

DRAFT

Mojave Public Utility District

Cache Creek Pipeline Replacement Project

**California Environmental Quality Act (CEQA)
Initial Study and National Environmental
Policy Act (NEPA) Environmental
Assessment**

September 2019

AECOM

Table of Contents

SECTION 1 PROJECT DESCRIPTION.....	1
1.1 Background.....	1
1.2 Lead Agencies	1
1.3 Purpose and Need	1
1.4 Joint NEPA/CEQA Document.....	2
1.4.1 Relationship to NEPA Guidelines	2
1.4.2 Relationship to CEQA Guidelines.....	2
1.5 Permits and Approvals Required	2
SECTION 2 PROPOSED ALTERNATIVES.....	3
2.1 Alternative A: Proposed Action	3
2.1.1 Project Location	3
2.1.2 General Project Description	3
2.1.3 Environmental Setting/Description of Existing Environment.....	4
2.1.4 Construction Summary	5
2.1.5 Pipeline Installation	5
2.1.6 Booster Pump Station Construction.....	6
2.1.7 Demolition	6
2.1.8 Operation and Maintenance Activities	7
2.1.9 Construction Best Management Practices.....	7
2.1.10 Impact Avoidance and Minimization Measures (Mitigation).....	7
2.2 No Action Alternative.....	8
2.3 Alternatives Considered But Eliminated From Detailed Analysis	8
2.3.1 Repair in Place.....	8
2.3.2 Replace in Place	9
2.3.3 Abandon without Replacement.....	9
SECTION 3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES.....	11
3.1 General Environmental Setting	11
3.2 Aesthetics and Visual Resources	11
3.2.1 Affected Environment.....	11
3.2.2 Environmental Effects/Impacts	11
3.2.3 Mitigation.....	12

3.2.4	Environmental Consequences	12
3.2.5	No Action Alternative.....	13
3.3	Agriculture and Forest Resources	13
3.3.1	Affected Environment.....	13
3.3.2	Environmental Effects/Impacts	13
3.3.3	Mitigation	14
3.3.4	Environmental Consequences	14
3.3.5	No Action Alternative.....	14
3.4	Air Quality.....	14
3.4.1	Affected Environment.....	14
3.4.2	Environmental Effects/Impacts	15
3.4.3	Mitigation	18
3.4.4	Environmental Consequences	19
3.4.5	No Action Alternative.....	19
3.5	Biological Resources.....	19
3.5.1	Vegetation	19
	3.5.1.1 Affected Environment.....	19
	3.5.1.2 Environmental Effects/Impacts	22
3.5.2	Wildlife.....	25
	3.5.2.1 Affected Environment.....	25
	3.5.2.2 Environmental Effects/Impacts	28
3.5.3	Mitigation	30
3.5.4	Environmental Consequences	32
3.5.5	No Action Alternative.....	32
3.6	Cultural Resources.....	32
3.6.1	Affected Environment.....	33
	3.6.1.1 Regional Prehistory.....	33
	3.6.1.2 Ethnography.....	33
	3.6.1.3 Historical Background	34
	3.6.1.4 Cultural Field Surveys	35
3.6.2	Environmental Effects/Impacts	35
3.6.3	Mitigation	38
3.6.4	Environmental Consequences	38
3.6.5	No Action Alternative.....	39

3.7	Geology and Soils	39
3.7.1	Affected Environment.....	39
3.7.1.1	Geology	39
3.7.1.2	Soils	40
3.7.1.3	Seismic Hazards	40
3.7.2	Environmental Effects/Impacts	40
3.7.2.1	Soil Erosion During Construction	41
3.7.2.2	Effects Related to Earthquakes	41
3.7.2.3	Effects due to Expansive Soils.....	41
3.7.3	Mitigation	41
3.7.4	Environmental Consequences	41
3.7.5	No Action Alternative.....	42
3.8	Greenhouse Gas Emissions	42
3.8.1	Affected Environment.....	42
3.8.2	Environmental Effects/Impacts	43
3.8.3	Mitigation	45
3.8.4	Environmental Consequences	45
3.8.5	No Action Alternative.....	46
3.9	Hazards and Hazardous Materials.....	46
3.9.1	Affected Environment.....	46
3.9.2	Environmental Effects/Impacts	46
3.9.3	Mitigation	47
3.9.4	Environmental Consequences	47
3.9.5	No Action Alternative.....	48
3.10	Hydrology and Water Quality	48
3.10.1	Affected Environment.....	48
3.10.2	Environmental Effects/Impacts	48
3.10.3	Mitigation	49
3.10.4	Environmental Consequences	49
3.10.5	No Action Alternative.....	50
3.11	Land Use and Planning.....	50
3.11.1	Affected Environment.....	50
3.11.2	Environmental Effects/Impacts	51
3.11.3	Mitigation	51

3.11.4	Environmental Consequences	51
3.11.5	No Action Alternative.....	51
3.12	Mineral Resources	52
3.12.1	Affected Environment.....	52
3.12.2	Environmental Effects/Impacts	52
3.12.3	Mitigation.....	52
3.12.4	Environmental Consequences	52
3.12.5	No Action Alternative.....	52
3.13	Noise	52
3.13.1	Affected Environment.....	52
3.13.2	Environmental Effects/Impacts	53
3.13.3	Mitigation.....	54
3.13.4	Environmental Consequences	54
3.13.5	No Action Alternative.....	55
3.14	Population and Housing.....	55
3.14.1	Affected Environment.....	55
3.14.2	Environmental Effects/Impacts	55
3.14.2.1	Housing Demand	55
3.14.2.2	Environmental Justice.....	56
3.14.3	Mitigation.....	56
3.14.4	Environmental Consequences	56
3.14.5	No Action Alternative.....	56
3.15	Public Services.....	57
3.15.1	Affected Environment.....	57
3.15.2	Environmental Effects/Impacts	57
3.15.3	Mitigation.....	57
3.15.4	Environmental Consequences	57
3.15.5	No Action Alternative.....	57
3.16	Recreation (Parks and Recreational Facilities).....	58
3.16.1	Affected Environment.....	58
3.16.2	Environmental Effects/Impacts	58
3.16.3	Mitigation.....	58
3.16.4	Environmental Consequences	58
3.16.5	No Action Alternative.....	59

3.17	Transportation / Traffic	59
	3.17.1 Affected Environment.....	59
	3.17.2 Environmental Effects/Impacts	59
	3.17.3 Mitigation	60
	3.17.4 Environmental Consequences	60
	3.17.5 No Action Alternative.....	61
3.18	Tribal Cultural Resources.....	61
	3.18.1 Affected Environment.....	61
	3.18.2 Environmental Effects/Impacts	61
	3.18.3 Mitigation	62
	3.18.4 Environmental Consequences	62
	3.18.5 No Action Alternative.....	62
3.19	Utilities and Service Systems.....	63
	3.19.1 Affected Environment.....	63
	3.19.2 Environmental Effects/Impacts	63
	3.19.3 Mitigation	63
	3.19.4 Environmental Consequences	63
	3.19.5 No Action Alternative.....	64
3.20	Cumulative Impacts and Findings	64
	3.20.1 Introduction	64
	3.20.2 Environmental Effects/Impacts	64
	3.20.3 Mitigation	65
	3.20.4 Environmental Consequences	65
	3.20.5 No Action Alternative.....	66
SECTION 4 REFERENCES.....		67

APPENDICES

Appendix A: Figures

Figure 1: Project Location Map

Figure 2: Project Overview Map

Figures 3 - 10: Pipeline Alignment Maps

Figure 11: Seismic Hazard Fault Zones

Figure 12: FEMA Flood Zones

Figure 13: Mineral Resource Zones

Appendix B: CEQA Checklist

Appendix C: Air Quality and GHG Technical Memorandum

Appendix D: Biological Resources Reconnaissance Survey Report\Supplemental Rare Plant Survey

Appendix E: Jurisdictional Delineation Report

SECTION 1

PROJECT DESCRIPTION

1.1 Background

Mojave Public Utility District (MPUD or District) owns and operates an 8-inch steel pipeline that conveys potable water from the Sand Canyon Well Field (Wells 6, 7, 8 and 9) to a California Highway Patrol (CHP) station on State Highway 58, the community of Cache Creek, and the community of Mojave via the District's existing water tanks (Navy Tank site) located northwest of Mojave. Refer to **Figure 01** in **Appendix A** which identifies the general project location. The existing pipeline installed in approximately 1950 has become an operational burden to the District due to its age, poor condition, and other contributing factors including the location of the pipeline.

The existing pipeline currently sits within Union Pacific's railroad (UPRR) right-of-way and within the confines of Cache Creek. The proximity to Cache Creek has resulted in washouts of the pipeline during heavy rain events over the past decades. An inspection of the pipeline in January 2015 noted many locations where the pipeline is no longer buried and is exposed to the creek and/or to railroad operations. The pipeline is in continuous repairs and is difficult to access due to its proximity to the railroad and stream bed.

The existing pipeline is critical to the District's operations as it provides the only supply of potable water to the community of Cache Creek and the CHP station. As a result, the District has determined the need for replacement of this pipeline. The Proposed Action considers the relocation of the pipeline away from the UPRR right-of-way and Cache Creek stream bed.

1.2 Lead Agencies

The United States Bureau of Land Management (BLM) is the Federal lead agency responsible for compliance with the National Environmental Policy Act (NEPA); and the MPUD is the lead agency responsible for compliance with the California Environmental Quality Act (CEQA).

NEPA requires Federal agencies to consider the environmental impacts of proposed actions and reasonable alternatives to those actions. CEQA requires State and local agencies to identify the significant environmental impacts of proposed actions and to avoid or mitigate those impacts, if feasible.

This document is a "joint environmental document" to be used by BLM, the District, and other agencies with decision-making authority. The decision-making authorities will rely on the Joint Environmental Assessment (EA)/Initial Study (IS) document to consider the proposed project's potential impacts on the environment.

BLM has authority over the portion of the project that is on BLM managed lands. As the lead agency, BLM will decide: whether or not to approve a portion of the project as submitted or approve an alternate course of action; and, if approved, what mitigation measures to include in the selected alternative.

1.3 Purpose and Need

BLM has a need set by Section 302(b) of the Federal Land Policy and Management Act of 1976, as amended (FLPMA) to respond to applications for projects that require BLM approval. MPUD is seeking a Right-of-Way grant from the BLM for the proposed relocation of approximately two miles of the pipeline onto BLM managed lands.

1.4 Joint NEPA/CEQA Document

1.4.1 Relationship to NEPA Guidelines

The Proposed Action is subject to NEPA because approximately two miles of the pipeline relocation is within land managed by the BLM. MPUD is seeking a Right-of-Way grant from the BLM as a part of the project. The Proposed Action is subject to and shall be in conformance with the California Desert Conservation Area Plan of 1980 (as amended) and the West Mojave Plan in accordance with Title 43 CFR 1610.5-3.

This document has been prepared as an Environmental Assessment in compliance with NEPA and its implementing regulations issued by the Council of Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] § 1500) and to comply with the following: FLPMA, with planning guidance at 43 CFR § 1600 and in the BLM Land Use Planning Handbook (H-1601-1), the BLM Environmental Handbook (H-1790-1), the Clean Water Act (33 U.S.C. 1251 et seq., Sections 401 and 404), the National Historic Preservation Act (NHPA) (16 U.S.C. 470, Section 106), the American Indian Religious Freedom Act (42 U.S.C. 1996), the Safe Drinking Water Act (42 U.S.C. 300f et seq.), the Wild and Scenic Rivers Act (16 U.S.C. 1271 et seq.), the Wilderness Act (16 U.S.C. 1131-1136), the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq., Section 7), the Executive Order 13007 on Sacred Sites (61 FR 26771-26772), the Executive Order 11988 on Floodplains (42 FR 26951), the Executive Order 11990 on Wetlands and Riparian Zones (42 FR 26961), the Executive Order 13045 on Protection of Children from Environmental Health and Safety Risks (62 FR 19885), and the Executive Order 12898 addressing Environmental Justice (59 FR 7629).

This document includes a description of the Proposed Action, description of the existing environment, identification of environmental consequences, and Impact Avoidance and Minimization Measures.

Since the project is also subject to CEQA, additional guidance is provided from the CEQ 2014 NEPA and CEQA: Integrating Federal and State Environmental Reviews.

1.4.2 Relationship to CEQA Guidelines

This document has been prepared as an Initial Study in compliance with CEQA Guidelines and includes a description of the Proposed Project, description of the environmental setting, identification of impacts due to the Proposed Project, and Mitigation Measures to reduce potentially significant impacts to a less than significant level. A completed Initial Study Checklist is included in **Appendix B**.

1.5 Permits and Approvals Required

The following permits, agreements, consultations, and other approvals are expected for the implementation of the Project:

- Encroachment Permits for any work within Public Right-of-Way including:
 - County of Kern
 - California Department of Transportation (CALTRANS)
- Right of Way agreement with Union Pacific Rail Road
- National Pollutant Discharge Elimination System Construction Activities General Permit
- California Department of Fish and Wildlife Streambed Alteration Agreement
- Regional Water Quality Control Board: Section 401 of the Clean Water Act and California Code of Regulations Title 27 Waste Discharge Requirement
- Bureau of Land Management Right-of-Way Grant
- Section 106 consultation by BLM with the State Historic Preservation Office (SHPO) and Native American Tribes
- Section 7 consultation by BLM with U.S. Fish and Wildlife Services (USFWS)

SECTION 2

PROPOSED ALTERNATIVES

This Draft EA/IS includes the analysis of the Proposed Action and the No Action Alternative. The alternatives considered, including the Proposed Action and the No Action Alternative are described below.

2.1 Alternative A: Proposed Action

Under the Proposed Action, a new pipeline would be installed along private and federal (BLM managed) land north and south of the existing pipeline alignment. BLM would approve a Right-of-Way Grant to MPUD for the portion of the pipeline relocation within BLM managed land. After the new pipeline is installed and final tie-ins made, the existing pipeline between tie in points would be plugged and abandoned in place. Due to some environmental constraints (disturbances to washes and creeks), the District will consider an option to provide a combination of a relocation and replacement in place.

2.1.1 Project Location

The District proposes to replace an existing potable water pipeline running roughly parallel to the UPRR and State Highway 58 right-of-way between the City of Tehachapi and the community of Cache Creek in Kern County, California. The pipeline alignment will be relocated as described in Section 2.1.2. The project which is linear in nature will be contained within portions of Sections 34, 35, and 36 of Township 32 South, Range 34 East, M.D.M., and portions of Sections 27, 28, 29, 30, 31, and 32 of Township 32 South, Range 35 East, M.D.M. Refer to **Figure 02** in **Appendix A** for a map showing an overview of the project location.

2.1.2 General Project Description

The District proposes to install approximately 6 miles of new 10-inch diameter potable water pipeline to replace an existing pipeline segment that is in poor condition and is difficult to maintain. The new pipeline will connect to the existing and will be constructed to the south and north of UPRR's right-of-way and State Highway 58, northwest of the community of Mojave. The existing pipeline between the new connection points will be plugged and abandoned in place after the new pipeline is in service. The portion of the pipeline from the Sand Canyon Well Field (Well 9 Facility) to a point approximately 400 feet west of Cameron Road is in good condition and does not need to be replaced. The pipeline replacement will begin at that point. Pipeline material is anticipated to be PVC or welded HDPE.

The new pipeline will cross Cameron Road and stay to the south of the UPRR tracks to a point about 8,600 feet easterly of Cameron Road. From there, the pipeline will be bored and jacked under Cache Creek (in order to avoid ground disturbance within the streambed), the UPRR tracks, and State Highway 58. The exact location of the bore and jack crossings will be determined in consultation with Caltrans and UPRR at time of design of the pipeline. The pipeline will then run north of State Highway 58 along the Pacific Crest Trail for a short segment. It will then cross the La Rose Creek with a bored and jacked crossing in order to avoid ground disturbance within the streambed.

From there, the pipeline will run northeast along a series of defined dirt roadways that are used for access across the mountains north of State Highway 58, to a point north of the CHP station. Access routes from private lands to public lands are designated in the West Mojave Route Network (NEMO) routes system. The Pacific Crest Trail (PCT) also coincides with the alignment of portions of these routes and will likely be encroached upon during construction. The proposed project includes a new service line to the CHP station facility. From the CHP station, the pipeline will then run easterly along the same defined dirt access routes across the slopes of the mountains north of State Highway 58 to the point of connection with the Cache Creek water system.

Approximately two miles of the proposed pipeline alignment is located within BLM managed land in Sections 28, 30, and 32 of Township 32 South, Range 35 East, M.D.M. The remainder of the alignment of the pipeline is proposed to sit within utility easements along private property. The District has on-going relationships with the private land owners along the proposed alignment. Therefore, it is assumed easements within these properties will be granted for the new pipeline alignment.

The existing pipeline operates by gravity with no pumping of flows on the main line. There are two pump stations that pump from the existing pipeline: one serves the CHP station; and the other serves the Cache Creek community. These two pump stations will be demolished as part of the project. The proposed project also includes approximately ¼ mile of an 8-inch diameter pipeline connection to bypass the Cache Creek Pump Station that is being demolished.

Due to the topography of the proposed alignment for the new pipeline along the north side of Highway 58, a conceptual level hydraulic analysis indicates that a pump station is required to boost the water over the mountainous terrain. The new pump station will be installed in a building at the Well 9 facility since electrical power and SCADA are already available at the site. As a result of boosting the water over the mountainous terrain, pressures downstream of the high point will be near 200 psi. This will require the installation of one to two pressure reducing stations along the alignment between the pipeline high point and the point of connection with the Cache Creek water system.

Due to concerns over possible environmental constraints associated with the potential encroachment (crossing) of washes tributary to Cache Creek along the first 1½ +/-mile of the pipeline on the south side of the UPRR, the District is considering an option to replace the pipeline within the same easement as the existing pipeline. Therefore, both alternate conceptual alignments are included as a part of the Proposed Action for this environmental evaluation. Refer to **Figures 03 through 10** in **Appendix A** for a schematic of the proposed conceptual pipeline alignments for the Proposed Action.

2.1.3 Environmental Setting/Description of Existing Environment

Surrounding Land Use: The proposed pipeline alignment is near the vicinity of the UPRR, State Highway 58, the Pacific Crest Trail, and Cache and La Rose Creeks. The general nature of the land within the proposed pipeline alignment is rough, mountainous, open space terrain. On the western end of the project the land includes water system facilities owned and operated by the District. Near the center of the project sits a CHP station off State Highway 58. At the eastside of the project lies the rural community of Cache Creek.

General Plan Designation: The Kern County General Plan designations within the project limits are as follows:

General Plan Designation	Description
1.1	State or Federal Land
4.1	Accepted County Plan Areas (Non-Jurisdictional Land)
4.2	Rural Community
8.3/2.5	Extensive Agriculture (min. 20-acre parcel size)/Flood Hazard
8.5	Resource Management (min. 20-acre parcel size)
8.5/2.4	Resource Management (min. 20-acre parcel size)/Steep Slope
8.5/2.5	Resource Management (min. 20-acre parcel size)/Flood Hazard

Zoning: The Kern County Zoning designations within the project limits are as follows:

Zoning Designation	Description
A	Exclusive Agriculture
A-1	Limited Agriculture
A WE	Exclusive Agriculture/Wind Energy Combining
A GH	Exclusive Agriculture/Geologic Hazard Combining
A FPS	Exclusive Agriculture/Flood Plain Secondary Combining
E 2 ½ MH	Estate 2 ½ Acres/Mobile Home Combining

2.1.4 Construction Summary

Implementation of the Project will require the construction of the following facilities:

- Approximately 6 miles of 10-inch diameter potable water pipeline,
- One (1) 620 gpm / 240 ft lift pump station,
- One (1) Pressure reducing station upstream of the CHP station lateral,
- One (1) Pressure reducing station upstream of the Cache Creek water system, and
- Demolition of the existing CHP and Cache Creek lift stations.

Construction operations for these facilities are anticipated to be continuous for a period of approximately 12 months as estimated in the following schedule.

MPUD Cache Creek Pipeline Replacement Project												
Estimated Construction Schedule												
Month	1	2	3	4	5	6	7	8	9	10	11	12
Construction Task												
Planning / Mobilization / Material Procurement	█	█	█									
Pipeline Installation				█	█	█	█	█	█	█		
Pump Station							█	█	█	█	█	
Demolition												█

A more detailed description of the anticipated construction activities follows.

