not create a new, permanent source of substantial lighting or glare that would adversely affect daytime or nighttime views in the area.

Impacts for the approved project were determined to be less than significant in the certified 2024 EIR. Under the revised project, the impact would increase slightly due to the expanded construction footprint and increased intensity of construction activities, which may require more temporary lighting. Additionally, the reflectivity of the steel replacement towers would, for the first few years, be slightly greater than the existing towers. However, impacts would remain less than significant. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

5.1.2 Agriculture and Forestry Resources

Conversion of Farmland to Non-Agricultural Use: The 2024 EIR determined that construction and operation of the approved project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (collectively, Farmland) to non-agricultural use, and no impact would occur.

As with the approved project, several revised project work areas would be located either within, adjacent, or near Farmland. Specifically, the work areas for MCV1_123-4 to 128-1 and MCV2_122-4 to 127-1 would be near Prime Farmland or Farmland of Statewide Importance, while MCV1_125-5, the replacement tower location for MCV2-125-1, and several access roads are located fully or partially within Prime Farmland (DOC 2026a). The majority of work areas and construction activities would be located within the existing ROW and other pre-disturbed areas (e.g. along existing access roads), although some new spur roads would be required within the ROW to access the replacement tower locations. All currently active agricultural production is located outside of the project ROW, and the majority of the Prime Farmland and Farmland of Statewide Importance in the vicinity of the project alignment has already been converted to non-agricultural use (specifically, solar panels). While the new tower footings may be offset from those that currently exist (by a maximum of approximately 300 feet), the presence of these footings (which generally have the same footprint as the existing footings) would not hinder agricultural activities, as all the replacement towers would still be located within the existing ROW, which does not contain agricultural activities. The only exception would be any seasonal grazing activities that may occur in the area. However, grazing animals would only experience a temporary disturbance and could continue to travel through the ROW and/or access areas within the ROW that are not actively under construction.

There is an approximately 0.65-mile segment of Hidden Springs Road that would be subject to access road improvements (northwest of the Barstow-Daggett Airport), which is located outside of the project ROW and adjacent to Prime Farmland with active crop production. However, the roadway segment would not be widened beyond existing conditions and construction activities associated with the proposed improvements (e.g., repair of surface irregularities, grading) would not encroach onto the active agricultural areas. Construction within the ROW and along the existing access roads would be transitory, and the property owner would be notified of temporary construction. At the end of construction, temporary work areas would be subject to recontouring, soil stabilization, and revegetation (as needed and to the extent feasible) to mimic pre-project and/or natural conditions. Topsoil that is removed from each of the construction areas would be salvaged and replaced upon completion of construction. After construction of the revised project is complete, the transmission lines would continue to operate as under existing conditions. For the reasons described above, the revised project would not result in the conversion of Farmland to non-agricultural uses, and impacts would be less than significant.

As stated above, the certified 2024 EIR determined that no impacts would occur. Under the revised project, there would be an increased construction footprint and intensity of construction activities within and near Prime Farmland or Farmland of Statewide Importance. However, no areas of Farmland actively used for cultivation or other agricultural activities would be converted to non-agricultural use as a result of the revised project. Although existing access roads outside of the ROW would be improved, they would not be widened beyond existing conditions and construction activities associated with these improvements would not encroach onto active production areas. The revised project alignment would remain within the existing ROW, as would all new spur roads, and the ROW does not support agricultural uses (with the exception of any seasonal grazing uses, which would not experience significant disturbances). Thus, while the revised project would result in slightly increased impacts compared to the approved project, impacts would remain less than significant. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Conflict with Zoning for Agricultural Use or Williamson Act Contract: The 2024 EIR determined that construction and operation of the approved project would not conflict with zoning for agricultural use or a Williamson Act contract, and no impact would occur.

The revised project work areas are not located on lands subject to a Williamson Act contract. The closest Williamson Act contract parcel is located approximately 890 feet northwest of nearest work area (for tower MCV1_116-4) (DOC 2026b). As such, revised project construction activity at the closest point would not impact any Williamson Act contract. Likewise, no Williamson Act contract land would be affected during project operations.

Although the majority of the project alignment and ROW are within lands zoned Resource Conservation (RC), a short segment (including work areas for MCV2_123-3 through MCV2_122-4, as well as MCV1_124_2) is within lands zoned Agriculture (AG) (County of San Bernardino 2020c). Several existing access roads proposed to be improved are also within the AG zone in this same vicinity. However, there are no active agricultural uses within or adjacent to the ROW, the proposed construction areas, or along project-related access roads in the AG zone. The only exception would be any seasonal grazing activities that may occur in the area. However, grazing animals would only experience a temporary disturbance and could continue to travel through the ROW and other proposed disturbance areas (such as access roads) that are not actively under construction.

Furthermore, as discussed above, at the end of construction, temporary work areas would be subject to recontouring, soil stabilization, and revegetation (as needed and to the extent feasible) to mimic pre-project and/or natural conditions. Topsoil that is removed from each of the construction areas would be salvaged and replaced

upon completion of construction. After construction of the revised project is complete, the transmission lines would continue operate as under existing conditions. Furthermore, utilities, including transmission lines specifically, and transportation facilities such as roadways are permitted uses within the AG zone (County of San Bernardino 2026). As such, no conflicts would occur and impacts would be less than significant.

As stated above, the certified 2024 EIR determined no impact would occur. Under the revised project, the impact would increase slightly, as certain construction activities within the ROW and along existing roadways would be required within an AG zone, and several existing access roads within the AG zone would be subject to improvements. However, transmission lines and roadways are permitted uses within the AG zone, and no active agricultural areas zoned for AG would be disturbed (with the exception of any seasonal grazing activities, which would not experience significant disturbances). For the reasons discussed above, impacts would be less than significant. Thus, the revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Conflict with Zoning for Forest Land or Timberland: The 2024 EIR determined that construction and operation of the approved project would not conflict with zoning for forest land or timberland, and no impact would occur

The revised project alignment is located in an existing Los Angeles Department of Water and Power (LADWP) ROW zoned primarily for Resource Conservation (RC) and is not considered forest land, timberland, or a timberland production zone as defined in the California Public Resources Code or Government Code. There is no forest land near the transmission line ROW, other proposed work areas, or access roads, which are located in the Mojave Desert.

As stated above, the certified 2024 EIR determined no impact would occur. Under the revised project, the impact would remain the same, resulting in no impact for the revised project. Thus, the revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Loss of Forest Land or Convert Forest Land to Non-Forest Use: The 2024 EIR determined that construction and operation of the approved project would not result in the loss of forest land or conversion of forest land to non-forest use, and no impact would occur.

As stated above, the revised project is located the Mojave Desert and is not near any forest land. Thus, the revised project would not result in the loss of forest land or conversion of forest land to non-forest, and no impact would occur. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Change in Existing Environment that Could Result in the Conversion of Farmland to Non-Agricultural Use or Conversion of Forest Land to Non-Forest Use: The 2024 EIR determined that construction and operation of the approved project would not result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. Impacts were determined to be less than significant.

As discussed above, the revised project is not located in the vicinity of any forest or timberland and would not convert Farmland to non-agricultural use. The majority of the proposed work areas are located on BLM land, in which agricultural uses (except grazing) are not allowed. There are various grazing allotments that the transmission lines traverse through. However, construction activities would be short term in nature and thus would not prevent grazing from occurring in the vicinity. After construction of the revised project is complete, existing land uses

(including grazing activities) would remain operable. Furthermore, as discussed above, although a short segment of the project ROW and existing access roads outside of the ROW are located within land zoned for agricultural use, transmission lines and roadways are permitted uses within the AG zone, and there are currently no active agricultural uses in the AG zone within or adjacent the project ROW, work areas, or access roads. Thus, impacts would be less than significant.

Impacts for the approved project were determined to be less than significant in the certified 2024 EIR. Under the revised project, the impact would increase slightly due to the expanded construction footprint and increased intensity of construction activities. However, impacts for the revised project would remain less than significant. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

5.1.3 Energy

This section is based in part on the Air Quality, Energy, and Greenhouse Gas Emissions Calculations prepared by Dudek for the revised project (included as Appendix B of this SEIR).

Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources: This impact was determined to be less than significant for the approved project in the certified 2024 EIR.

California relies on a regional power system composed of a diverse mix of natural gas, petroleum, renewable, hydroelectric, and nuclear generation resources. Petroleum would be the primary energy source consumed during project construction—little to no use of electricity or natural gas is anticipated during project construction. During operations, the project would convey additional electrical energy resources along the West of River Path 46 transmission corridor, allowing for increased transmission of renewable energy supplies to the City of Los Angeles.

Construction

Construction of the revised project would result in energy use primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, worker vehicles, and helicopters. Fuel consumption from construction equipment and vehicles was estimated by converting the total carbon dioxide (CO₂) emissions from each construction phase to gallons using the conversion factors for CO₂ to gallons of gasoline or diesel. CO₂ emissions were estimated with the CalEEMod Version 2022.1.1.35 based on the annual average usage assumptions developed by LADWP, as described in Section 4.2 (Air Quality) of this SEIR. All off-road equipment and hauling and vendor trucks are assumed to be diesel, and worker vehicles are assumed to be gasoline. The conversion factor for gasoline is 8.78 kilograms per metric ton (MT) of CO₂ per gallon, and the conversion factor for diesel is 10.21 kilograms per MT of CO₂ per gallon (The Climate Registry 2025). For helicopters, the jet fuel usage per hour was based on the Guidance on the Determination of Helicopter Emissions (FOCA 2015), assuming Bell 407 and Boeing Ch-47 Chinook helicopters would be representative for the revised project per input from LADWP.

The estimated diesel fuel usage from construction equipment, vendor and haul trucks, as well as estimated gasoline fuel usage from worker vehicles and jet fuel from helicopters, is shown in Table 5.1.3-1 for the revised project, as well as a comparison to the petroleum usage associated with the approved project, as reported in the 2024 EIR.

Table 5.1.3-1. Construction Petroleum Demand

	Off-road Equipment (diesel)	Vendor Trucks (diesel)	Haul Trucks (diesel)	Worker Vehicles (gasoline)	Helicopters (jet fuel)	Total Petroleum
Construction	Gallons					
Revised Project	968,937	152,504	232,686	99,131	178,182	1,631,441
Approved Project	1,032,357	99,640	76,596	206,439	163,828	1,578,859
Net Change (Revised Project minus Approved Project)						52,582

Source: Appendix B.

In summary, construction of the revised project is conservatively anticipated to consume 1,631,441 gallons of petroleum over a period of approximately 38 months (1,149 days). The revised project is anticipated to consume approximately 52,582 more gallons of petroleum as compared to the approved project.

The revised project's petroleum usage would equate to about 0.002% of the statewide petroleum consumption over the project's construction duration (EIA 2025). There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities, or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the revised project would therefore not result in inefficient, wasteful, or unnecessary consumption of fuel. Construction contractors would be required to comply with applicable California Air Resources Board (CARB) regulations regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Compliance with anti-idling and emissions regulations would result in a more efficient use of construction-related energy and the minimization or elimination of wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption. Construction of the revised project would not require an on-going or permanent commitment of petroleum resources.

Operations

For operational energy use, proposed maintenance activities to service the upgraded transmission lines would be similar in nature and scale to the maintenance activities that are currently conducted for the existing lines that would be removed. Therefore, maintenance activities and energy demand would be similar to existing baseline conditions.

As described throughout this SEIR, the revised project is a transmission line project that would replace two existing 500 kV transmission lines with two new 575 kV transmission lines, thereby accommodating increased loads in the West of River Path 46 transmission corridor. One of the key purposes of the project is to assist the City of Los Angeles in increasing its renewable energy portfolio. Thus, although the revised project would result in additional electrical transmission, the additional electricity would predominantly be sourced from renewable energy sources. Use of this energy would not result in wasteful or inefficient consumption of energy resources; rather, it would contribute towards the achievement of state and local goals and policies that are intended to reduce the use of nonrenewable resources. Additionally, the regulatory framework that includes greenhouse gas (GHG) reduction measures and Renewable Portfolio Standard (RPS) requirements also includes a variety of measures to reduce overall energy demand. As such, when the renewable energy from the revised project comes online, electricity use in LADWP's service area is expected to be more efficient and less wasteful.

Based on the preceding considerations, the revised project would result in a less-than-significant impact related to the wasteful, inefficient, or unnecessary consumption of energy resources. As stated above, impacts for the approved project were also determined to be less than significant. Although the revised project would result in an increase in petroleum demand, it would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Conflict With or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency: In the 2024 EIR, it was determined that the approved project would have no impact related to the potential to conflict with or obstruct any applicable plan for renewable energy or energy efficiency. As with the approved project, the revised project would follow all applicable energy standards and regulations during the construction phases. In addition, the revised project would be built and operated in accordance with all existing, applicable regulations at the time of construction. The revised project would accommodate the transmission of increased renewable energy resources along the West of River Path 46 transmission corridor and to ensure the continued safe and reliable operation of the lines. The revised project would assist LADWP in meeting its RPS requirements by increasing LADWP's transmission capacity in the West of River Path 46 transmission corridor by approximately 475 megawatts. While energy consumption would be required during construction, operation of the revised project would ultimately assist in the implementation of state and local plans for renewable energy. Therefore, as with the approved project, there would be no impact for the revised project related to conflicts with plans for renewable energy and energy efficiency. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

5.1.4 Geology and Soils

Rupture of a Known Earthquake Fault: The 2024 EIR noted that Alquist-Priolo Earthquake Fault Zones for the Calico, Lenwood and Helendale faults intersect the project alignment and have the potential to generate surface fault ruptures. In addition, though not Holocene-active (the category of faults considered most at risk of surface fault rupture), the Stateline and Soda Mountain faults also intersect the project alignment. The 2024 EIR concluded that the approved project would not substantially expose people or structures to adverse impacts related to fault rupture due to the infrequency of human presence as well as the fact that tower site conditions would not substantially change relative to existing conditions. Impacts for the approved project were determined to be less than significant.

The alignment of the revised project still intersects the Calico (also known as the Calico-Hidalgo), the Lenwood (also known as the Lenwood-Lockhart), and the Helendale (also known as the Helendale-South Lockhart) fault zones. In addition, there is at least one new transmission tower site located within the Alquist-Priolo Earthquake Fault Zone hazard area for each of these Holocene-active faults (CGS 2026). However, like the approved project, the revised project does not include construction of any habitable structures (defined as a structure that would be occupied a minimum of 2,000 hours per year), and while the tower locations would be different under the revised project, they would largely remain similarly susceptible to fault rupture hazards as the under the approved project conditions or existing conditions.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would be relatively similar resulting in less than significant impacts for the revised project. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Strong Seismic Ground Shaking: The 2024 EIR stated that just as with all locations in the region, there is a potential for strong seismic ground shaking to occur in the future. However, with no habitable structures proposed as part of the approved project and the inclusion of required seismic design and engineering standards into the approved project design, the potential impacts would be less than significant.

The revised project is located in the same area as the approved project, and the entire project area is susceptible to varying risks of seismic ground shaking which would depend on a number of factors including distance to the source of the seismic activity, resulting in different risks along the alignment for any particular seismic event. The revised project would still include no habitable structures, and all proposed improvements would be subject to required seismic design and engineering standards, as well as design standards related to withstanding high wind speeds that can also exert very high sheer forces and oftentimes greater than anticipated seismic forces, which would reduce potential impacts to less than significant levels.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would be relatively similar, resulting in less than significant impacts for the revised project. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Seismic-Related Ground Failure Including Liquefaction: In the 2024 EIR, it was determined that many of the approved project's work areas are in areas that are not susceptible to liquefaction according to County records. In addition, the geotechnical investigation for the approved project also determined that the potential for liquefaction was negligible along the proposed alignment. The potential for adverse effects from seismic-related ground failure including liquefaction was determined to be less than significant because no habitable structures were proposed, the presence of liquifiable soils in the project area is negligible, and the project would be subject to federal, state, and LADWP seismic design requirements.

Even though the transmission tower locations have shifted under the revised project, the findings of the previous geotechnical investigation would generally hold, in that many of the transmission tower locations are not located within areas susceptible to liquefaction based on the general subsurface conditions for many tower site areas. In addition, as with the approved project, all proposed improvements would be designed and constructed in accordance with current federal, state, and LADWP seismic design standards that would minimize the potential for damage due to seismic-related ground failure including liquefaction.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would be relatively similar, resulting in less than significant impacts for the revised project. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Landslides: A review of landslide hazard areas for the 2024 EIR determined that the project alignment is not located in any mapped landslide zones but does traverse a wide range of terrain from relatively flat to steep topography, including a diverse range of subsurface soil and rock units. Areas of steeper topography are considered to be generally more susceptible to landslide hazards but based on the proposed minimal grading and adherence to federal, state, and LADWP design standards, potential hazards were determined to be less than significant.

As noted above, the revised project would alter the locations of the transmission tower sites, however, similar to the approved project and to existing conditions, the new transmission tower sites would still be located within a range of different topographies and landslide susceptibilities. The revised project does include an increase in

grading activities for the location of new tower sites (including an increased depth of disturbance) as well as blasting in locations where bedrock is relatively shallow. However, as with the approved project, all proposed improvements would be subject to compliance with all applicable federal, state, and LADWP design standards, which would include measures to ensure landslide hazards are minimized. As discussed in Chapter 3.0, Project Description, blasting activities would be conducted in accordance with a detailed site-specific blasting plan for each blast site and consistent with all applicable regulatory requirements, including Title 29, Subpart U, Section 1926.900 et seq., Blasting and Use of Explosives, of the Code of Federal Regulations (CFR) Safety and Health Regulations for Construction. Each blast would be targeted at localized areas and planned by a blasting engineer to control vibration, flyrock, and air overpressure, and a minimum exclusion safety zone would be established and monitored during the blasting operations. A post-blast inspection would also occur to ensure no residual hazards remain. Therefore, the potential for inducing landslides and causing substantial adverse effects (including the risk of loss, injury, or death) would be minimized to the extent practicable during construction.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would be relatively similar, resulting in less than significant impacts for the revised project. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Soil Erosion or Loss of Topsoil: The 2024 EIR noted that the grading activities associated with the approved project would disturb relatively large areas and that the approved project would thus have the potential to contribute to erosion or loss of topsoil. However, the required implementation of a Stormwater Pollution Prevention Plan (SWPPP) would include erosion control measures to minimize the potential for erosion. In addition, LADWP's construction contractor would be required to salvage and preserve topsoil materials for later replacement, which would minimize the loss of any topsoil. The 2024 EIR noted that once construction was complete, there would be no change in erosion or loss of topsoil from operational activities and less than significant impacts would occur.

The revised project would similarly disturb large areas across the alignment, and such disturbances would increase relative to the approved project. Nevertheless, the same regulatory requirements would apply, and all construction activities would be completed in accordance with a SWPPP, which would include erosion control measures to minimize soil erosion and loss of topsoil. In addition, after construction activities are complete, temporary work areas would be subject to recontouring, soil stabilization, and revegetation (as needed and to the extent feasible) to mimic pre-project and/or natural conditions. Topsoil that is removed from each of the construction areas would be salvaged and replaced upon completion of construction, thus minimizing the loss of any topsoil. Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would be slightly increased but would remain less than significant. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Located on a Geologic Unit that is Unstable or that Would Become Unstable: The 2024 EIR noted that the project area includes relatively flat areas as well as steeper topographies that are generally more susceptible to landsliding, with some areas having a relatively high susceptibility to landslides. Otherwise, most of the work areas were not in areas susceptible to liquefaction or other types of soil instability, and the approved project would not be expected to exacerbate or trigger collapse of soils. The 2024 EIR further concluded that all approved project features would be designed and constructed in accordance with existing federal, state, and LADWP engineering and design standards related to seismic criteria, which would minimize the potential for adverse effects due to geologic instability.

Similar to the approved project, the revised project would include improvements over a wide range of geotechnical conditions from relatively flat areas to steeper topography but is not likely to be in areas susceptible to liquefaction or collapse. As stated above, blasting activities would be conducted in accordance with a detailed site-specific blasting plan for each blast site that is consistent with CFR Title 29, Subpart U, Section 1926.900 et seq., Blasting and Use of Explosives, of the Safety and Health Regulations for Construction, as well as other applicable requirements (discussed in Section 3.6.4.2, Blasting, of Chapter 3, Project Description of this SEIR) such that the potential for causing a geologic unit to become unstable would be minimized. In addition, just as with the approved project, the revised project would still require engineering and design standards to be implemented consistent with federal, state, and LADWP requirements, which would minimize the potential for adverse effects due to geologic instability.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would be relatively similar, resulting in less than significant impacts for the revised project. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Expansive Soils: An evaluation of the underlying materials in the project area in the 2024 EIR noted that the alignment is primarily underlain by quaternary alluvium, volcanic rock, granitic rock, sandstone, shale and gravel deposits. Even though expansive soils could be present in some areas, all approved project features would be designed pursuant to existing federal, state, and LADWP engineering and design standards which would include measures to ensure that movement from any expansive soils, if present, would not adversely affect the proposed improvements. As a result, the 2024 EIR concluded that less than significant impacts would occur.

As with the approved project, all proposed improvements associated with the revised project would occur within the existing transmission line ROW or along existing access and spur roads connecting to the existing transmission line alignment. Therefore, ground disturbing activities required for the revised project would encounter largely the same variety of subsurface materials as the approved project. All proposed improvements would also be subject to existing federal, state, and LADWP engineering and design standards. Adherence to these regulatory requirements would ensure that subsurface materials beneath proposed improvements are evaluated for their expansion potential and design measures would be implemented to address any expansive properties, if present.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would be relatively similar, resulting in less than significant impacts for the revised project. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Septic Tanks/Alternative Wastewater Disposal Systems: There were no septic tanks or alternative wastewater disposal systems proposed under the approved project, so the 2024 EIR determined there would be no impact. The revised project would also not include the construction of any septic tanks or alternative wastewater disposal systems. Thus, no impact would occur. The revised project would therefore not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

5.1.5 Greenhouse Gas Emissions

This section is based in part on the Air Quality, Energy, and Greenhouse Gas Emissions Calculations prepared by Dudek for the revised project (included as Appendix B of this SEIR).

Greenhouse Gas Emissions Setting

Global climate change is a cumulative impact; a project contributes to this impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. Thus, GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008). As defined in Health and Safety Code Section 38505(g), for purposes of administering many of California's primary GHG emissions reduction programs, GHGs include CO₂, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride (see also CEQA Guidelines Section 15364.5). The primary GHGs that would be emitted by revised project construction and operations include CO₂, CH₄, and N₂O. The Intergovernmental Panel on Climate Change developed the global warming potential (GWP) concept to compare each GHG's ability to trap heat in the atmosphere relative to another gas. The reference gas used is CO₂; therefore, GWP-weighted emissions are measured in MT of CO₂ equivalent (CO₂e). Consistent with CalEEMod Version 2022.1.1.35, this GHG emissions analysis assumes the GWP for CH₄ is 25 (i.e., emissions of 1 MT of CH₄ are equivalent to emissions of 25 MT of CO₂), and the GWP for N₂O is 298, based on the Intergovernmental Panel on Climate Change's Fourth Assessment Report (IPCC 2007).

Generate Emissions that May Have a Significant Impact and Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing Emissions: The CEQA Guidelines provide for streamlining the environmental review of project-level analysis of GHG emissions from a programmatic document, such as a GHG reduction plan, and allow for a finding of less than significant where a project is determined to be consistent with a local reduction plan (CEQA Guidelines Section 15183.5). The CEQA Guidelines provide that the environmental analysis of specific projects may be tiered from a programmatic GHG plan that substantially lessens the cumulative effect of GHG emissions. If a public agency adopts such a programmatic GHG Plan, the environmental review of subsequent projects may be streamlined. A specific project's incremental contribution of GHG emissions will not be considered cumulatively significant if the project complies with the adopted GHG plan.

This analysis assesses compliance with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The compliance evaluation is the sole basis for determining the significance of the project's GHG-related impacts on the environment. This GHG impact was determined to be less than significant for the approved project in the certified 2024 EIR. The revised project has also been evaluated for the potential to conflict with statewide and local GHG reduction plans, including the CARB Scoping Plans, the Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), and the County of San Bernardino GHG Reduction Plan.

Potential to Conflict with the County of San Bernardino GHG Reduction Plan

The County of San Bernardino developed and adopted a Greenhouse Gas Reduction Plan (GHGRP) in September 2011, which presented a comprehensive set of actions to reduce its internal and external GHG emissions to 15% below 2007 levels by 2020, consistent with the Assembly Bill (AB) 32 Scoping Plan (County of San Bernardino 2011). As described in the latest GHGRP Update, the County achieved the 2020 GHG reduction target that was set in the GHGRP, and the GHGRP Update establishes a target for year 2030 to reduce emissions to 40% below 2007 levels, which aligns with the statewide goal of Senate Bill (SB) 32 and puts the County on a path toward the state's long-term goal to achieve statewide carbon neutrality (zero net emissions) by 2045 (County of San Bernardino 2021).

