Bouse Upgrade Project

Draft Environmental Assessment

DOE/EA-2106

Prepared for:

U.S. Department of Energy
Western Area Power Administration
Desert Southwest Region

Cooperating Agencies
Bureau of Land Management
Lake Havasu Field Office

Colorado River Indian Tribes

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List of Acronyms

ACEC	Areas of Critical Environmental Concern
ADEQ	Arizona Department of Environmental Quality
AGFD	Arizona Game and Fish Department
AIRFA	American Indian Religious Freedom Act
APE	Area of potential effect
ASLD	Arizona State Land Department
ASM	Arizona State Museum
BCC	Birds of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
BLMS	BLM Sensitive species
BMP	Best Management Practices
CDFG	California Department of Fish and Game
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CRIT	Colorado River Indian Tribes
CRTP	Cultural Resources Treatment Plan
CWA	Clean Water Act
DOE	U.S. Department of Energy
EA	Environmental Assessment
EIS	Environmental Impact Statement
EJ	Environmental justice
EPA	U.S. Environmental Protection Agency
EPG	Environmental Planning Group, LLC
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FLPMA	Federal Land Policy and Management Act
FONSI	Finding of No Significant Impact
HUC	Hydrologic Unit Code
IPaC	Information for Planning and Consultation
KOP	Key observation point
kV	Kilovolt
LCRMSCP	Lower Colorado River Multi-Species Conservation Program
MBTA	Migratory Bird Treaty Act
NAGPRA	Native American Graves Protection and Repatriation Act

NAAQS	National Ambient Air Quality Standards
n.d.	No date
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NESC	National Electric Safety Code
NHD	National Hydrography Dataset
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
O&M	Operation and maintenance
OHV	Off-highway vehicle
PCM	Project Conservation Measures
Project	Bouse Upgrade Project
Reclamation	Bureau of Reclamation
RMP	Resource Management Plan
RMZ	Recreation Management Zone
RPO	Regional Preservation Officer
RWQCB	Regional Water Quality Control Board
SHPO	State Historic Preservation Office
SOP	Standard Operating Procedures
SR	State Route
SRMA	Special Recreation Management Area
SVP	Society of Vertebrate Paleontology
SWPPP	Storm Water Pollution Prevention Plan
THPO	Tribal Historic Preservation Office
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTM	Universal Transverse Mercator
VRI	Visual resource inventory
VRM	Visual Resource Management
WAPA	Western Area Power Administration
WECC	Western Electricity Coordinating Council
WEG	Wind Erodibility Group
WSA	Wilderness Study Area

CHAPTER 1 – INTRODUCTION

1.1 INTRODUCTION

Western Area Power Administration (WAPA), a power-marketing agency within the U.S. Department of Energy (DOE), is proposing to rebuild, upgrade, and decommission components of the existing Parker-Davis transmission system located in western Arizona and eastern California. This proposed Project, also referred to as the Bouse Upgrade Project, is designed to address safety and reliability issues impacting the regional electric grid and would require new rights-of-way on a combination of Federal, State Trust, Tribal, and private lands.

On February 4, 2019, WAPA published a Determination to Prepare an Environmental Assessment according to the DOE National Environmental Policy Act (NEPA) Regulations. Appendix C4, Subpart D of Part 1021 of the regulations defines Classes of Actions that Normally Require EAs [environmental assessment] but Not Necessarily EISs [environmental impact statement] to include: "[u]pgrading or rebuilding more than approximately 20 miles in length of existing powerlines; or construction of powerlines (1) more than approximately 10 miles in length outside previously disturbed or developed powerline or pipeline right-of-way or (2) more than approximately 20 miles in length within previously disturbed or developed powerline or pipeline rights-of-way." Appendix C4 applies to the proposed Project because it entails rebuilding more than 10 miles of transmission line outside previously disturbed or developed powerline or pipeline rights-of-way. WAPA is the lead agency in the development of this EA and the Bureau of Land Management (BLM) and the Colorado River Indian Tribes (CRIT) are cooperating agencies.