2.1.5 Pipeline Installation

The District proposes to construct approximately 6 miles of underground pipelines and associated appurtenances such as valves. Pipe will be laid in a trench with 4-foot minimum pipe cover. Based on a preliminary hydraulic analysis, the depth of the trench may range from 5 to about 16 feet. Trench side slopes are anticipated to range from about 1.5 to 1 for trench safety and stability. Vertical side slopes may be utilized if properly shored. Assuming an average bottom width of 3 feet, an average trench depth of about 6 feet, and 1.5 to 1 side slopes, the width of the trench at ground level would be about 21 feet. Excavation would involve removal of about 72 cubic feet of soil per linear foot of trench.

A stockpile would be maintained along the pipeline alignment. Construction equipment staging and material storage areas will be located along the pipeline alignment within designated permanent and temporary construction easements. Construction operations will be in conformance with Construction Best Management Practices (see Section 2.1.9) and will provide for dust control and containment of spills of fuel or other construction related fluids. Construction activities in the vicinity of the Pacific Crest Trail will be conducted to allow for the safe passage of people using the trail by providing signage and maintaining a

dedicated pathway around the work area where encroachment on the trail occurs. Where feasible, construction work will be scheduled at times when lower numbers of hikers are expected.

Pipeline construction is anticipated at a rate of about 250 feet per day. The daily work area would be approximately 500 feet long by 40 feet wide, although not all of this area would be disturbed continuously. Excess spoil from excavation operations may be used to grade the access road on top of the pipe and thus it is not anticipated that it will be hauled off site. Earthwork for this phase of construction is estimated at 84,500 cubic yards. Pipeline installation operations are estimated to take place over a period of about 7 months.

Typical underground pipeline construction equipment will include;

- 2 hydraulic excavators (180 hp, 6 hours per day)
- 1 motor grader (174 hp, 6 hours per day)
- 1 off-highway truck (479 hp, 4 hours per day)
- 2 water trucks (200 hp, 4 hours per day)
- 1 wheeled loader (165 hp, 8 hours per day)
- 1 skip loader (88 hp, 3 hours per day)
- 1 backhoe (108 hp, 5 hours per day)
- 1 Boring Machine (250 hp, 8 hrs. per day, 10 days)

2.1.6 Booster Pump Station Construction

The District proposes to construct a 620-gpm booster pump station. The new pump station will be installed inside a new building at the District's existing Well 9 facility since electrical power and SCADA are already available at the site. Construction work would consist of site grading and earthwork, piping installation, concrete foundation work, building construction including mechanical, electrical, plumbing, and instrumentation. Booster pump facilities would be operated with electrical power and would not emit criteria pollutants. Construction operations will be located within the limits of the existing Well 9 site and are anticipated to take about 6 months.

Typical construction equipment will vary by construction phase but on average will include;

- 1 crane (190 hp, 6 hours per day)
- 1 hydraulic excavator (180 hp, 6 hours per day)
- 1 off-highway truck (479 hp, 4 hours per day)
- 1 water truck (200 hp, 4 hours per day)
- 1 wheeled loader (165 hp, 8 hours per day)
- 1 roller (114 hp, 3 hours per day)
- 1 backhoe (108 hp, 5 hours per day)
- 1 skip loader (88 hp, 1 hour per day)
- Welder (25 hp, 8 hours per day)
- Air compressor for sandblasting and coating (25 hp, 8 hours per day)

2.1.7 Demolition

As previously stated, the CHP and Cache Creek lift station are slated for demolition. Construction operations related to the demolition of the lift stations are considered negligible when compared to the rest of the construction work. Demolition work will be located within the limits of the existing lift station sites.

2.1.8 Operation and Maintenance Activities

Operation and maintenance activities will be conducted along the pipeline route for the life of the project facilities. Ground disturbing activities are expected to mainly consist of inspection and repair of pipelines and will occur within the acquired easements or rights-of-way. Since the proposed project is a replacement of an existing water pipeline, operation and maintenance activities will be similar to existing conditions.

2.1.9 Construction Best Management Practices

During construction, the District will be implementing Best Management Practices to minimize impacts, including;

- Dust control of access roads and disturbed areas via watering and equipment travel speed limits,
- Use of construction and material hauling equipment that is compliant with local and state air quality standards, and
- Cover long term (1 week or more) dirt stockpiles with tarps.
- Preparation and implementation of a Spill Prevention Control and Countermeasures Plan (SPCCP) The plan and methods shall be in conformance with all State and Federal regulations.

2.1.10 Impact Avoidance and Minimization Measures (Mitigation)

The District has incorporated a number of impact avoidance and minimization measures into the Proposed Action. They include mitigation measures addressing the following categories of impact from the CEQA Initial Study Checklist (**Appendix B**):

- Biological Resources,
- Cultural Resources,
- Geology and Soils,
- Noise, and
- Tribal Cultural Resources.

In addition to the above, the following impact avoidance and minimization measures are proposed for the purposes of NEPA regarding:

- Invasive Plants
- Waters and Wetlands

The District does not anticipate any significant impacts associated with the project on the following environmental resources:

- Aesthetics and Visual Resources,
- Agriculture and Forestry,
- Air Quality,
- Environmental Justice,
- Greenhouse Gas Emissions,
- Hazards and Hazardous Materials,
- Hydrology & Water Quality,
- Land Use and Planning,
- Mineral Resources,
- Population and Housing,
- Public Services,
- Recreation (Parks and Recreational Facilities),
- Transportation and Traffic, and

- Utilities and Service Systems.

The following environmental issues were considered for the purposes of NEPA, but no adverse impacts were identified. As a result, there is no further discussion of these issues in this document.

- Coastal Zone – The project site is not located within a Coastal Zone Management Plan.
- Wild and Scenic Rivers – There are no wild or scenic rivers within the project area.
- Agricultural Wetlands – There are no agricultural wetlands within the project area.
- Farmlands – The proposed project will not change farming operations.
- Parking – The proposed project will not change existing parking conditions.
- Community Character and Cohesion – The proposed project will not change the cohesion or character of the community.
- Relocations and Real Property Acquisitions – There are no real property acquisitions or relocations as a part of the project.
- Growth – The proposed project is a replacement of an existing pipeline. No additional capacity is provided for growth.

2.2 No Action Alternative

Under this alternative, the District would continue to operate the pipeline under existing conditions until a catastrophic failure occurs. There would be no need for BLM to issue a Right-of-Way Grant.

This alternative is not desirable as a catastrophic failure of the pipeline would result in the loss of water supply to the community of Cache Creek and the CHP station as well as impacts to the environment. Even without a catastrophic failure, existing conditions of the pipeline present a high threat to health and safety as some segments of the pipeline are exposed and pose a water security issue including the potential for backflow contamination during flood events.

2.3 Alternatives Considered But Eliminated From Detailed Analysis

The District considered three alternatives in addition to the Proposed Action and the No Action Alternative:

- Repair in Place,
- Replace in Place, and
- Abandon without Replacement.

All five alternatives were evaluated for their effectiveness in meeting the following objectives:

1. Improves the reliability of the water supply,
2. Includes a permanent fix to the problem,
3. Decreases the potential for damage from floods and railroad operations,
4. Improves access for routine maintenance,
5. Allows for minimal system interruptions during construction,
6. Is cost-effective, and
7. Minimizes disturbance to environmental resources.

The Proposed Action was ranked as the most favorable alternative as a result of this evaluation process. A summary of the evaluation of the alternatives eliminated from further consideration are presented below.

2.3.1 Repair in Place

Under this alternative, the District would utilize the method of slip lining to repair the existing pipeline. Slip lining is a method in which a new pipe is introduced into the existing pipeline. Typically, a contractor would access (excavate) the existing pipe at numerous locations and introduce a new pipe into the existing

pipe. Typically, the new pipe is made of a flexible material such as HDPE. This method works best for large diameter pipelines but can work with small diameter pipelines such as this project. This method requires shutdown of the existing pipeline during construction. This method also reduces the capacity of the pipeline as the internal diameter through which water flows is reduced.

This alternative is not feasible as it requires shutdown of the pipeline during construction leaving the community of Cache Creek and the CHP station without a water supply for an extended period of time. This would require implementation of a temporary alternative water delivery system such as truck hauling. Repair of the pipeline in place would also not provide a permanent fix to the problem as implied by the word “Repair”. Repair of the pipeline in place would continue the exposure to potential damage from railroad operations and flood events and would not improve access for routine maintenance. The proximity of the pipeline to one of the busiest rails in the country will add a premium to the costs of repair.

2.3.2 Replace in Place

Under this alternative, the District would install a brand-new pipeline within the same utility easement as the existing pipeline. This alternative requires the excavation of a trench adjacent to or within the same trench as the existing pipeline. This alternative would not require a long-term shutdown of the existing pipeline. Though, there is the risk of damaging the existing pipeline causing a temporary shutdown while repairs are being made. After the new pipeline is installed and final tie-ins made, the existing pipeline would be abandoned in place.

The risks associated with the current location of the pipeline would remain and thus replacement of the pipeline in place would not decrease the potential for damage from railroad operations and flood events, nor improve access for routine maintenance. Due to anticipated coordination with UPRR along one of the busiest rails in the country, the construction progress is anticipated to be slow and expensive. The proximity of the pipeline to the railroad will add a premium to the construction costs that would make this more expensive than other alternatives. As some segments of the existing pipeline and utility easement sit within the confines of Cache Creek, this alternative would require excavation within the creek that has the potential to disturb environmental resources.

The January 2015 field inspection of the pipeline found the existing pipeline runs through a “pinch point” between the ballast of the southernmost railroad track and a 10-foot cliff down to the Cache Creek stream bed. In the event of future heavy runoff events, this cliff will likely erode further and wash out both the pipeline and tracks. At that point, there will be no place for the pipeline since UPRR will have to rebuild the track bed and stabilize the slope.

2.3.3 Abandon without Replacement

Under this alternative, the District would abandon the pipeline in place without replacing the pipeline, thereby eliminating the pipeline connection from the District’s existing Sand Canyon Wellfield. This would result in the loss of the only source of water supply to the community of Cache Creek and the CHP station and reduce the total water supply available to the District. For this alternative to be viable, the District would have to replace the lost water supply and restore water service to the community of Cache Creek and the CHP station.

The District anticipates that this would require the construction of a new well within the community of Mojave, 5 to 6 miles of new pipeline, and 2 to 3 new pump stations. A new pipeline and pump station(s) would be needed to connect the Cache Creek water system to the District’s existing Navy Tank site. Additionally, a new pipeline and pump station would be needed to connect the CHP station to the Cache Creek water system. The District recently spent a \$4+ million grant from the State of California to construct, maintain, and operate an arsenic treatment system at the Sand Canyon Well Field Well #9. If the District were to abandon the existing Cache Creek Pipeline, these treatment facilities would be deemed obsolete and the District would be required to pay back the grant.

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SECTION 3

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 General Environmental Setting

The proposed project is situated within rural Kern County near two major transportation corridors (State Highway 58 and the Union Pacific Railroad Tehachapi Pass lines). With the exception of the eastern end of the project, the land within and surrounding the project is currently undeveloped mountainous terrain. Potential sensitive receptors for visual, noise, traffic, and air quality related impacts due to the proposed project are the residents of community of Cache Creek at the eastern end of the project, staff at the CHP station to the west, and hikers along segments of the Pacific Crest Trail which are located near construction operations. Bored and jacked crossings of the La Rose and Cache Creeks are proposed to limit potential impacts to the streambeds of these channels.

The proposed project will be constructed along dedicated permanent and temporary construction easements along private land and federal land managed by the Bureau of Land Management (BLM). The topography of the land within the project area is rough and mountainous with elevations ranging between 3,530 feet and 4,050 feet above mean sea level. Construction of the proposed booster station will be situated within an existing water well and treatment site which has been previously disturbed. Construction of the proposed pipeline facilities will be constructed to the extent possible along dirt roadways used for access through the mountainous terrain.

Refer to Section 2.1 for additional details related to the environmental setting of the Proposed Action.

3.2 Aesthetics and Visual Resources

3.2.1 Affected Environment

The project site is primarily comprised of undeveloped mountainous terrain near State Highway 58 and the UPRR Tehachapi Pass lines. The land along the pipeline alignment through BLM managed land has received a Visual Resource Inventory Class of Class II (along and near the Pacific Crest Trail) and Class IV. The remainder of the project alignment is not considered to have scenic vistas.

3.2.2 Environmental Effects/Impacts

The proposed project consists of the construction of underground pipelines, demolition of two existing pump stations, and construction of a booster pump station at an existing water well and treatment site. The proposed new booster station will not alter the views of the site when compared to existing facilities at the existing well and treatment site. Ground disturbance along the pipeline installation corridor will be restored to approximate pre project conditions after installation of the pipeline. Demolition of the existing booster stations will improve aesthetics as it will improve the open space nature of the surrounding area. The proposed project is consistent with existing facilities and operations within the project area.

There are no anticipated significant potential impacts to aesthetics and visual resources associated with the implementation of the proposed Project. Impacts to aesthetics and visual resources due to construction operations would be temporary and would not be significant.

3.2.3 Mitigation

No mitigation or impact avoidance and minimization measures will be needed as the impacts to aesthetics and visual resources associated with the Project are deemed to be less than significant.

3.2.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed Project, this study concludes that the impacts to aesthetics and visual resources will be less than significant.

Findings pursuant to CEQA are that the Project:

- a. Would not have a substantial adverse effect on a scenic vista.

Above ground facilities are consistent with existing land uses in the area. Visual impacts along the pipeline alignment will be temporary.

- b. Would not substantially damage scenic resources.

No damage to rock outcroppings, and historic buildings will occur. The site is not near a State Scenic Highway.

- c. Would not substantially degrade the existing visual character or quality of the site and its surroundings.

Proposed project facilities are consistent with the visual character of the surrounding area.

- d. Would not create a new source of substantial light or glare that would adversely affect day or nighttime views of the area.

The proposed project will not construct additional lighting that would create a substantial amount of light or glare.

The factors considered in determining impacts on visual resources pursuant to NEPA are based on the BLM Visual Resources Management Program (VRM). A significant visual impact would occur if the Proposed Action results in impacts beyond the intent of the objectives identified for the VRM Class. No significant impacts were identified as described below.

- a. Scenic quality of the project site and vicinity;

Above ground facilities are consistent with existing land uses in the area. Visual impacts along the pipeline alignment will be temporary.

- b. Available visual access and visibility, frequency, and duration that the landscape is viewed;

The proposed pipeline alignment sits within two major transportation corridors. People traveling along State Highway 58 and the UPRR will have access to the views of the proposed project alignment. Construction of permanent facilities which include the booster pump station will be consistent with existing facilities and structures within the existing water well and treatment site. Temporary impacts include views of construction activities. These are considered less than significant.

- c. Viewing distance and degree to which project components would dominate the view of the observer;

The extent and availability of these views from State Highway 58 and the UPRR vary depending on distance and intervening topography. View durations from these vantage points would vary from brief to extended, where the activities remain in the field of view of travelers for several minutes or miles; however, installation activities along the Project route would be transient and of short duration as construction progresses along the Project Route. As a result, affected viewers would be aware of the temporary nature of project construction impacts, which would decrease their sensitivity to the impact. The resulting impacts to views would be less than significant.

- d. Resulting contrast of the proposed facilities or activities with existing landscape characteristics;

The majority of the proposed project facilities will be installed underground and will not have a significant impact to the existing visual character of the surrounding area. The proposed new booster pump station will be situated within the existing water well and treatment site which already contains similar facilities and structures.

- e. The extent to which project features or activities would block views of higher value landscape features; and

The proposed Project will not block views of any high value landscape features.

- f. The level of public interest in the existing landscape characteristics and concern over potential changes.

The proposed Project will not significantly change the existing landscape characteristics of the land.

3.2.5 No Action Alternative

The No Action Alternative would not result in impacts to aesthetics or visual resources. No mitigation measures are proposed or required.

3.3 Agriculture and Forest Resources

3.3.1 Affected Environment

Though land surrounding the proposed Project area is zoned for exclusive and limited agriculture, the land is not currently used for agriculture. Land within and surrounding the proposed Project consists of undeveloped mountainous terrain. A review of the Kern County Williamson Act Parcels and Non Renewals Map¹ show no parcels within or the surrounding project area to be covered by a Williamson Act Contract. A review of the State of California Conservation Farmland, Mapping, and Monitoring Program website² shows there is no farmland designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland within or surrounding the proposed Project area. The Project is not located within any designated forest lands.

3.3.2 Environmental Effects/Impacts

There are no anticipated potential impacts to agriculture and forest resources associated with the implementation of the proposed Project.

¹ <https://databasin.org/datasets/08ac74d629694636abb116760a2687cc>

² <https://maps.conservation.ca.gov/DLRP/CIFF/>

3.3.3 Mitigation

No mitigation measures will be needed as the impacts to agricultural and forest resources associated with the Project are deemed to be less than significant.

3.3.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed Project, this study concludes that the impacts to agricultural and forest resources will be less than significant and that the Project:

- a. Would not 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 District, to non-agricultural use.

The project is not located within lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance,

- b. Would not conflict with existing zoning for agricultural use and or conflict with an existing Williamson Act Contract.

The Project will not involve any land use zoning or designation changes and there is no Williamson Act farmland within the Project site.

- c. Would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in California 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)).

There are no forest or timber lands within or near the Project site.

- d. Would not result in the loss of forest land or conversion of forest land to non-forest use?

There are no forest or timber lands within or near the Project site.

- e. Would not 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?

There will be no conversion of agricultural land to other uses. There are no forest or timber lands within or near the Project site.

3.3.5 No Action Alternative

The No Action Alternative would not result in impacts to agriculture or forest resources. No mitigation measures are proposed or required.

3.4 Air Quality

3.4.1 Affected Environment

The project is located within the Mojave Desert Air Basin (MDAB), which consists of the eastern half of Kern County, the northern desert portion of Los Angeles County, a majority of San Bernardino County, and eastern Riverside County. The project would be located within the eastern portion of Kern County, which is under the jurisdiction of the Eastern Kern Air Pollution Control District (EKAPCD). With respect to

regional air quality, the EKAPCD region is currently designated as serious nonattainment for the National Ambient Air Quality Standards (NAAQS) for 8-hour ozone, and nonattainment for the California Ambient Air Quality Standards (CAAQS) for 1-hour and 8-hour ozone, and PM₁₀³.

The most recent applicable air quality plan developed by the EKAPCD is the *Eastern Kern Air Pollution Control District Plan for 2008 Federal 75 ppb 8-Hour Ozone Standard*, adopted in 2017. This plan includes the latest planning assumptions regarding population, vehicle activity, and industrial activity, as well as emissions reductions and control measures necessary to demonstrate attainment with the 2008, 8-hour Ozone NAAQS by the year 2020.

The portion of the project located within BLM managed lands will require adherence to the BLM's Desert Renewable Energy Conservation Plan (DRECP) Conservation and Management Actions (CMAs) for the Land Use Plan Amendments (LUPAs) regarding Air Quality which are listed in **Appendix C**.

The project area consists of relatively mountainous desert terrain, along the UPRR right-of-way and SR 58. The majority of the alignment is not within the vicinity of sensitive receptors. However, sensitive receptors in proximity to the project area do include residences near the eastern most segment of the proposed pipeline. The area of these residences is generally bounded by Wildflower Canyon Road (on the west), Pony Express Road (on the north), Homer Hansen's Private Road (on east), and SR 58 (on the south). There are four residences located along the proposed pipeline alignment on Wildflower Canyon Road.

3.4.2 Environmental Effects/Impacts

Potential impacts to air quality during construction and operations of the proposed project were analyzed in relation to the significance criteria established by the EKAPCD. The proposed project includes pipeline installation, construction of a booster pump station, and demolition of the CHP and Cache Creek lift stations. Emission sources for the project include off-road equipment and trucks, on-road worker, vendor, and haul trips, and fugitive dust. Construction and demolition would take place in overlapping phases over a nine-month period.

The following discussion of potential impacts is organized according to the required findings from the CEQA Environmental Checklist and potential impacts to BLM managed land.