As described in the GHGRP Update, all development projects, including those otherwise determined to be exempt from CEQA, are subject to applicable Development Code provisions, including the GHG performance standards and

state requirements. With the application of the GHG performance standards, projects that are exempt from CEQA and small projects that do not exceed 3,000 MT CO₂e per year are considered to be consistent with the GHGRP Update and determined to have a less-than-significant individual and cumulative impact for GHG emissions (County of San Bernardino 2021). The development of this threshold implies that the threshold should be applied to the total of a project's annual operational emissions plus its construction emissions annualized over the project life. GHG reducing performance standards were developed by the County to improve the energy efficiency, water conservation, vehicle trip reduction potential, and other GHG reductions from all new development approved within the unincorporated portions of San Bernardino County. As such, the GHG performance standards establish the minimum level of compliance that development must meet to assist in meeting the 2030 GHG reduction target identified in the GHGRP Update. These performance standards apply to all projects, including those that are exempt under CEQA, and are included as Conditions of Approval for development projects (County of San Bernardino 2021).

As the revised project consists of short-term construction for utility infrastructure replacement, the majority of the GHG-reducing performance standards from the GHGRP Update would not apply. However, the following construction-related performance standards from the GHGRP Update are applicable would thus be required as Conditions of Approval for the revised project:

GHG – Construction Standards. The “developer” shall submit for review and obtain approval from County Planning of a signed letter agreeing to include as a condition of all construction contracts/subcontracts requirements to reduce GHG emissions and submitting documentation of compliance. The developer/construction contractors shall do the following:

- a) Implement the approved Coating Restriction Plans.
- b) Select construction equipment based on low GHG emissions factors and high-energy efficiency. All diesel/gasoline-powered construction equipment shall be replaced, where possible, with equivalent electric or compressed natural gas equipment.
- c) Grading contractor shall provide the implement the following when possible:
 - 1. Training operators to use equipment more efficiently.
 - 2. Identifying the proper size equipment for a task can also provide fuel savings and associated reductions in GHG emissions
 - 3. Replacing older, less fuel-efficient equipment with newer models
 - 4. Use GPS for grading to maximize efficiency
- d) Grading plans shall include the following statements:
 - “All construction equipment engines shall be properly tuned and maintained in accordance with the manufacturers specifications prior to arriving on site and throughout construction duration.”
 - “All construction equipment (including electric generators) shall be shut off by work crews when not in use and shall not idle for more than 5 minutes.”
- e) Schedule construction traffic ingress/egress to not interfere with peak-hour traffic and to minimize traffic obstructions. Queuing of trucks on and off site shall be firmly discouraged and not scheduled. A flag person shall be retained to maintain efficient traffic flow and safety adjacent to existing roadways.
- f) Recycle and reuse construction and demolition waste (e.g. soil, vegetation, concrete, lumber, metal, and cardboard) per County Solid Waste procedures.

- g) The construction contractor shall support and encourage ridesharing and transit incentives for the construction crew and educate all construction workers about the required waste reduction and the availability of recycling services.

In addition to implementation of the applicable GHG-reducing performance standards as outlined above, to determine the revised project's potential to generate GHG emissions that would have a significant impact on the environment, the revised project's total construction GHG emissions have been amortized and compared to the quantitative threshold of 3,000 MT CO₂e per year as identified in the County's GHGRP Update.

Construction of the revised project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, worker vehicles, blasting caps/detonators, and helicopters. CalEEMod Version 2022.1.1.35 was used to calculate the annual GHG emissions for these sources, except for blasting caps and helicopters, which were estimated in a spreadsheet model. For the purposes of GHG emissions modeling, construction was conservatively modeled beginning in April 2026 and concluding in May 2029,⁵ lasting approximately 38 months. Table 5.1.5-1 presents the GHG emissions resulting from construction of the revised project, as well as from the approved project for comparison. For further detail on the assumptions and results of this analysis, please refer to Appendix B.

Table 5.1.5-1. Estimated Annual Construction Greenhouse Gas Emissions

Year	CO ₂	CH ₄	N ₂ O	R	CO ₂ e
	Metric Tons				
Revised Project					
2026	2,708.37	0.07	0.16	1.15	2,758.96
2027	7,416.16	0.18	0.39	2.53	7,540.52
2028	6,778.20	0.15	0.39	2.73	6,900.25
2029	987.77	0.03	0.05	0.29	1,004.62
Total	17,890.50	0.43	0.99	6.70	18,204.35
Amortized Construction Emissions (Over 50 Years)					364.09
Approved Project					
Total Construction GHG Emissions					15,949.04
Net Change (Revised Project minus Approved Project)					
Net Change in Total Construction GHG Emissions					2,255.31

Source: Appendix B.

Notes: CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; R = refrigerants; CO₂e = carbon dioxide equivalent.

For the revised project, helicopter emissions were split 50% between 2027 and 2028 based on the transmission line replacement schedule. Blasting emissions were also included in 2026 (Line 1) and 2027 (Line 2), based on input from LADWP.

As shown in Table 5.1.5-1, the estimated total GHG emissions over the construction period would be approximately 18,204 MT CO₂e, which equates to about 364 MT CO₂e per year when amortized over 50 years, which is the anticipated lifetime of the project. As compared to the approved project, the revised project would result in a total

⁵ The analysis assumes a construction start date of April 2026; however, in practice, construction is anticipated to begin in 2027, based on information supplied by LADWP at the time of this writing. Assuming an earlier start date for construction represents a worst-case scenario for criteria air pollutant and greenhouse gas emissions, because equipment and vehicle emission factors for later years are reduced as time passes, due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

increase of 2,255 MT CO₂e. For long-term operations, the revised project would not change the routine inspection and maintenance of the existing transmission lines or result in a net increase in GHG emissions. Overall, although the revised project would result in an increase in short-term GHG emissions compared to the approved project, since the revised project would implement all applicable GHG reducing performance standards from the GHGRP Update as Conditions of Approval and would result in amortized GHG emissions below the screening level of 3,000 MT CO₂e per year, the revised project would be consistent with the GHGRP Update and would have a less than significant individual and cumulative impact for GHG emissions.

Potential to Conflict with the Regional Transportation Plan/Sustainable Communities Strategy

On April 4, 2024, SCAG adopted the 2024–2050 RTP/SCS, also referred to as Connect SoCal 2024. Connect SoCal 2024 builds on the prior RTP/SCS and identifies the following strategy areas to support its environmental goals: Sustainable Development, Air Quality, Clean Transportation, Natural and Agricultural Lands Preservation, and Climate Resilience (SCAG 2024a). The primary objective of the RTP/SCS is to provide guidance for future regional growth (i.e., the location of new residential and non-residential land uses) and transportation patterns throughout the region, as stipulated under SB 375. The revised project's potential to conflict with the 2024–2050 RTP/SCS strategies is presented below.

- **Sustainable Development.** The 2024–2050 RTP/SCS identifies sustainable development, including water and energy-efficient building practices and green infrastructure, as a strategy to reduce GHG emissions. The revised project is supportive of this strategy since the revised project would accommodate increased transmission of renewable energy resources along the West of River Path 46 transmission corridor and would assist LADWP in achieving RPS requirements.
- **Air Quality.** The 2024–2050 RTP/SCS identifies air quality as an environmental strategy because the transportation sector is the predominant source of criteria air pollutant emissions in the region. The 2024–2050 RTP/SCS states that a comprehensive and coordinated regional solution with integrated land use and transportation planning from all levels of governments will be required to achieve the needed emission reductions (SCAG 2024a). Since the revised project's long-term operations would not change the routine inspection and maintenance of the existing transmission lines, there would not be a long-term increase in air pollutant emissions or GHGs as compared to baseline conditions.
- **Clean Transportation.** One of the technology innovations identified in the 2024–2050 RTP/SCS that would apply to the project is the promotion and support of low emission technologies for transportation, such as alternative fueled vehicles to reduce per capita GHG emissions. The revised project would not result in increased long-term vehicular trips as compared to baseline conditions. While the project does not directly pertain to this strategy, the project would not interfere with SCAG's efforts to promote and support clean transportation technologies.
- **Natural and Agricultural Lands Preservation.** The 2024–2050 RTP/SCS promotes the conservation and restoration of natural and agricultural lands through several policies, such as quantifying the carbon sequestration potential of natural and agricultural lands and prioritizing sensitive habitat and wildlife corridors for permanent protection. The revised project would be located on existing transmission line alignments, which do not support active agricultural uses. Areas within the ROW and along access and spur roads that are not actively under construction would remain accessible for passive agricultural uses, such as seasonal grazing.
- **Climate Resilience.** The 2024–2050 RTP/SCS promotes regional coordination and solutions for effective emergency response for climate-related hazards. Additionally, in the category of climate resilience, SCAG has established the following policies: prioritize the most vulnerable populations and communities subject

to climate hazards, support local and regional climate and hazard planning, support nature-based solutions to increase regional resilience, promote sustainable water use planning, and support an integrated planning approach to help jurisdictions meet housing needs in a drier environment. While the revised project does not directly pertain to these regional coordination efforts for climate resilience, the revised project would not interfere with this strategy. However, the revised project would increase the capacity, reliability, and longevity of MCC-VIC Lines 1 and 2, thereby providing for increased resiliency of electricity in LADWP's service area.

Based on the analysis above, the revised project would not conflict with the SCAG 2024–2050 RTP/SCS.

Potential to Conflict with State GHG Reduction Targets and CARB's Scoping Plan

The California State Legislature passed the Global Warming Solutions Act of 2006 (AB 32) to provide initial direction to limit California's GHG emissions to 1990 levels by 2020 and initiate the state's long-range climate objectives. Since the passage of AB 32, the state has adopted GHG emissions reduction targets for future years beyond the initial 2020 horizon year. For the revised project, the relevant GHG emissions reduction targets include those established by SB 32 and AB 1279, which require GHG emissions to be reduced to 40% below 1990 levels by 2030 and 85% below 1990 levels by 2045. In addition, AB 1279 requires that the state achieve net zero GHG emissions no later than 2045 and achieve and maintain net negative GHG emissions thereafter.

As defined by AB 32, CARB is required to develop the Scoping Plan, which provides the framework for actions to achieve the State's GHG emission targets. The Scoping Plan is required to be updated every 5 years and requires CARB and other state agencies to adopt regulations and initiatives that will reduce GHG emissions statewide. The first Scoping Plan was adopted in 2008, and was updated in 2014, 2017, and most recently in 2022. While the Scoping Plan is not directly applicable to specific projects and is not intended to be used for project-level evaluations,⁶ it is the official framework for the measures and regulations that will be implemented to reduce California's GHG emissions in alignment with the adopted targets. Therefore, a project would not conflict with the statutes if it would meet the Scoping Plan policies and would not impede attainment of the goals therein.

CARB's 2017 Scoping Plan update was the first to address the state's strategy for achieving the 2030 GHG reduction target set forth in SB 32 (CARB 2017), and the most recent CARB 2022 Scoping Plan update outlines the state's plan to reduce emissions and achieve carbon neutrality by 2045 in alignment with AB 1279 and assesses progress toward the 2030 SB 32 target (CARB 2022). As such, given that SB 32 and AB 1279 are the relevant GHG emission targets, the 2017 and 2022 Scoping Plan updates that outline the strategy to achieve those targets are the most applicable to the revised project.

The 2017 Scoping Plan included measures to promote renewable energy and energy efficiency, measures to increase stringency of the Low-Carbon Fuel Standard, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and measures to increase stringency of SB 375 targets. The 2022 Scoping Plan builds upon and accelerates programs currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking,

⁶ The Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009).

biking, and public transit; and displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines) (CARB 2022).

As the revised project would be consistent with the San Bernardino County GHGRP Update, which aligned its 2030 target to SB 32, the revised project would not conflict with SB 32. Further, the revised project would accommodate increased transmission of renewable energy resources along the West of River Path 46 transmission corridor and would ensure the continued safe and reliable operation of the lines. The revised project would assist LADWP in meeting its RPS by increasing LADWP's transmission capacity by approximately 475 megawatts along the West of River Path 46 transmission corridor. Thus, the revised project would assist LADWP in achieving the state's RPS requirements, which is a key component of the state's 2017 and 2022 Scoping Plan and would support the state's ability to achieve the 2030 and 2045 GHG reduction and carbon neutrality goals.

Summary

As discussed above, the revised project would be consistent with the County of San Bernardino GHGRP Update, the SCAG 2024–2050 RTP/SCS, and the 2017 and 2022 Scoping Plans and would support the state's trajectory toward future GHG reductions. Therefore, the revised project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment and would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. This impact would be less than significant for the revised project. Although the revised project would result in an increase in short-term GHG emissions when compared to the approved project, it would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact in the certified 2024 EIR.

5.1.6 Hazards and Hazardous Materials

Hazards and Hazardous Materials Setting

As with the approved project, the revised project area is primarily desert land along the existing ROW with access roads from I-15. The revised project would require construction and maintenance activities within the ROW and along existing access roads, including removal and replacement of transmission towers and conduit, rehabilitation of access and spur roads, construction of new spur roads within the ROW, site clearing, and various types of material show-up yards and construction staging areas (including areas used for helicopter fly yards, landing zones, and refueling). Hazardous materials typically associated with this type of work include diesel, oil, and other fuels associated with heavy equipment and powered equipment, paints and solvents associated with construction and steel work, and waste oils, solvents, and paints. Construction would generally be limited to surface-level construction with a maximum 29-foot depth of disturbance for tower foundation replacement. Excavation would be generally limited to tower work areas within the existing ROW. Surficial grading and land clearing may also be required at tower work areas, access and spur road work areas, and other temporary disturbance areas, such as staging areas and material show-up yards.

As discussed in Section 3.6.4.2 in Chapter 3, Project Description of this SEIR, unlike the approved project, the revised project requires blasting, which generally involves drilling blast holes into rock in a predefined pattern, placing explosives into the predrilled holes, and detonating the explosives using remote devices. Before blasting, the construction contractor would prepare a detailed site-specific blasting plan for each blast site. All blasting would comply with Occupational Safety and Health Administration, the California Division of Occupational Safety and Health, U.S. Department of Transportation (U.S. DOT), project-specific requirements, and state and local permitting requirements for California and Nevada, as well as BLM requirements. LADWP would, in coordination with the

contractor, conduct a pre-blast survey to identify sensitive receptors. A blasting engineer would plan each blast to control vibration, flyrock, and air overpressure. A minimum safety exclusion zone would be established and monitored during operations, and a post-blast inspection would occur to ensure no hazards remain. Only certified personnel would handle explosives.

Regulatory Databases

An updated regulatory database search was completed for the revised project to reaffirm the findings of the 2024 EIR. Databases reviewed for this SEIR include California Department of Toxic Substances Control's EnviroStor, the State Water Resources Control Board's GeoTracker, other Cortese List sites, and Nevada Division of Environmental Protection Environmental Activities Page (DTSC 2026; SWRCB 2026; CalEPA 2026; NDEP 2026). Similar to the findings of the 2024 EIR, hazardous material/waste release sites were identified in the vicinity of the revised project, including multiple open cleanup cases within Fort Irwin. None of the open release sites appear to overlap with the revised project ROW or work areas. However, one closed site in California overlaps with a small segment of a proposed work area in the revised project ROW, as discussed further below.

In California, multiple hazardous material/waste release sites were identified in the vicinity of the project ROW. Two sites adjacent to proposed material show-up yards and one site is adjacent to a proposed conductor pulling and tensioning work area are closed leaking underground storage tank (LUST) sites, which have documented releases from underground tanks, but have received regulatory closure (SWRCB 2026). There are also two active landfill sites in the vicinity of the project area. However, these active landfill sites do not overlap with and are not adjacent to any revised project disturbance areas.

In Nevada, multiple closed hazardous material/waste release sites were identified. In the community of Primm, Nevada, the sites were mainly associated with the nearby casino complex along I-15 (approximately 0.5 miles south of the ROW). Multiple sites were also identified at the solar complex southeast of the McCullough substation. Most of the sites have received regulatory closure, indicating the release was cleaned up to the satisfaction of the regulatory agency (i.e., Nevada Division of Environmental Protection). One nearby case is open, indicating the site is still undergoing remediation at the casino complex; contamination is related to subsurface fuel release to groundwater (NDEP 2026). There is a material show-up yard proposed to the north of the casino complex. However, as the contamination is subsurface and does not overlap the revised project work areas, this site is not likely to have an adverse effect on construction or operation of the revised project.

Schools

The majority of the proposed work areas are located in vacant areas of the Mojave Desert and on BLM land. The nearest school to the project area is the Baker Valley Unified School District elementary, middle, and high school, located at 72100 Schoolhouse Lane, Baker, California. This school is across the street (Stadium Way) to the west of a proposed material show-up yard and is approximately 1,075 feet south-southeast of the SR-127 through Baker, which would be used as a project access road during construction.

Airports

Public or public use airports within 2 miles of revised project work areas include the Barstow-Daggett Airport, located at 39500 National Trails Highway in Daggett, California (an unincorporated town in San Bernadino County) and Jean Sport Aviation Center, 23600 S Las Vegas Boulevard in the City of Jean, Nevada (AirNav 2026). Additionally, the Clark County Department of Aviation is proposing development and operation of a new airport (the Southern

Nevada Supplemental Airport) adjacent to I-15 and the transmission line ROW near the community of Primm in Clark County, Nevada. A helicopter landing strip within the Fort Irwin Military Reservation is located approximately 2 miles from the transmission line ROW in the vicinity of MCV1_88-1, MCV1_88-2, and MCV1_87-5. Portions of the ROW are also within Airport Safety Review Area 4 (AR4). AR4 includes low-altitude/high-speed corridors designated for military aircraft use (County of San Bernardino 2020d).

Emergency Evacuation

The revised project work areas are located in relatively remote locations that would be primarily accessed by existing access roads, which are not major evacuation or emergency routes. I-15 serves as a major east/west transportation corridor for the region and is critical to emergency operations.

Wildland Fires

Wildland fire is not likely to occur in the revised project area, as desert vegetation is typically characterized by low fire frequency.

Create a Significant Hazard Through Routine Transport, Use, or Disposal of Hazardous Materials: The 2024 EIR discussed how implementation of the approved project would not create a significant hazard through the routine transport, use, or disposal of hazardous materials. Construction would be temporary, and while it would involve hazardous materials, the use, transport, and disposal of said materials is highly regulated, and the approved project would conform to federal, state, and local rules and regulations. Thus, impacts were determined to be less than significant.

Hazardous materials associated with the revised project are similar to those analyzed in the 2024 EIR, with the exception of blasting. However, as discussed above and in Section 3.6.4.2 of this SEIR, blasting activities would be conducted in accordance with site-specific blasting plans (designed and overseen by a blasting engineer), are highly controlled, and are regulated by the Occupational Safety and Health Administration, U.S. DOT, California Division of Occupational Safety and Health, California State Fire Marshal, and other federal and state laws, including CFR Title 29, Subpart U, Section 1926.900 et seq., Blasting and Use of Explosives and Subpart H, Section 1910.109, Explosives and blasting agents.

CFR Title 29 Subpart U is specifically intended to minimize the risks associated with explosive materials. Adherence to its requirements would: (1) reduce risks of accidental detonation, fire, theft, or misuse through storage, inventory control, and personnel qualifications; require controlled blasting operations, warning systems, and evacuation procedures to protect workers and the surrounding public; and mitigate risks from extraneous energy sources that could unintentionally trigger explosives.⁷ Transport of explosive materials must likewise comply with CFR Section 1910.109(d)(3), Operation of transportation vehicles. For example, no spark-producing metal, spark-producing metal tools, oils, matches, firearms, electric storage batteries, flammable substances, acids, oxidizing materials, or corrosive compounds may be carried in the body of any motor truck and/or vehicle transporting explosives, unless the loading of such dangerous articles and the explosives comply with U.S. DOT regulations. Additionally, vehicles

⁷ "Extraneous energy sources" are outside, unintended electrical or electromagnetic inputs that have the potential to accidentally trigger an electric detonator. CFR Title 29 Section 1926.900(k) specifically warns that electric blasting caps can be set off by current induced from "radar, radio transmitters, lightning, adjacent powerlines, [and] dust storms," all of which are considered extraneous electricity or extraneous energy sources.

transporting explosives must avoid congested areas and heavy traffic in accordance with CFR Section 1910.109(d)(3)(v).

As stated above, a post-blast inspection would occur to ensure no residual hazards remain. Per CFR Section 1910.109(c)(5)(ix), explosives recovered from blasting misfires must be placed in a separate magazine until competent personnel has determined from the manufacturer the method of disposal. Caps recovered from blasting misfires must likewise be disposed of in the manner recommended by the manufacturer. Furthermore, per CFR Section 1910.109(e)(2)(i), empty containers and packing materials that have previously contained explosive materials must be disposed of in a safe manner or reused in accordance with the Department of Transportation's Hazardous Materials Regulations (CFR Title 49, Sections 177 through 180). Required compliance with these measures would directly reduce the likelihood of hazardous releases, accidental explosions, or other safety incidents.

Impacts for the approved project were determined to be less than significant in the certified 2024 EIR. Although blasting would occur under the revised project (introducing a new hazardous material source during construction), the impact determination would not change, as adherence to federal, state, and project-specific rules and regulations (including development of site-specific engineered plans and safety zones) would reduce the potential for hazardous releases, accidental explosions, and other safety incidents associated with the transport, use, or disposal of blasting materials. As such, impacts of the revised project would be less than significant. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Create a Significant Hazard Through Upset and Accident Conditions: The 2024 EIR discussed how implementation of the approved project would not create a foreseeable upset and accident condition involving the release of hazardous materials to the environment. While construction activities may involve hazardous materials, as noted above the handling of said materials would be strictly regulated. Construction may require excavation along agricultural lands or near contaminated sites, but risks associated with contamination were determined to be low due to the undeveloped nature of the project area and likely limited concentrations of pesticides, if present. Thus, impacts were determined to be less than significant.

Conditions along the revised project alignment and ROW are similar to those analyzed in the 2024 EIR, as the ROW limits remain unchanged. The ROW and associated work areas are primarily within the Mojave desert, and the area is characterized by undeveloped and unirrigated lands. Limited areas along the alignment have been subject to farming activities in the past, which can introduce soil contaminants from the use of pesticides. However, the majority of farming that occurs in this area is dry farming. Pesticides are often applied using irrigation equipment, and therefore the risk for dry farming operations to contribute to substantial soil contamination is low (DTSC 2008). Furthermore, there is currently no active agricultural production occurring within the transmission line ROW, where most ground disturbing activities would occur.

An updated database search was completed to evaluate the presence of hazardous material or waste release sites; findings were similar to those analyzed in the 2024 EIR. As such, no new contamination risks were identified associated with contaminated sites.

Impacts for the approved project were determined to be less than significant in the certified 2024 EIR. Under the revised project, the impact would be similar, resulting in less than significant impacts for the revised project. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Hazardous Emissions or Materials, Substances, or Waste Within One-Quarter Mile of an Existing or Proposed School: The 2024 EIR discussed how implementation of the approved project would not create hazardous emissions or materials, substances, or waste within one-quarter mile of an existing or proposed school. One school was identified within 0.25 miles of the SR-127 through Baker (which would serve as a project access road), and was not located on or adjoining any work zones. As the majority of the proposed work was to be completed in undeveloped areas of the Mojave Desert and on BLM land, it was unlikely a school would be present in the future. Thus, it was determined that no impact would occur.

Similar to the 2024 EIR, there is still only one school within 0.25 miles of the revised project near the SR-127 access road. Conditions regarding nearby existing or proposed schools have not changed. However, there is now a material show-up yard proposed to the east of the school across Stadium Way in Baker. No project-related construction activities are proposed along SR-127 within 0.25 miles of the existing school. Although vehicles and/or trucks transporting blasting materials may use SR-127 to access blasting sites within the ROW, transport of explosive materials must comply with CFR Section 1910.109(d)(3), Operation of transportation vehicles, as discussed in further detail above. In the event that the material show-up yard is used for storage or handling of potentially hazardous construction materials, such materials would be handled and stored in compliance with all local, state, and federal regulations. Compliance with the applicable safety requirements related to the transport of explosives and/or storage of hazardous materials would reduce potential impacts to less than significant.

The certified 2024 EIR determined that no impact would occur under the approved project. Under the revised project, blasting materials may be transported or stored within 0.25 miles of an existing school; however, transport and storage of such materials must comply with applicable regulatory requirements, as discussed above. Therefore, although the impact would increase compared to the approved project, the revised project impact would remain less than significant. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Location Included on a List of Hazardous Materials Sites: The 2024 EIR discussed how implementation of the project would not be on a location included on a list of hazardous material sites. The nearby contaminated sites identified in the analysis did not appear to overlap with the approved project, and construction associated with the approved project was not expected to require deep excavations that could encounter groundwater. As such, it was not anticipated that any hazardous material sites would be encountered or disturbed during the approved project, and impacts were determined to be less than significant.