1.2 WAPA'S PURPOSE AND NEED

WAPA's Transmission Planning Group has identified the need to improve the reliability of the Parker Davis Project's transmission system between the Parker Substation, the Bouse Substation, and Headgate Rock Substation. The Parker Davis Project involves the transmission of hydropower generated at the Parker and Davis Dams and transmitted to the Parker Davis Project's customers throughout Arizona and southeastern California. WAPA is responsible for marketing the power generated by the dams and maintaining the transmission system consisting of over 1,500 miles of high-voltage transmission lines and over 32 substations. Currently, WAPA transmits power between the Parker Substation and the Head Rock and Bouse substations via the the existing Parker-Headgate Rock and Parker-Bouse 161-kilovolt (kV) transmission lines. These lines were built in the 1940s and 1950s using wood poles that are in an advanced state of degradation and have exceeded normal service life.

External shell rot, weathering, and large cracks are evident in the poles of both transmission lines. Damage to the outer layer of these poles can allow entry to fungus and insects that cause internal decay, further weakening the poles (Figure 1-1). These conditions present reliability and safety concerns as the weight of the conductors and hardware can become excessive for the weakened poles. These issues indicate that failure of these structures is imminent. The condition of these structures not only impairs the continued reliability of the transmission lines, it also presents a potential safety hazard for maintenance workers.

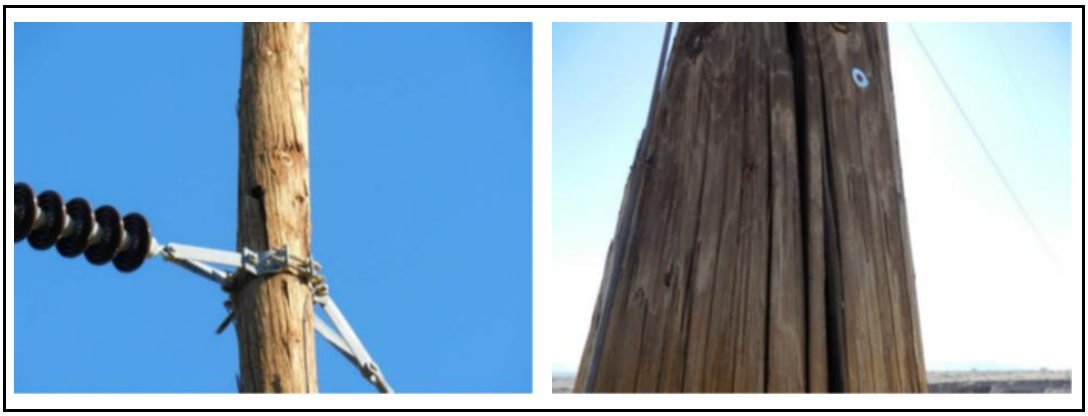


Figure 1-1 Examples of Damaged Outer Layer on Existing Structures

Furthermore, encroachments within WAPA's right-of-way and under the conductors present safety and reliability risks (Figure 1-2). These encroachments include roads, other utilities, equipment storage, buildings, metal fences, trees, walls, and residential and commercial properties. These issues present risks not only for WAPA's maintenance staff, but to the general public as well. The risks include, but are not limited to, induced currents, blocked access for maintenance or repair, dropped conductors, and fallen structures on residential and commercial properties.

Figure 1-2 Examples of Encroachment onto WAPA's Right-of-Way

The purpose of the Proposed Action is to improve overall system reliability and safety of the Parker-Davis transmission system.

WAPA's facilities need to meet North American Electric Reliability Corporation (NERC), Federal Energy Regulatory Commission (FERC), and Western Electric Coordinating Council (WECC) reliability standards as well as follow guidance in WAPA's Power System Safety Manual. WAPA operates and maintains transmission lines and associated facilities in accordance with the Federal Power Act, Sections 210 and 213.

1.3 PROJECT BACKGROUND, OVERVIEW, AND LOCATION

1.3.1 Project Overview and Location

WAPA owns, operates, and maintains the Parker–Davis transmission system located along the Colorado River in western Arizona and eastern California, which includes the following existing Project related facilities:

- Substations
    - Parker 161-kV/230-kV
    - Headgate Rock 161-kV
    - Bouse 161-kV
- Transmission lines
    - Parker-Headgate Rock 161-kV
    - Parker-Bouse 161-kV
    - Parker Liberty #2 230-kV

The proposed Project would reconfigure the 161-kV system south of Parker to a new 230-kV system providing for future load growth. The Project would allow for removal of portions of the Parker-Headgate Rock and Parker-Bouse transmission lines, which were scheduled for replacement in 1999 and have exceeded normal service life.