Conflict with or Obstruct Implementation of the Applicable Air Quality Plan

The primary purpose of an air quality plan is to bring an area that does not attain National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) into compliance with those standards pursuant to the requirements of the Clean Air Act and California Clean Air Act. NAAQS and CAAQS have been established for the following criteria pollutants: ozone, carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), particulate matter less than 10 microns in diameter (PM₁₀), particulate matter less than 2.5 microns in diameter (PM_{2.5}), and lead. Because ozone is not directly emitted in the air, rather it is formed by chemical reactions between nitrogen oxides (NO_x) and volatile organic compounds (VOC) in the presence of sunlight, air quality regulations focus on ozone's precursors.

Generally, a project may be inconsistent with applicable air quality plans if it could result in an increase in population, employment, or vehicle miles traveled in excess of that forecasted within the applicable air quality plan. The project would not result in any change from existing operational activities associated with the pipeline. Ultimately, the project is intended to reduce activity associated with ongoing maintenance of the existing pipeline. As such, the project would not conflict with or obstruct the implementation of the applicable air quality plan.

³ http://kernair.org/Main_Pages/information.html

Violate any Air Quality Standard or Contribute Substantially to an Existing or Projected Air Quality Violation

Localized emissions of criteria air pollutants and precursors were assessed in accordance with Kern County's Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports (adopted by the EKAPCD). The significance thresholds for criteria air pollutants are 25 tons per year (tpy) for VOCs and NO_x and 15 tpy for PM₁₀. Modeled emissions of criteria air pollutants were compared with the applicable EKAPCD thresholds. The EKAPCD has not established a significance threshold for carbon dioxide equivalents (CO_{2e}) for non-stationary source projects.

Construction-related emissions were modeled using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. CalEEMod allows the user to input project-specific parameters. In this case, project-specific construction inputs included site acreage, construction schedule, the types, number, and horsepower of construction equipment, and the number and length of off-site motor vehicle trips. Construction emissions were estimated for worker commutes, haul trucks, and the use of off-road equipment. To conservatively estimate the maximum daily emissions, construction emissions were modeled based on certain construction activities taking place concurrently, thereby representing the most intensive day of construction.

TAC emissions associated with project construction that could affect surrounding areas are evaluated based on modeled emissions estimates using CalEEMod and an analysis of the proximity of sensitive receptors to emission sources and their potential duration of exposure.

Construction

Construction of the Proposed Project would result in the generation of criteria pollutant emissions. Construction activities are expected to last approximately nine months (see Estimated Construction Schedule in Section 2.1.4). The proposed schedule includes a three-month planning and mobilization period. The estimated construction workforce is a maximum of 10 workers per day. The site is anticipated to be a balanced site, with no import or export of material. The project would implement applicable EKAPCD rules and regulations, including appropriate dust-abatement measures to comply with Rule 402 (Fugitive Dust) as Best Management Practices during construction operations.

Tables AQ-1 and AQ-2 below provide the detailed and summary maximum emissions of VOC, NO_x, and PM₁₀, respectively, associated with each phase of construction, as modeled using CalEEMod. As shown in Table AQ-2, the modeled annual emissions generated by construction would not exceed the EKAPCD thresholds of significance. The detailed modeling output files are included in **Appendix C**.

Operations

Operations of the Proposed Project would be essentially the same as existing conditions, except that the new booster station will replace two existing booster stations, for a net connected power increase of approximately 30 horsepower. Southern California Edison provides power supply to the region and the proposed increase in power demand represents less than 0.003 percent of Southern California Edison's total electric power generation and associated air pollutant emissions. These emissions would be generated at the locations of the Southern California Edison-owned power plants and those of the suppliers from which Southern California Edison purchases power. These emissions represent a negligible increase in emissions regionally.

Table AQ-1

Modeled Annual Construction-Related Emissions of Criteria Air Pollutants and Precursors			
Construction Phase	Maximum Annual Emissions (tons/year)		
	VOC	NO_x	PM₁₀
Pipeline Installation	0.46736	5.11548	0.7319
<i>On-Site</i>	<i>0.45860</i>	<i>5.10780</i>	<i>0.7125</i>
<i>Off-Site</i>	<i>0.00876</i>	<i>0.00768</i>	<i>0.0194</i>
Pump Stations	0.2758	3.7028	0.2093
<i>On-Site</i>	<i>0.2030</i>	<i>1.9155</i>	<i>0.1005</i>
<i>Off-Site</i>	<i>0.0728</i>	<i>1.7873</i>	<i>0.1088</i>
Demolition	0.03996	0.3950	0.02279
<i>On-Site</i>	<i>0.03870</i>	<i>0.3936</i>	<i>0.02000</i>
<i>Off-Site</i>	<i>0.00126</i>	<i>0.0014</i>	<i>0.00279</i>
<i>Notes: VOC = volatile organic compounds; NO_x = oxides of nitrogen; PM₁₀ = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less</i>			
<i>Source: Modeled by AECOM, 2018.</i>			

Table AQ-2

Summary of Modeled Annual Construction-Related Emissions of Criteria Air Pollutants and Precursors			
Construction Phase	Maximum Annual Emissions (tons/year)		
	VOC	NO_x	PM₁₀
Pipeline Installation	0.5	5.1	0.7
Pump Stations Construction	0.3	3.7	0.2
Demolition	0.0	0.4	0.0
Total Annual Emissions	0.8	9.2	0.9
EKAPCD significance threshold	25	25	15
Exceeds Threshold?	No	No	No
<i>Notes: VOC = volatile organic compounds; NO_x = oxides of nitrogen; PM₁₀ = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; EKAPCD = Eastern Kern Air Pollution Control District</i>			
<i>Source: Modeled by AECOM, 2018.</i>			

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

As shown in Table AQ-2 and described above, construction and operation of the Proposed Action would not result in emissions of criteria pollutants that exceed significance thresholds. There would not be a cumulatively considerable net increase of any criteria pollutant as a result of the Proposed Action.

Expose Sensitive Receptors to Substantial Pollutant Concentrations

Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Children, pregnant women, the elderly, those with existing health conditions, and athletes or others who engage in frequent exercise are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered sensitive receptors include schools, daycare centers, parks and playgrounds, and medical facilities.

The majority of the alignment is not within the vicinity of sensitive receptors. The nearest sensitive receptors include residences at the eastern most segment of the proposed pipeline. Since construction related air emissions are well below the EKAPCD thresholds of significance, the Proposed Action would not result in exposure of sensitive receptors to substantial pollutant concentrations.

Create Objectionable Odors Affecting a Substantial Number of People

The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. Typically, odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from the psychological (i.e., irritation, anger, or anxiety) to the physiological, including circulatory and respiratory effects, nausea, vomiting, and headache. The ability to detect odors varies considerably among the population and overall is quite subjective.

The predominant source of power for construction equipment is diesel engines. Exhaust odors from diesel engines and emissions associated with other construction activities may be considered offensive to some individuals. However, as there are no concentrated areas of sensitive receptors within proximity of the project alignment, nearby receptors would not be substantially affected by odors associated with project construction. In addition, the project would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. Operation of the project would not add any new odor sources beyond existing conditions. The proposed project must also comply with EKAPCD's Rule 419, Nuisance. As a result, the project would not create objectionable odors affecting a substantial number of people.

Air Quality Impacts on BLM Managed Land

The Proposed Action has been evaluated in relation to the DRECP CMAs for the LUPAs regarding Air Quality (identified in **Appendix C**). Based on the analysis described above and modeling included in **Appendix C**, the Proposed Action would meet the requirements of the LUPAs regarding Air Quality. The Proposed Action does not meet the definition of a Large Operation per EKAPCD Rule 402 Section III CC which would require preparation of a fugitive dust control plan. The Proposed Action does not propose a new station source for which a permit from the EKAPCD would be required.

3.4.3 Mitigation

The Proposed Action would not result in significant or substantial impacts to air quality. Dust reduction Best Management Practices will be followed during construction operations including:

- Dust control of access roads and disturbed areas via watering and equipment travel speed limits,
- Use of construction and material hauling equipment that is compliant with local and state air quality standards, and
- Cover long term (1 week or more) dirt stockpiles with tarps.

No other mitigation or impact avoidance and minimization measures are proposed or required.

3.4.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed project, the Initial Study concludes that the impact to air quality will be less than significant and that the project:

- a. *Would not conflict with or obstruct implementation of the applicable air quality plan.*
- b. *Would not violate any air quality standard or contribute substantially to an existing or projected air quality violation.*
- c. *Would not 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.*
- d. *Would not expose sensitive receptors to substantial pollutant concentrations.*
- e. *Would not create objectionable odors affecting a substantial number of people.*

Refer to Section 3.4.2 for explanations which were used to make the above noted conclusions.

3.4.5 No Action Alternative

The No Action Alternative would not result in implementation of the proposed action and impacts to air quality as described above would not occur. No mitigation measures are proposed or required.

3.5 Biological Resources

The following biological resources section is derived from the Project's Biological Resources Reconnaissance Survey Report dated September 2018 (with Supplemental Rare Plant Survey Report prepared in June 2019) and Jurisdictional Delineation Report dated November 2018. Refer to **Appendices D and E** for additional details.

3.5.1 Vegetation

3.5.1.1 Affected Environment

Vegetation Communities

The vegetation communities are botanically and structurally diverse and complex in the general Project area. The Tehachapi Pass falls within the Sierra Nevada sub-region of the California Floristic Province, although it is also influenced by the Great Basin Province and the Desert Province. Plant species found in the Tehachapi Pass are associated with the Sierra Nevada Range to the north, Mojave Desert to the east, Great Central Valley to the west, and Transverse Range to the south.

The following summarizes the principal characteristics of the vegetation communities observed within the study area (proposed project alignment and 250-foot mapping buffer) during the biological resource's reconnaissance survey. The sensitive vegetation communities with a state rarity rank of S1 to S3 including California juniper woodland, Joshua tree woodland, brittlebrush scrub, scale broom scrub and red willow thicket were confirmed present during the survey. A summary of the predominant vegetation communities and estimated acreages are provided in Table Bio-1. A map of the vegetation communities within the Project ROW is provided in the Biological Resources Technical Report in **Appendix D**.

**Table Bio-1
Vegetation Communities and Estimated Acreages within the Study Area**

Vegetation Community	Area (acres)
California juniper woodland	81.0
Joshua tree woodland	106.0
creosote bush scrub	19.1
rubber rabbitbrush scrub	102.1
brittlebrush scrub	36.0
allscale scrub	4.1
scale broom scrub	4.0
tamarisk thicket	24.4
red willow thicket	1.8
disturbed/ruderal	66.8
Total	445.3

California juniper woodland is comprised of California juniper (*Juniperus California*) as a dominant or co-dominant in a small tree canopy with Joshua tree (*Yucca brevifolia*). Associated shrubs include Mojave yucca (*Yucca schidigera*), California buckwheat (*Eriogonum wrightii*), paperbag bush (*Scutellaria mexicana*) and Mormon tea (*Ephedra nevadensis*). Stands are along slopes and alluvial fans with rocky or sandy soils associated with the lower Sierra Mountains. The mid-section of the proposed alignment and CHP feeder are located within this vegetation community. Observed pre-existing disturbances included dirt roads, fencing, and Pacific Crest Trail. The state rarity ranking for this community is S4 which is greater than 100 viable occurrences. However, some associations are as rare as S2 which is 6 to 20 viable occurrences.

Joshua tree woodland is comprised of Joshua tree as an emergent small tree over a shrub canopy with burrobush (*Ambrosia dumosa*), cheesebush (*Ambrosia salsola*), Mojave yucca, California buckwheat, creosote bush (*Larrea tridentata*), Anderson's thorn bush (*Lycium andersonii*) and Mormon tea. California juniper is a co-dominant in a small tree canopy with Joshua tree in some areas. Stands are along slopes and alluvial fans with gravel, coarse sands and sandy loam soils associated with the lower Sierra Mountains. The mid and eastern sections of the conceptual alignment are located within this vegetation community. Observed pre-existing disturbances included dirt roads, fencing, and an electrical powerline with poles and access road. The state rarity ranking for this community is S3 which is 21 to 100 viable occurrences with some associations considered rare.

Creosote bush scrub is comprised of creosote bush as a dominant or co-dominant in the shrub canopy with burrobush, cheesebush, Anderson's thorn bush and Mormon tea. Emergent Joshua trees are present in low cover. Canopies are along slopes and intermittent washes with well drained soils associated with the lower Sierra Mountains. The eastern section of the conceptual alignment is located within this vegetation community. Observed pre-existing disturbances included dirt roads, fencing, and an electrical powerline with poles and an access road. The state rarity ranking for this community is S4 which is greater than 100 viable occurrences.

Rubber rabbitbrush scrub is comprised of rubber rabbitbrush (*Ericameria nauseosa*) as a dominant shrub. Rubber rabbitbrush is a fast-growing, early seral shrub that establishes after disturbance. Canopies are associated with well drained sands and gravel comprising of disturbed areas such as the roads, UPRR ROW, and cattle grazed lands. The western section of the conceptual and alternate conceptual alignments is located within this vegetation community. The state rarity ranking for this community is S5 which is secure due to its abundance.

Brittlebrush scrub is comprised of Virgen River brittlebrush (*Encelia virginensis*) as a dominant or co-dominant in the shrub canopy with cheesebush, rubber rabbitbrush, Mormon tea and paperbag bush. This community occurs along intermittently flooded arroyos, canyons, alluvial fans, and roads with alluvial and gravel substrates associated with the lower Sierra Mountains. The section of the conceptual alignment that crosses State Highway 58 is located within this vegetation community. Additionally, the La Rose Creek drains into Cache Creek at this point and appears to flood and become inundated with water during heavy rainfall events. Observed pre-existing disturbances included roads, fencing, drainage enhancements, and Pacific Crest Trail. The state rarity ranking for this community is S3 which is 21 to 100 viable occurrences with some associations considered rare.

Allscale scrub is comprised of allscale (*Atriplex polycarpa*) as a dominant plant. This community occurs along washes and dissected alluvial fans with alkaline sandy soils. The pump station connection alignment is located within this vegetation community. Observed pre-existing disturbances included State Highway 58, UPRR ROW, roads, fencing, and drainage enhancements. The state rarity ranking for this community is S4 which is greater than 100 viable occurrences. The United States Fish and Wildlife Service (USFWS) Wetland Inventory recognizes this species as a facultative plant.

Scale broom scrub is comprised of scale broom (*Lepidospartum squamatum*) as a dominant shrub. This community occurs along washes and dissected alluvial fans with sandy soils. The pump station connection alignment is located within this vegetation community. Observed pre-existing disturbances included State Highway 58, UPRR ROW, roads, fencing, and drainage enhancements. The state rarity ranking for this community is S3 which is 21 to 100 viable occurrences. However, some associations are as rare as S1.1 which is six or fewer viable occurrences.

Red willow thicket is comprised of red willow (*Salix laevigata*) as a dominant tree. This tree commonly grows with other riparian vegetation. The thicket is associated with a low-gradient deposition south of Cache Creek. The western section of the conceptual alignment is located within this vegetation community. Observed pre-existing disturbances included fencing and cattle grazing. The state rarity ranking for this community is S3 which is 21 to 100 viable occurrences. The USFWS Wetland Inventory recognizes this species as a facultative plant.

Tamarisk thicket is comprised of tamarisk (*Tamarix* spp.) as a dominant shrub. Tamarisk has invaded the area where dense, monotypic stands are associated with Cache Creek. The western section of the proposed and alternate conceptual alignments is located within this vegetation community. Observed pre-existing disturbances included roads, UPRR ROW, fencing, and cattle grazing. There is no state rarity ranking for this community; however, tamarisk is identified as an invasive species by the BLM. Tamarisk is considered among the most invasive, widely distributed non-native plants to infest wetlands.

Disturbed/Ruderal refers to the UPRR ROW, utility corridor, roads and adjacent areas with compacted soils and invasive plant species that are first to colonize the disturbed areas. These plants include redstem filaree (*Erodium cicutarium*), red brome (*Bromus rubens*), and Russian thistle (*Salsola tragus*). Ruderal plant species typically dominate the disturbed area for a few years, gradually losing competition to native species. Disturbed/Ruderal is generally a consequence of the activities associated with State Highway 58, UPRR ROW, roads, and utilities. There is no state rarity ranking for this community; however, invasive plants comprise most of the vegetation of a ruderal community.

Special-status Plants

A special-status plant species was considered to potentially occur in the Project area if the general habitat or environmental conditions required for the species are present, its known geographic range includes part of the Project area, and it is known to be present within the subject or adjacent USGS 7.5-minute quadrangles. The criteria for evaluating whether a species has potential for occurrence (PFO) on the Project site is presented in Table Bio-2.

Table Bio-2
Criteria for Evaluating Special-status Plant Species Occurrences

PFO	CRITERIA
Absent:	Species was not observed during focused surveys conducted at an appropriate time for identification of the species, or species is restricted to habitats or environmental conditions that do not occur within the Project ROW.
Low:	Habitats or environmental conditions needed to support the species are of poor quality.
Moderate:	Either habitat requirements or environmental conditions associated with the species occur within the Project; or marginal habitat exists within the site, and an historical record exists of the species within the immediate vicinity of the Project site.
High:	Both the habitat requirements and environmental conditions associated with the species occur within the Project, and an historical record exists of the species within the Project ROW or its immediate vicinity.
Present:	Species was detected within the Project ROW at the time of the survey.

Based on the California Natural Diversity Database (CNDDDB) review, no special-status plant species records are within 1 mile of the study area. Additionally, there were no sightings of rare plant species; however, plants considered BLM sensitive, including Joshua tree and beavertail cactus, were observed adjacent to the proposed alignment. Although special-status plant species were not observed during the reconnaissance survey, floristic surveys following established CDFW guidelines were not conducted of the Project site to definitively rule out their presence. There is a low likelihood that individuals or populations would occur within the previously disturbed ground along the proposed pipeline alignment.

Waters and Wetlands

The following summarizes the waters observed within the study area during the jurisdictional delineation survey. No wetlands or potential Waters of the US were observed. However, several drainages were documented that may be jurisdictional as waters of the State (see Jurisdictional Delineation Report in **Appendix E**). The site parallels Cache Creek, an arroyo with intermittent flow which drains the northeastern Tehachapi Mountains and southwestern Sierra Nevada. It empties into the northern Antelope Valley via an alluvial fan between Mojave and California City. Ephemeral drainages including Cache Creek, La Rose Creek, and several small, unnamed washes north of State Highway 58 were observed during the delineation. The proposed Project is expected to cross several drainages within the alignment. A summary of the potential waters of the State and streambeds within the study area are listed below.

- A. Cache Creek – A main creek that flows through the entire Study Area and is a single trapezoidal-shaped channel upstream and a wide floodplain downstream.
- B. Tributary Drainage Ditch – A created drainage ditch that receives flows captured by basins and culverts on the northern side of State Highway 58.
- C. La Rose Creek – A large tributary to Cache Creek.
- D. Tributaries (North of State Highway 58) – higher gradient, small ephemeral drainages that are either single-thread channels or appear to be part of an alluvial fan.

3.5.1.2 Environmental Effects/Impacts

The assessment of potential impacts of the Proposed Action on vegetation is provided in the Biological Resources Technical Report (**Appendix D**). The assessment was based on a review of available databases, pertinent literature, resource agency coordination, and field surveys.

Vegetation Communities

The pump station will be installed within a small addition to an existing building located at the Well 9 facility that is completely fenced. Additionally, equipment and materials in support of this work will be staged within or directly adjacent to the facility. The site is heavily disturbed and contains ruderal and rubber rabbitbrush scrub. New land disturbance and impacts to sensitive biological resources are not expected. Therefore, the pump station is given no further consideration or analysis.

The proposed pipeline alignment (referred to as the conceptual alignment), with the exception of the segment located south of State Highway 58, was intentionally sited within previously disturbed areas and existing dirt roads to reduce habitat disturbance and impacts to biological resources. However, this alignment is expected to result in new land disturbance from a work corridor, measuring 40 feet wide and approximately 6.4 miles long, needed to install the pipeline.