As discussed above, an updated database search was completed for the revised project, and no new findings were identified. Although the revised project would require more ground disturbance than the approved project, no excavation is proposed on a hazardous material site. Two proposed material show-up yards would be adjacent to LUST cleanup sites (specifically, site T0607100886 located at 40873 Sunrise Canyon Road, Yermo, California, and site T0607100919 located at 65845 Cima Road, Nipton, California). However, both sites have closed and completed cases, which indicates cleanup was completed to the satisfaction of the overseeing regulatory agency (typically the local Regional Water Quality Control Board or local Certified Unified Program Agency) (SWRCB 2026). There is also one conductor pulling and tensioning area adjacent to a closed LUST cleanup site (T0607100747, located at 17400 D Street in Victorville, California). However, as with the other two LUST sites, this site has received regulatory closure, and remaining contamination, if any, would be limited to subsurface impacts (soil, soil vapor, or groundwater). While surficial grading would be required, the two material show-up yards and the conductor pulling and tensioning work area would not require deep excavation with the potential to disturb any latent contaminated subsurface materials. Surficial grading would also be required on the east side of D Street (across from LUST site T0607100747) associated with proposed improvements to an existing spur road; however, this activity would not

be expected to disturb any remaining subsurface contamination. The tower foundation work area for MCV1_162-3 (where deeper excavation would occur) is located across the street, approximately 145 feet from the property line of LUST site T0607100747.

While some contamination could remain after a LUST case is closed under the State Water Board Low-Threat Underground Storage Tank Case Closure Policy, the general criteria requires that the remaining contamination not be a nuisance, has been removed to the extent practicable, and does not impact water quality. Therefore, it is highly unlikely that any remaining contamination extends beyond the boundaries of the closed LUST site to the proposed excavation area for MCV1_162-3. In the unlikely event that construction workers were to encounter contaminated soils during excavation, the hazardous soils would be tested, removed, and disposed of in accordance with applicable local, state, and federal regulations for proper treatment of contaminated soils. Compliance with such regulations would further minimize the likelihood of a release of hazardous materials into the environment. All other proposed excavation locations are situated further from the identified LUST sites (at a distance where no residual contamination would be expected to occur). For these reasons, it is not anticipated that any hazardous materials would be encountered or disturbed during revised project construction.

Furthermore, conditions at existing active cleanup sites in the project vicinity (i.e., the two active landfill sites discussed above) are likely to improve as remedial actions continue. Considering ongoing cleanup and regulatory oversight, it can be assumed that contamination at the existing release sites has either remained the same or decreased, resulting in similar or decreased potential to encounter contamination. Thus, and for the reasons discussed above, impacts would be less than significant.

Impacts for the approved project were determined to be less than significant in the certified 2024 EIR. Under the revised project, the impact would be relatively similar as no hazardous materials are likely to be encountered, resulting in less than significant impacts for the revised project. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Located Within an Airport Land Use Plan or Within Two Miles of a Public or Public Use Airport: The 2024 EIR identified no impacts associated with airports. It was stated that, although project access roads may overlap with airport land use plan areas and/or airport buffer zones, no construction activities were proposed along access roads.

The Barstow-Daggett Airport is within 2 miles of the ROW and an access road subject to improvements. However, all revised project work areas are located outside of the Barstow-Daggett Airport Safety Review Area, as identified by the County of San Bernadino's Airport Safety and Planning map (County of San Bernardino 2020d). A helicopter landing strip within the Fort Irwin Military Reservation is located approximately 2 miles from the ROW, in the vicinity of MCV1_88-1, MCV1_88-2, and MCV1_87-5. Portions of the ROW are also within AR4. AR4 includes low-altitude/high speed corridors designated for military aircraft use (County of San Bernardino 2020d).

Surficial grading to prepare project work areas and tower replacement activities would not be expected to affect aircraft associated with nearby airports or military installations, as project-related activities would take place at ground level and would therefore not interfere with flight paths. Construction of the revised project may involve temporary, intermittent use of helicopters for tower replacement and to string new conductors. Helicopter flight paths will generally be limited to the existing ROW corridor. Helicopter use would occur in accordance with all applicable federal, state, and local aviation rules and regulations, and will not create any new hazards. In addition, LADWP would coordinate with local airports and Fort Irwin regarding helicopter operations and flight plans, as

necessary. For these reasons and upon compliance with applicable aviation rules and regulations, helicopter use would not result in a safety hazard for people residing or working in the area.

The revised project would involve replacing existing transmission towers with slightly taller transmission towers. However, the transmission towers are outside of Airport Safety Review Area for the Barstow-Daggett Airport (County of San Bernardino 1992). Existing towers are an average of approximately 113 feet in height, and the replacement towers would be an average of 121 feet in height above ground level, with a maximum height of 179 feet (consistent with existing conditions). The taller transmission towers would not exceed 200 feet above ground level, which is the height standard established by the Federal Aviation Administration to determine whether marking and/or lighting is required on temporary or permanent structures (Code of Federal Regulations Title 14, Part 77). All Federal Aviation Administration rules and regulations pertaining to temporary and permanent structures will be followed. As such, an airport safety hazard related to the taller transmission tower structures would not be anticipated.

The work crew(s) would be present on each work area for a limited period of time. While the number of workers near the Barstow-Daggett Airport or the Fort Irwin Military Reservation would temporarily increase during the proposed construction activities, the number of workers and the amount of time that they would be present on each work area would be limited, indicating that worker exposure to airport-related noise would be temporary and intermittent throughout the construction process. Furthermore, the revised project would not permanently increase the number of people who reside or work near the Barstow-Daggett Airport or the Fort Irwin Military Reservation, nor would the revised project introduce new habitable structures or noise sensitive uses to the project area. For these reasons, the revised project would not substantially alter airport safety hazards in the project area and impacts would be less than significant.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would be relatively similar resulting in less than significant impacts for the revised project. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Impair Implementation of or Physically Interfere with an Adopted Emergency Response or Evacuation Plan: The 2024 EIR determined that the revised project would not physically interfere with an adopted emergency response or evacuation plan, and that no impact would occur. Emergency access would be adequately maintained to provide emergency services to construction workers, and project operations would not interfere with adopted plans.

The primary emergency response and evacuation plan applicable to the revised project is the San Bernardino County Emergency Operations Plan (County of San Bernardino 2013). The modified project does not create any new restrictions to emergency response or evacuation capabilities. During construction of the revised project, emergency access to the project area would be adequately maintained to provide emergency services to construction workers along the transmission lines in the event of an emergency. Although the project also involves improvements to existing access roads outside of the existing ROW, these access roads are generally in remote areas and would not be anticipated to serve as primary evacuation routes. The Emergency Operations Plan does not designate specific evacuation routes, and it is anticipated that full road closures would not be required.

After construction, each temporary work area would be subject to recontouring, soil stabilization, and revegetation (as needed and to the extent feasible) to mimic pre-project conditions, and operational activities of the transmission lines would continue similar to existing conditions. Emergency vehicle access to and from the transmission lines would continue to be provided via the paved and unpaved access roads that run along the entire transmission line alignment. No operational impacts would occur.

The 2024 EIR determined that the approved project would have no impact. Under the revised project, the impact would be relatively similar resulting in no impact under the revised project. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Expose People or Structures to a Significant Risk of Loss, Injury, or Death Involving Wildland Fires: The 2024 EIR determined that the approved project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. The approved project would primarily be located in undeveloped areas of the Mojave Desert, and desert vegetation is characterized by low fire frequency. Additionally, the approved project is not located within a fire safety area, and no habitable structures were proposed. Thus, impacts were determined to be less than significant.

As with the approved project, the revised project would be located in primarily undeveloped areas of the Mojave Desert. The Vegetation Element in the California Desert Conservation Area (CDCA) Plan notes that desert vegetation is typically characterized by low fire frequency (BLM 1980). The revised project is not located in a fire safety area as mapped by the County (County of San Bernardino 2020e). Furthermore, the revised project is not located in a state responsibility area (SRA) or a very high fire hazard severity zone (VHFHSZ; CAL FIRE 2026). As discussed above, the revised project would require blasting at select work areas. However, as discussed above, proposed blasting activities would be conducted in accordance with site-specific blasting plans (designed and overseen by a blasting engineer), would be highly controlled, and would be regulated by the Occupational Safety and Health Administration, U.S. DOT, California Division of Occupational Safety and Health, California State Fire Marshal, and other federal, and state laws, including CFR Title 29, Subpart U, Section 1926.900 et seq., Blasting and Use of Explosives and Subpart H, Section 1910.109, Explosives and blasting agents. CFR Title 29 Subpart U is specifically intended to minimize the risks associated with explosive materials. Adherence to its requirements would: (1) reduce risks of accidental detonation, fire, theft, or misuse through storage, inventory control, and personnel qualifications; require controlled blasting operations, warning systems, and evacuation procedures to protect workers and the surrounding public; and mitigate risks from extraneous energy sources that could unintentionally trigger explosives. As stated above, a post-blast inspection would occur to ensure no residual hazards remain that could potentially trigger or exacerbate a wildland fire.

The revised project would involve the temporary presence of construction workers in the project area who would be temporarily exposed to wildland fire, in the event that one were to occur in the project vicinity. However, the risk would not be greater than that of other areas in the Mojave Desert. Additionally, no habitable structures are proposed, and the revised project would not permanently increase the population in the project area resulting in an increase of people and/or structures that would be at risk of loss, injury, or death involving wildland fire. As such, impacts would be less than significant.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would increase due to the use of blasting within select work areas; however, for the reasons discussed above, impacts would remain less than significant. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

5.1.7 Hydrology and Water Quality

Violate Water Quality Standards or Waste Discharge Requirements: The 2024 EIR discussed how prior to commencement of construction activities, LADWP would be required to obtain a General Storm Water Permit associated with Construction Activity (also known as the Construction General Permit or CGP) which would require implementation of a SWPPP. The SWPPP would identify best management practices (BMPs) that would be implemented to protect water quality from adverse effects. In addition, LADWP would develop and implement an erosion control plan that would minimize the potential for indirect impacts such as increases from sediment loads to receiving waters. Following construction, each tower site would not be substantively altered from its existing condition and as a result water and waste standards or requirements would not be violated. Therefore, with adherence to the required SWPPP and erosion control plan, the potential impacts related to water and waste standards and requirements would be less than significant.

The revised project would increase the total area of disturbance compared to the approved project and would require more construction equipment and activity throughout the project area, which could increase the volume of hazardous materials needed. Additionally, the revised project would include the use of blasting agent chemicals. However, just as with the approved project, all construction activities for the revised project would also require adherence to the CGP including the requirements to prepare and implement a SWPPP. The SWPPP would identify BMPs that are site specific to the conditions and characteristics of the construction activities anticipated to ensure that water quality is protected. In addition, as with the approved project, LADWP would still develop and implement an erosion control plan to minimize the potential for adverse effects related to erosion and sedimentation. All blasting activities would adhere to applicable BMPs as outlined in Section 3.6.4.2 of Chapter 3.0, Project Description, as well as applicable regulations (e.g., Title 29, Subpart U, Section 1929.900 et seq., of the California Federal Regulations (CFR) Safety and Health Regulations for Construction – Blasting and Use of Explosives), which would minimize adverse effects. Once construction is complete, drainage patterns would be largely similar to existing conditions with negligible changes to the water quality of stormwater runoff and no substantive changes from what was considered in the 2024 EIR.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would be the same, also resulting in less than significant impacts for the revised project. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Deplete Groundwater Supplies or Interfere with Groundwater Recharge: While water for construction, primarily necessary for dust control purposes, would be sourced from various different water providers that could include water from groundwater or surface water, the 2024 EIR determined that the general scope of activities would involve relatively small quantities of water over relatively short periods of time and scattered over a large area, such that the total quantities would not be substantial. Dewatering for construction purposes was also determined to have a low likelihood to be necessary to complete the proposed improvements. Once constructed, the approved project would not have any substantial increase in impervious surfaces, and there would be negligible changes to groundwater recharge. The water demands during operation would require negligible changes to groundwater use or groundwater recharge. The 2024 EIR concluded that there would be less than significant impacts related to groundwater supplies and recharge.

As with the approved project, the revised project would also require water primarily for dust control during construction. The total area of ground disturbance would substantially increase under the revised project, which

would in turn increase the water requirements for dust control purposes. However, even with this increase, the water is expected to be sourced from a variety of water suppliers that may source water from groundwater, surface water, and/or treated wastewater. In addition, the water demand for construction would still be temporary and is not anticipated to represent substantive quantities. Once construction is completed, there would be no new additional water demands.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would increase but would still remain less than significant. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Result In Substantial Erosion or Siltation: The 2024 EIR noted that even though numerous drainage features, ephemeral washes, and swales traverse the project alignment, construction activities were not anticipated to adversely affect any of these drainages or alter the stream or course of these drainages. Compliance with the stormwater runoff regulations would be sufficient to ensure that impacts related to erosion and siltation during construction would be less than significant. During operation, drainage patterns would be relatively similar to existing conditions and thus would have a less than significant impact.

As discussed above, the revised project would be required to adhere to the CGP and implement a SWPPP with BMPs that are designed to minimize the potential for erosion and siltation. While the area of disturbance would substantially increase under the revised project, adherence to the CGP as well as the LADWP erosion control plan requirements would be just as effective as analyzed under the approved project to reduce impacts to less than significant levels.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would increase, but would still remain less than significant for the revised project. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Increase the Rate or Amount of Surface Runoff Which Would Result in Flooding: The 2024 EIR noted that the approved project would not introduce substantial amounts of new impervious surfaces, and therefore the rate or amount of surface runoff would not be substantially increased to the extent that flooding is caused on or off site. After construction, each transmission tower location and temporary work area would be restored to its original condition to the extent feasible, and operational activities of the transmission lines would return to conditions that are effectively similar to existing conditions in terms of drainage patterns. Impacts were determined to be less than significant.

The revised project would require the construction of new impervious surfaces with the construction of the new transmission tower foundations and footings; however, this would be generally balanced by the removal of the foundations for the existing transmission towers that would be removed to a depth of 2 feet below grade. In addition, any potential net increase in impervious surfaces associated with the new transmission towers would be dispersed in isolated locations such that there would be no meaningful increase in the rate or amount of surface runoff. As a result, there would be no anticipated substantive increase in stormwater runoff that could result in flooding on- or off-site.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would be similar resulting in less than significant impacts for the revised project. The revised

project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Runoff Water Which Would Exceed the Capacity of Existing or Planned Stormwater Drainage Systems or Provide Substantial Additional Sources of Polluted Runoff: As discussed above, the 2024 EIR noted that the approved project would not substantively increase the amount of runoff from the project area, and compliance with applicable water quality regulations would ensure that impacts related to polluted runoff during construction would not be significant.

While the revised project would alter existing drainage patterns by constructing new foundations and footings for the proposed new transmission towers, the revised project would also remove the existing transmission tower foundations to a depth of 2 feet below ground surface. As a result, there would not be any substantive increase in the amount of stormwater runoff in the project area. In addition, the new impervious surfaces associated with the revised project would be isolated in mostly remote areas and in dispersed locations, most of which do not have any existing or planned stormwater drainage systems in the vicinity. Runoff from the vast majority of the impervious surfaces from the tower foundations would disperse to the surrounding area as sheet flow. There also would be no substantive change in the water quality of the runoff as there would be no substantive change in potential pollutant sources associated with the revised project compared to the approved project.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would be similar, resulting in less than significant impacts for the revised project. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Impede or Redirect Flood Flows: Even though the approved project alignment is within or near some 100-year flood hazard areas, the 2024 EIR determined that the characteristics of the proposed improvements would ultimately be similar to existing conditions, and the potential for impeding or redirecting flood flows would have no impact.

The revised project would construct new towers, some of which are still within or near 100-year flood hazard areas. However, the revised project would also demolish existing towers such that the characteristics of the proposed improvements under the revised project still do not represent substantive above ground structures that have the potential to significantly impede or redirect flood flows.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would be similar, resulting in less than significant impacts for the revised project. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

In Flood Hazard, Tsunami, or Seiche Zones, Risk Release of Pollutants: The 2024 EIR noted that some of the proposed work sites may be located within or near an identified 100-year flood zone, but the approved project would not include the storage or handling of bulk quantities of hazardous materials and would be required to adhere to existing regulatory requirements related to hazardous materials. Otherwise, the project area is located at least 80 miles inland and not near any large, enclosed bodies of water such that there would be very little likelihood of tsunami or seiche wave hazards. Therefore, impacts were considered less than significant.

The characteristics and location of the proposed improvements under the revised project do not affect any change in the susceptibility to flood, tsunami, and seiche zone hazards relative to what was described in the 2024 EIR. As with the approved project, the revised project would still include the use, storage and transportation of limited

quantities of hazardous materials; however, the implementation of BMPs and compliance with federal, state, and local regulations for storage and handling of hazardous materials would ensure that all hazardous materials are contained in appropriate containers and spill protection measures are in place. In addition, construction activities would be relatively temporary.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would be similar, resulting in less than significant impacts for the revised project. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Conflict with Implementation of a Water Quality Control Plan or Sustainable Groundwater Management Plan: The 2024 EIR reiterated the existing regulatory requirements that would be adhered to related to water quality including the NPDES CGP and the required BMPs that would be implemented as outlined in a SWPPP. Compliance with these regulations would be consistent with the Lahontan Region 6 Regional Water Quality Control Board's Basin Plan and would not conflict with or obstruct it. Considering that the water requirements of the approved project would be limited to dust control activities dispersed across the alignment, the 2024 EIR determined that the approved project would not conflict with or obstruct any sustainable groundwater management plan. Impacts were considered less than significant.

As with the approved project, construction activities under the revised project would similarly be subject to the NPDES CGP requirements which are consistent with the goals and policies of the applicable Basin Plan. Once constructed, there would be no new discharges associated with the revised project ; as such, the revised project would not conflict with the Basin Plan. As with the approved project, the revised project also does not involve ongoing use of water, as water use would be for relatively short construction period needs and would be sourced from different providers that have various sources of water supply. Therefore, the revised project would not substantively conflict with any sustainable groundwater management plan.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would be relatively similar, resulting in less than significant impacts for the revised project. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

5.1.8 Land Use and Planning

Land Use and Planning Setting

The project alignment is located within an existing ROW within Utility Corridor D (the Boulder Corridor), which is delineated in the CDCA Plan. Corridor D originates at the border of Nevada and California, traverses the CDCA Planning Area in a southwest direction, and extends past Victorville, California, in a southerly direction, terminating at the border of San Bernardino County (edge of CDCA Planning Area). The corridor measures approximately 2 miles in width.

The 162-mile project ROW crosses a number of Special Recreation Management Areas (SRMAs) and Extensive Recreation Management Areas (ERMAs) under the Desert Renewable Energy Conservation Plan (DRECP). SRMAs are designated by BLM to provide specific recreational opportunities such as trailheads for hikers or for off-road vehicle users while ERMAs are designated to manage and support the principal recreational activities and associated qualities of the ERMA (BLM 2026a, 2026b). The project ROW passes through the Stoddard/Johnson

SRMA, the Shadow Valley ERMA, and the Ivanpah Valley ERMA. A portion of the project ROW also passes through the Stoddard Valley off-highway-vehicle (OHV) area. Additionally, an existing access road segment proposed for improvement near the community of Primm, Nevada also runs through the Ivanpah SRMA.

Although the project would not pass through any BLM wilderness areas, wilderness areas are located to the north and south of the project ROW (BLM 2026c). Wilderness Areas are managed by BLM to ensure that they maintain their wilderness characteristics (BLM 2026a). Portions of the Stateline, Mesquite, and Kingston Wilderness Areas are approximately 0.5 miles north of the project ROW, while the Hollow Hills Wilderness Area is approximately 0.25 miles southeast of the project ROW.

Various segments of project ROW are near, but not within, DRECP conservation lands; however, just west of SR-127, portions of an existing spur road subject to minor improvements (located outside of the project ROW) are within DRECP conservation land. Additionally, several transmission tower locations overlap with the Fremont-Kramer to Ord-Rodman Linkage for the Desert tortoise, including MCV1_159-3 to 158-3 and MCV2_137-4 to 150-3, as well as MCV1_145-6, MCV2_145-1, and MCV2_144-5. A different portion of the ROW overlaps with the Ord Rodman Tortoise Conservation Area, including transmission towers MCV1_139-5 to 128-6 and MCV2_139-1 to 128-1. Transmission towers MCV1_121-4 to 94-1 and MCV2_120-5 to 93-3 traverse through the Superior-Cronese Tortoise Conservation Area. Transmission towers MCV1_93-5 to 54-1 and MCV2_93-2 to 53-4 pass through or pass directly adjacent to the Superior-Cronese to the Mojave National Preserve to Shadow Valley to Death Valley National Park Linkage such that construction activities are expected to overlap with the linkage. Transmission towers MCV1_53-6 to 43-2 and MCV2_53-3 to 42-3 pass through the Ivanpah Tortoise Conservation Area. The project ROW also overlaps with the Ivanpah Valley Linkage at transmission towers MCV1_33-2 to 27-6 and MCV2_32-4 to 27-1.

The project ROW passes through various Areas of Critical Environmental Concern (ACECs) maintained by the BLM. The BLM designates ACECs to highlight areas where special management attention is necessary to protect important historical, cultural, and scenic resources, or fish and wildlife, and other natural resources. ACECs can also be created to protect human life and safety from natural disasters (BLM 2026d). At transmission towers MCV1_154-1 to 151-2 and MCV2_153-2 to 150-3, as well as at MCV1_145-6, MCV2_145-1 and 144-5, the project overlaps with the Northern Lucerne Wildlife Linkage ACEC. A different portion of the alignment overlaps with the Ord Rodman ACEC, including towers MCV1_139-5 to 135-1 and MCV2_139-1 to 134-2. The subsequent transmission towers, from MCV1_134-7 to 128-6 and MCV2_134-1 to 128-1, pass through the Daggett Ridge Monkey Flower ACEC. The project ROW runs through the Superior-Cronese ACEC at transmission towers MCV1_121-2 to 94-1 and MCV2_120-3 to 93-3. Transmission towers MCV1_72-1 to 43-2 and MCV2_71-2 to 42-2 as well as MCV1_43-1 to 27-6 and MCV2_42-1 to 27-1 pass through the Shadow Valley ACEC. The project ROW also passes the Mojave fringe-toed lizard ACEC near transmission towers MCV1_124-2 and MCV1_123-3.

Lands protected by the U.S. Fish and Wildlife Service (USFWS) also intersect with the project ROW and include Critical Habitat for southwestern willow flycatcher and Mojave Desert tortoise. Critical Habitat is designated by USFWS to protect specific areas essential to the conservation of a threatened or endangered species under the Endangered Species Act (USFWS 2026). The project ROW crosses through Critical Habitat designated for the southwestern willow flycatcher between towers MCV1_162-2 and 162-1. A few other portions of the project ROW also overlap with USFWS Critical Habitat for desert tortoise, including the following segments: transmission towers MCV1_139-5 to 128-6 and MCV2_139-1 to 128-1; transmission towers MCV1_121-2 to 94-1 and MCV2_120-3 to 93-3; and transmission towers MCV1_53-6 to 43-2 and MCV2_53-3 to 42-3. Additionally, transmission towers MCV1_122-3 and 122-2 pass through USFWS Critical Habitat for desert tortoise.

The project ROW also passes through various areas designated as California Desert National Conservation Lands (CDNCL) managed by the BLM under the DRECP. These lands have been protected by the BLM as they contain nationally significant landscapes with ecological, cultural, and scientific benefits determined by a number of factors, including scenic quality, development pressure, and landscape intactness (BLM 2016). Transmission towers MCV1_139-5 to 139-2 and MCV2_139-1 to 138-3 pass through the West Desert and Eastern Slopes CDNCL area while transmission towers MCV1_139-1 to 134-7 and MCV2_138-2 to 134-1 pass through the Pinto Lucerne Valley and Eastern Slopes CDNCL area. Project transmission towers MCV1_134-6 to 128-6 and MCV2_133-5 to 128-1, as well as transmission towers MCV1_72-1 to 69-4 and MCV2_71-2 to 68-5, are located within the Mojave and Silurian Valley CDNCL area. The Kingston-Armargosa CDNCL area also overlaps with the project ROW at towers MCV1_69-3 to 43-2 and MCV2_68-4 to 42-2.

Physically Divide an Established Community: The 2024 EIR determined that construction and operation of the approved project would not physically divide an established community, and no impact would occur.

As with the approved project, the revised project work areas are located in undeveloped areas of the Mojave Desert, with the exception of several work sites and access roads near the City of Barstow that are within or near fields of solar panels, as well as a short segment of the project ROW located adjacent and to the south of a cluster of single-family residences where the project ROW crosses SR-247 (south of Barstow). However, the solar fields do not constitute an established community, and the existing transmission line does not bisect the existing cluster of residences. No project construction activity would encroach onto private residential parcels. Because the project alignment and ROW already exist and do not bisect an established community, the revised project would not have the potential to divide such a community. After construction is complete, operational conditions and activities would be generally consistent with existing conditions. Thus, no impact would occur. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Conflict with An Applicable Land Use Plan, Policy, or Regulation of an Agency with Jurisdiction Over the Project Adopted for the Purpose of Mitigating an Environmental Effect: The 2024 EIR determined that construction and operation of the approved project would not conflict with an applicable land use plan, policy or regulation adopted for the purpose of mitigating an environmental effect and impacts would be less than significant.