The proposed action would occur on land managed by BLM Lake Havasu Field Office, Arizona State Land Department (ASLD), Bureau of Reclamation – Yuma Area Office (Reclamation), Tribal (CRIT), as well as private and WAPA-owned lands in Parker.

1.4 BLM'S PURPOSE AND NEED

The BLM's purpose and need for the Project is to respond to WAPA's SF-299 request for a new right-of-way grant. The grant would authorize WAPA to install and maintain a new 230-kV transmission line between the existing Bouse Substation and the existing Parker-Liberty #2 230-kV transmission line on public lands and terminate the right-of-way grant for those portions of the Parker-Headgate Rock and Parker-Bouse 161-kV transmission lines to be decommissioned and removed.

Title V of the Federal Land Policy and Management Act (FLPMA) (43 United States Code [USC] 1706) and the Code of Federal Regulations (CFR) found at Title 43, Section 2800, requires the BLM to respond to right-of-way applications while avoiding or minimizing adverse impacts to other resource values and to locate the uses in conformance with land-use plans.

1.5 COOPERATING AGENCIES

The Project passes through lands in Arizona and California managed by the BLM, Reclamation, CRIT, and ASLD. Under NEPA regulations, the BLM, Reclamation, ASLD, and CRIT were invited to be cooperating agencies in preparation of this EA. The BLM and CRIT accepted cooperating-agency status and Reclamation declined.

As cooperating agencies, the BLM and CRIT met with WAPA, reviewed technical reports, and provided input into the scope and content of the environmental analysis. Refer to Chapter 4 for additional information on agency coordination for this Project.

1.6 PUBLIC INVOLVEMENT

1.6.1 Scoping

The scoping period for the proposed Project began December 5, 2020, when public notices for the virtual open house were mailed, and ended on February 17, 2021. WAPA notified stakeholders of the Project and

solicited their comments through a scoping letter dated December 1, 2020, and a newspaper advertisement that ran January 3, 2021, in the *Parker Pioneer*. Notified stakeholders included Federal, State, Tribal, and local governments; other interested organizations; and landowners within and near the Project area. WAPA hosted a web-based virtual scoping meeting on January 11, 2021, in which interested parties were provided an opportunity to learn about the proposed Project, ask questions, and provide comments. Seven comments were received on the Project from local residents and establishments.

The issues and questions raised during public scoping included environmental, economic, fire hazard of existing lines, jumper options, proximity to private residences, and Tribal consultation (see Appendix A).

1.7 WAPA'S DECISIONS TO BE MADE

This EA, which is the responsibility of WAPA, is a concise public document that serves to provide sufficient evidence and analysis for determining whether to prepare an EIS or a Finding of No Significant Impact (FONSI); aid WAPA's compliance with NEPA when no EIS is necessary; and facilitate preparation of an EIS if one is necessary (40 CFR § 1508.9). Based on the analysis contained in this EA, weighing how each alternative meets the purpose and need, WAPA would determine whether the Proposed Action requires an EIS or if a FONSI can be prepared.

1.8 BLM'S DECISIONS TO BE MADE

The BLM would decide whether to issue a FLPMA-compliant right-of-way grant to WAPA for the new 230-kV double-circuit transmission line component of the Proposed Action and for the access roads needed for maintenance and repair, and if so, under what terms and conditions would apply to the right-of-way grant. Depending on which jumper connection option is chosen, the BLM would also issue FLPMA-compliant rights-of-way grant and applicable terms and conditions, to WAPA for the connection of the Parker Headgate-Rock and Parker-Bouse transmission lines.

The BLM would also issue a FLPMA-compliant right-of-way amendment, and applicable terms and conditions, for relinquishing right-of-way of the Parker-Headgate Rock and Parker-Bouse and 161-kV transmission lines.