The segment south of State Highway 58 will result in temporary impacts within the entire 40-foot-wide disturbance corridor. Taking into account an average width of 15 feet of the existing dirt roads (defined as disturbed/ruderal), an additional 25 feet will be temporarily impacted along the segment north of State Highway 58. Therefore, the new land disturbance from the conceptual alignment was calculated as 31.1 total acres minus 8.5 disturbed/ruderal acres = 22.6 acres. The vegetation communities that will be impacted include brittlebrush scrub, California juniper woodland, creosote bush scrub, Joshua tree woodland, rubber rabbitbrush scrub, disturbed/ruderal, and tamarisk thicket (Table Bio-3).

Table Bio-3.

Vegetation Communities and Estimated Habitat Impacts from the Conceptual Alignment

Conceptual Alignment	
Vegetation Community	Acres
brittlebrush scrub	2.5
California juniper woodland	4.2
creosote bush scrub	1.3
Joshua tree woodland	5.9
rubber rabbitbrush scrub	8.5
disturbed/ruderal	8.5
tamarisk thicket	0.2
Total	31.1 (total) – 8.5 (disturbed/ruderal) = 22.6

An alternate pipeline alignment (referred to as alternate conceptual alignment) was also studied for potential impacts to biological resources. The alternate conceptual alignment was intentionally sited within the UPRR ROW access road to reduce habitat disturbance and impacts to biological resources. However, this alignment is expected to result in new land disturbance resulting from a work corridor, measuring approximately 1.7 miles long and 40 feet wide, needed to install the pipeline. Taking into account an average width of 15 feet of the ROW road (defined as disturbed/ruderal), an additional 25 feet will be temporarily impacted. Therefore, the additional land disturbance from the alternate conceptual alignment was calculated as 8.2 total acres minus 0.7 disturbed/ruderal acre = 7.5 acres. The vegetation communities that will be impacted include rubber rabbitbrush scrub, disturbed/ruderal, and tamarisk thicket (Table Bio-4).

**Table Bio-4
Vegetation Communities and Estimated Habitat Impacts
from the Alternate Conceptual Alignment**

Alternate Conceptual Alignment	
Vegetation Community	Acres
rubber rabbitbrush scrub	4.3
disturbed/ruderal	0.7
tamarisk thicket	3.2
ExTotal	8.2 (total) – 0.7 (disturbed/ruderal) = 7.5

There is no pre-existing disturbance corridor for the pump station connection alignment. This alignment is expected to result in new land disturbance from a work corridor, measuring approximately 0.2 miles long and 40 feet wide, needed to install the pipeline. Therefore, the new land disturbance from the pump station connection alignment is 0.9 acre. The vegetation communities that will be impacted include allscale scrub and brittlebrush scrub (Table Bio-5).

**Table Bio-5
Vegetation Communities and Estimated Habitat Impacts
from the Pump Station Connection Alignment**

Pump Station Connection Alignment	
Vegetation Community	Acres
allscale scrub	0.3
brittlebrush scrub	0.6
Total	0.9

Special-status Plants

Although there were no sightings of federal- or state-listed rare plant species, the reconnaissance survey was performed late in the blooming season and outside of the period for optimum detection of rare plants. However, plants considered BLM sensitive, including Joshua tree and beavertail cactus, were observed adjacent to the proposed alignment. A supplemental Rare Plant Survey was conducted in June 2019 and is included in **Appendix D**.

If special-status plant individuals or populations do occur within the alignment, Project-related activities may result in impacts to individuals and suitable habitat. However, very minor potential impacts are expected due to the low likelihood that individuals or populations would occur within the previously disturbed ground along the proposed pipeline alignment. Impacts to BLM sensitive species within BLM managed lands would be avoided if at all possible. If avoidance is not possible, plants would be salvaged, transported, or mitigated according to measures outlined by the BLM.

Waters and Wetlands

The proposed Project is expected to impact several drainages within the alignment. The impact area for the project is a 40-foot wide area that will follow (for part of the alignment) an existing dirt access road. Use of existing access roads will reduce potential impacts. Bored and jacked crossings of La Rose Creek and Cache Creek are proposed in order to limit impacts to these channels. Mapping of the Ordinary High Water Mark (OHWM) as utilized by the Regional Water Quality Control Board (RWQCB) was used for determining Waters of the State. Construction staging areas and temporary storage of trenching excavation will be maintained within designated permanent and temporary construction easements and located outside of streambed impact areas. Limits of Streambeds were mapped to top of bank (TOB). Table Bio-6

shows the acreage of potential impacts to Waters of the State and Streambeds associated with the Proposed Action.

**Table Bio-6.
Ephemeral Drainage Feature Avoidance and Temporary Impacts within the Project Area**

	Waters of the State – OHWM (acres)	Streambeds - TOB (acres)	Linear Feet
Conceptual Alignment			
A. Cache Creek	0.05	0.18	196
B. Tributary Drainage Ditch	0	0	0
C. La Rose Creek	0.03	0.07	40
Avoidance (Boring)	0.08	0.25	236
D. Tributaries (North of State Highway 58)	0.17	0.42	986
Temporary Impacts (Trenching)	0.17	0.42	986
Alternate Conceptual Alignment			
A. Cache Creek	0.07	0.24	238
B. Tributary Drainage Ditch	0	0	0
C. La Rose Creek	0	0	0
Avoidance (Boring)	0.07	0.24	238
D. Tributaries (North of State Highway 58)	0	0	0
Temporary Impacts (Trenching)	0	0	0

The proposed Project is anticipated to trigger the need for the following permits/agreements:

- CWA Section 401 Water Quality Certification / Waste Discharge Requirement (WDR) from the RWQCB; and
- California Fish and Game Code Section 1600 et seq.; Section 1602 Lake and Streambed Alteration Agreement (LSAA) from the CDFW. A long-term maintenance LSAA would be the most appropriate authorization.

3.5.2 Wildlife

3.5.2.1 Affected Environment

General Wildlife

The plant communities and water drainages offer a variety of habitat types for wildlife. The wildlife species observed or detected during the reconnaissance survey is summarized below.

Reptiles

Two reptile species were observed on or adjacent to the Project alignment during the biological survey including: side- blotched lizard (*Uta stansburiana*) and western whiptail lizard (*Cnemidophorus tigris*).

Birds

Four bird species were observed on or adjacent to the Project alignment during the biological survey including: red-tailed hawk (*Buteo jamaicensis*), common raven (*Corvus corax*), California quail (*Callipepla californica*) and loggerhead shrike (*Lanius ludovicianus*).

Mammals

Three mammal species were observed on or adjacent to the Project alignment during the biological survey including: desert cottontail rabbit (*Sylvilagus audubonii*), black-tailed hare (*Lepus californicus*) and white-tailed antelope ground squirrel (*Ammospermophilus leucurus*).

Special Status Wildlife Species

Based on the CNDDDB review, seven special-status wildlife species records are within 1 mile of the study area (Table Bio-7). Although there were no records for the desert kit fox as part of the CNDDDB review, the project site is considered suitable habitat for this species and was included as part of the analysis.

Table Bio-7
CNDDDB Records of Special-status Wildlife Species within 1 Mile of the Study Area

Common Name	Scientific Name	Status
Mojave Desert tortoise	<i>Gopherus agassizii</i>	Federal and State of California Threatened
Mohave ground squirrel	<i>Xerospermophilus mohavensis</i>	State of California Threatened
Prairie falcon	<i>Falco mexicanus</i>	CDFW Watch List
American badger	<i>Taxidea taxus</i>	CDFW SSC
Tulare grasshopper mouse	<i>Onychomys torridus tularensis</i>	BLM Sensitive and CDFW SSC
San Joaquin pocket mouse	<i>Perognathus inornatus</i>	BLM Sensitive
Tehachapi pocket mouse	<i>Perognathus alticolus inexpectatus</i>	CDFW SSC

The Mojave Desert tortoise is the state reptile of California and is listed as a threatened species under the federal and State of California ESAs. It has a long-life span of 50 to 80 years. Its shell is high-domed and greenish-tan to dark brown in color. An adult can attain a length of about 15 inches, with males being slightly larger than females. The front limbs have sharp, claw-like scales and are flattened for digging; the back legs are elephantine in shape. The desert tortoise occupies the Mojave and Sonoran deserts north and west of the Colorado River in southwestern Utah, southern Nevada, southeastern California, and northwestern Arizona and is one of most elusive desert inhabitants, spending up to 95 percent of its life underground. It is most active after seasonal rains and inactive during most of the year. The desert tortoise inhabits sandy flats to rocky foothills including alluvial fans, washes, and canyons with suitable soils for burrows and a variety of plant communities including Joshua tree woodland, creosote bush scrub, saltbush scrub, and Mojave mixed woody scrub. The species is an herbivore, with grasses forming the bulk of its diet, but it also eats herbs, annual wildflowers, and new growth of cacti, as well as their fruit and flowers.

The Mohave ground squirrel is listed as a threatened species under the State of California ESA. It is a medium-sized ground squirrel, where the adult measures about 9 inches in length. Dorsal coloration is uniformly light gray or brown, often with a wash of cinnamon or pink, while ventral coloration is cream colored. The squirrel begins a period of estivation toward the end of July but may occur as early as April in drought years. This species inhabits the western Mojave Desert in portions of Inyo, Kern, Los Angeles, and San Bernardino counties in California. It is the only ground squirrel that exclusively inhabits the Mojave Desert in California. It can occupy a variety of desert habitats including Joshua tree woodland, creosote bush scrub, saltbush scrub and Mojave mixed woody scrub. Soils are usually friable and conducive to burrow excavation. The species is an herbivore, and typical forage shrubs include winterfat

(*Krascheninnikovia lanata*), spiny hopsage (*Grayia spinosa*), and saltbush (*Atriplex* sp.). Preferred habitat includes ample forage to allow the Mohave ground squirrel to persist during drought periods.

The Prairie falcon is on the CDFW watch list. Males and females are about 15 and 17 inches in length, respectively. The plumage is warm gray-brown above and pale with dark mottling below. The head has a narrow "moustache" mark similar to the Peregrine falcon and a white line over the eye. In summer, it occupies open country, especially arid habitats including high desert. In winter, it is more widespread, ranging to low deserts and occasionally to towns. The Prairie falcon preys on small mammals and small to medium-sized birds caught in flight, though it will occasionally take larger birds.

The American badger is a CDFW SSC. It has a stocky and low-slung body with short, powerful legs that are identifiable by their huge fore claws. Measuring generally between 23 and 30 inches in length, males are slightly larger than females. Except for the head, the American badger is covered with a grizzled, brown, black, and white coat of coarse fur, giving almost a mixed brown-tan appearance. Its triangular face shows a distinctive black-and-white pattern, with brown or blackish "badges" marking the cheeks and a white stripe extending from the nose to the base of the head. It is found in the western and central United States in habitat typified by open grasslands. It may also be found in forest glades, marshes, deserts, and mountain meadows. The American badger is generally nocturnal; however, in remote areas with no human encroachment it is routinely observed foraging during the day. This fossorial carnivore predominantly preys on gophers, ground squirrels, moles, woodrats, kangaroo rats and deer mice, often digging to pursue prey into their dens.

The Tulare grasshopper mouse is a BLM sensitive species and CDFW SSC. It is a subspecies of the southern grasshopper mouse with a stout body, short, club-like tail, and sharply bicolored fur with the head and upperparts pale brown to gray or pinkish-cinnamon and the underparts white. The tail is usually bicolored with a white tip. Historically, the Tulare grasshopper mouse ranged from western Merced and eastern San Benito counties east to Madera County and south to the Tehachapi Mountains. Currently, the species is known to occur along the western margin of the Tulare Basin, including western Kern County; Carrizo Plain Natural Area; along the Cuyama Valley side of the Caliente Mountains, San Luis Obispo County; and the Ciervo-Panoche Region, in Fresno and San Benito counties. Typically, it inhabits arid shrub land communities in hot, arid grassland and shrub land associations. The Tulare grasshopper mouse is primarily a carnivore, with a particular appetite for small mammals and insects; it also eats other invertebrates and seeds. Because this species is no longer known to occupy the Tehachapi Mountains including the Project area, it is given no further consideration or analysis.

The San Joaquin pocket mouse is a BLM sensitive species. It is buff in color, and the tail has a short tuft of hairs at its tip. The fur on the head and body is short and soft, without spines or bristles. The pocket mouse can be distinguished from similar small rodents by its external opening, fur-lined cheek pouches. The pocket mouse differs from the kangaroo mouse in not having the soles of the feet entirely covered in fur. The San Joaquin pocket mouse is endemic to California and is found in the Tehachapi Mountains and the lower slopes of the western Sierra Nevada. It also occurs in the upper Sacramento Valley, San Joaquin Valley, Salinas Valley, and Mojave Desert. The San Joaquin pocket mouse feeds on seeds of grasses and various plants, carrying them back to its burrow in its cheek pouches. It may also eat soft-bodied invertebrates.

The Tehachapi pocket mouse is a CDFW SSC. Its coloration is yellowish-brown and heavily overlaid with black dorsally and white ventrally. The tail is bicolored, measures slightly more than the head-body length, and is crested along the distal one-third. The pocket mouse can be distinguished from similar small rodents by its external opening fur-lined cheek pouches. The pocket mouse differs from the kangaroo mouse in not having the soles of the feet entirely covered in fur. The Tehachapi pocket mouse occupies native and non-native grasslands, Joshua tree woodland, pinyon-juniper woodland, yellow pine woodland, and oak savannah. Potential habitat exists along the southeastern slopes of the Tehachapi Mountains. The Tehachapi pocket mouse is a nocturnal granivore, foraging primarily on seeds of grasses, forbs, and annuals, but also on leafy plant material and insects.

The desert kit fox is a State protected species. CDFW has jurisdiction over furbearing mammals pursuant to Title 14, California Code of Regulations (CCR), Section 460. This Section states, "Fisher, marten, river otter, desert kit fox and red fox may not be taken at any time"; therefore, CDFW cannot authorize their take. The desert kit fox usually has a gray coat, with rusty tones, and a black tip to its tail. Its color ranges from yellowish to gray, and the back is usually darker than the majority of its coat; its belly and inner ears are usually lighter. The kit fox is the smallest species of the family Canidae found in North America. It has large ears, that help the fox lower its body temperature and give it exceptional hearing. This species occurs primarily in deserts and grasslands throughout western North America. Specifically, this species is known to occur from southern California to western Colorado and into parts of western Texas. Desert kit foxes feed on small mammals and insects, foraging mostly during the night or late evening/early morning. This species breeds from December to January; and pups are born from February to mid-March, with litter sizes ranging from one to seven pups. Desert kit foxes usually use their dens year-round, and it is thought they often will have multiple dens throughout their home range. Primary threats to this species include poisoning from agricultural fields, predation by coyotes, and mortality from vehicles.

3.5.2.2 Environmental Effects/Impacts

The assessment of potential impacts of the Proposed Action on wildlife is provided in the Biological Resources Technical Report (**Appendix D**). The assessment was based on a review of available databases, pertinent literature, resource agency coordination, and field surveys.

Special-status Wildlife Species

Mojave Desert Tortoise and Mohave Ground Squirrel

The Proposed Action is located at the western extent of the geographic range for the Mojave Desert tortoise and Mohave ground squirrel. The CNDDDB search revealed records of these species near the eastern segment of the conceptual alignment. However, these species were not observed during the biological reconnaissance survey. The Tehachapi Pass is a narrow corridor between the lower Sierra and Tehachapi Mountains. This corridor contains the Cache Creek Community, State Highway 58, Cameron Road, UPRR ROW, Pacific Crest Trail, utilities, cattle-grazed lands, several dirt roads, and mining activity.

These pre-existing disturbances within and near the alignments have led to compacted soils with barren and disturbed vegetation, resulting in lower-quality habitat and unsuitable conditions that reduce the likelihood of these species occurring within the conceptual alignment. However, the desert tortoise and ground squirrel may occur in undisturbed suitable habitat including Joshua tree woodland, creosote bush scrub, allscale scrub and brittlebrush scrub adjacent to the conceptual alignment that is located north of State Highway 58 and the pump station connection alignment. There is an increased chance of encountering these species as the conceptual alignment progresses to the east.

Although the desert tortoise and Mohave ground squirrel may not be present within the alignment and direct impacts are unlikely, these diurnal species may enter the area during construction work hours and become exposed to vehicle/equipment strikes, collapsed or excavated burrows, trench entrapment, or increased predation.

Indirect impacts to these species may result from further habitat degradation, noise, dust, and vibration from the construction equipment. However, the equipment noise and vibration is expected to blend in with nearby vehicle and train traffic. With implementation of the proposed avoidance and minimization measures for these species during the construction phase, impacts to Mojave desert tortoise and Mohave ground squirrel would be less than significant.

American Badger, San Joaquin pocket mouse, Tehachapi pocket mouse and Desert kit fox

With the exception of the desert kit fox, the CNDDDB search revealed records of these species near the Project alignment. However, these species were not observed during the biological reconnaissance survey. Suitable habitat for American badger, San Joaquin pocket mouse, Tehachapi pocket mouse and desert kit fox is present along the Project alignment.

The aforementioned pre-existing disturbances within and near the alignment have led to compacted soils with barren and disturbed vegetation, resulting in lower-quality habitat and unsuitable conditions that reduce the likelihood of these species occurring within the proposed Project area. However, these species may occur in undisturbed suitable habitat including Joshua tree woodland, creosote bush scrub, allscale scrub and brittlebrush scrub adjacent to the conceptual alignment.

Because these species are predominantly nocturnal and project construction would not occur at night, no vehicle or equipment strikes to these species are expected. However, potential impacts may include collapsed or excavated burrows, trench entrapment or increased predation. Indirect impacts to these species may result from further habitat degradation, noise, dust, and vibration from the construction equipment. Equipment noise and vibration is expected to blend in with nearby vehicle and train traffic. With implementation of the proposed avoidance and minimization measures for these species during the construction phase, impacts to American Badger, San Joaquin pocket mouse, Tehachapi pocket mouse and desert kit fox would be less than significant.

Prairie Falcon

Suitable foraging habitat for the Prairie falcon occurs adjacent to the alignments; however, suitable nesting habitat occurs on ridges or cliffs within the surrounding mountains. Nesting habitat or behavior would not be impacted and this bird species can take flight to avoid potential impacts from the equipment installing the pipeline. Therefore, direct impacts to this species are not anticipated.

Indirect impacts may result from foraging habitat degradation, noise, dust, and vibration from the construction equipment. However, the equipment noise and vibration is expected to blend in with nearby vehicle and train traffic. With implementation of the proposed avoidance and minimization measures for this species during the construction phase, impacts to Prairie Falcon would be less than significant.

Nesting Birds

In addition to nesting by common and special-status bird species observed along the conceptual alignment, including red-tailed hawk, common raven, California quail, and loggerhead shrike, other bird species may utilize the Project site for nesting and foraging during the breeding season. Project construction activities including clearing and grubbing that occur during the breeding bird season (February 1 through September 15) may destroy active nests of both ground- and tree/shrub-nesting species and result in the injury or mortality of nestling and fledgling birds.

Project-related construction activities that occur during the breeding bird season may also temporarily disturb nesting birds in adjacent areas both on-site and on adjacent properties. Increased noise, dust, vibration, and vehicle and human activity associated with construction of the proposed Project may disturb adult birds, resulting in the disruption of normal breeding behaviors including incubation of eggs, feeding and otherwise tending to nestlings. During extreme circumstances, abandonment of active nests may occur due to disturbance. With implementation of the proposed avoidance and minimization measures for these species during the construction phase, impacts to nesting birds would be less than significant.

Habitat Connectivity

The proposed Project is located within private property and BLM-administered public lands. With the exception of a couple short segments, the entire Project area is located within the BLM West Mojave Plan (WEMO) boundary. The WEMO is a habitat conservation plan and federal land use plan amendment that (1) presents a comprehensive strategy to conserve and protect the desert tortoise, Mohave ground squirrel (MGS) and nearly 100 other sensitive plants and animals and the natural communities of which they

are a part, and (2) provides a streamlined program for complying with the requirements of the California and federal Endangered Species Acts (CESA and FESA, respectively). The proposed Project does not conflict with WEMO.