Numerous land use plans apply to the revised project area. Consistency with applicable land use plans is addressed below.

BLM Land Use Plans

The revised project would be within the jurisdictional boundaries of the CDCA Plan, as amended, and the boundaries of the DRECP BLM Land Use Plan Amendment. The consistency of the revised project with these plans is addressed below.

- **1980 California Desert Conservation Area Plan, as amended.** On BLM-administered lands, the revised project is subject to the 1980 CDCA Plan, as amended. As part of the Federal Land Policy and Management Act, the CDCA Plan was developed to guide land use management of BLM lands within this portion of California. The revised project is located in Corridor D (Boulder Corridor), a designated 2-mile-wide planning corridor in the CDCA Plan (BLM 1980). The CDCA Plan identifies two 500 kV power lines (i.e., the existing MCC-VIC Lines 1 and 2) as pre-existing lines. Per the CDCA Plan, existing facilities within designated corridors may be maintained and upgraded or improved in accordance with existing right-of-way grants or

by amendments to right-of-way grants. Existing facilities outside designated corridors may only be maintained but not upgraded or improved (BLM 1980).

- **2016 Desert Renewable Energy Conservation Plan.** Phase I of the DRECP was approved on September 14, 2016, by the BLM. This phase of the BLM DRECP is a Land Use Plan Amendment to the CDCA Plan and identifies priority areas for renewable energy development while setting aside areas for conservation and recreation. The BLM DRECP Land Use Plan Amendment establishes mitigation and habitat compensation ratios for project impacts that would occur within designated ACECs, including habitat linkage ACECs; CDNCLs; and non-ACEC areas. The revised project ROW extends through areas covered by the DRECP.
- **California Desert National Conservation Lands.** In 1976, Congress designated a 25-million-acre expanse of resource-rich desert lands in southern California as the CDCA through the Federal Land Policy and Management Act. In 2009, Congress passed the Omnibus Public Land Management Act, which directed the BLM to include lands managed for conservation purposes within the CDCA as part of the CDNCLs. Phase I of the DRECP designated 4.2 million acres as part of the CDNCLs. Much of this land was already a part of the CDNCLs (in particular, large portions of the Mojave Trails and Sand to Snow National Monuments), but 2.89 million acres were a new addition to the system. CDNCLs are closed to all energy development.

County of San Bernardino Countywide Plan

The revised project ROW (and other various work areas, such as access roads, material show-up yards, and staging areas) are predominantly within the boundaries of the County of San Bernardino Countywide Plan (Countywide Plan), which acts as the general plan for the unincorporated areas of San Bernardino County (County of San Bernardino 2020a). The land use designations for almost all of the project ROW and other work areas are Resource/Land Management (RLM) and Open Space (OS), while the zoning is predominantly Resource Conservation (RC) (County of San Bernardino 2020c). The primary purpose of the Resource/Land Management land use as set forth in the Countywide Plan is as follows (County of San Bernardino 2026b):

- Manage, preserve, and protect natural resources such as agricultural/grazing lands, watersheds, minerals, and wildlife habitat areas, as well as open space areas not otherwise protected or preserved
- Provide areas for military operations and training while minimizing impacts on and from surrounding civilian uses
- Allow for limited rural development while minimizing the expansion of development outside of existing communities

The primary purpose of the Open Space land use as set forth in the Countywide Plan is as follows (County of San Bernardino 2026b):

- Provide and preserve publicly owned land for parks and open space
- Manage, preserve, and protect natural areas, habitats, and wildlife corridors

According to the San Bernardino County Code, the purpose of the Resource Conservation land use zoning district is to provide sites for open space and recreational activities, single-family homes on very large parcels, and similar and compatible uses (County of San Bernardino 2026c).

Revised Project Construction and Operation

This analysis focuses on the potential to conflict with local land use plans (i.e., the Countywide Plan). The applicable federal plans (i.e., the BLM plans) discussed above are provided for informational purposes and will be assessed in detail in the National Environmental Policy Act document prepared by the BLM.

The revised project would not involve an increase in residential development, would not result in population growth, and would not preclude the establishment of open space areas or other resource conservation uses. The revised project involves improvements to existing utility infrastructure (through removal/replacement of equipment) and access roads (including expanding existing access and spur roads and constructing new spur roads within the ROW, when required). Therefore, the revised project would not introduce new, incompatible uses and would not conflict with the purposes of the applicable land use and zoning designations for the revised project set forth in the Countywide Plan (County of San Bernardino 2026b, 2026c). After construction is complete, each tower site and temporary work area would be subject to recontouring, soil stabilization, and revegetation, as needed, to reflect natural and/or pre-project conditions to the extent feasible, and operational activities of the transmission lines would continue as under existing conditions.

As stated above, impacts for the approved project were determined to be less than significant in the certified 2024 EIR. Under the revised project, the impact would remain less than significant. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

5.1.9 Mineral Resources

Mineral Resources Setting

Minerals are typically grouped into four categories consisting of metallic minerals, industrial/nonmetallic minerals, energy minerals, and construction materials. On public lands, mineral resources are categorized by the disposal categories of locatable, leasable, and saleable. Leasable minerals include energy-related mineral resources such as oil, natural gas, coal, and geothermal, and some non-energy minerals, such as potash, salt, phosphate, and sulfur. Saleable minerals, or mineral materials, are common varieties of minerals and building materials such as sand, gravel, stone, aggregate, silica, clay, and volcanic rock products. Locatable minerals are those that are not leasable or saleable, and include minerals such as gold, silver, copper, lead, zinc, barite, gypsum, molybdenum, gemstones, and certain varieties of high calcium limestone. The CDCA, within which the project area is located, is an important area in the state for mineral production. At the time of the CDCA Plan adoption, the CDCA produced 50% of the state's revenue from mineral resources, and 46 mineral commodities are known to exist in the CDCA (BLM 1980). As such, mineral resources are prevalent in the vicinity of the project area. As indicated below, the project area also includes areas designated by the state as having the potential to contain mineral deposits. However, the project area does not include any oil wells or oil fields.

Loss of Availability of a Known Mineral Resource of Value: The 2024 EIR determined that construction and operation of the approved project would not result in the loss of availability of a known mineral resource and no impact would occur.

Portions of the revised project pass through Mineral Resource Zone 3a, as designated by the Department of Conservation, and identified by the County of San Bernadino's Policy Map NR-4 within the Natural Resources Element of the County of San Bernardino's Countywide Plan (County of San Bernardino 2020b). A designation of

Mineral Resource Zone 3a is given to areas containing known mineral deposits that may qualify as mineral resources. A portion of the revised project alignment passes through Surface Mining and Reclamation Act Study Area Open-File Report (OFR) 92-06 that has a Mineral Land Classification of Concrete Aggregate (DOC 2000). However, because the revised project would occur primarily within a CDCA-designated utility corridor primarily used for linear utility ROW, the revised project would not affect extraction of leasable minerals as these operations are not currently present within the ROW or adjacent areas utilized for access and spur roads. Additionally, according to the Department of Conservation, Division of Oil, Gas, and Geothermal Resources, no oil wells or oil fields are known to exist in the project area (DOC 2026c). Operational activities of the transmission lines would be the same as under existing conditions.

As stated above, the certified 2024 EIR determined that the approved project would have no impact. Under the revised project, the impact would stay the same, and no impact would occur. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Loss of Availability of a Locally Important Mineral Resource Recovery Site: The 2024 EIR determined that construction and operation of the approved project would not result in the loss of availability of a locally important mineral resource recovery site and no impact would occur.

Because the revised project would occur within a CDCA-designated utility corridor primarily used for linear utility ROW, the revised project would not affect extraction of leasable minerals as no operations are currently present within the corridor. No construction or operational impacts related to locally important mineral resources would occur.

As stated above, the certified 2024 EIR determined that the approved project would have no impact. Under the revised project, the impact would stay the same, and no impact would occur. Thus, the revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

5.1.10 Noise

Airport Noise Setting

Airports within two miles of the project ROW include the Barstow-Daggett Airport (39500 National Trails Highway in the City of Daggett), a public airport located approximately 1 mile to the southeast of the ROW and adjacent to a project access road; and Jean Sport Aviation Center (23600 S Las Vegas Boulevard in the City of Jean, Nevada), a recreational aviation airport approximately 4.5 miles northwest of the ROW and adjacent to several access roads proposed for use by the revised project (AirNav 2026). Additionally, a helicopter landing strip within the Fort Irwin Military Reservation is located approximately 2 miles from the ROW in the vicinity of MCV1_88-1, MCV1_88-2, and MCV1_87-5. Finally, the Clark County Department of Aviation is proposing development and operation of a new airport (the Southern Nevada Supplemental Airport) adjacent to I-15 and the transmission line ROW near the community of Primm in Clark County, Nevada.

Within the Vicinity of a Private Airstrip or Airport Land Use Plan or Within Two Miles of a Public or Public Use Airport, Expose People in the Project Area to Excessive Noise Levels: The 2024 EIR determined that construction and operation of the approved project would not expose people to excessive airport noise. Impacts were determined to be less than significant.

As with the approved project, the revised project would temporarily expose construction workers to noise levels from the Barstow-Daggett Airport and any air traffic associated with the Fort Irwin Military Reservation. However, based on the San Bernardino County Airport Comprehensive Land Use Plan, all revised project work areas are located outside of the 65 A-weighted decibel Community Noise Equivalent Level noise contour for the Barstow-Daggett Airport (County of San Bernardino 1992). Noise exposure to construction workers would be temporary, as construction along the access roads and the project ROW would be transitory. The revised project would not construct any housing or other habitable structures that would result in a permanent population increase in the vicinity of any airport. Thus, the revised project would not expose people residing or working in the revised project area to excessive noise levels from an airport or a private airstrip. Noise impacts would be less than significant.

The certified 2024 EIR determined that the approved project would have a less than significant impact. Under the revised project, the impact would stay the same, and impacts would be less than significant. Thus, the revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

5.1.11 Population and Housing

Induce Population Growth in an Area: The 2024 EIR determined that construction and operation of the approved project would not induce population growth, and no impact would occur.

As with the approved project, the revised project does not include any new residences or businesses and is not intended to induce growth but to serve existing and projected electricity demands. No new homes or businesses would result, and the infrastructure upgrades would not generate new growth, as the revised project would not enable any new development to occur.

As stated above, the certified 2024 EIR determined that the approved project would have no impact. Under the revised project, the impact would remain the same; thus, no impact would occur. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Displace People or Housing: The 2024 EIR determined that construction and operation of the approved project would not displace people or housing, and no impact would occur.

The revised project area consists of removal/replacement of existing transmission line infrastructure and does not involve demolition of existing homes or businesses. There are no homes or businesses within the proposed work areas. No people or housing would be removed necessitating the construction of replacement housing elsewhere.

The certified 2024 EIR determined that the approved project would have no impact. Under the revised project, the impact would remain the same; thus, no impact would occur. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

5.1.12 Public Services

Fire Protection: The 2024 EIR determined that construction and operation of the approved project would not result in adverse physical impacts associated with the provision of new or physically altered fire protection facilities and that impacts would be less than significant.

The need for new or altered fire facilities is typically associated with an increase in population. As the revised project would not result in an increase in population, the revised project would also not substantially alter service ratios, response times, or other performance objectives to the extent that new or expanded fire protection facilities, equipment, or staff would be required. After construction, each temporary work area would be subject to recontouring, soil stabilization, and revegetation (as needed and to the extent feasible) to mimic pre-project and/or natural conditions, and operational activities of the transmission lines related to fire protection would remain the same as under existing conditions.

The certified 2024 EIR determined that the approved project would have a less than significant impact. Under the revised project, the impact would remain less than significant. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Police Protection: The 2024 EIR determined that construction and operation of the approved project would not result in adverse physical impacts associated with the provision of new or physically altered police protection facilities and that impacts would be less than significant.

The need for new or altered police protection facilities is typically associated with an increase in population. As the revised project would not result in an increase in population, the revised project would also not substantially alter service ratios, response times, or other performance objectives to the extent that new or expanded police protection facilities, equipment, or staff would be required. After construction, each temporary work area would be subject to recontouring, soil stabilization, and revegetation (as needed and to the extent feasible) to mimic pre-project and/or natural conditions, and operational activities of the transmission lines related to police protection would remain the same as under existing conditions.

The certified 2024 EIR determined that the approved project would have a less than significant impact. Under the revised project, the impact would remain less than significant. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Schools: The 2024 EIR determined that construction and operation of the approved project would not result in adverse physical impacts associated with the provision of new or physically altered school facilities, and no impact would occur.

The need for new or altered schools is typically associated with an increase in population. As the revised project would not increase population, the revised project would also not alter the ability of existing schools to accommodate students to the extent that new or expanded school facilities, materials, or staff would be required. After construction, each temporary work area would be subject to recontouring, soil stabilization, and revegetation (as needed and to the extent feasible) to mimic pre-project and/or natural conditions, and operational activities of the transmission lines would remain the same as under existing conditions and would have no impact on schools.

The certified 2024 EIR determined that the approved project would have no impact. Under the revised project, the impact would remain the same; thus, no impact would occur. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Parks: The 2024 EIR determined that construction and operation of the approved project would not result in adverse physical impacts associated with the provision of new or physically altered park facilities, and no impact would occur.

The need for new or altered parks is typically associated with an increase in population. As the revised project would not increase population, the revised project would also not alter the ability of parks to serve the region to the extent that new or expanded parks would be required. After construction, each temporary work area would be subject to recontouring, soil stabilization, and revegetation (as needed and to the extent feasible) to mimic pre-project and/or natural conditions, and operational activities of the transmission lines related to parks would remain the same as under existing conditions.

The certified 2024 EIR determined that the approved project would have no impact. Under the revised project, the impact would remain the same; thus, no impact would occur. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Other Public Facilities: The 2024 EIR determined that construction and operation of the approved project would not result in adverse physical impacts associated with the provision of new or physically altered public facilities, and no impact would occur.

Other public facilities include libraries and government administrative services. The need for new or altered libraries or administrative services is typically associated with an increase in population. As the revised project would not increase population, the revised project would also not result in the need for libraries or other government administrative services to the extent that new or expanded facilities would be required. After construction, each temporary work area would be subject to recontouring, soil stabilization, and revegetation (as needed and to the extent feasible) to mimic pre-project and/or natural conditions, and operational activities of the transmission lines would remain the same as under existing conditions and there would be no impact to other public facilities.

The certified 2024 EIR determined that the approved project would have no impact. Under the revised project, the impact would remain the same; thus, no impact would occur. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

5.1.13 Recreation

Recreation Setting

As discussed above in Section 5.1.8, Land Use and Planning, the 162-mile project ROW crosses through a number of SRMAs and ERMA designated under the DRECP. SRMAs are designated by BLM to provide specific recreational opportunities such as trailheads for hikers or off-road vehicle users while ERMA are designated to manage and support the principal recreational activities and associated qualities of the EMRA (BLM 2026a, 2026b). The project ROW passes through the Stoddard/Johnson SRMA, the Shadow Valley ERMA, and the Ivanpah Valley ERMA. A portion of the project ROW also passes through the Stoddard Valley OHV area. OHV areas consist of designated areas where OHVs are allowed to tour and race.

The revised project also includes work areas within the Stoddard Valley OHV Open Area, which is within the Stoddard Valley Subregional plan area (BLM 2026e). The open riding area is formed by I-15 and SR-247 (Barstow Road), immediately south of the City of Barstow. Most visitors access the area to the east, off I-15 at the Outlet Center Drive

Exit (Sidewinder Road) or at the Hodge Road Exit, to the south on I-15. Most area visitors ride motorcycles or all-terrain vehicles or tour the area in four-wheel drive vehicles. The areas off Sidewinder Road (Outlet Center Drive exit on I-15) are used extensively for OHV “free play.” This area is used extensively for competitive racing events by permit (BLM 2026e).

Increase the Use of Neighborhood and Regional Parks or Other Recreational Facilities: The 2024 EIR determined that construction and operation of the approved project would not increase the use of neighborhood or regional parks or other recreational facilities, and no impact would occur.

As noted above, portions of the revised project area would overlap with designated OHV areas. Active construction within an OHV area could temporarily preclude or interfere with OHV activities. As noted in Section 3.6.5.3, signage would be displayed along the ROW and access roads to inform the public/OHVs of ongoing construction activities, which would help prevent conflicts between construction activities/vehicles and OHVs. Additionally, construction within the approximately 162-mile ROW and along the existing access roads in the OHV areas would be transitory. As such, any interruptions in OHV activities in the project vicinity would be temporary and intermittent, and thus, would not result in increased use of other recreational areas, such that new recreational areas would need to be established. In comparison to the size and scale of the designated OHV areas, the portions that would be used for project construction would be relatively minor, leaving large areas of land still available for OHV use. Therefore, physical deterioration of facilities would not occur or be accelerated as a result of the revised project during construction or operations. The revised project would also not result in a population increase resulting in an increased need for new park or recreation facilities.

The certified 2024 EIR determined that the approved project would have no impact. Under the revised project, the impact would increase slightly due to the increased construction footprint and increased intensity/duration of construction activities, which could interfere with recreational activities, particularly in OHV areas. However, the potential interferences with OHV activities would be temporary and geographically limited. As explained above, it is not anticipated that the revised project would cause increased use of other recreational areas. As such, no impact would occur under the revised project. Thus, the revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Include Recreational Facilities or Require the Construction or Expansion of Recreational Facilities: The 2024 EIR determined that construction and operation of the approved project would not include recreational facilities or require the construction or expansion of recreational facilities, and no impact would occur.

As with the approved project, the revised project does not include recreational facilities or require the construction or expansion of recreational facilities. Impacts under the revised project would remain the same as under the approved project; thus, no impact would occur. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

5.1.14 Transportation

Transportation Setting

The project alignment spans from Boulder City, in Clark County, Nevada, to Victorville, in San Bernardino County, California, as shown in Figure 3-1, Project Location, in Chapter 3, Project Description of this SEIR. The transportation

network within the project area is composed of a mix of interstate, county highways, and local roadways, some of which are regionally and locally significant roadways. The ROW is generally parallel to I-15, an interstate freeway that provides north-south regional access between San Bernardino, Riverside, and San Diego Counties. I-40 runs east-west through the high desert region of San Bernardino County and traverses the project alignment near Barstow, with two lanes in each direction. SR-247 and SR-127 are north-south, two-lane highways that traverse the project area near transmission tower locations MCV1_139-6 and MCV2_139-2 as well as near MCV1_72-2 and MCV2_71-3, respectively. The northern extent of the alignment in Nevada is located near U.S. Route 95, which traverses through the eastern end of San Bernardino County and continues north passed the Nevada state line. The proposed work areas would be primarily accessed via existing access roads that run parallel to the transmission lines. Access to sites along MCV2 would be provided via the existing Powerline Road and associated spur roads, and access to sites along MCV1 would be provided via an existing unnamed access road that runs parallel to the lines, as well as the associated spur roads. Construction trucks and equipment may use highways such as I-15, I-40, SR-247, and SR-127 to access the ROW when traveling to the proposed work areas.

The Barstow-Daggett Airport is within 2 miles of transmission tower locations MCV1_123-4 to 128-1 and MCV2_122-4 to 127-1, in California (Caltrans 2022). The Baker Airport is located approximately 7 miles southeast of the ROW, in California. Due to the proximity of transmission towers MCV1_123-4 to 128-1 and MCV2_122-4 to 127-1 to the Barstow-Daggett Airport, LADWP would be required to file a Notice of Proposed Construction or Alteration (FAA Form 7460-1) either 45 days prior to construction or 45 days prior to obtaining a construction permit for the revised project, whichever is earliest (14 CFR Part 77.9). An existing and proposed airport (the existing Jean Sport Aviation Center and the proposed Southern Nevada Supplemental Airport) are also located within proximity to the alignment in Nevada.

Due to the remoteness of the project area, bicycle routes and pedestrian facilities (sidewalks) are nonexistent within or near the ROW.

Construction Trip Generation

The trips generated from construction of the revised project have been estimated for informational purposes. The Institute of Transportation Engineers' Trip Generation, 12th Edition (ITE 2025) does not contain trip rates for construction-related activities such as those that would be associated with the revised project, therefore, the trip estimates shown herein are based on estimates provided by LADWP for the revised project. Each worker vehicle and each truck are assumed to generate two daily trips, one inbound and one outbound. The construction work shift would generally occur during the day, between sunrise and sunset. Depending on the season, a majority of workers could arrive before the AM peak hour (before 7:00 a.m.) and could depart after the PM peak hour (after 6:00 p.m.). Peak construction intensity would occur during transmission line construction activities. Vendor and haul truck traffic would be evenly distributed through each workday duration of the construction phase, which could occur 8 to 14 hours per day.

The revised project's construction traffic was estimated per phase (i.e., grading, building construction, and paving). Trip generation for workers and trucks is estimated for each phase of construction. It should be noted that there could be an overlap among construction phases, however, construction trips would not be localized as each phase of construction would occur throughout and along the project alignment. Table 5.1.14-1 provides the project's daily trip generation estimates per peak construction phase. These daily estimates apply to construction activities in both California and Nevada; however, the analysis herein focuses on potential impacts within California, pursuant to CEQA.

Table 5.1.14-1. Construction Trip Generation

Phase	Daily Trips ^a			Total Trips
	Worker Vehicle Trips	Vendor Truck Trips	Haul Truck Trips	
Yard Operation	16	30	30	76
Grading (Laydown/Staging/Site Grading)	24	24	20	68
Grading (Access Road Rehabilitation)	20	20	24	64
Transmission Line Construction (Line 1)	580	36	150	766
Transmission Line Construction (Line 2)	580	36	150	766
Transmission Line Construction (Line 1 and Line 2 Overlap)	580	36	150	766
Recontouring/Soil Stabilization (Line 1)	8	8	8	24
Recontouring/Soil Stabilization (Line 2)	8	8	8	24

Source: Appendix B.

Notes:

- ^a The estimate is for one way vehicle trips and is derived from the project's air quality analysis (provided in Section 4.2, Air Quality of this SEIR), which quantifies all worker and truck trips to and from construction work areas and is estimated per construction phase to provide a daily estimate.

As shown in Table 5.1.14-1, the peak construction phase of the revised project would generate 766 daily trips which includes 580 worker vehicle trips, 36 vendor truck trips, and 150 haul truck trips. The construction trips would be spread over the project alignment, would be temporary, and cease after construction is complete.

Operational Trip Generation

The operation of the revised project would require maintenance trips which would be same as under existing operations and would not occur on a daily basis. As such, the revised project is not estimated to generate new operational trips or changes to vehicle miles traveled (VMT) in the project area.

The following compares the findings for the revised project with the approved project for potential impacts to programs, plans, and policies; VMT; hazards related to geometric design; and emergency access.

Conflict with a Program, Plan, Ordinance, or Policy Addressing the Circulation System: The 2024 EIR determined that construction and operation of the approved project would not have a substantial adverse effect on programs, plans, ordinances, or policies related to the circulation system, and impacts would be less than significant.

The construction activities of the revised project would generate more worker and truck trips compared to the approved project. However, the construction trips are temporary and would not result in an adverse effect on programs, plans, ordinances or policies related to the circulation system, and impacts would be less than significant. The construction on MCV1 and MCV2, would occur for approximately 38 months during which an anticipated maximum of 290 construction worker vehicles (i.e., 580 one-way construction worker vehicle trips) would be sequentially accessing the approximately 1,750 tower work areas as well as other temporary work areas such as staging areas and conductor pulling and tensioning work areas located along the ROW.⁸ Several construction trucks would be required at each tower work areas (e.g., motor graders, boring rigs, excavators, skid

⁸ The approximately 1,750 transmission tower work area referenced herein includes the transmission tower work areas in Nevada. However, the focus of the environmental review in this analysis and throughout the SEIR is on the California segment, pursuant to CEQA.

steer loaders, dump trucks, water trucks, wheel/track loaders, and various small utility vehicles). The number of construction workers traveling to and from tower work areas every day would vary per construction phase. Once construction equipment is delivered to the designated material show-up yards and staging areas, equipment and construction material would be transported to work areas within the ROW, as needed. Material show-up yards and staging areas would be required for materials storage, construction equipment, construction vehicles, and temporary construction offices. Based on the distance between tower work areas, construction trucks and equipment would occasionally use highways such as I-15 to access the next tower work area or would travel along existing local roads, access roads, or spur roads. Increases in construction traffic in the vicinity of the project area would thus be temporary and highly dispersed.

The project area is generally undeveloped, and the surrounding land uses primarily consist of vacant land, with some agricultural and industrial land uses and limited residential land uses. Therefore, the addition of project-related construction vehicle trips is not anticipated to adversely affect roadways in the project area, and any limited effects would be short-term, minor, localized, and negligible when viewed in a regional context. Additionally, project-related trips would be distributed across the 162-mile project alignment throughout the 38-month construction period. Therefore, potential increases in construction traffic in the vicinity of the work sites would be negligible, temporary, and dispersed and is thus not anticipated to interfere with programs, plans, ordinances, or policies related to the circulation system. Operational traffic conditions would not change under the revised project. As such, a less-than-significant impact would occur.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would increase due to the greater intensity of construction activities and associated increase in construction-related traffic; however, impacts would remain less than significant for the reasons set forth above. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Conflict with CEQA Guidelines Section 15064.3, Subdivision (b): The 2024 EIR determined that construction and operation of the approved project would not conflict with CEQA Guidelines Section 15064.3, subdivision (b), and impacts would be less than significant.