CHAPTER 2 – PROPOSED ACTION AND ALTERNATIVES

2.1 WAPA'S PROPOSED ACTION

WAPA is proposing to rebuild, upgrade, and decommission components of the existing Parker-Davis transmission system (Figure 2-1). Specifically, WAPA is proposing to:

- Build a new 230-kV transmission line from the Bouse Substation to the Parker-Liberty #2, 230-kV transmission line, requiring new ROW on BLM and ASLD land
- Expand the existing Bouse Substation by adding a 230-kV bus (0.3 acres)
- Connect the existing Parker-Headgate Rock 161-kV transmission line to the Parker-Bouse 161-kV transmission line with a new jumper connection at one of seven possible locations, ranging in length from 0.1 to 3.3 miles
- Remove portions of the existing Parker-Headgate Rock and Parker-Bouse 161-kV transmission lines between the chosen jumper connection and the Parker Substation (26 to 34 miles)

As part of the Project, WAPA also proposes to:

- Construct and improve access roads (18 to 21 miles)
- Lease up to three laydown yards, each covering approximately 2.5 acres, for construction the proposed Project
- Acquire rights-of-way for transmission line construction, operation, and maintenance (18 to 21 miles)

WAPA proposes to acquire a new right-of-way up to 150 feet wide across BLM-managed and State Trust lands for construction and operation and maintenance (O&M) of new 230-kV transmission line facilities. Depending on which connection option is chosen, WAPA also proposes to acquire a new right-of-way up to 100 feet wide across State Trust land and lands managed by the BLM, CRIT, private, and/or Reclamation for construction and O&M of a 161-kV transmission connection between the existing Parker-Headgate Rock and Parker-Bouse transmission lines. The proposed expansion of the Bouse Substation would occur on land wholly owned in fee by WAPA and would not require additional or new rights-of-way.

Existing rights-of-way for the Parker-Bouse and Parker-Headgate Rock 161-kV transmission lines are currently held and maintained by WAPA and are 100 feet wide for each transmission line, and 50 feet wide for associated access roads. The portions of the existing rights-of-way that would be relinquished as part of the Proposed Action cross lands administered by the BLM, Reclamation, and ASLD and across Federal lands held in trust for the benefit of Federally Recognized Indian Tribes.