The Project site is located within the Tehachapi Pass which is a narrow corridor between the lower Sierra and Tehachapi Mountains. This corridor contains State Highway 58 and UPRR ROW that runs in an east-to-west direction. Fencing along each side of the highway and ROW as well as a concrete rail separating the east- and west-bound highway lanes impede wildlife movement in the area. Additionally, wind turbines and associated roads exist on both sides of the Pass. Along with other pre-existing disturbances within and near the alignments, these disturbances have led to compacted soils with barren and disturbed vegetation resulting in low-quality habitat and unsuitable conditions that further impact dispersal movements of a variety of wildlife in the area.

Trenches will not be kept open over the entire length of the 6.4-mile-long conceptual alignment. Instead, the trench will be backfilled once the segment of pipeline is installed. Therefore, the Project will not substantially contribute to impacts affecting overland migratory, transitory, or dispersal movements by native wildlife, and no aquatic features capable of supporting wildlife migration occur within the area.

The Project site does not occur within any major regional terrestrial wildlife movement corridors or habitat linkages. Although the Project will temporarily impact habitat, similar open habitats are available on adjacent properties and wildlife movement between adjacent habitats and within the region is not expected to be substantially impacted. No wildlife nursery sites occur within or in the vicinity of the Project site; thus, the proposed Project will not impede the use of any nursery sites.

3.5.3 Mitigation

Following is a description of the mitigation or impact avoidance and minimization measures to address potential impacts to biological resources as a result of the Proposed Action.

General Biological Measures

BIO-1: Prior to construction, Worker Environmental Awareness Program (WEAP) training will be prepared and presented by a qualified biologist to all construction personnel at the start of Project-related activities. The training will discuss sensitive vegetation communities, special-status species including their regulatory status, description, and habitat requirements, as well as jurisdictional waters. The program will emphasize the importance of minimizing disturbance, and describe the federal, state, and local regulations protecting biological resources and the potential penalties for non-compliance with these laws and statutes.

BIO-2: A speed limit of 20 miles per hour will be enforced while traveling on dirt roads to, from, and along the alignments.

BIO-3: Workers will inspect for desert tortoises and other wildlife resting in the shade under vehicles and equipment prior to moving. If a desert tortoise is present but not under the vehicle, the worker(s) will carefully move the vehicle only when necessary and authorized by the biologist. If a tortoise is under a vehicle, the vehicle will not be moved until the tortoise has left the area.

BIO-4: All work will be performed during daylight hours. There will be no night lighting.

BIO-5: Equipment and materials will be staged within the alignment and away from water drainages. Equipment fueling and maintenance will not take place within or directly adjacent to a water feature. Parked equipment will have drip pans or other means of secondary containment to prevent any fluid leaks coming into contact with the ground surface.

BIO-6: Littering will be prohibited. All trash and food items will be contained within closed-lid receptacles and removed from the site regularly to prevent attracting predators and scavengers, such as dogs, coyotes, desert kit fox, or common ravens to the Project area. Construction related waste, materials and

equipment will be removed from the site once the Project is completed.

Vegetation Communities

BIO-7: All equipment and workers will remain within approved work limits. Work limits will be delineated with lathe staking or a similar method. Vegetation outside of the approved 40-foot-wide alignments will not be impacted. Junipers, Joshua trees, and cacti will be avoided when feasible. When avoidance is not feasible on BLM managed lands, impacted BLM sensitive species will be salvaged, transplanted, or mitigated in accordance with policies outlined by BLM.

BIO-8: During clear, grub and grading activities, top soil salvage will be employed to preserve the existing seed bank. The top soil will be re-spread over the alignment to promote revegetation.

Invasive Plants

BIO-9: All equipment will be clean and free of mud/debris prior to entering the Project area to prevent the spread of invasive plants.

Waters and Wetlands

BIO-10: A bore-and-jack method will be employed at the Cache and La Rose Creek crossings to avoid impacts to these major drainages in the area. Trenching will be employed for all other drainage crossings. Original contours will be re-established as much as possible. Work within the streambed will be completed in accordance with applicable jurisdictional permits and agreements.

Special-status Wildlife

Mojave Desert Tortoise, Mohave Ground Squirrel, American Badger, San Joaquin Pocket Mouse, Tehachapi Pocket Mouse and Desert Kit Fox

BIO-11: Within 72 hours of the construction start, a qualified biologist will perform a preconstruction survey to identify any potential special-status wildlife along the alignment. If the Mojave desert tortoise or Mohave ground squirrel are detected along the corridor, then avoidance measures including buffers will be implemented to protect these species. Additionally, these observations will be reported to the BLM within 24 hours so that appropriate mitigation can be implemented.

BIO-12: All observations of special-status wildlife will be reported to the qualified biologist so that appropriate action can be taken. If a Mojave desert tortoise or Mohave ground squirrel is encountered along the alignments and is in immediate danger during construction, then work will cease in the immediate area and the qualified biologist will be consulted. These species will be allowed to leave the site on their own accord. These observations will be reported to the BLM within 24 hours so that appropriate mitigation can be implemented.

Nesting Birds

BIO-13: If construction activities occur within the breeding bird season (February 1 through September 15), all vegetation clearing and initial ground disturbing activities will be preceded by a nesting bird survey. Nesting bird surveys will be conducted by a qualified biologist of all areas that may support nesting and will be subject to disturbance. If an active nest is discovered, a buffer will be established by the qualified biologist. Surveys will be conducted no more than 7 days prior to construction activities.

Wildlife Movement and Entrapment

BIO-14: All trenches that will be left open overnight will be either fenced, covered, or have the ends sloped at a 3-to-1 ratio and an earthen bridge/ramp installed in the trench every 250 feet to facilitate the escape of wildlife. All steep-walled pipeline trenches will be inspected daily in the morning before work, evening after work, and prior to backfilling to prevent mortality of common and special-status wildlife species. All

trench entrapped wildlife will be removed if safe to do so or allowed to escape voluntarily via escape ramps prior to construction resuming.

BIO-15: All pipes or similar structures on-site with a diameter of 2 to 24 inches will be inspected for wildlife species prior to moving or placing in the trench. Openings will be sealed or otherwise covered if sections cannot be inspected to prevent the entry of wildlife including pipe within the trench. If a common or special-status species is discovered inside a pipe, the animal will be safely removed. Alternatively, stored pipe may be kept capped at all times until used during construction.

3.5.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed project, this study concludes that with the mitigation or impact avoidance and minimization measures described in Section 3.5.3 in place, the impact to biological resources will be less than significant and that the project:

- a. Would not 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 by the California Department of Fish and Game or U.S Fish and Wildlife Service.
- b. Would not 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 of U.S. Fish and Wildlife Service.
- c. Would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- d. Would not interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with the established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- e. Would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- f. Would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The Proposed Action is subject to and shall be in conformance with the California Desert Conservation Area Plan of 1980 (as amended) and the West Mojave Plan in accordance with Title 43 CFR 1610.5-3.

3.5.5 No Action Alternative

The No Action Alternative would not result in implementation of the proposed action and impacts to biological resources as described above would not occur. No mitigation measures are proposed or required.

3.6 Cultural Resources

The following discussion is from BLM Report Number CA-650-2019-26 prepared by AECOM staff archeologists in November 2018 (Cultural Resources Inventory in Support of the Cache Creek Pipeline Replacement Project Report). This report was approved by BLM on August 12, 2019 under the provisions of the May 2019 Protocol Agreement between BLM and the State Historic Preservation Officer (SHPO).

3.6.1 Affected Environment

The project area is situated along Cache Creek, an intermittent drainage that flows eastward from Tehachapi Pass approximately 6.25 miles to the west. Entering the Antelope Valley just to the east of the project area, Cache Creek forms the division between the Sierra Nevada Range to the north and the Tehachapi Mountains to the southwest. The drainage at this location is also occupied by the Garlock Fault, a major fault zone that follows Cameron Canyon and encompasses most of the project alignment. Bedrock exposures along the drainage bottom are mapped by Jennings (1977) as a variety of pre-Cenozoic metasedimentary and metavolcanic rocks, of which quartzite, schist, and chert may have been used as toolstone by local prehistoric groups. Farther up the slopes, the geology is dominated by the Mesozoic granitic rocks of the Sierra Nevada batholith. These granitic rocks were also used by prehistoric people to fashion tools for grinding and pounding a wide range of plant foods.

3.6.1.1 Regional Prehistory

Recent summaries of western Mojave Desert prehistory include those by Warren (1984), Warren and Crabtree (1986), Sutton (1988, 1996, 2017), and Sutton and colleagues (2007). These generally reference the general sequence outlined by Warren, which recognizes several periods between the late Pleistocene and historic contact, each with associated archaeological complexes. The earliest occupations that are well documented archaeologically date to the late Pleistocene (pre-10,000 years before present [BP]) and are manifested by Clovis-like fluted points thought to represent small, mobile groups following a generalized subsistence that included large game. The subsequent Lake Mojave Period, placed between 12,000 and 7000 BP by Warren and Crabtree (1986) and between 10,000 and 8000 BP by Sutton and colleagues (2007), is marked by a series of stemmed projectile points and well-formed scraping tools of the Lake Mojave Complex. The association of many Lake Mojave Complex sites with the shorelines of ancient lakes has led some researchers to infer a focus on lacustrine habitats (Moratto 1984), although others argue for a highly mobile lifeway that utilized a wider variety of resource patches (Sutton et al. 2007).

The Pinto Period and the appearance of the Pinto Complex (7000–4000 BP; Warren and Crabtree 1986) are generally associated with the increasing aridity of the Middle Holocene. Flaked stone assemblages include Pinto points and generally show continuity with those of the previous period, but milling equipment is much more abundant and is thought to signal heavy reliance on seeds and other plant foods. Together with the appearance of sites in a wider variety of settings, the Pinto Complex appears to represent adaptation to Holocene desert conditions (Sutton et al. 2007).

Improving conditions during the Late Holocene appear to have allowed an expansion of land use into diverse habitats along with increasing diversification in technology. Sites dating to the Gypsum period (ca. 4000–1800 BP) appear in a diverse array of settings and include a variety of residential, resource extraction/processing, and ceremonial locations (Sutton et al. 2007; Warren 1984; Warren and Crabtree 1986). The subsequent Rose Spring Period (ca. 1500–800 BP; Sutton 1996) corresponds to Warren's (1984) and Warren and Crabtree's (1986) Saratoga Springs period and is marked by the appearance of small projectile points indicating the use of the bow and arrow. Other key developments at this time include a significant increase in the number of components and the appearance of well-developed middens, apparently reflecting increasing populations and settlement organization. The Late Prehistoric Period (ca. 900 BP–historic contact) is marked by Desert Side-notched and Cottonwood series projectile points, as well as a variety of milling tools, shell and stone ornaments, and the appearance of ceramics.

3.6.1.2 Ethnography

The project area lies within the northern portion of the lands that at historic contact were controlled by the Kitanemuk, who, along with the neighboring Kawaiisu to the north, occupied the eastern/southern Sierra Nevada south of the Kern River and into the Tehachapi Mountains. They are also thought to have claimed a portion of the Antelope Valley in the western Mojave Desert (Blackburn and Bean 1978; Kroeber 1925; Sutton 1980, 1991). The Kitanemuk spoke a language of the Takic family of the Northern Uto-Aztecans

language stock (Golla 2011; Shipley 1978; Sutton 1991). Blackburn and Bean (1978) and Sutton (1980:215) indicate that Kitanemuk subsistence practices are not well known, due to a relatively thin ethnographic record and a lack of archaeological studies in the Tehachapis. They suggest that, culturally, the Kitanemuk most likely were generally similar to their neighbors to the north and west, i.e., the Yokuts and Chumash (Blackburn and Bean 1978:564; Sutton 1980:215). Sutton (1980:216) has suggested that the ethnographic Kitanemuk settlement pattern “would likely have consisted of a number of semi-permanent villages located in the Tehachapi Mountains with small seasonal sites located so as to exploit specific resources.” More recently, Sutton (2017) has developed this theme into a general model positing that the Kitanemuk, along with the Kawaiisu to the north and the Serrano to the southeast, occupied core areas in the mountains and used the Antelope Valley floor primarily as “common pool resource zones” (Sutton 2017:23).

3.6.1.3 Historical Background

European and American exploration into the Antelope Valley began in the late 18th century. One of the early European visitors to the area was Francisco Garcés, a Franciscan missionary tasked with exploring overland routes between Santa Fe, New Mexico, and Southern California. Garcés traveled through the San Bernardino Mountains on an ancient Indian trail, which passes about 45 miles north of the proposed project area (Estes et al. 2008). In 1776, Garcés traveled through the valley along the Pedro Fages trail (also known as the Old Spanish Trail, Salt Lake Road, and Mormon Trail), staying in what is today the town of Mojave (Coues 1900; Sutton 1991). Mexican independence from Spain resulted in the division of land into large ranchos throughout California. In an attempt to incorporate the Antelope Valley into the zone of Mexican settlement, several land grants were established in western Antelope Valley in the early 1840s. However, there were no non-Native American permanent settlers within the southwestern portion of the valley and it remained a frontier zone until after the American conquest of California. By 1850, American settlement extended as far as Soledad Canyon (Earle 2003).

European and American exploration into eastern California established trails and wagon roads that were used throughout the 19th century. Early trails were used in conjunction with mining, early commerce, and railroad development. The Antelope Valley was a prominent thoroughfare and trade route for travelers coming to California. Willow Springs and State Historic Landmark 476 (“Desert Spring”) are located along Route 14, which becomes Highway 395 and heads up to Bishop. Willow Springs is located just outside the town of Rosamond and Desert Spring is located near Cantil. Both of these springs commemorate the historic trail and early uses for the area. Willow Springs was a popular stopping place for traders passing through the Antelope Valley and was a stage stop on the Los Angeles–Havilah and Inyo Stage lines (Warren and Roske 1981).

Mining had a significant influence on the development of the Antelope Valley. The discovery of gold in California, including in the mountains surrounding the valley, resulted in a large influx of Euro-Americans into the region (Sutton 1991). Early mining exploited borax, and later efforts focused on potash (Wynn 1963). Major mining districts were established in both the Rand Mountains and El Paso Mountains (see Hall and Barker 1975). The development of mining districts in the mountains surrounding the Mojave Desert contributed to the development of towns as stops along the roads running from the mining districts back to Southern California. Portions of Owens River Road ran through the Antelope Valley and Fremont Valley to the north. The road was established as a result of intense prospecting taking place in eastern California (Warren and Roske 1981).

A major development in the Antelope Valley is associated with the construction of the Southern Pacific Railroad. The town of Rosamond was founded in 1877 and was owned by Southern Pacific Railroad. Southern Pacific Railroad finished its line from San Francisco to Los Angeles via Antelope Valley in 1876. The construction of a rail line through the valley proved a boom for development, which began in earnest in the 1880s; however, fluctuating water levels and drought caused the failure of many of colonies (Plate 1; Jones & Stokes 2005). Also, key to this development was the establishment of State Route (SR) 58, a major east-west route across the Antelope Valley and Tehachapi Mountains. This route was signed in the 1930s as US 466 and was designated State Highway 58 in 1964. By 1920, more than 80 towns had developed in the area. Many of the towns were located along the railroad, but the primary focus of

the homesteading economy was ranching and agriculture (Jones & Stokes 2005). Sheep and cattle industries were prominent in the Antelope Valley and the Rosamond area due to the availability of open range.

3.6.1.4 Cultural Field Surveys

The Area of Potential Effects (APE) for the cultural resources investigation was defined as a 100-foot wide corridor centered on the proposed alignment. The field survey included all undeveloped areas within the 100-foot APE and was conducted in September 2019 by a team of three archaeologists walking typically in parallel transects spaced 15 meters (m) apart. For navigation and mapping, the survey crew used a smartphone enabled Trimble R1 GNSS receiver with satellite images, supplemented by a set of hard copy maps carried into the field. Each archaeologist closely examined the ground within the APE for evidence of historic or prehistoric activity, including artifacts; artifact concentrations; and features such as historic roads, pits, berms, structures, and other physical alterations to the landscape.

All artifacts and features were examined in the field and initial assessments of age were made on the basis of temporally diagnostic attributes or, in the case of some features such as roads and berms, depictions on historic maps or references in other archival documents. Cultural materials identified as more than 50 years old were recorded as either sites or isolated finds in standard California Department of Parks and Recreation format (DPR Forms 523A-523L). The previously recorded sites falling partially within the APE were fully reexamined to identify any recent changes, and all materials within the APE were recorded in detail.

The investigation revealed seven archaeological sites (four previously recorded and three newly identified) and three isolated finds within or partially within the APE (Table Cult-3). All of the identified cultural materials date to the historic period and include five scatters of historic debris, remnants of an early 20th century road, an isolated can, an isolated metal drum, and a railroad switch.

Table Cult-3
Summary of Archaeological Sites and Isolated Finds within APE

Site Designation	Description	Ownership
P-15-002050 (CA-KER-2050H)	Union Pacific RR alignment	Private
P-15-016716 (CA-KER-9212H)	Historic artifact scatter ¹	BLM
P-15-016717 (CA-KER-9213H)	Historic artifact scatter ¹	BLM
P-15-017304 (CA-KER-9492H)	Highway alignment of US 466	BLM/Private
CC-MR-1	Historic artifact scatter	Private
CC-MR-2	Historic artifact scatter	Private
CC-TW-1	Historic artifact scatter	BLM
CC-Iso-1	Isolated railroad switch	Private
CC-Iso-2	Isolated can	Private
CC-Iso-3	Isolated metal drum	Private

¹ Also includes a portion of P-15-17304

3.6.2 Environmental Effects/Impacts

The significance of the cultural resources identified within the APE is considered with reference to criteria for eligibility for both the NRHP and the CRHR (Table Cult-4). Under 14 CCR Section 15064.5(a)(4), a resource may also be considered a “historical resource” at the discretion of the lead agency. All resources eligible for listing in the NRHP or CRHR must retain integrity, which is recognized through qualities of location, design, setting, materials, workmanship, feeling and association.

**Table Cult-4
NRHP and CRHR Eligibility Criteria**

NRHP	CRHR
A. Associated with events that have made a significant contribution to the broad patterns of our history.	1. Associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
B. Associated with the lives of persons significant in our past.	2. Associated with the lives of persons important to local, California, or national history.
C. Embodies the significant characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.	3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values.
D. Have yielded, or may be likely to yield, information important in prehistory or history.	4. Have yielded or has the potential to yield information important to the prehistory or history of the local area, California, or the nation.

The recommendations for NRHP/CRHR eligibility of the seven cultural resources identified within the APE are summarized in Table Cult-5.

One of these seven sites is the active Union Pacific Railroad (UPRR) track alignment that traverses through Cache Creek Canyon and is used by several dozen freight trains each day as they travel between Bakersfield to Mojave, and vice-versa. During the early 1990s a section of UPRR track near the city of Taft in western Kern County was recorded and given the archeological site registration number CA-KER-2050H/P15-002050 as part of a rail line abandonment project. That archeological site number has since been applied to the entire UPRR rail network within Kern County, even the active alignment through Cache Creek Canyon. The replacement of the existing Mojave PUD water pipeline to the community of Cache Creek will not have any effects upon this active rail line.

The remaining six historic archeological sites are identified as: CA-KER-9212H, CA-KER-9213H, CA-KER-9492H, temp CC-MR-1, temp CC-MR-2, and temp CC-TW-1. All occur within the defined APE and all consist of rusty crushed metal cans, broken bottle glass fragment of various coloration, occasion milled wood fragments, and heavily weathered and deteriorated asphalt road fragments. All six sites are herein evaluated by the BLM for their Eligibility for the National Register of Historic Places (NRHP) under the terms of provision 2.4 D [Duties of BLM Cultural Resource Staff] of the BLM-SHPO Statewide Heritage Protocol Agreement, May 2019 edition.

These six historic archeological sites were evaluated for eligibility for the National Register of Historic Places (NRHP) under **Criteria A**, which is defined as having an association with an historic event of local, State, or National significance. There is nothing physically evident nor any data that these artifacts or pavement fragments contain that indicates any association with any significant historic event. Thus, these six archeological sites do not reach the threshold needed to be determined eligible for the NRHP under Criteria A.

These six historic archeological sites were evaluated for eligibility for the National Register of Historic Places (NRHP) under **Criteria B**, which is defined as having an association with a person or individuals important to local, State or National historical interpretations. There is nothing physically evident nor any data that these artifacts or pavement fragments contain that indicates any association with any

historically significant person or individuals. Thus, these six archeological sites do not reach the threshold needed to be determined eligible for the NRHP under Criteria B.