Even though worker and truck trips would generate VMT, once construction is completed, the construction-related traffic would cease and would return to pre-construction conditions. Car-pooling will be encouraged and facilitated by the contractor to reduce single occupancy worker trips. However, measures to reduce the VMT generated by workers and trucks are limited, and there are no thresholds or significance criteria for temporary, construction-related VMT. Project construction would be temporary and therefore would not cause a significant VMT impact. Operational traffic conditions would not be changed by the project. As such, a less-than-significant impact would occur.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would not change, and revised project impacts would also be considered less than significant, for the reasons set forth above. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Increase Hazards Due to a Geometric Design Feature or Incompatible Uses: The 2024 EIR determined that construction and operation of the approved project would not increase hazards due to a geometric design feature or incompatible uses, and impacts would be less than significant.

The revised project would not alter or introduce any design features to existing roadways. Most of the proposed access roads have been previously used for maintenance of existing lines. Where required, existing roads would be improved to facilitate safe movement of trucks to work areas. Each temporary work area would be large enough to allow for safe operation of equipment and movement of materials as needed. As noted in Section 3.6.5.3, signage would be displayed along the ROW and access roads to inform the public/OHVs of ongoing construction activities.

Construction trucks and equipment may use highways such as I-15 to access existing access roads when traveling to the tower work areas. As construction trucks and equipment enter and exit roadways and highways from smaller, dirt access roads, these maneuvering activities could potentially result in safety hazards. However, where necessary, proper signage and flagging would be used at these access points, which would warn oncoming traffic that trucks may be entering or existing the highway.

The contractor would obtain all necessary encroachment, oversized load, and/or haul permits to transport equipment and materials by trucks on County and Caltrans facilities. As such, a less-than-significant impact would occur.

Impacts for the approved project were determined to be less than significant in the certified EIR. Under the revised project, the impact would increase due to the greater intensity of construction activities and associated increase in construction-related traffic; however, impacts would remain less than significant for the reasons set forth above. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Result in Inadequate Emergency Access: The 2024 EIR determined that construction and operation of the approved project would not result in inadequate emergency access, and there would be no impact.

The revised project would be located primarily in undeveloped areas within an existing utility ROW. While existing unpaved access roads would be used throughout the 38-month construction period, these access roads are located within the existing utility ROW and/or provide connections between major regional roadways and the ROW. Temporary use of these access roads would not hinder emergency access along the project alignment or to existing developed areas in the region. As noted in Section 3.6.5.2, Safety Training, emergency response plans would be developed for construction, including evacuation procedures and fire response, and would be reviewed with construction crews. The construction contractor would also prepare a Fire Prevention Plan, which would outline fire safety protocols. No lane closures in the public ROW or private driveway closures are anticipated, and traffic control measures would be implemented as needed to ensure that access is maintained for all road users. As such, no impact would occur.

The approved project was determined to result in no impact. Under the revised project, the impact would not change, resulting in no impacts for the revised project. The revised project would thus not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

5.1.15 Utilities and Service Systems

Require Relocation or Construction of New or Expanded Water, Wastewater Treatment or Storm Water Drainage, Electric Power, Natural Gas, or Telecommunications Facilities: The 2024 EIR determined that the approved project would have no impact related to the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities.

Proposed construction activities would not substantively increase the amount of water used or wastewater generated at the work sites; however, the revised project, similar to the approved project, would require water for dust control during construction. Water for dust control would be supplied by various different water providers and transported to the site by truck just as was the case with the approved project. Thus, no new or expanded water treatment facilities would be required. In addition, no new or expanded wastewater treatment facilities would be required as the revised project would not substantially increase the amount of surface runoff from the project area (see also discussion above in Section 5.1.7). Water applied for dust control generally does not exceed the ability to be absorbed where applied and thus would result in negligible runoff as well as being applied primarily in areas without any stormwater infrastructure. Therefore, the revised project would not substantially affect the capacity of stormwater drainage systems and no new or expanded stormwater facilities would be required. The purpose of the revised project is to increase transmission capacity of the existing electrical transmission lines, and outside of the proposed activities already described and analyzed throughout this document, no other new or expanded electrical power facilities are required that have not been addressed herein. Little to no use of electricity or natural gas is anticipated during project construction. As such, the revised project would have no need for new natural gas or telecommunication infrastructure or alterations to such infrastructure.

The certified 2024 EIR determined that the approved project would have no impact. Under the revised project, the impact would remain the same, and no impact would occur. Thus, the revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Sufficient Water Supplies Available to Serve the Project and Reasonably Foreseeable Future Development During Normal, Dry and Multiple Dry Years: The 2024 EIR determined that there would be sufficient water supplies available to serve the approved project and reasonably foreseeable future development during normal, dry and multiple dry years and impacts would be less than significant.

The water needs of the revised project would be limited to water required for dust control during construction activities, which would be delivered to the project area by water trucks. New or expanded water entitlements would not be required, as water to supply the water trucks would be minor relative to the total water service provided by regional purveyors. After construction of the revised project is complete, each tower site and work area would be restored to its original condition to the extent feasible, and operational activities of the transmission lines related to water supply would return to normal. Normal operational conditions and activities would not require water supplies. No operational impacts would occur.

High water demand is typically associated with residential developments, hotels, large offices, and some industrial/manufacturing uses. As with the approved project, the water needs of the revised project would be limited to water required for dust control during construction activities, which would be delivered to the revised project work areas by water trucks. New or expanded water entitlements would not be required, as water to supply the water trucks would be minor relative to the total water service provided by regional purveyors. After construction, each temporary work area would be subject to recontouring, soil stabilization, and revegetation (as needed and to the extent feasible) to mimic pre-project and/or natural conditions. Normal operational conditions and activities would not require appreciable amounts of water.

The certified 2024 EIR determined that the approved project would have a less than significant impact. Under the revised project, the impact would increase slightly as the construction footprint would increase and thus require more water use for dust control; however, the impact would still be less than significant for the revised project, as described above. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Determination by the Wastewater Treatment Provider That It Has Adequate Capacity to Serve the Project's Projected Demand in Addition to Existing Commitments: The 2024 EIR determined that no impact would occur related to wastewater treatment. Construction and operation of the revised would not increase the amount of wastewater produced in the project area. Thus, under the revised project, the impact would remain the same and no impact would occur. The revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Generate Solid Waste in Excess of State or Local Standards, or in Excess of Capacity of Local Infrastructure, or Otherwise Impair the Attainment of Solid Waste Reduction Goals: The 2024 EIR determined that construction of the approved project would not generate solid waste in excess of state or local standards, or in excess of capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals, and impacts would be less than significant. Operation of the approved project was determined to have no impact.

The revised project's grading activities would involve movement of earth materials; however, all earth materials are anticipated to be balanced on site. However, tower and conduit removal would produce a substantial amount of construction debris, amounting to approximately 438,960 cubic yards or 49,383 tons.⁹ According to the County of San Bernardino Countywide Integrated Waste Management Plan Siting Element, the County has approximately 164.2 million tons of remaining permitted refuse capacity (County of San Bernardino 2018). Therefore, the construction debris generated by the revised project would account for approximately 0.03% of the County's remaining landfill capacity.¹⁰ Thus, local and regional landfills would be able to accommodate the solid waste disposal needs associated with the revised project. Furthermore, in accordance with CALGreen mandates, a minimum of 65% of construction and demolition debris generated by the revised project is required to be diverted away from landfills (e.g., reused or recycled). The revised project would comply with all applicable state and local diversion requirements, including those outlined in the County's Construction and Demolition Waste Recycling Guide (County of San Bernardino 2023). After construction, each temporary work area would be subject to recontouring, soil stabilization, and revegetation (as needed and to the extent feasible) to mimic pre-project and/or natural conditions, and operational activities of the transmission lines would continue similar to existing conditions. Operation of the project would thus have no impact.

The certified 2024 EIR determined that the approved project would have a less than significant impact for construction and no impact for operation. Under the revised project, the amount of construction debris would increase due to the need to remove the existing transmission towers; however, there would be sufficient landfill capacity to accommodate the revised project's construction debris, as demonstrated above, and impacts would remain less than significant. Operation of the revised project would result in no impact related to solid waste, as with the approved project. Thus, the revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Comply with Federal, State, and Local Management and Reduction Statutes and Regulations Related to Solid Waste: The 2024 EIR determined that construction of the approved project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, and impacts would be less than significant. Operation of the project was determined to have no impact.

⁹ Total waste is based on the estimated number of haul trips required for the revised project during construction and assumes 16 cubic yards per haul trip, 225 pounds per cubic yard, and 2,000 pounds per ton (DES 2026).

¹⁰ $49,383 \text{ tons} / 164,200,000 \text{ tons} = 0.0003 \times 100 = 0.03\%$

The revised project would comply with federal, state, and local statutes and regulations related to solid waste. As described in the threshold above, the revised project's solid waste generation would not exceed local or regional landfill capacity. Construction debris would be recycled or disposed of according to applicable state and local standards, including those outlined in the County's Construction and Demolition Waste Recycling Guide (County of San Bernardino 2023). All materials would be handled and disposed of in accordance with existing local, state, and federal regulations. After construction, each temporary work area would be subject to recontouring, soil stabilization, and revegetation (as needed and to the extent feasible) to mimic pre-project conditions, and operational activities of the transmission lines would continue as under existing conditions. Operation of the project would thus have no impact.

The certified 2024 EIR determined that the approved project would have a less than significant impact for construction and no impact for operation. Under the revised project, the amount of construction debris would increase due to the need to remove the existing transmission towers; however, there would be sufficient landfill capacity to accommodate the revised project's construction debris, and the project would continue to be required to comply with all applicable regulatory requirements related to waste disposal and recycling. Construction of the revised project would therefore remain less than significant. Operation of the revised project would result in no impact related to solid waste, as with the approved project. Thus, the revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

5.1.16 Wildfire

The CEQA thresholds related to wildfire are only applicable to projects in or near SRAs or lands classified as VHFHSZs. As with the approved project, the revised project area is not located in or near SRAs or lands classified as VHFHSZs. Thus, impacts would continue to be less than significant, and the revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project. The discussion below is provided for informational purposes.

Substantially Impair an Adopted Emergency Response or Evacuation Plan: The 2024 EIR determined that construction and operation of the approved project would not substantially impair an adopted emergency response plan or emergency evacuation plan. Construction was determined to be less than significant, and operation was determined to have no impact.

The primary emergency response and evacuation plan applicable to the revised project is the San Bernardino County Emergency Operations Plan (County of San Bernardino 2013). The revised project would be constructed in adherence to the requirements set forth in Title 24, Part 9 of the California Building Code (i.e., the Fire Code). During construction of the revised project, emergency access to the project area would be adequately maintained to provide emergency services to construction workers along the transmission lines in the event of an emergency. Although the project also involves improvements to existing access roads outside of the existing transmission line ROW, these access roads are generally in remote areas and would not be anticipated to serve as primary evacuation routes for substantial numbers of evacuating vehicles, pedestrians, emergency responders, etc., in the event of an emergency. Although the Emergency Operations Plan does not designate specific evacuation routes, it is anticipated that full road closures along more frequently traveled access roads (such as SR-247 in the vicinity of the City of Barstow) would not be required, and at least one vehicle travel lane would be maintained at all times. Therefore, construction impacts would be less than significant.

After construction, each temporary work area would be subject to recontouring, soil stabilization, and revegetation (as needed and to the extent feasible) to mimic pre-project conditions, and operational activities of the transmission lines would continue similar to existing conditions. Emergency vehicle access to and from the transmission lines would continue to be provided via the paved and unpaved access roads that run along the entire transmission line alignment. No operational impacts would occur.

The certified 2024 EIR determined that the approved project would have a less than significant impact for construction and no impact for operation. Under the revised project, the construction duration and disturbance area would increase; however, emergency vehicle access and evacuation routes would continue to be maintained. Construction of the revised project would therefore remain less than significant. Operation of the revised project would result in no impact, as with the approved project. Thus, the revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Exacerbate Wildfire Risks and Thereby Expose Project Occupants to Pollutant Concentrations: The 2024 EIR determined that construction and operation of the approved project would not exacerbate wildfire risk due to slope, prevailing winds, and other factors. Construction was determined to be less than significant, and operation was determined to have no impact.

The revised project alignment and disturbance area is not located in an SRA or a designated VHFHSZ (CAL FIRE 2026). The revised project involves replacing existing transmission line infrastructure within the existing transmission line ROW and does not include the construction of any new infrastructure or buildings outside of the ROW that would exacerbate fire risk. The revised project does not propose any new residential or commercial development or allow for any new occupants and would be constructed in adherence to the requirements set forth in the Fire Code. During construction of the revised project, and as discussed above, emergency access to the project area would be maintained. Given the above, construction of the revised project would not exacerbate wildfire risks thereby exposing project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Construction impacts would be less than significant.

After construction, each temporary work area would be subject to recontouring, soil stabilization, and revegetation (as needed and to the extent feasible) to mimic pre-project conditions, and operational activities of the transmission lines would continue similar to existing conditions. The operations of the revised project would not exacerbate wildfire risks as the revised project does not propose new residential or commercial development, does not allow for any new occupants, and is located in Mojave Desert where wildfire risks are low. As such, no operational impacts would occur.

The certified 2024 EIR determined that the approved project would have a less than significant impact for construction and no impact for operation. Under the revised project, the construction duration and disturbance area would increase; however, no new infrastructure is proposed outside of the existing transmission line ROW and no areas of construction or operation would be located in an SRA or designated fire hazard severity zone. Construction of the revised project would therefore remain less than significant. Operation of the revised project would result in no impact, as with the approved project. Thus, the revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Installation or Maintenance of Associated Infrastructure that May Exacerbate Fire Risk or Result in Temporary or Ongoing Impacts to the Environment: The 2024 EIR determined that construction and operation of the approved project would not exacerbate wildfire risk or result in temporary or ongoing impacts to the environment due to installation or maintenance of associated infrastructure. Construction was determined to be less than significant, and operation was determined to have no impact.

The revised project would include the construction of replacement transmission line infrastructure and new spur roads within the existing transmission line ROW and improvements to existing access and spur roads outside of the ROW. The replacement conduit would upgrade the transmission line capacity along the two existing overhead transmission lines (i.e., MCC-VIC Lines 1 and 2). However, as stated above, the revised project is not located in an SRA or designated VHFHSZ (CAL FIRE 2026). The revised project would be constructed in adherence to the requirements set forth in the Fire Code. During construction of the revised project, emergency access to the area would be maintained. In the unlikely event of a fire emergency in the revised project area, the San Bernardino County Fire Protection District would respond along the entire California segment of the alignment. Any fire event that occurs would be unlikely to significantly exacerbate fire risks that would result in temporary or ongoing impacts to the environment, as the revised project is located within the Mojave Desert where fire risk and the potential of fires to spread is low. Given the above, construction of the revised project would not result in the installation or maintenance of associated infrastructure that would exacerbate fire risk or that would result in temporary or ongoing impacts to the environment. Construction impacts would be less than significant.

After construction, each temporary work area would be subject to recontouring, soil stabilization, and revegetation (as needed and to the extent feasible) to mimic pre-project conditions, and operational activities of the transmission lines would continue similar to existing conditions. The operations of the revised project would not exacerbate fire risks beyond existing conditions. As such, no operational impacts would occur.

The certified 2024 EIR determined that the approved project would have a less than significant impact for construction and no impact for operation. Under the revised project, the construction duration and disturbance area would increase; however, no new infrastructure is proposed outside of the existing transmission line ROW, and no areas of construction or operation would be located in an SRA or designated VHFHSZ. Construction of the revised project would therefore remain less than significant. Operation of the revised project would result in no impact, as with the approved project. Thus, the revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

Expose People or Structures to Significant Risks as a Result of Runoff, Post-Fire Slope Instability, or Drainage Changes: The 2024 EIR determined that construction and operation of the approved project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Construction and operation were determined to have no impact.

The revised project would be located primarily within the existing transmission line ROW or along existing access and spur roads extending through primarily vacant areas of the Mojave Desert. Construction of the revised project would result in ground surface disruption that could temporarily alter drainage patterns. However, runoff in the project area would be managed through implementation of the BMPs outlined in the SWPPP as described in Section 5.1.7, Hydrology and Water Quality, above. Upon operation, the revised project would maintain the general existing drainage pattern of the transmission line ROW and its surrounding area. Given the above, the revised project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. No construction or operational impacts would occur.

The certified 2024 EIR determined that the construction and operation of the approved project would have no impact. Under the revised project, the construction duration and disturbance area would increase, resulting in more changes to stormwater runoff patterns; however, construction of the revised project would be required to comply with the SWPPP, and no areas of construction or operation would be located in an SRA or designated VHFHSZ. Construction and operation of the revised project would thus result in no impact, as with the approved project. Thus, the revised project would not result in a new significant environmental impact or a substantial increase in the severity of a previously identified significant impact compared to the approved project.

5.2 Significant and Unavoidable Environmental Effects

CEQA Guidelines Section 15126(b) directs EIRs to address impacts from a project that will result in significant impacts, including those that cannot be mitigated below a level of significance. A summary of all the environmental issue areas and the resultant significance and listing of mitigation measures is found in Chapter 1, Executive Summary, of this SEIR. To summarize, the following issue areas would result in significant impacts even after mitigation measures have been incorporated, thus resulting in unavoidable impacts:

- Air Quality
- Cultural Resources
- Noise

5.3 Significant Irreversible Changes

CEQA Guidelines mandate that EIRs address any significant irreversible environmental changes that would occur if a project were implemented (CEQA Guidelines Section 15126[c]). An impact would fall into this category if:

- The project would involve a large commitment of nonrenewable resources.
- The primary and secondary impacts of the project would generally commit future generations of people to similar uses.
- The project involves uses in which irreversible damage could result from any potential environmental incidents associated with the project.
- The proposed consumption of resources is not justified (e.g., the project results in wasteful use of energy) (CEQA Guidelines Section 15126.2[d]).

Determining whether the revised project may result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed in such a way that there would be little possibility of restoring them. Construction of the revised project would result in the use of nonrenewable resources, including fossil fuels, and building materials. Fossil fuels would be used to power construction equipment as well as to power vendor delivery trucks and construction employee vehicles. Petroleum would be the primary nonrenewable resource consumed—little to no use of natural gas or electricity is anticipated during revised project construction. Use of these energy sources would be considered a permanent commitment of resources. In addition, a variety of resource materials would be used during the construction process, including steel for tower replacements, aluminum and steel for the new conductors, and rebar and concrete for tower foundations. Once these materials and fuels are used for purposes of construction, the commitment of such materials and fuels would be considered irreversible. However, the revised project, when taking into consideration the global use of these materials, would not result in a large commitment of these resources.

Construction of the revised project involves the removal of an existing transmission line and installation of a replacement transmission line (and associated infrastructure) and does not represent an uncommon construction project that would use an extraordinary amount of raw material in comparison to other projects of similar scope and magnitude. As such, the revised project is not anticipated to consume substantial amounts of energy or use other resources in a wasteful manner. Although the revised project would result in the consumption of nonrenewable resources, the impact would not be considered significant. See also Section 5.1.3, above, which discusses the revised project's energy consumption in greater detail.

Although the energy resources and building materials used to construct the revised project would be permanently committed and therefore would be considered irreversible, the revised project would not consume an unusual or wasteful amount of energy or materials. The revised project is subject to regulations that are intended to reduce the use of materials and energy during construction to the extent feasible. Nevertheless, such resources would still be unavailable for other uses, once used or consumed for the revised project. The resources used for the revised project would be permanently committed and, therefore, would be considered irreversible. However, the resources and materials used for construction of revised project features would be typical of the resources and materials required for any transmission line replacement project of a similar size and scope within the region. Therefore, although irreversible commitments of resources and materials would result from construction of the revised project, such changes would remain less than significant.

Because the revised project is a transmission line replacement project, it would convey electricity for eventual consumption while in operation. While the revised project involves replacing an existing transmission line that is already conveying electricity, the replacement lines would allow for additional electricity conveyance relative to existing conditions. However, as explained in Sections 3.4 in Chapter 3, Project Description, of this SEIR, the underlying purpose of the revised project is to accommodate incoming renewable energy resources along the West of River Path 46 transmission corridor in order to help LADWP achieve state and local requirements for GHG reductions and an increased renewable energy portfolio, and to conduct infrastructure replacement to ensure the continued safe and reliable operation of MCC-VIC Lines 1 and 2. As such, while the capacity of the lines are increasing, the increase would support use of renewable energy, thereby contributing to local and statewide efforts to reduce reliance on nonrenewable resources.

Limited energy resources (namely, petroleum) would be required for periodic maintenance of the replacement transmission lines. Because maintenance activities would be generally consistent with those conducted on the existing transmission lines, additional resources are not anticipated to be expended for maintaining the replacement transmission lines relative to current conditions. Thus, there would be no operational impact associated with the revised project.

5.4 Growth-Inducing Impacts

Section 15126.2(e) of the CEQA Guidelines requires a discussion of how the potential growth-inducing impacts of a revised project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Induced growth is distinguished from the direct employment, population, or housing growth of a project (CEQA Guidelines Section 15126.2[e]). If a project has characteristics that “may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively,” then these aspects of the project must be discussed as well. Induced growth is any growth that exceeds planned growth and results from new development that would not have taken place in the absence of that project. Typically, the growth-inducing potential of a project is considered significant if it stimulates population

growth or a population concentration above what is assumed in local and regional land use plans, or in projections made by regional planning authorities, such as SCAG.

The CEQA Guidelines also indicate that growth should not be assumed to be either beneficial or detrimental (CEQA Guidelines Section 15126.2[e]). According to Section 15126.2(e) of the CEQA Guidelines, a project may foster economic or population growth, or additional housing, either indirectly or directly, in a geographical area if it meets any one of the following criteria:

- The project would remove obstacles to population growth.
- Increases in the population may tax existing community service facilities, causing significant environmental effects.
- The project would encourage and facilitate other activities that could significantly affect the environment.

As discussed in detail in Chapter 3, Project Description, of this SEIR, the revised project involves removal/replacement of transmission towers, conductor, and associated hardware, maintenance and rehabilitation of existing access and spur roads, and construction of new spur roads within the existing ROW.

The project alignment and ROW run primarily through vacant, undeveloped areas of the Mojave Desert within state and federal lands. While much of the area surrounding the ROW is sparsely developed, the desert landscape has been noticeably altered by electrical transmission infrastructure, several highways (I-15, SR-247, and SR-127), and limited rural residential and agricultural development located near the communities of Primm, Nevada; Daggett, California; Yermo, California; and Victorville, California. The revised project would not involve the development of additional housing. However, the revised project would require temporary construction workers.

According to SCAG's Demographics and Growth Forecast, employment is anticipated to grow from 895,000 in 2025 to 962,000 by 2030 within San Bernardino County (SCAG 2024b). Revised project completion is expected around 2029. Total employees/staff required for the revised project is estimated to be an average of approximately 250 employees per day during construction, which would be 0.37%¹¹ of the County's total employment growth of 67,000 jobs between 2025 and 2030. However, these employees would be temporary and would be expected to be drawn from the existing construction workforce in the County. Any workers from outside of the area would not be anticipated to relocate permanently to the project vicinity or to the County. After construction is complete, construction employees would no longer be required, and operation of the transmission lines would continue as under existing conditions. As such, the increase in employment would be minimal in comparison to the increase anticipated in the SCAG Growth Forecast and would also be temporary. Therefore, the revised project would not stimulate population growth based on the provision of additional jobs in the project area.

Indirect growth can occur with new infrastructure supporting future growth. The revised project would involve replacement of existing transmission lines within an existing transmission line ROW. The revised project would not extend electrical service to areas that are not currently served. Rather, the revised project would replace and upgrade existing transmission lines that have been in place since the 1940s. While the revised project involves replacing the existing transmission lines that are already conveying electricity, the replacement lines would allow for additional electricity conveyance relative to existing conditions. This could accommodate additional development and population in the area served. However, growth in LADWP's service area is planned and regulated by applicable local planning and zoning ordinances. The revised project would result in no change in zoning or land use in the service area. Furthermore, as explained in Chapter 3, Project Description, of this SEIR, the purpose of the revised project is to accommodate incoming renewable energy resources along the West of River

¹¹ $250 / (962,000 - 895,000) = 0.00373 \times 100 = \text{approximately } 0.37\%$

Path 46 transmission corridor in order to help LADWP achieve state and local requirements for GHG reductions and an increased renewable energy portfolio. As such, while the capacity of the lines are increasing, those increases would support use of renewable energy, thereby contributing to local and statewide efforts to reduce reliance on nonrenewable resources. The revised project supports ongoing efforts to increase the percentage of renewable energy that is used in the region, as opposed to augmenting supplies for the purposes of population growth. The revised project would not induce population growth beyond that which is already anticipated and allowable under existing, adopted plans and land use regulations. Accordingly, the revised project would not indirectly induce population growth and would not have significant growth-inducing effects.