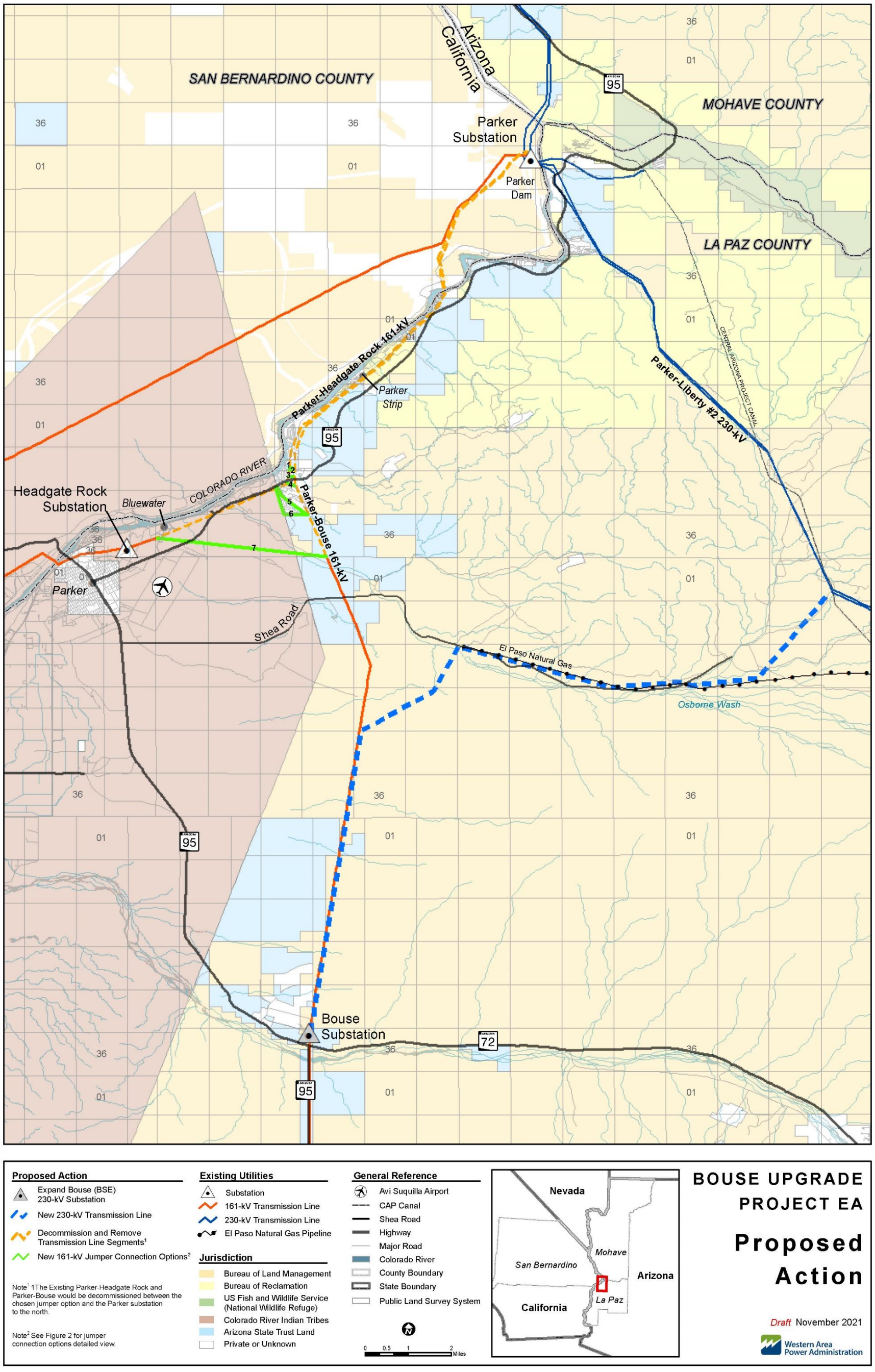


Figure 2-1 Location of the Proposed Action

2.2 PROJECT'S PROPOSED FACILITIES

Table 2-1 presents the components of the proposed Project. Typical transmission line structures, similar to those proposed to be built as part of the Proposed Action, are shown in Figure 2-2.

Table 2-1 Project's Proposed Facilities

Project Component	Land Ownership	Location	Length or Area
New 230-kV Transmission Line			
New 230-kV double-circuit transmission line	BLM and ASLD	Bouse Substation to Parker Liberty #2 230-kV transmission line	18 miles, 150-foot-wide right-of-way
Substation Expansion			
Additions to Bouse Substation (breaker, switches, and two 230-kV bays)	WAPA (owned in fee)	Parker South	0.3 acres
Jumper Connection			
From Parker-Headgate Rock to Parker-Bouse 161-kV transmission lines			
Jumper Option 1	ASLD	North of Cienega Springs Road	0.1 mile, (100-foot-wide right-of-way)
Jumper Option 2	ASLD	South of Cienega Springs Road	0.1 mile, (100-foot-wide right-of-way)
Jumper Option 3	Private land	South of Storage Place Rd	0.1 mile, (100-foot-wide right-of-way)
Jumper Option 4	Private land	West of Rio Vista Rd, South of ARS 95 overpass	0.2 mile, (100-foot-wide right-of-way)
Jumper Option 5	Private land	East of Lakeside Boulevard, North of 94th Street	0.9 mile, (100-foot-wide right-of-way)
Jumper Option 6	ASLD, CRIT	Along Lakeside Boulevard	1.1 mile, (100-foot-wide right-of-way)
Jumper Option 7	ASLD, CRIT, BLM	North of Avi Suquilla Airport	3.3 mile, (100-foot-wide right-of-way)
Decommission Segments[1]			
Removal North of Jumper Option 1	ASLD, BLM, CRIT, private, and/or Reclamation	Between the Parker Substation and new jumper location	18.2 miles
Removal North of Jumper Option 2			18.3 miles
Removal North of Jumper Option 3			18.6 miles
Removal North of Jumper Option 4			19 miles
Removal North of Jumper Option 5			20 miles
Removal North of Jumper Option 6			20.2 miles
Removal North of Jumper Option 7			23.4 miles

NOTE: [1]Length of Parker-Headgate Rock and Parker-Bouse 161-kV transmission lines to be removed depends upon which jumper option is chosen to connect the two transmission lines.