These six historic archeological sites were evaluated for eligibility for the National Register of Historic Places (NRHP) under **Criteria C**, which is defined as being representative of a provocative or innovative engineering design, material, technology, use, or construction methodology. There is nothing physically evident nor any data that these artifacts or pavement fragments contain that indicates any association with any provocative or innovative engineering design, material, technology, use, or construction methodology. Thus, these six archeological sites do not reach the threshold needed to be determined eligible for the NRHP under Criteria C.

These six historic archeological sites were evaluated for eligibility for the National Register of Historic Places (NRHP) under **Criteria D**, which is defined as contributing important data, or having the potential to contribute important data, to the interpretation of local, State-level, or National archeological research questions and problems. There is nothing physically evident nor any data that these artifacts or pavement fragments contain that is unique or a significant contribution to the interpretations of historic artifact research designs or questions. Thus, these six archeological sites do not reach the threshold needed to be determined eligible for the NRHP under Criteria D.

The three Isolates that were recorded, identified as: CC-Iso-1, CC-Iso-2, and CC-Iso-3, were all evaluated as Not Eligible for the NRHP under Criteria A, B, C, or D, because none contain any substantive association or data.

The existing water pipeline system was installed during the 1950's, but does not contain any elements of potential eligibility for the National Register of Historic Places under Criteria A, B, C, or D, and is determined by the BLM to be Not Eligible for the NRHP.

No further work is recommended at any of these sites or isolates locations.

Table Cult-5
Recommended NRHP/CRHR Eligibility for Identified Cultural Resources

Site Designation	Description	Ownership	NRHP/CRHR Eligibility
P-15-002050 (CA-KER-2050H)	Union Pacific RR alignment	Private	Ineligible
P-15-016716 (CA-KER-9212H)	Historic artifact scatter ¹	BLM	Ineligible
P-15-016717 (CA-KER-9213H)	Historic artifact scatter ¹	BLM	Ineligible
P-15-017304 (CA-KER-9492H)	Highway alignment of US 466	BLM/Private	Ineligible
CC-MR-1	Historic artifact scatter	Private	Ineligible
CC-MR-2	Historic artifact scatter	Private	Ineligible
CC-TW-1	Historic artifact scatter	BLM	Ineligible
CC-Iso-1	Isolated railroad switch	Private	Ineligible
CC-Iso-2	Isolated can	Private	Ineligible
CC-Iso-3	Isolated metal drum	Private	Ineligible

¹Also includes a portion of P-15-17304

3.6.3 Mitigation

Although the surface surveys revealed no significant cultural resources, there remains some potential for buried cultural deposits within the project area. Most of the project area is subject to alluvial deposition, either along the drainage bottom of Cache Creek or within the series of overlapping alluvial fans emanating from drainages in the hills north of the creek, which could potentially have buried prehistoric or historic archaeological deposits.

The following mitigation measures are proposed to mitigate the potential finding of undiscovered resources.

CR-1: Cultural Resources Monitoring – It is recommended that construction excavation within recent alluvial deposits be monitored by a qualified archaeologist to identify buried cultural resources. Monitoring shall be implemented as listed below:

1. High Sensitivity Areas: Monitoring required.
2. Moderate Sensitivity Areas: Initial monitoring required to assess the potential for buried cultural sites and to determine the need for further monitoring. If it is determined during the monitoring that these locations have little potential for intact buried cultural resources, the archeological monitoring may be discontinued in consultation with the District and the BLM Ridgecrest field office.
3. Low Sensitivity Areas: No monitoring required.

If subsurface cultural resources are encountered during construction, work in the immediate vicinity should be suspended until the discovery is assessed and further treatment is determined in consultation with the MPUD and the BLM Ridgecrest field office.

CR-2: Regulation Compliance – The District will comply with Health and Safety Code Section 7050.5, CEQA Section 15064.S(e), and Public Resources Code Section 5097.98, which mandate the process to be followed in the unlikely event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

3.6.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed Project, this study concludes that with mitigation measures in place, the impact to cultural resources will be less than significant and that the Project:

- a. Would not cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5
- b. Would not cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.

a & b – The proposed Project area has a high to low sensitivity of finding buried cultural resources. If encountered during construction, it is possible that these resources could be affected by the Project, however, the incorporation of management and monitoring protocols will reduce this to less than significant.

- c. Would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- d. Would potentially disturb any human remains, including those interred outside of formal cemeteries

c & d- There is a low likelihood that this project will encounter any paleontological and human remains near the proposed Project area. If human remains are discovered, all procedures

pursuant to CEQA Guidelines 15064.5, PRC section 5097.98, and Safety Code of Regulations 7050.5 will be maintained. This reduces the potential to a less than significant status.

The replacement of six miles of water pipeline by the Mojave Public Utility District will not have any adverse effects (NAE) upon any significant cultural resources or National Register of Historic Places Historic Properties.

Pursuant to the Statewide Heritage Protocol Agreement, May 2019, between BLM California and the California State Historic Preservation Officer, the BLM affirms that all necessary steps have been taken to identify, record, and determine effects on Historic Properties within the project's Area of Potential Effect.

3.6.5 No Action Alternative

The No Action Alternative would not result in implementation of the proposed action and impacts to cultural resources as described above would not occur. No mitigation measures are proposed or required.

3.7 Geology and Soils

3.7.1 Affected Environment

3.7.1.1 Geology

The site is located within the United States Geological Survey (USGS) Monolith and Mojave 7.5 minute quadrangles. The site parallels Cache Creek, an arroyo with intermittent flow which drains the northeastern Tehachapi Mountains and southwestern Sierra Nevada. It empties into the northern Antelope Valley via an alluvial fan between Mojave and California City. The site lies in Tehachapi Pass, a narrow, 5-mile-long canyon carved by Cache Creek southeast of Tehachapi and northwest of Mojave.

Rocks in the Tehachapi Pass consist of Mesozoic granitic and metamorphic rocks in the high relief areas north and south of Cache Creek. Quaternary alluvium deposited by Cache Creek and its tributaries covers the low areas of Tehachapi Pass. The proposed pipeline route passes close to several exposures of granite, but the route lies entirely on Quaternary alluvium consisting of unconsolidated to moderately consolidated sand, silt, gravel, cobbles, and boulders. Davenport and others, as described in the project's jurisdictional delineation report in **Appendix E**, mapped six sedimentary subunits along the pipeline route:

- Qt: Late Holocene sediments within the current Cache Creek streambed.
- Qf and Qa: Late Holocene sediments occurring within the Cache Creek flood plain. The Qf unit occurs within Tehachapi Pass and the Qa unit occurs at the far west end of the site and is the easternmost extent of similar deposits occurring within the Tehachapi Valley.
- Qof: Late to middle Pleistocene terrace deposits representing older alluvial deposits that have since been eroded leaving terraces and mesas.
- Qyf and Qyu: Holocene to late Pleistocene alluvial fan and alluvial wash sediments.

A large rainfall event on October 15, 2015, resulted in a flash flood / mudslide that closed Hwy 58 for at least a week. The mudflow buried approximately two miles of Hwy 58 with about six feet of mud. This occurred entirely within the project area, and mostly affected the north side of Hwy 58. Evidence of past flooding, and perhaps in an effort to make sure it would not be repeated, may be seen in the stand pipes and basins installed on the north side of Hwy 58. Just north of the Cache Creek drainage and Hwy 58, there is a geological unit called "pKm" that is composed of metamorphic rock that is very erodible. This type of rock tends to fail more than other types (e.g., granite). In addition, there is a fault line that runs directly under the pKm rock type, located just north of Hwy 58. Thus, the steep slopes north of Hwy 58 in the area of Cameron Road are vulnerable to erosive events, which in turn supply sediment to the Cache Creek drainage.

3.7.1.2 Soils

Soil types within the Study Area for the Jurisdictional Delineation Report (a 250-foot wide strip along the proposed alignment) and the Impact Corridor (a 40-foot wide potential construction impact area along the proposed alignment) are shown in Table Geo-1 below. None of the mapped soils were hydric soils.

Table Geo-1
Soils Data within Study Area and Impact Corridor.

Soil Type Code	Soil Description¹	Study Area (acres)	Impact Corridor³ (acres)
104	Arizo gravelly loamy sand, 2 to 9 percent slopes - <i>Flooding Frequency Class: Occasional</i> ²	191.68	14.85
114	Cajon loamy sand, 0 to 5 percent slopes	0.90	--
124	Cinco gravelly loamy sand, 50 to 75 percent slopes	10.80	0.20
137	Garlock loamy sand, 2 to 9 percent slopes	10.00	1.04
156	Pajuela-Whitewolf association, steep	62.27	5.73
174	Steuber sandy loam, 0 to 2 percent slopes	9.35	0.79
185	Torriorhents-Rock outcrop complex, very steep	1.66	--
204	Whitewolf loamy sand, cool, 2 to 5 percent slopes	152.97	18.37
206	Xeric Torriorhents, very steep	5.53	0.08
		445.17	41.05

¹ Soil Survey Area: CA670. Refer to the jurisdictional delineation report **Figure 10** map set, as well as soil information from Web Soil Survey (2018) in **Appendix E**.

² All soils have a drainage class of "somewhat excessively drained" and "well drained," and most have a hydrologic soil grouping of A or B (high or moderate infiltration rate). None of these soils are considered hydric soils.

³ For this table, impact corridor includes both the conceptual and alternative conceptual alignments.

3.7.1.3 Seismic Hazards

The proposed Project is in an area of relatively high seismic activity. The Garlock Fault Zone is an active left lateral strike slip fault. The fault passes along the north side of Tehachapi Pass and passes through the proposed pipeline route and Cache Creek at the west end of the site. Except at the far west end of the site, the entire route of the proposed pipeline is located south of the fault zone. Land along the Garlock fault is designated as Fault-Rupture Hazard Zones under the Alquist-Priolo Fault Zoning Act as shown on **Figure 11** in **Appendix A**.

3.7.2 Environmental Effects/Impacts

Impacts to soils and geology are subject to a number of regulatory requirements. Soils are considered an important natural resource and wind and water erosion are considered both a loss of this resource and a potential public health and safety issue. Erosion by wind is subject to local and regional controls, primarily under the guidance of the EKCAPD, which regulate fugitive dust emissions. Erosion due to water is under the regulation of the Lahontan Regional Water Quality Control Board. Loss of soils due to erosion is also addressed in the air quality and water quality sections of this Initial Study/Environmental Assessment. Seismic hazards are addressed in local, county, and State building codes and regulations.

3.7.2.1 Soil Erosion During Construction

Soils within and surrounding the proposed Project area may highly susceptible to water and/or wind erosion. Construction activities in periods of winds in excess of about 10 miles per hour could therefore cause erosion. Pipeline and pump station construction will result in excavation, temporary side casting of soils, and then backfilling of the trench. Sheet flow from precipitation during construction operations may occasionally result in minor erosion.

3.7.2.2 Effects Related to Earthquakes

Due to the location of the proposed project to the Garlock Fault Zone, there is some potential for strong ground shaking in the area. A magnitude 5.7 earthquake was recorded near the town on Mojave on July 11, 1992. According to the Southern California Earthquake Data Center⁴, it is likely that the Garlock Fault Zone will rupture again in the future. Strong ground shaking could potentially result in a pipeline rupture. If that were to occur, flow in the pipeline would be shut down with isolation valves and released water would tend to infiltrate onto the nearby soils. Minor and short-term local flooding could occur. The booster pump station and other structures would be designed in accordance with current codes related to seismic activity. No significant impact to the pump station is anticipated due to earthquakes.

3.7.2.3 Effects due to Expansive Soils

Per the National Resource Conservation Service, the soils of the Project areas have low or low-to-moderate shrink/swell potential.

3.7.3 Mitigation

The District proposes to implement the following mitigation measures to lessen the impact significance to geology and soils.

GEO-1: SWPPP - To control water and wind erosion during construction and operation of the Project, the District will prepare a Stormwater Pollution Prevention Plan (SWPPP) in compliance with the requirements of the National Pollutant Discharge Elimination System (NPDES) Construction General Permit.

GEO-2: Seismic Design - Although the proposed Project has little inherent potential for causing seismic safety effects, the District will ensure that all facilities are designed to withstand the anticipated seismic forces, consistent with local and State building codes and relevant regulations.

GEO-3: Pipeline Shut Off Valves - The District will install shut off valves along the pipeline to minimize the potential for flooding due to pipe damage or rupture caused by seismic events.

3.7.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed Project, this study concludes that with Mitigation Measures in place, the impacts associated with geology and soils resources will be less than significant and that the Project:

- a. Would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

⁴ <http://scedc.caltech.edu/significant/garlock.html>

- i. The 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.
 - ii. Strong seismic ground shaking.
i, ii - The proposed Project consists of the replacement of an existing pipeline. The proposed replacement pipeline is in the same relative vicinity to the existing pipeline. There are no anticipated new risks of the proposed pipeline from existing conditions. The proposed booster pump station will be constructed to meet current local, state, and federal seismic standards. There are no anticipated aspects of construction activities that would cause a rupture of the nearby earthquake fault(s).
 - iii. Seismic related ground failure, including liquefaction.
There are no hydric soils within and surrounding the proposed Project. The potential for liquefaction as a result of ground shaking in the vicinity of the project is negligible.
 - iv. Landslides.
Though a portion of the proposed Project area contains natural features that pose the potential for landslides in the event of heavy rains, no aspect of the project increases this potential for landslides.
- b. Would not result in substantial soil erosion or the loss of topsoil.
The possibility of erosion and loss of top soil will be mitigated through the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP).
 - c. Would not 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.
The Project area is situated within land that currently supports similar water infrastructure facilities.
 - d. Would not be located on a site with expansive soil that would create substantial risks to life or property.
The National Resource Conservation Service identifies the soils as having low or low-to-moderate shrink/swell potential.
 - e. Would not have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.
The proposed Project does not consist of the construction of any septic tanks.

3.7.5 No Action Alternative

The No Action Alternative would not result in implementation of the proposed action and impacts to geology and soils as described above would not occur. No mitigation measures are proposed or required.

3.8 Greenhouse Gas Emissions

3.8.1 Affected Environment

Certain gases in the earth's atmosphere, classified as greenhouse gases (GHG), play a critical role in determining the earth's surface temperature. A portion of the solar radiation that enters earth's atmosphere is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space. Infrared radiation (i.e., thermal heat) is absorbed by GHGs; as a result, infrared radiation released

from the earth that otherwise would have escaped back into space is instead “trapped,” resulting in a warming of the atmosphere. This phenomenon, known as the “greenhouse effect,” is responsible for maintaining a habitable climate on Earth.

GHGs are present in the atmosphere naturally, are released by natural sources, and are formed from secondary reactions taking place in the atmosphere. Carbon dioxide (CO₂), methane (CH₄), nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are the principal contributors to human-induced global climate change.

Global warming potential (GWP) is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to CO₂. The GWP of a GHG is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time (i.e., lifetime) that the gas remains in the atmosphere (“atmospheric lifetime”). The GWP of each gas is measured relative to CO₂, the most abundant GHG. GHGs with lower emissions rates than CO₂ may still contribute to climate change because they are more effective at absorbing outgoing infrared radiation than CO₂ (i.e., high GWP). The concept of CO₂-equivalents (CO₂e) is used to account for the different GWP potentials of GHGs to absorb infrared radiation.

The proposed project includes pipeline installation, construction of a booster pump station, and demolition of the California Highway Patrol (CHP) and Cache Creek lift stations. Construction and demolition would take place in overlapping phases over a nine-month period. Greenhouse Gas Emission sources include off-road equipment and trucks, on-road worker, vendor, and haul trips as well as operation of the proposed booster pump station.

3.8.2 Environmental Effects/Impacts

Construction

GHG emissions contribute, on a cumulative basis, to global climate change. The proposed project would not contribute significantly to climate change by itself. However, cumulative emissions from many projects and plans would all contribute to global GHG concentrations. Total construction GHG emissions were estimated using the same construction parameters discussed earlier Section 3.4.2.

Heavy-duty off-road equipment, materials transport, and worker commutes during construction of the Proposed Project would result in exhaust-related GHG emissions. Tables GHG-1 and GHG-2 below provide the detailed and summary total annual emissions of GHGs, respectively, associated with each phase of construction, as modeled using CalEEMod. The EKAPCD has not established a threshold of significance for construction related GHG Emissions (EKAPCD 2012 Addendum to CEQA Guidelines Addressing GHG Emission Impacts for Stationary Source Projects When Serving as Lead CEQA Agency). However, the modeled construction-related GHG emissions of 1,313 metric tons of carbon dioxide equivalents (MT CO₂e) are well below the established significance threshold of 25,000 tons/year of GHG for stationary sources. The detailed modeling output files are provided in **Appendix C**.

Table GHG-1

Modeled Construction-Related GHG Emissions	
Construction Phase	GHG Emissions (MT CO _{2e})
Pipeline Installation	613.32
<i>On-Site</i>	596.58
<i>Off-Site</i>	16.74
Pump Stations	658.68
<i>On-Site</i>	246.62
<i>Off-Site</i>	412.06
Demolition	40.83
<i>On-Site</i>	38.35
<i>Off-Site</i>	2.48
Notes: GHG = greenhouse gas; MT CO _{2e} = metric tons of carbon dioxide equivalents Source: Modeled by AECOM, 2018.	

Table GHG-2

Summary of Modeled Construction-Related GHG Emissions	
Construction Phase	GHG Emissions (MT CO _{2e})
Pipeline Installation	613
Pump Stations Construction	659
Demolition	41
Total Emissions	1,313
EKAPCD Significance Threshold	Not established for construction operations
Exceeds Threshold?	NA
Notes: GHG = greenhouse gas; MT CO _{2e} = metric tons of carbon dioxide equivalents; EKAPCD = Eastern Kern Air Pollution Control District Source: Modeled by AECOM, 2018.	

Operations

Operations of the Proposed Project would be essentially the same as existing conditions, except that a new booster station is proposed to replace two existing booster stations. The resulting net increase in connected power is approximately 30 horsepower (See Table GHG-3). Southern California Edison provides power supply to the region and the proposed increase in power demand represents less than 0.003 percent of Southern California Edison's total electric power generation and associated air pollutant emissions. Southern California Edison's CO_{2e} emissions rate from delivered electricity was 549 pounds per Megawatt-hour in 2017 (Edison International 2017 Sustainability Report). As shown in Table GHG-4, net annual GHG emissions associated with operations of the replacement pipeline would be approximately 53.8 MT CO_{2e}/yr. which does not exceed the significance threshold of 25,000 tons /year for GHG established by the EKAPCD.

Table GHG-3

Net Operational Power Demand	
Facility	Power Demand (hp)
CHP Station Booster (demolished)	-5
Cache Creek Pump Station (demolished)	-15
New Booster Station	50
Total Increase in Power Demand	30

Table GHG-4

Summary of Annual Operations-Related GHG Emissions	
Net Power Demand (hp)	30
Net Power Usage (MW-hr./dy)	0.537
CO ₂ e Emissions Rate (lb/MW-hr)	549
Total Annual Emissions (tons CO₂e per year)	53.8
EKAPCD Significance Threshold (tons CO₂e year)	25,000
Exceeds Threshold?	No
Notes: GHG = greenhouse gas; hp = horsepower; MW/dy = Megawatts per day; lb/MW-hr = pounds per Megawatt-hour; CO ₂ e = carbon dioxide equivalents; EKAPCD = Eastern Kern Air Pollution Control District	
^a Southern California Edison 2018	

3.8.3 Mitigation

No mitigation will be needed as the impacts to greenhouse gases associated with the project are deemed to be less than significant.

3.8.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed project, the Initial Study concludes that the impact to greenhouse gases will be less than significant and that the project:

- a. Would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- b. Would not conflict with an applicable plan, policy or regulation adopted for the purposes of reducing the emissions of greenhouse gases.

a, b - The greenhouse gas emissions estimated to be generated by the Proposed Action are well below the established regulatory significance thresholds. There is no conflict with an applicable plan policy or regulation adopted for the purposes of reducing the emissions of greenhouse gases.