Project Design Features

The following project design feature would be required as Conditions of Approval for the revised project:

- PDF-1 GHG – Construction Standards. The “developer” shall submit for review and obtain approval from County Planning of a signed letter agreeing to include as a condition of all construction contracts/subcontracts requirements to reduce GHG emissions and submitting documentation of compliance. The developer/construction contractors shall do the following:
- a) Implement the approved Coating Restriction Plans.
 - b) Select construction equipment based on low GHG emissions factors and high-energy efficiency. All diesel/gasoline-powered construction equipment shall be replaced, where possible, with equivalent electric or compressed natural gas equipment.
 - c) Grading contractor shall provide the implement the following when possible:
 - 1. Training operators to use equipment more efficiently.
 - 2. Identifying the proper size equipment for a task can also provide fuel savings and associated reductions in GHG emissions
 - 3. Replacing older, less fuel-efficient equipment with newer models
 - 4. Use GPS for grading to maximize efficiency
 - d) Grading plans shall include the following statements:
 - “All construction equipment engines shall be properly tuned and maintained in accordance with the manufacturers specifications prior to arriving on site and throughout construction duration.”
 - “All construction equipment (including electric generators) shall be shut off by work crews when not in use and shall not idle for more than 5 minutes.”
 - e) Schedule construction traffic ingress/egress to not interfere with peak-hour traffic and to minimize traffic obstructions. Queuing of trucks on and off site shall be firmly discouraged and not scheduled. A flag person shall be retained to maintain efficient traffic flow and safety adjacent to existing roadways.
 - f) Recycle and reuse construction and demolition waste (e.g. soil, vegetation, concrete, lumber, metal, and cardboard) per County Solid Waste procedures.
 - g) The construction contractor shall support and encourage ridesharing and transit incentives for the construction crew and educate all construction workers about the required waste reduction and the availability of recycling services.

5.5 References

- AirNav. 2026. "OL7 Jean Airport" and "KDAG Barstow Dagget Airport." Accessed March 2026. <https://www.airnav.com/airports/us>.
- BLM (U.S. Bureau of Land Management). 1980. *The California Desert Conservation Area Plan 1980*, as amended. Accessed December 2025. <https://ia902905.us.archive.org/9/items/californiadesert5115unit/californiadesert5115unit.pdf>.
- BLM. 2016. *Executive Summary for the Record of Decision Desert Renewable Energy Conservation Plan*. September 2016. Accessed February 2026. https://s3-us-west-2.amazonaws.com/consbio-static/data/2018/drecp/DRECP_BLM_Record_of_Decision_Sept_2016.zip.
- BLM. 2026a. "Special Planning Designations." Accessed February 2026. <https://www.blm.gov/programs/planning-and-nepa/planning-101/special-planning-designations>.
- BLM. 2026b. *Extensive Recreation Management Area Template*. Accessed February 2026. https://www.blm.gov/sites/blm.gov/files/uploads/IM2011-004_att4.pdf.
- BLM 2026c. BLM_Natl_NLCS_WLD_WSA (MapServer). Accessed February 2026. https://www.arcgis.com/apps/mapviewer/index.html?url=https://gis.blm.gov/arcgis/rest/services/lands/BLM_Natl_NLCS_WLD_WSA/MapServer.
- BLM. 2026d. "Areas of Critical Environmental Concern." Accessed February 2026. <https://www.blm.gov/programs/planning-and-nepa/planning-101/special-planning-designations/acec-s>.
- BLM. 2026e. "Stoddard Valley OHV Area." Accessed February 2026. <https://www.blm.gov/visit/stoddard-valley-ohv-area>.
- CAL FIRE (California Department of Forestry and Fire Protection). 2026. "Find your Fire Hazard Severity Zone (FHSZ)." Accessed March 2026. <https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones>.
- CalEPA (California Environmental Protection Agency). 2026. "Cortese List Data Resources." Accessed July 2026. <https://calepa.ca.gov/sitecleanup/corteselist/>.
- CAPCOA (California Air Pollution Control Officers Association). 2008. *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. January 2008. Available: <https://www.ourair.org/wp-content/uploads/CAPCOA-CEQA-and-Climate-Change.pdf>.
- CNRA (California Natural Resources Agency). 2009. *Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97*. December 2009. Available: https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/Final_Statement_of_Reasons.pdf.

- County of San Bernardino. 1992. *Barstow-Dagget Airport Comprehensive Land Use Plan*. May 1992. Accessed March 2026. <https://lus.sbcounty.gov/wp-content/uploads/sites/48/Airports/BarstowDagget.pdf>.
- County of San Bernardino. 2011. *County of San Bernardino Greenhouse Gas Emissions Reduction Plan*. September 2011. Available: <https://lus.sbcounty.gov/wp-content/uploads/sites/48/GreenhouseGas/FinalGHGFull.pdf>.
- County of San Bernardino. 2013. *San Bernardino County Emergency Operations Plan (EOP)*. February 26, 2013. Accessed March 2026. <https://sbcounty.gov/Uploads/SBCFire/content/oes/pdf/Emergency-Operations-Plan.pdf>.
- County of San Bernardino. 2018. Countywide Siting Element. *Countywide Integrated Waste Management Plan*. Revised April 2018. Accessed March 2026. <https://www.sbcounty.gov/uploads/DPW/docs/public-notices/Countywide-Siting-Element.pdf>.
- County of San Bernardino. 2020a. LU-1 Land Use Map. *Countywide Plan*. Accessed December 2025. Available: <https://www.arcgis.com/apps/webappviewer/index.html?id=f23f04b0f7ac42e987099444b2f46bc2>.
- County of San Bernardino. 2020b. N-4 Mineral Resources Zones. *Countywide Plan*. Accessed December 2025. <https://www.arcgis.com/apps/webappviewer/index.html?id=9948b9bc78f147fd9ea193c2ce758081>.
- County of San Bernardino. 2020c. LU-1 Land Use Map (Map Viewer). October 2020. Accessed February 2026. <https://www.arcgis.com/apps/webappviewer/index.html?id=f23f04b0f7ac42e987099444b2f46bc2>.
- County of San Bernardino. 2020d. Policy Map HZ-9 Airport Safety and Planning. *Countywide Plan*. October 27, 2020. Accessed March 2026. <https://countywideplan.sbcounty.gov/wp-content/uploads/sites/125/2021/02/HZ-9-Airport-Safety-Planning-201027.pdf>.
- County of San Bernardino. 2020e. Policy Map HZ-5 Fire Hazard Severity Zones. *Countywide Plan*. October 27, 2010. Access March 2026. <https://countywideplan.sbcounty.gov/wp-content/uploads/sites/125/2021/02/HZ-5-Fire-Hazard-Severity-Zones-201027.pdf>.
- County of San Bernardino. 2021. *County of San Bernardino Greenhouse Gas Reduction Plan Update*. June 2021. Available: https://lus.sbcounty.gov/wp-content/uploads/sites/48/GreenhouseGas/GHG_2021/GHG-Reduction-Plan-Update-Greenhouse-Gas-Reduction-Plan-Update-Adopted-9-21-2021.pdf.
- County of San Bernardino. 2023. County of San Bernardino Construction and Demolition Waste Recycling Guide. Accessed March 2026. <https://dpw.sbcounty.gov/wp-content/uploads/sites/87/2023/01/RecyclingGuide-2023-1.pdf>.
- County of San Bernardino. 2026a. Section 82.03.040, Agricultural and Resource Management Land Use Zoning District Allowed Uses and Permit Requirements (Table 82-4). *San Bernadino County Code*. Accessed February 2026. https://codelibrary.amlegal.com/codes/sanbernardino/latest/sanberncty_ca/0-0-0-167914.
- County of San Bernardino. 2026b. "County Land Use Categories in the Policy Plan."

- County of San Bernardino. 2026c. Section 82.01.020, Land Use Plan and Land Use Zoning Districts. *San Bernadino County Code*. Accessed February 2026. https://codelibrary.amlegal.com/codes/sanbernardino/latest/sanberncty_ca/0-0-0-167787#JD_Chapter82.01.
- CGS (California Geological Survey). 2026. Earthquake Zones of Required Investigation, Accessed February 2026. <https://maps.conservation.ca.gov/cgs/informationwarehouse/eqzapp/>.
- DES (Department of Environmental Services). 2026. Volume-to-Weight Conversion Factors. Accessed March 2026. <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/vol-to-weight-conversion.pdf>.
- DOC (California Department of Conservation). 2000. *Guidelines for Classification and Designation of Mineral Lands*. January 2000. Accessed February 2026. <https://conservation.ca.gov/smgb/Guidelines/Documents/ClassDesig.pdf>.
- DOC. 2026a. California Important Farmland Finder (Map Viewer). Accessed February 2026. <https://maps.conservation.ca.gov/DLRP/CIFF/>.
- DOC. 2026b. Williamson Act Enrollment Finder (Map Viewer). Accessed February 2026. <https://maps.conservation.ca.gov/dlrp/WilliamsonAct/>.
- DOC. 2026c. Well Finder (Map Viewer). Accessed February 2026. <https://maps.conservation.ca.gov/calgem/wellfinder/>.
- DTSC (Department of Toxic Substances Control). 2008. Interim Guidance for Sampling Agricultural Properties (Third Revision). August 7, 2008.
- DTSC. 2026. EnviroStor (online database). Accessed March 4, 2026. <https://www.envirostor.dtsc.ca.gov/public/map/>.
- EIA (U.S. Energy Information Administration). 2025. "Total Petroleum Consumption Estimates, 2023." Accessed October 2025. Available: https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_use_pa.html&sid=US&sid=CA.
- FOCA (Federal Office of Civil Aviation). 2015. *Guidance on the Determination of Helicopter Emissions*. December 2015. Accessed November 2025. https://www.bazl.admin.ch/dam/en/sd-web/kB3i-4iu8Mwx/guidance_on_the_determinationofhelicopteremissions.pdf.
- IPCC (Intergovernmental Panel on Climate Change). 2007. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Edited by S. Solomon, D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller. Cambridge, United Kingdom, and New York, New York: Cambridge University Press. Available: https://www.ipcc.ch/site/assets/uploads/2018/05/ar4_wg1_full_report-1.pdf.
- NDEP (Nevada Division of Environmental Protection). 2026. Environmental Activities Home Page [online database]. Accessed March 4, 2026. <https://nevadaenvironmentalactivities.ndep.nv.gov/>

- ProPublica. 2017. "National Training Center and Fort Irwin." Accessed March 2026.
<https://projects.propublica.org/bombs/installation/CA9214020446002100>.
- SCAG (Southern California Association of Governments). 2024a. *Connect SoCal 2024*. Adopted April 4, 2024.
Available: <https://ftip.scag.ca.gov/connect-SoCal-2024>.
- SCAG. 2024b. Demographics and Growth Forecast Technical Report. *Connect SoCal 2024*. Adopted April 4, 2024.
Accessed December 2025. <https://www.connectsocal.org/sites/default/files/2024-05/23-2987-tr-demographics-growth-forecast-final-040424.pdf>.
- SWRCB (State Water Resources Control Board). 2026. GeoTracker (online database). Accessed March 4, 2026.
<https://geotracker.waterboards.ca.gov/map/>.
- The Climate Registry. 2025. *2025 Default Emission Factors*. Accessed November 2025.
<https://theclimateregistry.org/wp-content/uploads/2025/03/2025-Default-Emission-Factors-Update-3.pdf>.
- USFWS (U.S. Fish and Wildlife Service). 2026. "Critical Habitat." Accessed February 2026.
<https://www.fws.gov/project/critical-habitat>.

INTENTIONALLY LEFT BLANK

6 Alternatives

6.1 Introduction

Pursuant to the California Environmental Quality Act (CEQA) Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.), an Environmental Impact Report (EIR) is required to “describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project” (CEQA Guidelines Section 15126.6[a]). An EIR “must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation” (CEQA Guidelines Section 15126.6[a]). This alternatives discussion is required even if these alternatives “would impede to some degree the attainment of the project objectives, or would be more costly” (CEQA Guidelines Section 15126.6[b]).

The CEQA Guidelines further provide that the range of alternatives is guided by a “rule of reason,” such that only those alternatives necessary to permit a reasoned choice are included (CEQA Guidelines Section 15126.6[f]). The EIR need only examine alternatives that could feasibly attain most of the basic objectives of the project. Section 15126.6(f)(1) of the CEQA Guidelines states that “among the factors that may be taken into account when addressing feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries... and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.”

The inclusion of an alternative in an EIR does not constitute definitive evidence that the alternative is in fact “feasible.” The final decision regarding the feasibility of alternatives lies with the decision maker for the given project, who must make the necessary findings addressing the potential feasibility of an alternative, including whether it meets most of the basic project objectives or reduces the severity of significant environmental effects pursuant to CEQA (California Public Resources Code, Section 21081; see also CEQA Guidelines Section 15091). The decision maker for this project is the Los Angeles Department of Water and Power’s (LADWP) Board of Commissioners.

Beyond these factors, the CEQA Guidelines require the analysis of a “no project” alternative and an evaluation of alternative location(s) for the project, if feasible. Based on the alternatives analysis, an environmentally superior alternative is to be designated. If the environmentally superior alternative is the “no project” alternative, then the EIR shall identify an environmentally superior alternative among the other alternatives.

6.1.1 Discussion of Previously Considered Alternatives from the Certified 2024 EIR

The previously approved McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project (approved project) was described and analyzed in the certified 2024 Environmental Impact Report (2024 EIR). As set forth in Chapter 6, Alternatives, of the 2024 EIR, three alternatives were considered but rejected and one alternative (a “no project” alternative) was considered and carried forward for detailed analysis. The previously considered but rejected New Transmission Line (i.e., alternative site) and Paving Access Roads alternatives are also applicable to the revised project and are thus addressed below (see Section 6.4, Alternatives Considered but Rejected).

The third alternative considered but rejected in the 2024 EIR was the Full Replacement Alternative, which involved constructing all new transmission towers along the entire transmission line right-of-way (ROW). At the time, this alternative was determined to be “logically infeasible due to the line outages that would be required for a complete rebuilding effort” (p. 6-3, LADWP 2024). The 2024 EIR also highlighted the increased environmental impacts that would occur with the Full Replacement Alternative due to an increased disturbance area. However, based on engineering work that has occurred since the time of the 2024 EIR, the Full Replacement Alternative has been deemed both feasible and necessary for the structural safety of the transmission lines. More specifically, the Full Replacement Alternative was deemed infeasible in the 2024 EIR because both lines were going to be rebuilt along each existing centerline, which would have caused numerous logistical issues and extensive electrical outages, as documented in the 2024 EIR. However, subsequent to the 2024 EIR, a new engineering and design concept was devised for full replacement, whereby a segment of MCC-VIC Line 1 would not be rebuilt along the original centerline. This design avoids the logistical and outage issues documented in the 2024 EIR. As such, full replacement of the lines was determined to be feasible. Furthermore, once the existing transmission towers were structurally evaluated after approval of the approved project, assessments indicated they would require substantial modifications, associated with extensive cost and schedule, far beyond the modifications evaluated for the approved project in the 2024 EIR. Furthermore, even after such modifications, it was determined by LADWP and its engineers that prolonged life and reliability of the structures and foundations could not be guaranteed due to the age of the existing infrastructure. The need for full replacement of MCC-VIC Lines 1 and 2, combined with engineering a feasible method for replacing the lines as described above, has rendered a “Full Replacement Alternative” both feasible and necessary. As such, the “Full Replacement Alternative” is now identified as the revised project. As briefly discussed in the 2024 EIR, full replacement of the lines is associated with greater environmental impacts when compared to the approved project. For this reason, full replacement of the lines (i.e., the revised project) has been analyzed throughout this Subsequent Environmental Impact Report (SEIR) to determine and disclose its environmental impacts.

Consistent with the 2024 EIR, the analysis herein still considers and carries forward a “no project” alternative in accordance with Section 15126.6(e) of the CEQA Guidelines. However, while the 2024 EIR analyzed a “no build” alternative as the “no project” alternative, the analysis herein considers implementation of the approved project as the “no project” alternative (see Section 6.5.1, No Project Alternative – 2024 Approved Project, below). This is because the approved project has been approved by the City of Los Angeles Board of Water and Power Commissioners and could thus proceed without further CEQA review. The analysis herein also carries forward one additional alternative involving reduced helicopter use that was not included in the 2024 EIR (see Section 6.5.2, Alternative 2 – Reduced Helicopter Use (No Helicopter Use Near Residences)).

6.2 Project Objectives

CEQA Guidelines Section 15124(b) requires an EIR to include a statement of objectives sought by the project, including the underlying purpose of the project. As noted in Chapter 3, Project Description, of this Draft SEIR, the underlying purpose of the revised project is to accommodate incoming energy resources along the West of River Path 46 transmission corridor in order to help the LADWP achieve state and local requirements for greenhouse gas (GHG) reductions and an increased renewable energy portfolio, and to conduct infrastructure replacement to ensure the continued safe and reliable operation of McCullough-Victorville (MCC-VIC) Lines 1 and 2. The revised project’s objectives are as follows:

1. Reduce the environmental impacts associated with GHG emissions and create a more sustainable environment.

2. Assist LADWP in meeting Renewable Portfolio Standard goals by increasing LADWP's transmission capacity by 475 megawatts.
3. Meet LADWP's future electrical energy demands.
4. Allow interconnection and expanded transmission of renewable energy along the West of River Path 46 transmission corridor.
5. Increase LADWP's system reliability and flexibility in the utilization of renewable energy sources.
6. Enable the delivery of renewable energy.
7. Minimize the environmental disturbance of transmission upgrades by constructing improvements within an existing ROW, avoiding sensitive resources, and minimizing the number of new access routes, to the extent feasible.
8. Increase delivery capacity with upgraded energized lines on an aggressive schedule (by 2028–2029) to comply with Western Electric Coordinating Council mandates.
9. Bring transmission tower structures into compliance with North American Energy Reliability Corporation/Federal Energy Regulatory Commission ground-to-conductor clearance requirements.

Aside from the addition of Objective Nos. 8 and 9, the revised project's objectives are the same as those of the approved project.

6.3 Environmental Impacts of the Revised Project

As discussed in detail in Chapter 4, Environmental Analysis, and Chapter 5, Other CEQA Considerations, the impact determinations for the revised project are as follows:

No Impact

- Mineral Resources
- Population and Housing
- Recreation

Less-than-Significant Impact

- Aesthetics
- Agriculture and Forestry Resources
- Energy
- Geology and Soils
- Greenhouse Gas (GHG) Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Public Services
- Transportation
- Utilities and Service Systems
- Wildfire

Less-than-Significant Impact with Mitigation

- Biological Resources
- Paleontological Resources
- Tribal Cultural Resources

Significant and Unavoidable Impact

- Air Quality
- Cultural Resources
- Noise

6.4 Alternatives Considered but Rejected

One of the requirements for alternatives analysis that is set forth in the CEQA Guidelines is identification of alternatives that were considered by the lead agency but rejected as infeasible during the scoping process. As stated in Section 15126.6(c) of the CEQA Guidelines, the EIR should briefly explain the reasons underlying this determination. Among the factors that may be used to eliminate alternatives from detailed consideration in the EIR are:

- (i) Failure to meet most of the basic project objectives,
- (ii) Infeasibility, or
- (iii) Inability to avoid significant environmental impacts (CEQA Guidelines Section 15126.6(c)).

As discussed above, Section 15126.6(f)(1) of the CEQA Guidelines states that “among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.”

In accordance with 15126.6(c) of the CEQA Guidelines, a range of reasonable alternatives was considered. Several of these alternatives were rejected from further analysis due to one or more of the above reasons. A description of each alternative and the rationale for rejection is provided below.

6.4.1 Alternative Site (New Transmission Line Right-of-Way)

Pursuant to Section 15126.6(f)(2) of the CEQA Guidelines, LADWP considered the potential for alternative locations to the revised project. As stated in Section 15126.6(f)(2)(A), the key question and first step in analyzing alternative sites is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need to be considered in the EIR.

This alternative would involve constructing two new 575-kilavolt (kV) transmission lines and associated transmission towers within a new and different transmission ROW. This alternative would require LADWP to

purchase or otherwise obtain rights-of-way along a contiguous strip of land between McCullough Substation in Nevada and Victorville Switching Station in California. It would then involve clearing and grading the newly acquired land and constructing access routes to provide connection between existing roadways and the new transmission ROW for construction and ongoing maintenance. Next, the alternative would involve installation of two new 575 kV lines and associated transmission towers, which would occur in a manner similar to the revised project. Operation of the new 575 kV lines would occur in a manner similar to that of the revised project; however, since the new lines would be located in a new ROW, maintenance activities would occur in new and different places. This alternative was rejected from further analysis in the SEIR due to infeasibility, as further enumerated below. Additional information is also provided below regarding this alternative's potential environmental impacts and its ability to meet project objectives.

Environmental Impacts. This alternative would increase environmental impacts in most categories. Establishing a new transmission ROW would increase the overall construction intensity and construction disturbance area, which would increase temporary impacts in the categories of air quality, noise, GHG emissions, energy, biological resources, hydrology and water quality, cultural resources, and tribal cultural resources. Establishing a new transmission ROW would also increase impacts in the category of land use and planning, since it would have the potential to conflict with land use plans and policies established to protect the environment. This alternative would also increase permanent impacts in the categories of biological resources and aesthetics, since establishing a new transmission ROW would cause permanent land use conversions, some of which could occur in sensitive habitat areas. Additionally, it would introduce transmission infrastructure to a new area, thereby resulting in permanent visual disturbances. By comparison, the revised project would occur within an ROW that has already been established and that has been used for electrical transmission purposes since the 1940s.

This alternative could potentially eliminate or reduce the revised project's significant and unavoidable residential helicopter noise impact by potentially rerouting the transmission lines further away from existing residences located along the current ROW. This alternative could also eliminate the revised project's significant, unavoidable cultural resources impact by preserving-in-place the existing MCC-VIC Line 1 and 2 towers. However, this alternative is not expected to avoid or reduce the revised project's significant and unavoidable construction air quality impact. In fact, the air quality impact may increase due to the increase in intensity and/or duration of construction under this alternative. Other new and different significant and unavoidable impacts could also occur due to the magnitude of new development that would be required to create and develop a new transmission line corridor.

Project Objectives. This alternative would still meet the revised project's underlying objectives of providing additional renewable energy resources along the West of River Path 46 transmission corridor and conducting infrastructure replacement for safe and reliable operations. However, this alternative would fail to meet several of the revised project's specific objectives, including the objective of minimizing the environmental disturbance of transmission upgrades by constructing improvements within an existing ROW, avoiding sensitive resources, and minimizing the number of new access routes, to the extent feasible. Establishing a new transmission ROW would likely cause a substantial delay in the start of construction, which would subsequently result in failure to meet the objective to increase delivery capacity with upgraded, energized lines on an aggressive schedule to comply with Western Electric Coordinating Council mandates. Although this alternative would still achieve a long-term goal of reducing GHG emissions and creating a more sustainable environment through transmission of more renewable energy, GHG emissions in the short term would likely increase under this alternative due to the increase in overall construction intensity and construction disturbance area required to establish transmission lines in a new ROW.

While this alternative would ultimately increase the transmission capacity for LADWP and expand transmission of renewable energy, delay of project completion may lead to safety and reliability issues, as the existing MCC-VIC

Lines 1 and 2 would continue their operational life in spite of ground-to-conductor clearance violations and increasing system demands, thus compromising the objective of increasing system reliability and flexibility. As explained in Section 3.4 of this SEIR, as the existing transmission lines/towers continue to age and transmit more electricity load, newer, more structurally sound transmission towers are needed to replace the existing aged infrastructure. Furthermore, LADWP has identified a number of transmission tower locations within the MCC-VIC Lines 1 and 2 that have insufficient ground-to-conductor clearance per North American Energy Reliability Corporation/Federal Energy Regulatory Commission safety mandates. Non-compliance with clearance requirements can result in potential safety and reliability issues. Thus, lengthening the construction timeframe would jeopardize LADWP's ability to address the safety and reliability concerns in the existing ROW. All other revised project objectives would be achieved by this alternative.

Feasibility. Although there is another LADWP transmission line ROW that connects to the Victorville Switching Station and runs parallel to some segments of MCC-VIC Lines 1 and 2, this ROW already supports an existing transmission line (the Mead-Victorville line) that runs from the Victorville Switching Station to the Mead Substation near Boulder City, Nevada. The segments of the Mead-Victorville ROW that run parallel to the existing MCC-VIC ROW do not have enough physical space to safely accommodate two new transmission lines. LADWP does not control another contiguous ROW that spans between the McCullough Substation and Victorville Switching Station. The revised project alignment was selected because it falls within an existing transmission ROW that has been used for electrical transmission purposes since the 1940s. Establishing a new transmission ROW would involve purchasing or otherwise obtaining rights-of-way along a contiguous strip of land between McCullough Substation and Victorville Switching Station. In order to extend from McCullough Substation to Victorville Switching Station, the new ROW would need to cross existing established open space areas. A new ROW could thus cause disturbances in previously undisturbed open space areas. As such, even if it were possible for LADWP to acquire a contiguous strip of land between the McCullough Substation and Victorville Switching Station, this scenario would not be reasonable or feasible from a land use perspective. For these reasons, this alternative is not considered feasible and is therefore rejected from further consideration in this SEIR.