Typical Single-Circuit 230-kV Steel Monopole

Typical Single-Circuit 230-kV H-Frame Structure

Figure 2-2 Typical Transmission Line Structures

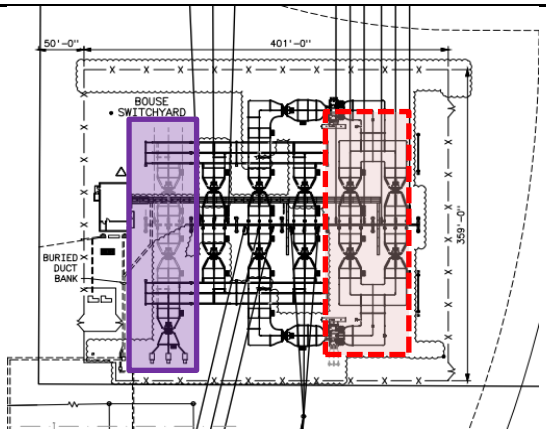
2.2.1 New 230-kV Transmission Line

WAPA proposes to construct a new 18-mile double-circuit 230-kV transmission line within a new 150-foot-wide right-of-way, between the existing Bouse Substation and the existing Parker-Liberty #2 230-kV transmission line. The proposed alignment of the 230-kV transmission line is shown on Figure 2-1.

2.2.2 Substation Expansion

The Bouse Substation expansion would include the addition of components to the existing three-bay 161-kV bus in order to form a four-bay 230-kV switching station. operated at 161-kV. The upgraded switching station would serve the newly reconfigured transmission line that is created by connecting the Parker-Bouse and Parker-Headgate Rock 161-kV transmission lines as described in Section 2.2.3. Expansion of the Bouse Substation would also include the addition of two 230-kV bays to serve the new 230-kV transmission line component of the Proposed Action. The location of the existing Bouse Substation is shown on Figure 2-1 and is shown in detail on Figure 2-3.

Existing Substation Yard Expansion[1]



Proposed Substation Expansion Layout[2]

NOTES:

[1]The black hatch pattern indicates the extent of the Bouse Substation yard within the existing fence line. The yellow highlights to the north and south of the Bouse Substation yard indicate areas of expansion.

[2]The Purple highlight on the west side of the Bouse Substation yard indicates new components to form a 230-kV four-bay switching station (initially operated at 161-kV). The red dash outline and highlight on the east side of the Bouse Substation yard indicate two new 230-kV bays.

Figure 2-3 Bouse Substation Expansion

2.2.3 Jumper Connection

WAPA proposes to connect the existing Parker-Headgate Rock and Parker-Bouse transmission lines with a new 161-kV transmission line (jumper). The remaining segments of the Parker-Headgate Rock and Parker-Bouse transmission lines between the jumper connection and the Parker Substation would be de-energized and removed as described in Section 2.2.4. WAPA identified the following seven options to connect the existing Parker-Headgate Rock and Parker-Bouse 161-kV transmission lines. Jumper Options 1 through 5 would be located at the southern end of the Parker Strip. Options 6 and 7 are located outside of the Parker Strip on CRIT Reservation, on BLM, and ASLD-managed lands. For the portions of Jumper Options 6 and 7 on CRIT Reservation, the needed right-of-way on lands held in trust for the benefit of the CRIT, would only be issued after obtaining consent from the CRIT Tribal Council and approval by the Bureau of Indian Affairs.