3.8.5 No Action Alternative

The No Action Alternative would not result in implementation of the proposed action and impacts due to greenhouse gas emissions as described above would not occur. No mitigation measures are proposed or required.

3.9 Hazards and Hazardous Materials

3.9.1 Affected Environment

The principal federal regulatory agency responsible for the safe use and handling of hazardous materials is the EPA. Other applicable federal regulations are contained primarily in CFR Titles 29, 40, and 49. The federal Resource Conservation and Recovery Act enables the EPA to administer a regulatory program that extends from the manufacture of hazardous materials to their disposal, thus regulating the generation, transportation, treatment, storage, and disposal of hazardous waste at all facilities and sites in the nation.

California regulations are equal to or more stringent than federal regulations. The EPA has granted the State of California primary oversight responsibility to administer and enforce hazardous waste management programs. State regulations require planning and management to ensure that hazardous wastes are handled, stored, and disposed of properly to reduce risks to human and environmental health.

State law requires that:

- Businesses using hazardous materials prepare a plan that describes their facilities, inventories, emergency response plans, and training programs.
- Generators of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the California Department of Toxic Substances and Control.
- Development and implementation of Spill Prevention and Control Plans for facilities using hazardous materials.

On a local or regional scale, the Kern County Environmental Health Department manages many local hazardous materials concerns. Emergency response is often delegated to local fire departments. There are no records of toxic waste sites within the proposed Project area. There are no schools or private and public airports located within the Project vicinity.

3.9.2 Environmental Effects/Impacts

During the project construction period, hazardous substances used to maintain and operate construction equipment (such as fuel, lubricants, adhesives, and solvents) would be present. The use of these materials could potentially result in impacts through accidental discharge associated with use and storage of hazardous materials. The potential release of hazardous materials associated with the proposed project is limited to construction activities.

Given the size of the proposed project and the types of hazardous materials needed during construction, hazardous materials would not be present on site in any significant quantity and any spill is likely to be easily contained. Use of any hazardous materials would be conducted in accordance with all applicable State and federal laws, which include appropriate spill response procedures (Spill Prevention Control and Countermeasure Plan) and conformance with the NPDES Construction General Permit. Therefore, impacts would be less than significant.

3.9.3 Mitigation

Best Management Practices will be implemented during construction including appropriate spill response procedures (Spill Prevention Control and Countermeasure Plan) and conformance with the NPDES Construction General Permit. No additional mitigation measures are proposed or required.

3.9.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed Project, this study concludes that the impact associated with hazards and hazardous materials will be less than significant and that the Project:

- a. Would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

With the exception of construction activities, the proposed Project does not involve the transport, use, and disposal of hazardous materials. Best Management Practices (BMPs) including implementation of a Spill Prevention Control and Countermeasures Plan (SPCCP) will be followed throughout construction.

- b. Would not 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.

Potential impacts associated with construction-related hazardous materials are below a level of significance. Additionally, use of any hazardous materials would be conducted in accordance with all applicable State and federal laws, which include appropriate spill response procedures (SPCCP) and conformance with the NPDES Construction General Permit.

- c. Would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

There are no schools within a ¼ mile of the proposed project area.

- d. Is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

The Project site is not on a list of hazardous materials sites.

- e. Would not result in a safety hazard for people residing or working in the project area 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.

There are no public or private airports within 2 miles of the project area.

- f. Would not result in a safety hazard for people residing or working in the project area for a project within the vicinity of a private airstrip,

There are no public or private airports within 2 miles of the project area.

- g. Would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The proposed Project is located in a remote area and is not likely to interfere with emergency response plans.

- h. Would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

It is not anticipated that the project will expose any residents in the vicinity to potential wildfires.

3.9.5 No Action Alternative

The No Action Alternative would not result in implementation of the proposed action and impacts due to hazards and hazardous materials as described above would not occur. No mitigation measures are proposed or required.

3.10 Hydrology and Water Quality

3.10.1 Affected Environment

The proposed project is located within a semiarid area which averages less than 10 inches of rain per year. The following summarizes the waters observed within the study area during the jurisdictional delineation survey. No wetlands or potential Waters of the US were observed. However, several drainages were documented that may be jurisdictional under the State of California. The site parallels Cache Creek, an arroyo with intermittent flow which drains the northeastern Tehachapi Mountains and southwestern Sierra Nevada. It empties into the northern Antelope Valley via an alluvial fan between Mojave and California City. Ephemeral drainages including Cache Creek, La Rose Creek, and several small, unnamed washes north of State Highway 58 were observed during the delineation. The proposed Project is expected to cross several intermittent drainages within the alignment. A summary of the potential waters of the State and streambeds within the study area are listed below.

- A. Cache Creek – A main creek that flows through the entire Study Area and is a single trapezoidal-shaped channel upstream and a wide floodplain downstream.
- B. Tributary Drainage Ditch – A created drainage ditch that receives flows captured by basins and culverts on the northern side of State Highway 58.
- C. La Rose Creek – A large tributary to Cache Creek.
- D. Tributaries (North of State Highway 58) – higher gradient, small ephemeral drainages that are either single-thread channels or appear to be part of an alluvial fan.

The proposed Project area includes “Zone A” and “Zone X (0.2%)” as designated by the Federal Emergency Management District (FEMA) Flood Insurance Rate Maps. Zone A indicates an area inundated by the 1% annual chance flood (100-year storm) with no base flood elevation determined. Areas within Zone A are located along Cache Creek. Zone X indicates areas inundated by the 0.2% annual chance flood (500-year storm), or areas of 1% annual chance flood with average depths less than 1 foot. Refer to **Figure 12** in **Appendix A**.

3.10.2 Environmental Effects/Impacts

The proposed project is a replacement of an existing water pipeline and will not result in changes from existing conditions. The proposed booster pump station is not located within a 100-year flood hazard zone and will not result in significant changes to drainage patterns or runoff quantities. Construction operations will occur within designated floodways and drainage channels. Bore-and-jack construction will be employed at the Cache and La Rose Creek crossings to avoid impacts to these major drainages in the area. Trenching will be employed for all other drainage crossings. Original contours will be re-established as much as possible. The project would implement Best Management Practices to control dust and manage soil erosion during construction operations.

Given the size of the proposed project and the types of hazardous materials needed during construction, hazardous materials that could potentially impact water quality would not be present on site in any significant quantity and any spill is likely to be easily contained. Use of any hazardous materials would be conducted in accordance with all applicable State and federal laws, which include appropriate spill response procedures (SPCCP).

Construction operations will be in conformance with the NPDES Construction General Permit and include implementation of a Stormwater Pollution Prevention Plan (SWPPP). Therefore, potential impacts to hydrology and water quality would be less than significant.

3.10.3 Mitigation

Best Management Practices will be followed during construction operations including conformance with the NPDES Construction General Permit and implementation of a Stormwater Pollution Prevention Plan (SWPPP). No additional mitigation measures are proposed or required.

3.10.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed Project, the Initial Study concludes that with mitigation measures in place, the impacts associated with hydrology and water quality will be less than significant and that the project:

- a. Would not violate any water quality standards or waste discharge requirements.
The Proposed Project would not result in a change from current operations.
- b. Would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level.
The Proposed Project would not result in a change from current operations.
- c. Would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site.
- d. Would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site.
c & d – The Proposed Project will not result in significant impacts to drainage patterns or runoff quantities.
- e. Would not 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.
Best Management Practices including SWPPP and SPCCP will be implemented during construction. The Proposed Project will not result in significant impacts to drainage patterns or runoff quantities.
- f. Would not otherwise substantially degrade water quality.
The project would result in significant impacts to water quality.
- g. Would not Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

The project does not include the construction of new housing.

- h. Would not place within a 100-year flood hazard area structures which would impede or redirect flood flows.

The project does not place structures within the 100-year flood hazard area.

- i. Would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

The project does not involve the construction of structures that would increase the potential for flooding as a result of the failure of a levee or dam.

- j. Would not have inundation by seiche, tsunami, or mudflow.

The project will not cause seiche, tsunami, or mudflow effects.

3.10.5 No Action Alternative

The No Action Alternative would not result in implementation of the proposed action and impacts to hydrology and water quality as described above would not occur. No mitigation measures are proposed or required.

3.11 Land Use and Planning

3.11.1 Affected Environment

The proposed pipeline alignment is near the vicinity of the UPRR, State Highway 58, the Pacific Crest Trail, and Cache and La Rose Creeks. On the western end of the project the land includes water system facilities owned and operated by the District. Near the center of the project sits a CHP station off State Highway 58. At the eastside of the project lies the community of Cache Creek. The general nature of the land within the proposed pipeline alignment is rough, mountainous, open space terrain. Where at all possible, the proposed pipeline will be installed along defined dirt roads that are used for access across said mountainous terrain. With the exception of the rural community of Cache Creek and the CHP station, the proposed pipeline alignment is not located near any developed property.

The Kern County General Plan designations within the project limits are shown below:

General Plan Designation	Description
1.1	State or Federal Land
4.1	Accepted County Plan Areas (Non-Jurisdictional Land)
4.2	Rural Community
8.3/2.5	Extensive Agriculture (min. 20-acre parcel size)/Flood Hazard
8.5	Resource Management (min. 20-acre parcel size)
8.5/2.4	Resource Management (min. 20-acre parcel size)/Steep Slope
8.5/2.5	Resource Management (min. 20-acre parcel size)/Flood Hazard

The Kern County Zoning designations within the project limits are as follows:

Zoning Designation	Description
A	Exclusive Agriculture
A-1	Limited Agriculture
A WE	Exclusive Agriculture/Wind Energy Combining
A GH	Exclusive Agriculture/Geologic Hazard Combining
A FPS	Exclusive Agriculture/Flood Plain Secondary Combining
E 2 ½ MH	Estate 2 ½ Acres/Mobile Home Combining

3.11.2 Environmental Effects/Impacts

The Proposed Action will not change nor conflict with the land use and zoning designations of the Project site. The Proposed Action is subject to and shall be in conformance with the California Desert Conservation Area Plan of 1980 (as amended) and the West Mojave Plan in accordance with Title 43 CFR 1610.5-3. Bore-and-jack construction will be employed at the Cache and La Rose Creek crossings to avoid impacts to the streambeds for these channels. Trenching will be employed for the remainder of the pipeline construction. Approximate original contours and vegetation will be re-established as much as possible. There are no anticipated significant impacts to land use and planning associated with the implementation of the Proposed Action.

3.11.3 Mitigation

No mitigation will be needed as the impacts to land use and planning associated with the Project are deemed to be less than significant.

3.11.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed Project facilities, the Initial Study concludes that the impacts associated with land use and planning will be less than significant and that the project:

- a. Would not physically divide an established community.

The proposed Project is located in a rural area, surrounded primarily by undeveloped land, and would not physically divide an established community.

- b. Would not conflict with any applicable land use plan, policy, or regulation of a District with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

The proposed project does not change any Land Use designations and or Zoning of the land.

- c. Would not conflict with any applicable habitat conservation plan or natural community conservation plan.

The Proposed Action is subject to and shall be in conformance with the California Desert Conservation Area Plan of 1980 (as amended) and the West Mojave Plan in accordance with Title 43 CFR 1610.5-3. No change in land use is proposed.

3.11.5 No Action Alternative

The No Action Alternative would not result in impacts to land use and planning. No mitigation measures are proposed or required.

3.12 Mineral Resources

3.12.1 Affected Environment

The State of California Department of Conservation has established Mineral Resource Zones (MRZs) to help identify and protect mineral resources in areas within the State where changes in land use could preclude mineral extraction. The Kern County General Plan does not identify the proposed Project area as being within land designated for mineral resource extraction. Refer to **Figure 13** in **Appendix A**.

3.12.2 Environmental Effects/Impacts

There are no anticipated potential impacts to mineral resources associated with the implementation of the proposed Project.

3.12.3 Mitigation

No mitigation will be needed as there are no anticipated potential impacts to mineral resources associated with the Project.

3.12.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed Project, this Study concludes that there are no anticipated potential impacts to mineral resources as a result of the proposed Project and that the project:

- a. Would not 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.
- b. Would not 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.

a & b -The Kern County General Plan does not identify the land within the proposed project area as designated for mineral resource extraction.

3.12.5 No Action Alternative

The No Action Alternative would not result in impacts to mineral resources. No mitigation measures are proposed or required.

3.13 Noise

3.13.1 Affected Environment

Noise is an environmental variable that may affect people. Noise from stationary sources is generally regulated by local authorities through County General Plans or Ordinances. There are various methods for describing noise:

- A weighted decibels (dBA): A direct measure of sound energy intensity, adjusted for the variation in frequency response of the human ear,
- Energy equivalent noise level (L_{min}): The average noise level over a given period;
- Day-Night noise level (L_{dn}): A weighted noise level for a 24-hour period, and
- Community noise equivalent level (CNEL): Equal to L_{dn} except that a 5 dBA adjustment is added to the night noise level.

Noise energy levels (dBA) decrease with distance from the source. For line sources such as traffic, noise levels decrease by 3.0 to 4.5 dBA for every doubling of the reference distance from the source. For stationary sources, noise reduction is 6.0 to 7.5 dBA for every doubling of the reference distance from the source. For example, if traffic noise is measured at 65 dBA at 50 feet, it will be reduced to 62.0 to 60.5 dBA at 100 feet. Noise levels are also affected by topography, structures, wind direction, and humidity.

There have been a number of studies of construction noise levels. The majority of these studies have been based on tests in the 1970's and 1980's. Since then, there have been improvements in construction equipment noise management that have reduced the noise levels generated by construction equipment. Data from EPA from 1971 notes that typical construction activities generate noise levels of 78 to 89 Lmin at 50 feet. A conservative estimate of potential for construction to exceed noise standards can be made using these worst case 1971 estimates.

Construction equipment will thus generate noise levels from 78 dBA to 89 dBA at 50 feet from the construction site, with lower noise levels at greater distances. Typical agricultural equipment, such as a typical tractor, would generate about 85 to 88 dBA at 50 feet. Tractors fitted with mufflers may generate noise levels in the 69 to 75 dBA range at 50 feet. Noise levels from construction vary somewhat from the above estimates based on the number of pieces of equipment used at a single site. Where multiple pieces of heavy equipment may be used, the upper level of noise generated is raised to about 90 dBA.

Potential sources of noise associated with the Project include:

- Construction activities related to the pipeline and booster pump station.
- Demolition of the existing pump stations.
- Operation of the booster pump station.

Project construction activities will be limited to day light hours and will be located in a rural setting with minimal noise sensitive receptors.

3.13.2 Environmental Effects/Impacts

Kern County Code 8.36 (Noise Control) prohibits the creation of construction noise between the hours of 9:00 pm and 6:00 am on weekdays and 9:00 pm and 8:00 am on weekends, which is audible to a person with average hearing faculties at a distance of 150 feet from the construction site, if the construction site is within 1,000 feet of an occupied residential dwelling. Per the Noise Element of the Kern County General Plan, uses that generate exterior noise levels in excess of 65 dB L_{dn} are not allowed in noise sensitive areas, which include residential areas. Noise impacts would be considered significant if noise levels exceed the limits established by Kern County.

The project area consists of relatively mountainous desert terrain as well as along the UPRR right-of-way and SR 58 which are major noise sources. The majority of the alignment is not within the vicinity of noise sensitive receptors. However, sensitive receptors in proximity to the project area do include residences near the eastern most segment of the proposed pipeline. The area of these residences is generally bounded by Wildflower Canyon Road (on the west), Pony Express Road (on the north), Homer Hansen's Private Road (on east), and SR 58 (on the south). There are four residences located along the proposed pipeline alignment on Wildflower Canyon Road.

Construction

Pipeline construction is proposed to be approximately 100 feet from the nearest residences in the Cache Creek community. Construction activities in noise sensitive areas will be limited to daytime hours in compliance with Kern County Code 8.36. Construction of the pipeline is estimated to proceed at a rate of about 250 feet per day. Given the 100-foot setback from the road and anticipated rate of construction, peak

pipeline construction noise levels would be estimated to be 84 dBA (90 dBA at 50 feet less 6 dBA for increase in distance to 100 feet) during daytime hours for one day at a time at each residence.

Activities associated with the construction of the booster pump station and demolition of the existing pump stations are located more than 1 mile from areas of residential development. Noise levels associated with this phase of construction is anticipated to have no impact on noise sensitive receptors.

Operations

The booster pump facilities will be enclosed within a building at the existing Well 9 site which is not located near any sensitive receptors. No long-term increase in ambient noise levels is therefore anticipated from the operation of the booster pump facilities.

3.13.3 Mitigation

Construction operations will be performed in conformance with Kern County regulations. The impacts to noise levels due to construction and operation of the Proposed Action would be less than significant. Additional mitigation measures are not proposed or required.

3.13.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed Project, this Study concludes that there are no anticipated potential significant impacts to nearby receptors as a result of the proposed Project and that the project:

- a. Would not result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
Noise impacts to nearby residential homes along Wildflower Canyon Road will be in accordance with standards established by Kern County.
- b. Would not result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
Some vibration may be generated by construction activities. However, this vibration will be temporary and have a less than significant impact to the residents who live along Wildflower Canyon Road. The homes would have a 100 foot or greater setback from the construction operations. This setback decreases the vibration from the construction locations because vibration attenuates quickly in soil. Therefore, the effect from construction related vibrations will be a less than significant impact.
- c. Would not include a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project
There will be no permanent noise impacts to residential homes.
- d. Would not include a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
Noise levels will be within Kern County standards.
- e. Would not expose people residing or working in the project area to excessive noise levels on 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.
- f. Would not expose people residing or working in the project area to excessive noise levels on a project located within the vicinity of a private airstrip.

e & f - There are no public or private airports within 2 miles of the project area.

3.13.5 No Action Alternative

The No Action Alternative would not result in implementation of the proposed action and impacts due to noise as described above would not occur. No mitigation measures are proposed or required.

3.14 Population and Housing

3.14.1 Affected Environment

Housing development in the vicinity of the proposed project is limited to the community of Cache Creek. There are four single family residences located along the proposed pipeline alignment on Wildflower Canyon Road. The extent of the residential area is generally bounded by Wildflower Canyon Road (on the west), Pony Express Road (on the north), Homer Hansen's Private Road (on east), and SR 58 (on the south). Based on the 2018 Water Rate Study for the District, there are a total of 37 residential water service connections in the Cache Creek area. Using 3.2 estimated persons per household from US Census data⁵, the total population of the Cache Creek area is estimated to be 118.

3.14.2 Environmental Effects/Impacts

Section 15126.2(d) of the State CEQA Guidelines⁴ provides the following direction regarding analysis of growth inducing impacts:

"Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth. Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."

An evaluation of the proposed Project facilities and operation show that it will not foster permanent economic, population, or housing growth. The project is a replacement of an existing water pipeline and not an increase in capacity. The project is not a new source of water supply that would have the potential to induce economic, population, and housing growth.

The mechanisms by which the Proposed Project could affect housing are:

- Creation of jobs and thus of demand for housing
- Environmental Justice

3.14.2.1 Housing Demand

Due to the size of the proposed Project, construction is not anticipated to generate a need for new housing. Workers are not anticipated to move permanently to the area but would instead commute from their hometowns to the project site. During working days, workers would stay at nearby hotels and motels if necessary. These construction jobs would be temporary in nature. Pipeline operations would be the same as existing and would not require new District employees. Therefore, the temporary increase in demand for housing attributable to the Project, if any, would be insignificant.

⁵ <https://www.census.gov/quickfacts/fact/table/kerncountycalifornia>

3.14.2.2 Environmental Justice

The Project area is dominated by small clusters of low-density housing, which are distributed in a random patchy manner along the often discontinuous road systems. Within this area, there are no clear demographic distinctions within the area. The project does not, therefore, disproportionately or unfairly impact any disadvantaged demographic.

3.14.3 Mitigation

No mitigation will be needed as there are no anticipated potential impacts to population and housing associated with the Project.

3.14.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed Project, this Study concludes that there are no anticipated potential significant impacts to population and housing as a result of the proposed Project and that the project:

- a. Would not induce substantial 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).

The proposed project is a pipeline replacement and does not create a new source of water that would have the potential to induce growth. Additionally, the proposed project does not include an extension of roads or expansion of public services that would have the potential to induce growth. Construction operations are temporary and will not induce growth.

- b. Would not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

No housing will be displaced as a result of the proposed project.