6.4.2 Paving Access Roads Alternative

As discussed in Section 4.2, Air Quality, of this SEIR, construction of the revised project would result in a cumulatively considerable net increase of criteria air pollutants (i.e., NO_x, CO, PM_{2.5}, and PM₁₀). Implementation of Mitigation Measure (MM) AQ-1 and MM-AQ-2 would reduce the revised project's impacts; however, emissions of NO_x, CO, PM_{2.5}, and PM₁₀ would remain significant and unavoidable. One of the main contributors to the significant and unavoidable PM_{2.5} and PM₁₀ emissions is construction-worker vehicle/equipment travel along unpaved dirt roadways to access work areas along the ROW. As such, LADWP considered an alternative under which paving of each new and existing access/spur road would be undertaken. This alternative was rejected from further analysis in this SEIR due to its inability to avoid significant environmental impacts, as further enumerated below. Additional information is also provided below regarding this alternative's ability to meet project objectives and its feasibility.

Environmental Impacts. Paving of the access/spur roads would still require that construction worker vehicles and equipment travel along each access/spur road in order to complete the paving activities, thereby still resulting in the need to travel along unpaved dirt roadways. Thus, paving the roads would not substantially reduce or eliminate the significant construction-related impact for PM_{2.5} and PM₁₀ emissions. The paving process itself may also increase emissions of other types of pollutants, since it would require additional construction equipment and construction activity relative to what is proposed for the revised project. In addition, the paving would result in long-term increased runoff with potential to impact receiving and downstream waters. Paved roads would also require

more maintenance and upkeep during operations. Therefore, this alternative would result in similar and potentially greater environmental impacts compared to the revised project. This alternative is therefore rejected from further consideration in this SEIR due to its ability to avoid significant environmental impacts.

Project Objectives. There is a potential that paving the access/spur roads would cause delays to the construction timeline, which subsequently could result in failure to meet the objective to increase delivery capacity with upgraded, energized transmission lines on an aggressive schedule to comply with Western Electric Coordinating Council mandates. While all other objectives would be met, the achievement of these objectives would be delayed due to the increased construction duration. Delay of project completion may lead to safety and reliability issues (as previously discussed in Section 6.4.1, above).

Feasibility. Aside from the reasons discussed above, there are no other major feasibility issues related to this alternative.

6.4.3 No Blasting Alternative

As discussed in Section 4.2, Air Quality, of this SEIR, construction of the revised project would result in a cumulatively considerable net increase of criteria pollutants (i.e., NO_x, CO, PM_{2.5}, and PM₁₀). Although implementation of MM-AQ-1 and MM-AQ-2 would substantially reduce emissions of NO_x, PM_{2.5}, and PM₁₀, use of Tier 4 engines (per MM-AQ-2) would increase CO emissions. Nevertheless, MM-AQ-2 is still recommended because it would substantially reduce NO_x and PM₁₀, which are non-attainment pollutants in San Bernardino County (i.e., the County already has substandard air quality for these pollutants), whereas the County is in attainment for CO (and PM_{2.5}). This alternative was rejected from further analysis in the SEIR due to its inability to avoid significant environmental impacts, as further enumerated below. Additional information is also provided below regarding this alternative's feasibility and its ability to meet project objectives.

Environmental Impacts. A primary source of CO emissions is blasting.¹ In order to replace the proposed blasting, excavators with breakers would be required to remove rocks from work areas. This construction method would require additional time and would prolong the construction schedule. Based on extended intensity and duration of construction activities in the absence of blasting, this alternative may increase criteria air pollutant emissions in other categories, including NO_x and particulate matter. As stated above and discussed in further detail in Section 4.2 of this SEIR, the County already has substandard air quality (i.e., is in nonattainment) for O₃ precursors (including volatile organic compounds and NO_x) and PM₁₀ pollutants but is in attainment for CO and PM_{2.5}. The primary benefit (i.e., the reduction in CO emissions) associated with elimination of blasting may be negated due to the necessary use of alternative construction methods that may result in increased emissions of other criteria pollutants for which the region is in nonattainment. In summary, by reducing or eliminating the significant and unavoidable impact related to CO emissions, this alternative would exacerbate the significant and unavoidable impact associated with other criteria pollutants (i.e., NO_x and PM₁₀) for which the region is in nonattainment. Therefore, this alternative would not avoid the revised project significant and unavoidable air quality impact due to criteria air pollutant emissions and impacts overall would be similar to the revised project. This alternative is therefore rejected from further consideration.

¹ As discussed in Chapter 3, Project Description, blasting would generally involve drilling blast holes into rock in a predefined pattern and filling the holes with explosives, detonators, and timing devices. The explosives would be detonated to fracture the rock into smaller pieces.

Project Objectives. The increased construction activities required to remove rocks (as a replacement for blasting) would delay the construction timeline, which subsequently would result in failure to meet the objective to increase delivery capacity with upgraded, energized transmission lines on an aggressive schedule to comply with Western Electric Coordinating Council mandates. While all other objectives would be met, the achievement of these objectives would be delayed due to the increased construction duration. Delay of project completion may lead to safety and reliability issues (as previously discussed in Section 6.4.1, above).

Feasibility. While this alternative would be technically feasible from an engineering perspective, it would extend the construction timeline and would thereby increase the duration of electrical outages. As described above, this alternative would also fail to meet objectives related to construction schedule, which would in turn contribute to potential safety and reliability issues.

6.4.4 Undergrounding Transmission Lines Alternative

Under this alternative, the existing transmission lines (including the transmission towers) would still be removed and the replacement 575 kV lines would be installed underground, within the same ROW that would be used for the revised project. This alternative would require grading and trenching along most of the 162-mile project alignment to install the underground transmission line. Horizontal boring may be required in select locations, and maintenance vaults would be installed along the alignment to provide access for maintenance, inspections, and repairs during operation. Operational activities for the underground 575 kV lines would differ slightly from those of the revised project, since they would involve inspections at the maintenance vaults rather than inspection via ground and air patrols. Because the conductors would be underground, emergency maintenance and repairs may require greater amounts of ground disturbance, equipment, and workers, relative to emergency maintenance and repairs for the proposed aboveground 575 kV lines. This alternative was rejected from further analysis in the SEIR due to infeasibility, as further enumerated below. Additional information is also provided below regarding this alternative's environmental impacts and its ability to meet project objectives.

Environmental Impacts. As this alternative would not require helicopter use adjacent to residences for conductor pulling and tensioning, this alternative would eliminate the significant and unavoidable helicopter noise impact associated with the revised project. However, this alternative would increase environmental impacts in most other categories and would not eliminate or substantially reduce the revised project's significant and unavoidable impacts related to air quality or historical resources, as further discussed below.

Grading, trenching, and/or boring along the alignment would increase the overall construction intensity, duration, and disturbance acreage. Additionally, the amount of time spent at individual work areas along the alignment would likely increase relative to the revised project. During construction, temporary impacts in almost all categories (including air quality, GHG emissions, energy, biological resources, hydrology and water quality, geology and soils, cultural resources, and tribal cultural resources) would therefore increase. The revised project's significant and unavoidable air quality impact due to NO_x, CO, PM_{2.5}, and PM₁₀ emissions during construction would not be avoided or substantially reduced by this alternative and may in fact be increased. The primary sources of particulate matter, NO_x, and CO emissions are vehicular travel over unpaved roads, helicopter use, and blasting, respectively. While this alternative would not involve structure installations, the existing transmission lines would still be removed. As described in Chapter 3, Project Description, some of the transmission tower removals for the existing transmission lines would involve use of a helicopter to facilitate removal. Blasting would also still be utilized to remove rock for new transmission tower excavations and new spur roads within the ROW. Construction vehicles and equipment would also still travel over unpaved roads. As such, construction activities under this alternative would still likely result in

a significant and unavoidable effect in the category of air quality. Additionally, digging a trench or jacking the new transmission lines along the entirety of the proposed 162-mile project alignment would likely increase air emissions during construction, including NO_x, CO, PM_{2.5}, and PM₁₀ emissions. Increased blasting may also be required to facilitate trenching in mountainous areas, where bedrock is close to the surface, which would generate additional CO and particulate matter emissions.

As stated above, this alternative would not require helicopter use adjacent to residences for conductor pulling and tensioning. Thus, this alternative would eliminate the significant and unavoidable helicopter noise impact. However, noise related to other types of construction activities may increase due to the additional ground disturbance and increased construction duration. Finally, this alternative would still result in the demolition of two National Register of Historic Places (NRHP)/ California Register of Historical Resources (CRHR) eligible transmission lines, and no original historic-age transmission towers would remain along MCC-VIC Lines 1 and 2. As such, impacts to cultural resources would remain significant unavoidable under this alternative. Operational maintenance impacts may increase in categories such as air quality and noise, since accessing the line would be more difficult and thus would lead to increased use of equipment and workers. However, this alternative may decrease permanent impacts in the categories of biological resources and aesthetics, since an underground line would involve fewer permanent aboveground structures with the potential to cause permanent impacts to biological resources and visual resources.

In conclusion, this alternative may avoid the revised project's significant, unavoidable noise impact associated with helicopter use near residences. However, it would exacerbate the significant and unavoidable air quality impact, would not avoid the significant and unavoidable cultural resources impact and would increase impacts in almost all other categories.

Project Objectives. While this alternative would still occur within the existing ROW, it would not minimize environmental disturbances within the ROW, when compared to the revised project. Similarly, this alternative would not avoid sensitive resources to the extent feasible, since it would increase ground disturbance and construction intensity relative to the revised project. The number of access routes necessary to complete the project may also increase with the undergrounding alternative. As such, this alternative would not meet the objective of minimizing environmental disturbance, avoiding sensitive resources, and minimizing the number of new access routes to the same degree as the revised project. Undergrounding the new transmission lines would also cause delays in the construction timeline, which subsequently could result in failure to meet the objective to increase delivery capacity with upgraded, energized transmission lines on an aggressive schedule to comply with Western Electric Coordinating Council mandates. While all other objectives would be met, the achievement of these objectives would be delayed due to the increased construction duration. Delay of project completion may lead to safety and reliability issues (as previously discussed in Section 6.4.1, above).

Feasibility. Undergrounding would not be feasible within the ROW due to the mountainous terrain and length of the alignment. Under the revised project, some of the structure removals and installations would occur via helicopter in order to avoid sensitive environmental areas and/or to conduct work in difficult-to-reach areas. The activities required for undergrounding would involve trenching or boring, both of which require subsurface excavation and could not be feasibly achieved via helicopter. As such, grading, trenching, and/or boring along the entirety of the ROW would not be feasible, from an engineering and design standpoint. For these reasons, this alternative is not considered feasible and is therefore rejected from further consideration in this SEIR.

6.4.5 Partial Preservation Alternative

Under this alternative, some existing historic-age transmission towers along MCC-VIC Lines 1 and 2 would be retained in place so as to preserve NRHP/CRHR eligible features and reduce the revised project's significant unavoidable impact to historic built environment resources. The retained towers would be selected based on public visibility. They would no longer be used for electrical transmission and thus would not be strung with conductor. This alternative was rejected from further analysis in this SEIR due to its inability to avoid significant environmental impacts, as further enumerated below. Additional information is also provided below regarding this alternative's ability to meet project objectives and its feasibility.

Environmental Impacts. Although this alternative would retain some historic-age transmission towers, it would only marginally reduce the revised project's significant environmental impact associated with destruction/removal of historic built environment resources. As the majority of towers would still need to be demolished/removed to accommodate the replacement transmission lines, the impact would remain significant and unavoidable. All other environmental effects would generally be similar to those of the revised project. As this alternative would not eliminate or substantially reduce any of the revised project's significant and unavoidable impacts, this alternative is rejected from further consideration.

Project Objectives. This alternative would meet all of the project objectives to the same degree as the revised project.

Feasibility. Aside from the reasons discussed above, there are no other major feasibility issues related to this alternative.

6.4.6 Replacement in Place Alternative

Under the revised project, approximately 95 miles of the existing Line 1 alignment (including the transmission towers) would shift southeast approximately 110 feet. All other Line 1 and Line 2 transmission towers would be offset linearly by a maximum of 300 feet but would maintain the existing centerline. The existing transmission tower foundations would be removed to a depth of 2 feet below grade. Under the Replacement in Place Alternative, there would be no alignment shifts or location offsets. All existing transmission towers and associated foundations would be fully removed and replaced in their current locations. This alternative was rejected from further analysis in the SEIR due to inability to avoid significant environmental impacts and infeasibility as further enumerated below. Additional information is also provided below regarding this alternative's ability to meet project objectives.

Environmental Impacts. Although impacts to some environmental issue areas would be reduced under this alternative compared to the revised project (particularly in the category of biological resources, due to an overall reduction in permanent impact acreage), this alternative would not avoid or substantially lessen any of the revised project's significant and unavoidable impacts (i.e., air quality, noise, and historic built environment resources). While the overall disturbance area for permanent impacts would be reduced, this alternative would introduce logistical and construction inefficiencies that would increase the duration and/or intensity of construction in some areas. For example, while this alternative would not require excavation or blasting at new sites for the replacement transmission towers, increased excavation and blasting would be required to completely remove existing transmission tower foundations, which, under the revised project, would only be removed up to 2 feet below grade, with the remainder buried in place. Additionally, while the revised project would allow for concurrent removal and replacement of the transmission towers, this alternative would require sequential construction at each transmission tower work area, where the existing transmission tower and foundation must be fully removed prior to installation of the new transmission tower and foundation, likely leading to an extended construction duration.

For these reasons, construction-related impacts to air quality would likely increase compared to the revised project. The increased duration and intensity of construction could potentially increase the need for concurrent operation of equipment pieces, additional worker vehicle trips, and overall duration of construction activities, which would in turn increase criteria air pollutant emissions relative to the revised project. Thus, the impact related to air quality would increase and remain significant and unavoidable under this alternative. Construction-related impacts to noise would also be similar to, or greater than, those of the revised project. Although the type of equipment used would be generally the same, the extended construction schedule and constrained work areas may result in longer durations of noise at individual transmission tower sites. Helicopter use for conductor pulling and tensioning would still be required along most of the alignment, including areas near residences, and thus the revised project's significant and unavoidable helicopter noise impact would not be avoided or reduced under this alternative. Extended construction duration could also increase the overall exposure of nearby sensitive receptors to construction noise. Impacts to historic built environment resources would be the same as those of the revised project. This alternative would still require complete demolition and replacement of the existing MCC-VIC Lines 1 and 2, which are eligible for listing in the NRHP/CRHR. Therefore, impacts to historic built environment resources would remain significant and unavoidable under this alternative. Additionally, there would be a comparable and potentially elevated level of temporary construction disturbance within and outside of the ROW under this alternative compared to the revised project, which may increase impacts in the categories of archaeological resources, paleontological resources, and tribal cultural resources.

All other impacts would be similar or reduced under this alternative compared to the revised project. Impacts to aesthetics would be similar or reduced overall for permanent impacts, as there would be no change in transmission tower locations. However, avoidance of the alignment shift and offsets would not substantially change the overall visual character of the ROW during construction or operation. The replacement transmission towers would be of similar design, height, and visual character compared to the revised project and would remain within the existing ROW. Temporary visual disturbances may in fact increase under this alternative due to the increased construction duration. Overall, aesthetic impacts would remain less than significant, as with the revised project. Impacts to biological resources would also be reduced overall under this alternative due to the reduced permanent disturbance area. Furthermore, these topics would be less than significant or would be less than significant with mitigation under the revised project and would remain so under this alternative, despite the reduced permanent impact areas.

In summary, this alternative would not avoid or substantially lessen any of the revised project's significant and unavoidable impacts (i.e., air quality, noise, and built environment resources) and is therefore rejected from further consideration.

Project Objectives. The increased time required to completely remove the existing transmission towers and foundations, followed by construction of new transmission towers and foundations in the same location, would substantially delay the construction timeline, which subsequently would result in failure to meet the objective to increase delivery capacity with upgraded, energized transmission lines on an aggressive schedule to comply with Western Electric Coordinating Council mandates. While all other objectives would be met, the achievement of all objectives would be delayed due to the increased construction duration. Delay of project completion may lead to safety and reliability issues (as previously discussed in Section 6.4.1, above).

Feasibility. While this alternative would be technically feasible from an engineering perspective, it would extend the construction timeline and would thereby increase the duration of electrical outages, which may be tied to public health and safety concerns. As described above, this alternative would also fail to meet objectives related to construction schedule. These factors combined would in turn contribute to potential safety and reliability issues. This alternative is therefore determined to be infeasible and is rejected from further consideration.

6.4.7 Reduced Helicopter Use (No Helicopter Use for Tower Construction)

Under this alternative, heavy-duty helicopters would not be used for transmission tower removals or installations. The transmission towers that would be installed or removed via heavy-duty helicopter under the revised project would be installed via crane and workers in man lifts. The locations where heavy-duty helicopters would be used for transmission tower removals or installations are in remote, difficult-to-reach areas along the ROW. As such, access to these locations for off-road construction equipment such as cranes would require additional construction work to establish sufficient access and work areas. New or improved access routes would be required to allow passage of heavy-duty construction vehicles over otherwise difficult terrain. Additional site preparation beyond what is anticipated for the revised project would be required to create appropriate equipment access and work areas in difficult-to-reach areas. Additional slope stabilization and geotechnical engineering measures may also be required at these locations. For these reasons, the construction duration and overall acreage of ground disturbance would increase relative to the revised project. This alternative was rejected from further analysis in this SEIR due to its inability to avoid significant environmental impacts, as further enumerated below. Additional information is also provided below regarding this alternative's ability to meet project objectives and its feasibility.

Environmental Impacts. Impacts under this alternative would generally increase or be similar to the revised project. This alternative would likely increase potential impacts to biological resources, archeological resources, paleontological resources, and tribal cultural resources because it would involve more extensive areas of ground disturbance and (potentially) additional blasting for access road clearing. Other impact areas (e.g., aesthetics, air quality, historic built environment, noise) would generally be similar to the revised project. For aesthetics, the transmission lines and transmission towers would be of the same height, location, and design. Additionally, there would be no changes to the construction scenario in areas within view of a designated State Scenic Highway. However, temporary impacts to the appearance of some difficult-to-reach mountainous areas could result where wider access roads and/or more extensive grading would be required. Impacts to historical built environment resources would also be similar under this alternative as for the revised project, as this alternative would still result in the demolition of MCC-VIC Lines 1 and 2, which are NRHP/CRHR eligible.

Regarding air quality, the elimination of heavy-duty helicopter use under this alternative would reduce the revised project's NO_x emissions. Conversely, other aspects of construction would increase in intensity. Establishing access for heavy-duty off-road equipment for the transmission towers that would otherwise be installed or removed via helicopter would increase the overall construction duration and/or construction intensity. Additionally, grading acreages would increase and additional blasting may be required to establish access for heavy-duty equipment in remote, mountainous locations. Blasting activities are the primary driver of the revised project's CO emissions; as such, CO emissions would likely increase under this alternative. Thus, although the elimination of heavy-duty helicopter use would reduce emissions specifically for NO_x, the increased construction intensity could increase overall air quality emissions for other criteria pollutants throughout construction, as well as the duration that construction-related pollutants are emitted by the project. Additionally, light-duty helicopters, which still represent a substantial source of the revised project's NO_x emissions, would be required for conductor pulling and tensioning activities along the majority of the ROW. Both MM-AQ-1 and MM-AQ-2 would still be required for this alternative in order to reduce emissions. In balance, the severity of air quality impacts for this alternative would likely be similar to that of the revised project.

Finally, regarding noise, elimination of heavy-duty helicopter use would reduce the temporary construction-related noise that is experienced at some remote locations along the alignment. However, the length of construction time

required in these areas would increase, since more grading (and potentially additional blasting) would be involved to establish sufficient access. As such, construction noise near transmission tower installation/removal sites where helicopter use was assumed for the revised project may be generated for longer than they would under the revised project. Furthermore, there are no nearby sensitive receivers (e.g., residences) in the locations anticipated to require heavy-duty helicopter use under the revised project, so the elimination of heavy-duty helicopters would not measurably reduce the significant noise generation anticipated to be experienced by residents closest to the ROW. Additionally, light-duty helicopter use would still occur for conductor stringing/removal along the majority ROW, including areas within close proximity to residences. Given this, construction-related noise for the nearest sensitive receivers would remain generally similar under this alternative as for the revised project. MM-NOI-1 (including erection of a temporary noise barrier along the project boundary between the residence north of MCV1_151-4) would still be required to reduce non-helicopter construction noise impacts to a less than significant level. Regarding blasting, even if additional blasting would be required under this alternative to establish access roads for heavy-duty equipment, these locations would likely be in remote areas that are not in the vicinity of any noise sensitive receivers. Furthermore, although groundborne vibrations may increase under this alternative due to increased use of heavy-duty off-road construction equipment in some remote areas of the alignment, these areas are not close enough to any sensitive receivers for the reduction to make a noticeable difference to the impact determination. Thus, although the relative construction noise and vibration impacts may change under this alternative, the effects contributing to the significant and unavoidable noise impact related to light-duty helicopter use near residential sensitive receptors would be similar.

In conclusion, this alternative would not avoid or substantially lessen any of the revised project's significant and unavoidable impacts (i.e., air quality, noise, and built environment resources) and is therefore rejected from further consideration.

Project Objectives. This alternative would not minimize environmental disturbances within the ROW and would not avoid sensitive resources to the extent feasible, since it would increase ground disturbance and construction intensity relative to the revised project. The number and/or width of access routes necessary to complete the project may also increase due to the need to transport heavy-duty equipment to remote locations. As such, this alternative would not meet the objective of minimizing environmental disturbance, avoiding sensitive resources, and minimizing the number of new access routes to the same degree as the revised project. Eliminating heavy-use helicopters for transmission tower removal/installation could also cause delays in the construction timeline, which subsequently could result in failure to meet the objective to increase delivery capacity with upgraded, energized transmission lines on an aggressive schedule to comply with Western Electric Coordinating Council mandates. While all other objectives would be met, the achievement of these objectives may be delayed due to the increased construction duration. Delay of project completion may lead to safety and reliability issues (as previously discussed in Section 6.4.1).

Feasibility. While this alternative would be technically feasible from an engineering perspective, it would extend the construction timeline and would thereby increase the duration of electrical outages, which may be tied to public health and safety concerns. As described above, this alternative may also fail to meet objectives related to construction schedule. These factors combined would in turn contribute to potential safety and reliability issues. Finally, this alternative may require roadway widening outside of the ROW, which may be feasible, but would require subsequent review and permitting by BLM.

6.5 Alternatives Under Consideration

Pursuant to Section 15126.6 of the CEQA Guidelines, LADWP selected a reasonable range of alternatives to the revised project that would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen one or more of the significant effects of the project. As summarized below, the revised project would result in significant and unavoidable impacts related to air quality, noise, and cultural resources:

- **Air Quality.** As discussed in Section 4.2, Air Quality, of this SEIR, prior to mitigation, the revised project would result in potentially significant air quality impact due to a cumulatively considerable net increase in criteria pollutants (specifically, NO_x, CO, PM_{2.5} and PM₁₀). The primary sources of particulate matter (i.e., PM_{2.5} and PM₁₀), NO_x, and CO emissions are vehicular travel over unpaved roads, helicopter use, and blasting, respectively. With MM-AQ-1 and MM-AQ-2, emissions of NO_x, PM_{2.5} and PM₁₀ would be substantially reduced; however, the revised project would still exceed respective significance thresholds for NO_x, CO, PM_{2.5} and PM₁₀. Thus, impacts would be significant and unavoidable.
- **Cultural Resources.** As discussed in Section 4.4, Cultural Resources, of this SEIR, MCC-VIC Lines 1 and 2 are NRHP/CRHR eligible. The revised project would result in the demolition of the existing transmission lines, and no original historic-age towers would remain along the ROW. While MM-CUL-8 would be implemented, this measure cannot fully avoid or reduce the impact to a less than significant level. Compliance with Secretary of the Interior's Standards is infeasible, as the defining features and integrity of the resource would be lost. Therefore, the impact to historic built environment resources under the revised project would be significant and unavoidable.
- **Noise.** As discussed in Section 4.5, Noise, of this SEIR, the revised project would result in generation of a substantial temporary increase in ambient noise levels in excess of established standards due to helicopter use (specifically for conductor pulling and tensioning activities) adjacent to residences. There are no feasible mitigation measures available that would reduce this impact to a less than significant level as there is no feasible way to block the line of sight from the elevated helicopter noise sources to the ground level noise-sensitive receivers. Therefore, the impact from helicopter noise is considered significant and unavoidable.

Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment, the discussion of alternatives is required to focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

Based on consideration of the revised project's significant and unavoidable impacts summarized above, as well as the evaluation of potential alternatives that were considered but rejected in Section 6.4 above, three alternatives have been carried forward for further analysis below. Pursuant to Section 15126.6(d) of the CEQA Guidelines, sufficient information about each alternative has been included in the descriptions below to allow meaningful evaluation, analysis, and comparison with the proposed project.

6.5.1 Alternative 1 – 2024 Approved Project (No Project)

Section 15126.6(e) of the CEQA Guidelines requires that an EIR evaluate the specific alternative of “no project” along with its impact. As stated in this section of the CEQA Guidelines, the purpose of describing and analyzing a “no project” alternative is to allow decision makers to compare the impacts of approving the proposed project with

the impacts of not approving the proposed project. As specified in Section 15126.6(e)(3) of the CEQA Guidelines, for projects other than land use plans or regulatory plans, the “no project” alternative is the circumstance under which the project does not proceed. The CEQA Guidelines state that the discussion then compares the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project would result in predictable actions by others, such as the proposal of some other project, this “no project” consequence should be discussed. In certain instances, the no project alternative means “no build” wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project’s non-approval.

Accordingly, the no project alternative assumes the revised project would not proceed as discussed in Chapter 3, Project Description, of this SEIR. Rather, the approved project—as described and analyzed in the certified 2024 EIR—would be carried forward. As discussed therein, the approved project would upgrade MCC-VIC Lines 1 and 2 to increase their capacity from their current rating of 500 kV to approximately 570 kV. The approved project would consist of reinforcing/replacing damaged structural members (including foundation components) for approximately 86% of existing transmission towers; removing and replacing approximately 14% of the existing transmission towers/foundations within the footprints of existing transmission tower sites; raising transmission towers to mitigate ground clearance violations; modifications and/or replacement of existing insulators and hardware assemblies; replacing conductors and ground wire; re-tensioning conductors; and repairing/retrofitting existing main access roads and spur roads. All work areas would be limited to the existing ROW and existing access/spur roads. No transmission tower relocations or alignment shifts would be required under the approved project.

As the operational scenario under this alternative would not change compared to the revised project, there would be no changes to operational impacts. Therefore, the analysis below focuses primarily on construction impacts.

6.5.1.1 Environmental Analysis

Aesthetics

As discussed in Section 4.1, Aesthetics, of this SEIR, construction and operation of the revised project would have a less than significant impact related to the potential to damage scenic resources within a designated State Scenic Highway corridor. At the time of the 2024 EIR, State Route 247 (SR-247) in the vicinity of the project alignment was an eligible State Scenic Highway, without an approved corridor protection program. SR-247 became an officially designated State Scenic Highway in September 2025. The project alignment now crosses directly over a segment of a designated State Scenic Highway, whereas at the time of the 2024 EIR, the nearest designated State Scenic Highway was approximately 20 miles south of the project area. Thus, as with the revised project, there is a potential for the approved project to substantially damage scenic resources within a designated State Scenic Highway corridor.

As with the revised project, Alternative 1 would not remove or encroach upon any of the mature, ornamental trees associated with the adjacent residential uses to the north of the alignment and near SR-247. However, Alternative 1 would limit the tower work areas to the areas surrounding the existing tower footprints and would not require new transmission tower locations or an alignment shift, which would reduce ground disturbance and clearance of desert vegetation. The new or refurbished transmission towers would generally be of the same latticed structural style as the existing transmission towers and would have the exact same footprint as the existing transmission towers. Although some of the new or refurbished transmission towers would be taller than the existing transmission towers, transmission tower height anticipated under the revised project would be taller on average compared to the approved project. For the reasons discussed above, while impacts under both the revised project and Alternative 1 would be less than significant, impacts under Alternative 1 would be **reduced** compared to the revised project.

Air Quality

As discussed in Section 4.2, Air Quality, of this SEIR, construction of the revised project would result in a cumulative considerable net increase of criteria pollutants (i.e., NO_x, CO, PM_{2.5}, and PM₁₀). Implementation of MM-AQ-1 and MM-AQ-2 would reduce the revised project's impacts; however, emissions of NO_x, CO, PM_{2.5}, and PM₁₀ would remain in excess of established thresholds, resulting in significant and unavoidable impacts related to a cumulatively considerable net increase of criteria pollutants and (consequently) a conflict with the applicable air quality plan.

As shown in Table 4.2-10 in Section 4.2 of this SEIR, the approved project would result in reduced emissions of NO_x, CO, SO_x, PM₁₀, and PM_{2.5}, but increased emissions of volatile organic compounds compared to the revised project. These reductions are largely due to the reduced construction intensity and timeline, as well as to changes in equipment/methods (such as the elimination of blasting). However, even with mitigation, emissions of NO_x, PM₁₀, and PM_{2.5} under the approved project would still exceed the respective annual and/or daily significance thresholds. Therefore, while both the revised project and Alternative 1 (i.e., the approved project) would result in significant and unavoidable air quality impacts, impacts would be **reduced** under Alternative 1.

Biological Resources

As discussed in Section 4.3, Biological Resources, of this SEIR, impacts to biological resources would be reduced to a less than significant level. The revised project would result in temporary and/or permanent disturbance to sensitive natural communities, special-status plants and wildlife, jurisdictional waters (e.g., desert washes and other aquatic features), and wildlife movement corridors, as well as temporary effects related to nesting birds and the potential spread of invasive species. With implementation of the MM-BIO-1 through MM-BIO-19 (including requirements for pre-construction surveys, avoidance and minimization measures, biological monitoring, restoration of temporarily disturbed areas, and compensatory mitigation where applicable), impacts would be reduced to a less than significant level with mitigation incorporated.

Under Alternative 1, impacts to biological resources would also be less than significant with mitigation incorporated, consistent with the impact conclusions in the certified 2024 EIR. Compared to the revised project, Alternative 1 would involve a smaller overall construction disturbance footprint because work would be largely confined to existing tower footprints and existing access and spur roads, with no tower relocations or alignment shifts. In turn, Alternative 1 would generally result in a reduced intensity and extent of vegetation removal and ground disturbance, and therefore a reduced potential to affect sensitive resources (e.g., reduced acreage of disturbance within sensitive natural communities and reduced potential effects on special-status plants and wildlife associated with new or expanded disturbance areas).

Jurisdictional aquatic features and wildlife movement corridors would still be present within and adjacent to the ROW under Alternative 1, and construction activities would still have the potential to temporarily affect these resources (e.g., through localized surface disturbance, temporary access limitations in narrow areas, or short-term construction disturbance). However, because Alternative 1 would not include the expanded disturbance assumptions associated with the revised project, the severity of potential effects would generally be reduced.

In summary, although impacts would be less than significant with mitigation for both Alternative 1 and the revised project, biological resources impacts under Alternative 1 be **reduced** overall when compared to the revised project due to the approved project's more limited construction disturbance, lack of alignment shifts/relocations, and greater reliance on existing disturbed areas for access and work activities.

Cultural Resources

As discussed in Section 4.4, Cultural Resources, of this SEIR, MCC-VIC Lines 1 and 2 are NRHP/CRHR eligible historical resources. The revised project would result in the demolition of these existing transmission lines, and no original historic-age towers would remain along the ROW. While MM-CUL-8 would be implemented, this measure cannot fully avoid or reduce the impact to a less than significant level. Compliance with the Secretary of the Interior's Standards is infeasible, as the majority of the towers would be demolished/removed, and thus, the defining features and integrity of the resource would be lost. Therefore, the impact to historic built environment resources under the revised project would be significant and unavoidable. Impacts related to archeological resources and human remains under the revised project would be less than significant with mitigation incorporated (specifically, MM-CU-1 through MM-CUL 7 and MM-CUL-9).

As discussed in Section 4.4, Cultural Resources, of this SEIR, potential historical resource impacts to MCC-VIC Lines 1 and 2 under the approved project would occur primarily during construction activities involving tower replacement or modification. However, under the approved project, most towers were anticipated to be modified, but largely retained in place, unlike the revised project, wherein most existing towers would need to be removed entirely. Under the approved project, implementation of MM-CUL-8, which includes the Secretary of the Interior's Standards for treatment of historic properties, preparation of a Built Environment Treatment Plan, and documentation protocols, is feasible and was determined to reduce the impact to a less than significant level in the 2024 EIR. Under the revised project, full compliance with the Secretary of the Interior's Standard's is infeasible, as stated above, because no historic-age transmission towers would remain after demolition/construction is complete. Therefore, the revised project's significant and unavoidable impact related to a substantial adverse change in the significance of a historical resource would be **substantially reduced** under this alternative to a level of less than significant with mitigation.

Regarding archeological resources and human remains, construction of Alternative 1 would have a reduced potential for encountering archeological resources and human remains, because it would involve less extensive areas of ground disturbance and less intensive excavation activities. However, MM-CUL-1 through MM-CUL-7 and MM-CUL-9 would still be required under this alternative to reduce potential impacts to less-than-significant levels as ground disturbing activities would still occur, and thus there is still a potential for disturbance of archeological resources and/or human remains (see Section 4.4 for the cultural resource mitigation measures). Therefore, although impacts would be less than significant with mitigation for both Alternative 1 and the revised project, the impact would be **reduced** under this alternative due to the reduced work area and reduced intensity of required ground disturbance/excavation.

Noise

As discussed in Section 4.5, Noise, of this SEIR, the revised project would result in generation of a substantial temporary increase in ambient noise levels in excess of established standards due to helicopter use (specifically for conductor pulling and tensioning activities) adjacent to residences. Although the project would implement MM-NOI-1 to reduce ground-level construction noise, there are no feasible mitigation measures available that would reduce the helicopter noise impact to a less than significant level as there is no feasible way to block the line of sight from the elevated helicopter noise sources to the ground-level noise-sensitive receivers. Therefore, the impact from helicopter noise under the revised project would be significant and unavoidable.

Under the approved project, helicopter operations were described in the 2024 EIR as occurring infrequently (a few weeks per year) and for relatively short durations (a few hours per day during daytime working hours) in remote locations, far from residential or other noise-sensitive uses. For these reasons, noise impacts from construction

helicopter use was determined to be less than significant. Because helicopter use was expected to be more limited under the approved project, the revised project's significant and unavoidable impact related to helicopter noise would be **substantially reduced** under this alternative to a level of less than significant.

Paleontological Resources

As discussed in Section 4.6, Paleontological Resources, of this SEIR, with implementation of MM-PALEO-1, impacts to paleontological resources would be reduced to a less than significant level for the revised project. Construction of Alternative 1 would have a reduced potential for encountering paleontological resources, because it would involve less extensive areas of ground disturbance and less intensive excavation activities. However, MM-PALEO-1 would still be required under this alternative to reduce the impact to a less-than-significant level as ground disturbing activities would still occur in areas with moderate, high, and unknown paleontological sensitivity. Thus, although impacts would be less than significant with mitigation for both Alternative 1 and the revised project, the impact would be **reduced** under this alternative due to the reduced size and intensity of ground disturbance.

Tribal Cultural Resources

As discussed in Section 4.7, Tribal Cultural Resources, of this SEIR, with implementation of MM-CUL-1 through MM-CUL-7, MM-CUL-9, and MM-TCR-1, impacts to tribal cultural resources would be reduced to a less than significant level for the revised project.

Construction of Alternative 1 would have a reduced potential for encountering tribal cultural resources because it would involve less extensive areas of ground disturbance and less intensive excavation activities. However, MM-CUL-1 through MM-CUL-7, MM-CUL-9, and MM-TCR-1 would still be required under this alternative to reduce potential impacts to less-than-significant levels as ground disturbing activities would still occur, and thus there is still a potential for disturbance of unidentified tribal cultural resources. Therefore, although impacts would be less than significant with mitigation for both Alternative 1 and the revised project, the impact would be **reduced** under this alternative due to the reduced size and intensity of ground disturbance.

6.5.1.2 Project Objectives

This alternative would generally satisfy all the revised project objectives. However, Objective No. 5 addresses system reliability and flexibility. After approval of the approved project and during detailed design and engineering inspections, the conditions of the existing towers were determined to be substantially worse than what was determined during the initial assessments for the approved project. Based on these findings, LADWP determined that a significant number of the transmission towers associated with MCC-VIC Lines 1 and 2 were in need of critical replacement in order to ensure secure transmission for the reasonably foreseeable future (e.g., approximately 50 years). As such, through its retention of towers that are in critical need of replacement, Alternative 1 would compromise the reliability, flexibility, and safety of MCC-VIC Lines 1 and 2.

6.5.2 Alternative 2 - Reduced Helicopter Use (No Helicopter Use Near Residences)

Under this alternative, light-duty helicopters would not be used for conductor pulling and tensioning activities in ROW areas within the vicinity of residences (specifically, the areas in the vicinity of MCV1_151-4 and MCV1_139-6 through MCV2_140-2). Instead, trucks and other ground equipment would be used to haul the conductor between

towers. This would require new, direct, and unencumbered temporary spur roads within the ROW from tower-to-tower along the segments of the alignment within the vicinity of residences. Should rock impede the development of these spur roads, blasting or pile driving may be necessary to construct the road for equipment access. Using this on-the-ground technique would thus expand the construction disturbance area and could extend the schedule for conductor pulling and tensioning activities along these segments by four-to-six times. Under this alternative, it is assumed that heavy-duty helicopters would still be used for structure removals/installations and conductor pulling and tensioning activities in the more remote, difficult-to-reach areas along the ROW. Additionally, light duty helicopters would still be utilized for conductor pulling and tensioning activities along the rest of the alignment. Operational activities for Alternative 2 would be generally the same as those identified for the revised project. Therefore, the analysis below focuses primarily on construction impacts.

6.5.2.1 Environmental Analysis

Aesthetics

As with Alternative 2, the effects of Alternative 2 would be similar to those identified for the revised project, since the transmission lines and transmission towers would be of the same height, location, and design. Under this alternative, helicopters would not be used for conductor pulling and tensioning on two specific areas that are adjacent to residences. However, temporary visual disturbances associated with construction activities would generally be comparable to the revised project, as helicopters would be replaced with trucks and other on-the-ground equipment to assist with the overhead conductor pulling and tensioning activities and new tower-to-tower spur roads would be required in the ROW in areas adjacent to residences. Overall, aesthetic impacts are expected to remain less than significant under this alternative (for the reasons described in Section 4.1 and Chapter 5 of this SEIR) and would be **similar** to those of the revised project.

Air Quality

Although the elimination of light-duty helicopter use in two areas along the ROW would marginally reduce NO_x, the replacement trucks driving on unpaved areas could generate other additional criteria pollutants, such as particulate matter. Furthermore, light-duty helicopters would only be avoided in two specific locations along the ROW. Thus, helicopter use (and the ensuing NO_x emissions) would still occur along the majority of the 162-mile ROW. Both MM-AQ-1 (requiring the development and submittal of a dust control plan) and MM-AQ-2 (requiring use of Tier 4 engines for construction equipment), would still be required for Alternative 2 in order to reduce emissions. Operational impacts would be the same as those discussed for the revised project, since maintenance activities would be generally the same. With implementation of MM-AQ-1 and MM-AQ-2, the air quality impacts for Alternative 2 are expected to remain significant and unavoidable. Although NO_x emissions may be marginally reduced, NO_x, particulate matter, and CO would still exceed the establish thresholds, and there would potentially be new emissions associated with truck and other equipment activity required for construction of the new tower-to-tower spur roads and conductor pulling and tensioning activities. Thus, the impact severity for Alternative 2 would likely be **similar** to that of the revised project.

Biological Resources

Under Alternative 2, the overall disturbance footprint and intensity of ground-disturbing activities would increase due to the new tower-to-tower spur road construction within the ROW. Thus, this alternative would increase the extent of potential vegetation removal and grading. The elimination of light-duty helicopter use in proximity to residences in two localized areas of the ROW. would reduce short-term aerial noise and visual disturbance in the

areas. However, helicopter activity would still occur along most of the alignment. As such, the overall effect on biological resources, particularly for wide-ranging species or species that may be sensitive to disturbance (e.g., desert bighorn sheep or raptors), would be minor in the context of the overall revised project. To the extent that the areas where helicopter use would be avoided under Alternative 2 overlap with habitat used by disturbance-sensitive wildlife, the reduction in aerial disturbance and noise could provide a localized reduction in temporary behavioral disturbance (e.g., reduced avoidance behavior). However, any such benefits would be limited in geographic extent and duration, as construction disturbance from ground-based equipment would still occur, and helicopter use would continue elsewhere along the ROW. Accordingly, while Alternative 2 could result in a minor reduction in noise-related arial disturbance effects in specific locations, impacts to biological resources associated with habitat removal, ground disturbance, and habitat modification would increase compared to the revised project.

In summary, under Alternative 2, any localized reduction in disturbance associated with elimination of helicopter use near residences would not materially alter the overall impact determinations compared to the revised project. While noise-related impacts related to disturbance-sensitive wildlife in those areas may be slightly reduced, ground disturbance (and thus, impacts related to vegetation removal and habitat disturbance) would slightly increase along these same segments. Thus, impacts under Alternative 2 would be **similar** to the revised project, and would remain less than significant with mitigation incorporated.

Cultural Resources

Impacts to cultural resources would increase slightly under this alternative due to the need for new, direct tower-to-tower spur roads, which would require additional grading, but generally, impacts would be as discussed in Section 4.4 of this SEIR. Alternative 2 would still result in the demolition of MCC-VIC Lines 1 and 2, which are NRHP/CRHR eligible, resulting in a significant and unavoidable impact. This alternative would not change the significance determination for archeological resources and/or human remains, although impacts would increase slightly due to the additional disturbance area and grading associated with the new spur roads. Therefore, although the built environment impact under this alternative would remain significant and unavoidable and impacts for other cultural resources would be less than significant with mitigation incorporated, cultural resources impacts under Alternative 2 would **increase slightly** compared to the revised project.

Noise

Under Alternative 2, light-duty helicopters would not be used for construction in areas within the vicinity of sensitive receivers (i.e., residences). This would substantially reduce the temporary construction-related noise that is anticipated to be experienced by residents in the vicinity of MCV1_151-4 and MCV1_139-6 through MCV2_140-2. MM-NOI-1 (including erection of a temporary noise barrier along the project boundary between the residence north of MCV1_151-4) would still be required to reduce non-helicopter construction noise impacts to a less than significant level. Although the use of trucks and other on-the-ground equipment to construct new tower-to-tower spur roads and accomplish conductor pulling and tensioning activities in place of helicopters would represent a new source of construction noise, the trucks and other equipment would be comparatively quieter than the helicopters. Thus, noise generation under this alternative could likely be mitigated to a less than significant level with MM-NOI-1, as proposed for the revised project. For example, because the new trucks and equipment would be operating at ground level, the noise barrier required per MM-NOI-1 at the closest sensitive receiver would effectively block the line of sight and measurably reduce noise (which is not feasible for arial noise generation, such as helicopter use). All other potential noise/vibration impacts would be similar to the revised project, as discussed Section 4.5 and Chapter 5 of this SEIR. Thus, due to the elimination of light-duty helicopter use in the vicinity of

residences, the revised project's significant and unavoidable noise impact would be **substantially reduced** under this alternative to a level of less than significant with mitigation.

Paleontological Resources

Impacts to paleontological resources would increase slightly under this alternative compared to the revised project due to the additional grading required for new tower-to-tower spur roads. However, overall, impacts would be similar to the revised project (as described in Section 4.6 of this SEIR). Although impacts would remain less than significant with mitigation incorporated, this alternative would slightly increase the disturbance area and extent of grading required, and thus impacts under this alternative would **increase slightly** compared to the revised project.

Tribal Cultural Resources

Impacts to tribal cultural resources would increase slightly under this alternative compared to the revised project due to the additional grading required for new tower-to-tower spur roads. However, overall, impacts would be similar to the revised project (as described in Section 4.7 of this SEIR). This alternative would not change the disturbance area or intensity of grading/excavation. Although impacts would remain less than significant with mitigation incorporated, this alternative would slightly increase the disturbance area and extent of grading and thus impacts under this alternative would **increase slightly** compared to the revised project.

6.5.2.2 Project Objectives

As Alternative 2 would require new, direct, tower-to-tower spur roads, thereby increasing the required disturbance and grading required, this alternative would be slightly less effective at meeting Objective No. 7 to minimize environmental disturbance. Alternative 2 would meet all other project objectives to the same degree as the revised project.

6.6 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6(e)(2) indicates that an analysis of alternatives to a project shall identify an Environmentally Superior Alternative among the alternatives evaluated in an EIR. The CEQA Guidelines also state that should it be determined that the No Project Alternative is the Environmentally Superior Alternative, the EIR shall identify another Environmentally Superior Alternative among the remaining alternatives.

A comparative summary of the environmental impacts associated with each alternative is provided in Table 6-1. Impacts under Alternative 1 would be less than those of the revised project for all topic areas addressed, including elimination of the revised project's significant and unavoidable impacts associated with helicopter noise and historic built environment resources. Alternative 2 would substantially reduce noise impacts due to the elimination of helicopter use in the vicinity of residences. This would in turn eliminate the revised project's significant and unavoidable noise impact. However, impacts would increase slightly for other topics due to additional grading required new, direct, tower-to-tower spur roads.

Alternative 1 (i.e., the "no project" alternative, which in this instance is the continued implementation of the approved project) would substantially reduce or avoid more significant environmental effects of the revised project compared to Alternative 2. However, as mentioned above, per CEQA Guidelines Section 15126.6(e)(2), when the No Project Alternative is determined to be the Environmentally Superior Alternative, another Environmentally Superior Alternative must be identified. As stated above, Alternative 2 would eliminate the revised project's

significant and unavoidable noise impact due to the elimination of helicopter use for conductor pulling and tensioning activities in the vicinity of residences. Instead, trucks and other ground equipment would be used, which would not generate as much noise as helicopters. It is assumed that truck noise could be effectively mitigated to a level of less than significant with implementation of MM-NOI-1 (as discussed above in Section 6.5.3.1). Although the increased grading for new spur roads would slightly increase impacts for cultural resource, paleontological resources, and tribal cultural resources impacts overall under Alternative 2 would be similar to those of the revised project and significant determinations would generally remain the same (except for noise impacts, which would be substantially reduced, as stated). Thus, Alternative 2 would be the Environmentally Superior Alternative among the remaining feasible alternatives.

Table 6-1. Comparison of Impacts

Impact Area	Revised Project	Alternative 1	Alternative 2
Aesthetics	LTS	LTS ▼	LTS =
Air Quality	SU	SU ▼	SU =
Biological Resources	LTSM	LTSM ▼	LTSM =
Cultural Resources	SU	LTSM ▼	SU ▲
Noise	SU	LTSM ▼	LTSM ▼
Paleontological Resources	LTSM	LTSM ▼	LTSM ▲
Tribal Cultural Resources	LTSM	LTSM ▼	LTSM ▲

Notes: LTS = less than significant; LTSM = less than significant with mitigation; SU = significant and unavoidable.

▼ Alternative is likely to result in reduced impacts when compared to the revised project.

▲ Alternative is likely to result in greater impacts when compared to the revised project.

= Alternative is likely to result in similar impacts when compared to the revised project.

6.7 References

LADWP (Los Angeles Department of Water and Power). 2024. *McCullough-Victorville Transmission Lines 1 and 2 Upgrade Project Environmental Impact Report*. Final. October 2024. SCH No. 2024040144. <https://ceqanet.lci.ca.gov/Project/2024040144>.

7 List of Preparers

Lead Agency

Los Angeles Department of Water and Power
Environmental Planning and Assessment
111 North Hope Street, Room 1044
Los Angeles, California 90012

Contributors

Matthew Kerby – Project Manager
Nadia Parker – Environmental Supervisor
Jane Hauptman – Manager of Environmental Planning and Assessment

Technical Consultants

SEIR Preparation: Dudek

Dudek
225 South Lake Avenue, Suite 225-M210
Pasadena, California 91101

Contributors

Rachel Struglia, PhD, AICP – Project Director
Michele Finneyfrock – Project Manager
Samantha Robinson, MA – Environmental Planner
Matthew Morales – Air Quality Specialist
Michael Cady – Senior Biologist
Tracy Park – Biologist
Cole Martin – Environmental Acoustician
Simon McGuire – Environmental Acoustician
Shawna Johnson, MS – Paleontologist
Audrey Herschberger, PE – Environmental Engineer
Eric Schniewind – Senior Geologist, Hydrologist, and Hazardous Materials Specialist
Sabita Tewani, AICP, PTP – Senior Transportation Planner
Spenser Lucarelli, GISP – GIS Project Manager

Cultural Resources SEIR Section, Tribal Cultural Resources SEIR Section, and Biological Resources Technical Report: Aspen Environmental Group

Aspen Environmental Group
5020 Chesebro Road, Suite 200
Agoura Hills, California 91301

Contributors

Chris Huntley, Executive Vice President, Senior Biologist
Lauren DeOliveira, M.S., RPA, Cultural Resources Manager