- c. Would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

No people will be displaced as a result of the proposed project.

- d. Would not result in a substantial unbalanced or disproportional distribution of impacts of any type on a disadvantaged demographic, such as concentration of toxic emissions in an area of low-income families versus high income families.

The project does not result in a substantial, unbalanced or disproportional distribution of impacts to a disadvantaged demographic.

3.14.5 No Action Alternative

The No Action Alternative would not result in impacts to population and housing. No mitigation measures are proposed or required.

3.15 Public Services

3.15.1 Affected Environment

The Proposed Project is located in a rural area in eastern Kern County. Essential public services are provided by the County of Kern (sheriff and fire). The Proposed Project will not increase demand on local schools, parks, or other public services.

3.15.2 Environmental Effects/Impacts

The proposed Project will not change the need for public services because it will not increase population in the area or create hazards requiring an ongoing public service response. There is a potential for construction related accidents to require public emergency service personnel, but these are not likely to be frequent and hospital service levels would not be affected. Emergency response time to the project area will not be affected during construction. No changes in levels of school or park use are anticipated.

3.15.3 Mitigation

No mitigation will be needed as there are no anticipated potential impacts to public services associated with the Project.

3.15.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed Project, this Study concludes that there are no anticipated potential significant impacts to public services as a result of the proposed Project and that the project:

- a. Would not 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:
 - i. Fire protection.
 - ii. Police protection.
 - iii. Schools.
 - iv. Parks.
 - v. Other public facilities.

No significant impacts are anticipated because the project has no mechanism by which demand for public services would be altered substantially. The Proposed Project would place no demand on schools and parks because it would not involve the construction of facilities that require such services (i.e., residences) and would not involve the introduction of a significant temporary or permanent population into this area. During construction there is a low likelihood of the need for fire, police, and ambulance services in the area to attend potential construction related accidents. Due to the low likelihood of these accidents to take place, the impact to these services are less than significant.

3.15.5 No Action Alternative

The No Action Alternative would not result in implementation of the proposed action and impacts to public services as described above would not occur. No mitigation measures are proposed or required.

3.16 Recreation (Parks and Recreational Facilities)

3.16.1 Affected Environment

The Proposed project is a replacement of an existing pipeline located in a rural area of eastern Kern County. The proposed pipeline alignment is near the vicinity of the UPRR, State Highway 58, the Pacific Crest Trail, and Cache and La Rose Creeks. On the western end of the project the land includes water system facilities owned and operated by the District. Near the center of the project sits a CHP station off State Highway 58. At the eastside of the project lies the community of Cache Creek.

The proposed pipeline alignment is located north of State Highway 58 along the Pacific Crest Trail for a short segment. It then crosses the La Rose Creek with a bored and jacked crossing. From there, the proposed pipeline would continue northeast along a series of defined dirt roadways that are used for access across the mountains north of State Highway 58, to a point north of the CHP station. The Pacific Crest Trail also coincides with the alignment of portions of these roads and will likely be encroached upon during construction. No other parks or recreational facilities are located within the proposed Project area.

3.16.2 Environmental Effects/Impacts

Construction activities may have limited encroachment on portions of the Pacific Crest Trail. The Pacific Crest Trail is located within property owned by the BLM and would be subject to the Right-of-Way Grant obtained for the project. Construction activities in the vicinity of the Pacific Crest Trail will be conducted to allow for the safe passage of people using the trail by providing signage and maintaining a dedicated pathway around the work area where encroachment on the trail occurs. When feasible, construction operations will be scheduled to occur during times when the number of hikers is expected to be low. Trenched areas would be returned to approximate existing contours as much as possible. Impacts on the Pacific Crest Trail and its users are anticipated to be less than significant. The District proposes the installation of a water fill station for the benefit of hikers along the Pacific Crest Trail. The water fill station is proposed to be installed along the water pipeline alignment where it coincides with the Pacific Crest Trail and would utilize a design and be installed at a location acceptable to the Pacific Crest Trail Association.

The proposed Project would have no other direct impacts on existing recreational resources. It would not result in increased use of, loss of access to, or minimized quality of parks within nearby existing communities. Because the project does not affect local population or existing land uses, the project would not result in increased demand for recreation.

3.16.3 Mitigation

No mitigation will be needed as there are no anticipated significant potential impacts to parks and recreational facilities associated with the Project.

3.16.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed Project, this Study concludes that there are no anticipated potential significant impacts to recreation as a result of the proposed Project and that the project:

- a. Will not 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.
- b. Does not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

- c. Will not substantially reduce recreational opportunities or substantially degrade recreational experiences.

a – c, The proposed project does not include an increase in population that would increase the use of or require the new construction of local recreational areas. Construction operations will be conducted to allow for safe passage of people using the Pacific Crest Trail by providing signage and maintaining a dedicated pathway around the work area where encroachment on the trail occurs. When feasible, construction operations will be scheduled when the number of hikers is expected to be low. A water fill station is proposed for the benefit of hikers along the Pacific Crest Trail.

3.16.5 No Action Alternative

The No Action Alternative would not result in implementation of the proposed action and impacts to parks and recreational facilities as described above would not occur. No mitigation measures are proposed or required.

3.17 Transportation / Traffic

3.17.1 Affected Environment

Access to the proposed project site is through Cameron Canyon Road off of State Highway 58 and Cache Creek Boulevard off of California 58 Business. Access roads within the project site are unpaved. Caltrans compiles data on traffic along CA State Highways and publishes the data yearly on its website¹³. The data for 2016 indicates that State Highway 58 in the vicinity of the proposed Project had a traffic volume in the range of 16,400 to 22,500 Average Annual Daily Traffic.

3.17.2 Environmental Effects/Impacts

The project would result in a minor, short term increase in traffic during construction along State Highway 58. Project related construction traffic would include deliveries of equipment and materials and construction personnel traveling to and from the work site. Vehicle trips associated with the delivery of construction material and equipment would be negligible as such trips would be spread-out throughout the project duration. It is anticipated that at the most there would be about 10 equipment and or material deliveries per day and would not be considered substantial in relation to the existing traffic load in the project vicinity.

At the peak of construction there could be construction activities going on at the same time for construction of the underground pipelines and the pump station. During this peak period, it is estimated that up to 18 personal vehicles would access the project site during both the morning peak period (7:00 a.m. to 9:00 a.m.) and the afternoon/evening peak period (4:00 p.m. to 6:00 p.m.), with negligible vehicle traffic during the rest of the day.

Accordingly, impacts associated with increases in construction traffic would be less than significant. Construction operations will be located within the project site with no actively traveled roads. Traffic during operations will be the same as for existing conditions.

As is standard practice, in the event that the District's construction contractors have the need to transport heavy or oversized equipment and or materials, the District will require that these contractors obtain special transportation permits from the State of California Department of Transportation (Caltrans). The pipeline crossing of State Highway 58 right of way will be constructed by boring and jacking and will not impact traffic conditions.

3.17.3 Mitigation

No mitigation will be needed as there are no anticipated potential significant impacts related to traffic associated with the Project.

3.17.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed Project, this Study concludes that there are no anticipated potential significant impacts related to transportation and traffic as a result of the proposed Project and that the project:

- a. Would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

The project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, including alternative modes of transportation.

- b. Would not conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the District congestion management District for designated roads or highways.

The project would not conflict with the Kern Council of Government's congestion management program. Additional short- and long-term traffic being generated as a result of the project is less than significant and is not anticipated to change the Level of Service of State Highway 58.

- c. Would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks.

The project would not include any aviation components or structures where height would be an aviation concern and therefore would not affect air traffic patterns.

- d. Would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). The proposed project would not include any site modifications that would result in hazards due to design features such as driveways, intersection improvements, etc., nor would it cause incompatible uses (such as tractors) on local roads.

The Project does not propose any changes to existing roads that would constitute a traffic hazard.

- e. Will not result in inadequate emergency access.

Operations of the project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan since the project does not include the development of physical structures that would impede such a plan.

- f. Would not conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

The proposed project does not impact public transit, bicycle, or pedestrian facilities.

3.17.5 No Action Alternative

The No Action Alternative would not result in implementation of the proposed action and impacts to traffic and transportation facilities as described above would not occur. No mitigation measures are proposed or required.

3.18 Tribal Cultural Resources

The following discussion is from the November 2018, Cultural Resources Inventory in Support of the Cache Creek Pipeline Replacement Project Report.

3.18.1 Affected Environment

To comply with listed regulations and guidelines, the District conducted a cultural resources inventory assessment consisting of archival research, a Native American contact program including AB 52 Government to Government consultations, and a field survey to identify and mitigate impacts to cultural resources within the Project area. Refer to Section 3.6 for details on methods and results related to this investigation.

A Native American contact program was implemented by AECOM and the District as part of the cultural resources assessment for the Project and includes Government to Government Consultations with tribal groups identified during the sacred lands file search. This program consisted of first contacting the Native American Heritage Commission (NAHC) to request a Sacred Lands File check and list of relevant Native American groups or individuals that might potentially have additional information or concerns relevant to the Project Area. An informational letter, response form, and map were sent to five Native American representatives designated by the NAHC. One written response has been received to date. AECOM has contacted other tribal members which had not responded. None of the responses indicated that the Project area exhibited sensitivity for tribal cultural resources.

The District and AECOM sought to identify impacts to tribal cultural resources within the project area. No prehistoric or historic sites of Native American origin which might include tribal cultural resources were identified within the Study area during the archaeological records search.

Currently, consultations between the District and Native American tribal bodies are in progress pursuant to the AB 52 Government to Government consultation.

As part of the cultural resources field investigation, a pedestrian survey was conducted to identify the presence of any cultural resources in the Project Area. Refer to Section 3.6 for a description of the field survey findings.

3.18.2 Environmental Effects/Impacts

Based on the results of the archival research and survey, there is low potential that archaeological resources will be encountered during ground disturbing activities for the proposed project. No sites or objects of Native American origin were identified during the archival research, which included a complete CHRIS search conducted by AECOM and a Sacred Lands File search conducted by the NAHC. In addition, no published or unpublished material was found which indicated the possible existence of tribal cultural resources (which may include geographic features) within the Project area. However, inadvertent unidentified tribal cultural resources may be found in the Project area during ground disturbance.

If any Native American cultural material is encountered within the Project area, consultation with interested Native American parties will be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources. If human remains are discovered, work in the immediate vicinity of the discovery should be suspended, and the Kern

County Coroner contacted. The Coroner will communicate with the NAHC and identify a Most Likely Descendant under PRC Section 5097.98 and California Code of Regulations Section 15064.5 if the remains are considered Native American in origin.

3.18.3 Mitigation

The District will use the following mitigation measures to lessen the impact of significance to tribal cultural resources.

TCR-1: Inadvertent Finds –

1. If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the project.
2. In the event that Native American cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior (SOI) standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period.
3. If significant Native American historical resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, an SOI-qualified archaeologist shall be retained to develop a cultural resources Treatment Plan, as well as a Discovery and Monitoring Plan

3.18.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed Project, this study concludes that with mitigation measures in place, the impact to tribal cultural resources will be less than significant and that the Project:

- a. Would not 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:
 - i. 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), or
 - ii. A resource determined by the lead District, 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 District shall consider the significance of the resource to a California Native American tribe.

a – Records search and field surveys did not find the existence of tribal cultural resources. Unknown buried cultural resources may possibly be affected by the Project, however, the incorporation of management and monitoring protocols will reduce this to less than significant.

3.18.5 No Action Alternative

The No Action Alternative would not result in implementation of the proposed action and impacts to tribal cultural resources as described above would not occur. No mitigation measures are proposed or required.

3.19 Utilities and Service Systems

3.19.1 Affected Environment

The lands within the proposed Project area are currently undeveloped and not served by public water, wastewater, stormwater, and solid waste collection facilities. The single-family homes within the Cache Creek community located adjacent to the eastern end of the project area are currently served, and will continue to be served, by the water system. Wastewater disposal is managed through the use of septic systems. No significant change to utilities and services systems will result from the implementation of the proposed Project.

3.19.2 Environmental Effects/Impacts

The proposed Project would not result in an increased demand for utilities and service systems including water, wastewater, stormwater, and solid waste management. The proposed Project includes the demolition of two existing pump stations and the construction of a new booster pump station for a net power usage increase of approximately 30 horsepower. Southern California Edison provides power supply to the region and the proposed power demand represents a negligible portion of Southern California Edison's total electric power generation. The impact to utilities and service systems are therefore determined to be less than significant.

3.19.3 Mitigation

No mitigation will be needed as there are no anticipated potential significant impacts related to utilities and service systems associated with the Project.

3.19.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed Project, this Study concludes that there are no anticipated potential significant impacts to utilities and services systems as a result of the proposed Project and that the project:

- a. Would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

There are no wastewater treatment facilities associated with this Project.

- b. Would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

The project would not result in the need for any new or any expansion of existing water or wastewater treatment facilities.

- c. Would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

There are no new or an expansion to existing storm water drainage facilities associated with this project.

- d. Would have sufficient water supplies available to serve the project from existing entitlements and resources, no new or expanded entitlements needed.

There is no new demand for water associated with this project.

- e. Would not 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.

There is no wastewater treatment required from the proposed project.

- f. Would not be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
- g. Would comply with federal, state, and local statutes and regulations related to solid waste.

f & g - Other than during construction operations, there are no permanent solid waste disposal needs for the operation of this project.

3.19.5 No Action Alternative

The No Action Alternative would not result in implementation of the proposed action and impacts to utility and service systems as described above would not occur. No mitigation measures are proposed or required.

3.20 Cumulative Impacts and Findings

3.20.1 Introduction

This Section of the Study evaluates the project specific and cumulative impacts associated with the proposed Project. Cumulative Impacts are defined in NEPA as an "impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions" (40 CFR Section 1508.7). Cumulative impacts are considered in CEQA as two or more individual project effects that, when considered together with other projects combine to result in a significant impact within an identified region. Refer to **Appendix B** for the completed CEQA Checklist.

3.20.2 Environmental Effects/Impacts

Implementation of the proposed project could potentially result in impacts to sensitive species. The project also may potentially result in impacts to unknown cultural resources. Degradation of the quality of the environment would be reduced to below a level of significance through implementation of the mitigation measures identified in the respective sections of this Study.

In order for the project to contribute to cumulative impacts, it must result in some level of impact on the project specific level. For the most part the proposed Project will cause no impact to aesthetics, agriculture and forestry, air quality, greenhouse gas emissions, hazards and hazardous materials, land use and planning, mineral resources, population and housing, public services, recreation, transportation and traffic, and utilities and service systems.

A list of past, present, and reasonably foreseeable future projects near the project site is included as Table 3-4 of the Draft EIR for the Beacon Photovoltaic Project. Present and reasonably foreseeable development near the project area consists mainly of solar projects. The proposed project is situated within rural Kern County near two major transportation corridors (State Highway 58 and the Union Pacific Railroad Tehachapi Pass lines). With the exception of the Cache Creek residential area at the eastern end of the project, the land within and surrounding the project is currently undeveloped mountainous terrain. No other development proposals are currently foreseen within the limits of the project area. Potential cumulative impacts due to other past, present, or reasonably foreseeable projects are discussed below:

- Biological Resources – Conducting ground disturbance and the introduction of noise and human presence to the area may result in temporary project related impacts to sensitive species. The project would implement mitigation to reduce potential impacts to less than significant levels. Impacts to biological resources have occurred as a result of past projects. However, no other development proposals are currently foreseen within the limits of the project area. Therefore, the proposed Project with implementation of the proposed mitigation measures would result in temporary, less than significant impacts and would not contribute to a cumulatively considerable impact on biological resources.
- Cultural Resources (including Tribal Cultural Resources) – Conducting ground disturbance may result in project related impacts to unknown cultural resources. The project would implement mitigation to reduce potential impacts to less than significant levels. No other development proposals are currently foreseen within the limits of the project area. Therefore, the proposed Project with implementation of the proposed mitigation measures would not contribute to a cumulatively considerable impact on cultural resources.
- Geology and Soils – With mitigation measures, impacts associated with erosion are inherently restricted to the project area and would not contribute to cumulative impacts associated with other planned or proposed development.
- Noise – Considering that noise impacts within the project vicinity are regulated by the General Plan and Kern County Municipal Code and that the project would incorporate mitigation measures to reduce construction and operational noise impacts to less than significant levels, the project would not incrementally contribute to a significant cumulative noise impact.

3.20.3 Mitigation

There are no additional mitigation measures anticipated as a result of evaluation of the project as a whole and considering any cumulative impacts.

3.20.4 Environmental Consequences

Based on the analysis of the potential effects of the proposed Project, this Study concludes that with mitigation measures in place, there are no anticipated potential significant cumulative impacts to the environment as a result of the proposed Project and that the project

- a. Would not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

The potential impacts to wildlife and plant species will be mitigated to a level which would be considered less than significant. Refer to Section 3.5.3. Though the potential to encounter cultural resources is low to moderate, mitigation measures will be implemented to minimize the impacts of unknown cultural resources to a level which is less than significant. Refer to Section 3.6.3.

- b. Would not have impacts that are individually limited, but cumulatively considerable (“cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects).

The impacts associated with this project will be mitigated to a less than significant level. The proposed project area is primarily undeveloped and no future projects are currently

considered within the project area. Impacts when viewed in connection with the effects of past, current and probable future projects are not cumulatively considerable. Refer to Section 3.20.2.

- c. Would not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.

With the exception of noise impacts to adjacent residences, the project would not consist of any use or activities that would negatively affect any persons in the vicinity. Mitigation measures identified in this Study would reduce noise impacts to less than significant levels. In addition, all resource topics associated with the project have been analyzed in accordance with State CEQA Guidelines and found to pose no impact, less than significant impact, or less than significant impact with mitigation. The project would not result in any environmental effects that would cause substantial adverse effects on human beings directly or indirectly.

3.20.5 No Action Alternative

The No Action Alternative would not result in implementation of the proposed action and potential impacts as described above would not occur. No mitigation measures are proposed or required.

SECTION 4

REFERENCES

1. AECOM. "Biological Resources Reconnaissance Survey Report for the Proposed Mojave Public Utility District Cache Creek Water Line Replacement Project." September 2018 with "Supplemental Rare Plant Survey". June 2019.
2. AECOM. "Cultural Resources Inventory in Support of the Proposed Cache Creek Pipeline Replacement Project." November 2018.
3. AECOM. "Jurisdictional Delineation of Arid Streams for the Proposed Mojave Public Utility District Cache Creek water Line Replacement Project." November 2018.
4. Bureau of Land Management. "California Desert Conservation Area Plan". 1980 (as amended).
5. Bureau of Land Management. "Federal Land Management Act of 1976 as Amended". October 2001.
6. Bureau of Land Management. "Land Use Planning Handbook H-1601-1". March 2005.
7. Bureau of Land Management. *National Data (Geospatial Program), Visual Resource Class Inventory*. Accessed March 2019.
8. Bureau of Land Management. "National Environmental Policy Handbook H-1790-1". January 2008.
9. Bureau of Land Management. "West Mojave Plan". 2006.
10. California Department of Conservation. California Geological Survey Data. *Alquist-Priolo Fault Zone Map Service*. Accessed February 2019.
11. California Department of Toxic Substances Control (DTSC). *EnviroStor Database*. Accessed February 2019.
12. California Natural Resources Center. "California Environmental Quality Act (CEQA) Statute and Guidelines." 2016.
13. Caltrans. *Traffic Census Program*. 2016.
14. Eastern Kern Air Pollution Control District. "Addendum to CEQA Guidelines Addressing GHG Emission Impacts for Stationary Source Projects When Serving as Lead CEQA Agency". March 2012.
15. Edison International. "2017 Sustainability Report". June 2018.
16. Federal Emergency Management District. *FEMA Flood Map Service Center*. Accessed February 2019.
17. Kern COG. "2018 Regional Transportation Plan". August 2018.
18. *Kern County Ordinance Code*. Accessed February 2019.
19. Kern County Planning Department. "Draft EIR for the Beacon Photovoltaic Project". July 2012.
20. Kern County Planning Department. "Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports". December 2006.
21. Kern County Planning and Natural Resources Department. "General Plan." Accessed February 2019.
22. Mojave Public Utility District. "Water Rate Study Report". October 2018.

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