The jumper options are shown on Figure 2-4 and are described as follows:

- Jumper Option 1 would be located north of Cienega Springs Road and require approximately 0.1 miles of 100-foot-wide right-of-way across land managed by the ASLD.
- Jumper Option 2 would be located south of Cienega Springs Road and require approximately 0.1 miles of 100-foot-wide right-of-way across land managed by the ASLD.
- Jumper Option 3 would be located south of Storage Place Road and require approximately 0.1 miles of 100-foot-wide right-of-way across private land.
- Jumper Option 4 would be located west of Rio Vista Road south of the ARS 95 overpass and require approximately 0.2 miles of 100-foot-wide right-of-way across private land.
- Jumper Option 5 would be located east of Lakeside Boulevard and north of 94th Street and require approximately 0.9 miles of 100-foot-wide right-of-way across private land.
- Jumper Option 6 would be located along Lakeside Boulevard and 94th Street and require 0.5 miles of right-of-way across ASLD-managed land and 0.6 miles of 100-foot-wide right-of-way within the CRIT Reservation.
- Jumper Option 7 would be located about a mile south of the Parker Strip; terminate near the Blue Water Casino; and require 0.3 miles of 100-foot-wide right-of-way across ASLD-managed land, 0.3 miles across BLM-managed land, and 2.7 miles of right-of-way within the CRIT Reservation.

2.2.4 Decommission Segments

The existing Parker-Headgate Rock and Parker-Bouse 161-kV transmission lines run parallel with each other out of Parker Dam Substation for approximately 9 miles before the Parker-Bouse transmission line turns southeast toward the Bouse Substation. The southern 0.6 miles of the existing Parker-Headgate Rock and 11.3 miles of the existing Parker-Bouse line are not included in the Proposed Action, as these portions of the lines would remain in place. Depending on which jumper option is selected, between 9.5 and 12.3 miles of the Parker-Headgate Rock and between 9.7 and 11.3 miles of the Parker-Bouse 161-kV transmission lines would be decommissioned. The segments proposed for decommissioning and removal are shown on Figure 2-1. Between 18 to 24 miles of existing 161-kV lines and between 135 and 175 wood structures would be removed, and the right-of-way that is no longer needed would be relinquished to landowners.

2.3 PROJECT LOCATION

The Project is located in San Bernadino County, California, and La Paz County, Arizona (see Figure 2-1). The Project is located on land managed as follows:

- Tribal lands managed by CRIT
- Public lands managed by BLM
- Public lands managed by Reclamation
- Public lands managed by ASLD
- Private lands

Table 2-2 provides a legal description for WAPA's Proposed Action.

Table 2-2 Legal Description for each Project Component

Section	Township	Range	Baseline	Land Jurisdiction
New 230-kV Transmission Line				
29,32	10 North	17 West	Gila and Salt River	BLM
4, 5, 6, 7, 8, 18	9 North	17 West	Gila and Salt River	BLM
13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 24	9 North	18 West	Gila and Salt River	BLM
24, 25, 26, 35, 36	9 North	19 West	Gila and Salt River	BLM
2, 11, 14, 23, 26, 27, 34	8 North	19 West	Gila and Salt River	BLM, WAPA
Substation Expansion				
34	8 North	19 West	Gila and Salt River	WAPA
Jumper Connection				
22,27	10 North	19 West	Gila and Salt River	BLM
Decommission Segments				
4,8,9,17,20	2 North	27 East	San Bernardino	ASLD, private
31	11 North	18 West	Gila and Salt River	Private, Reclamation
6	10 North	18 West	Gila and Salt River	Private
1, 11, 12, 14, 15, 22, 27	10 North	19 West	Gila and Salt River	ASLD, private, Reclamation

2.4 SCHEDULE

WAPA proposes to start construction in October 2025 and complete the proposed Project by July 2028. Construction of the new 230-kV transmission line would occur between October 2025 and June 2026. The Bouse Substation expansion would be constructed between October 2026 and June 2027. Construction of the jumper connection and decommissioning of portions of the Parker-Headgate Rock and Parker-Bouse transmission lines would be completed between October 2027 and June 2028. WAPA would schedule work to minimize outages during the summer peak load season, which occurs between May 1 and October 1.

2.5 PROJECT IMPLEMENTATION

The following sections describe how WAPA would implement the proposed Project before, during, and after construction, including O&M and decommissioning activities.

2.5.1 Pre-Construction

A new right-of-way would be acquired by WAPA prior to the construction of the 230-kV transmission line and 161-kV jumper connection. Other proposed pre-construction land actions include obtaining temporary rights-of-entry to adjacent lands that may be used during construction.

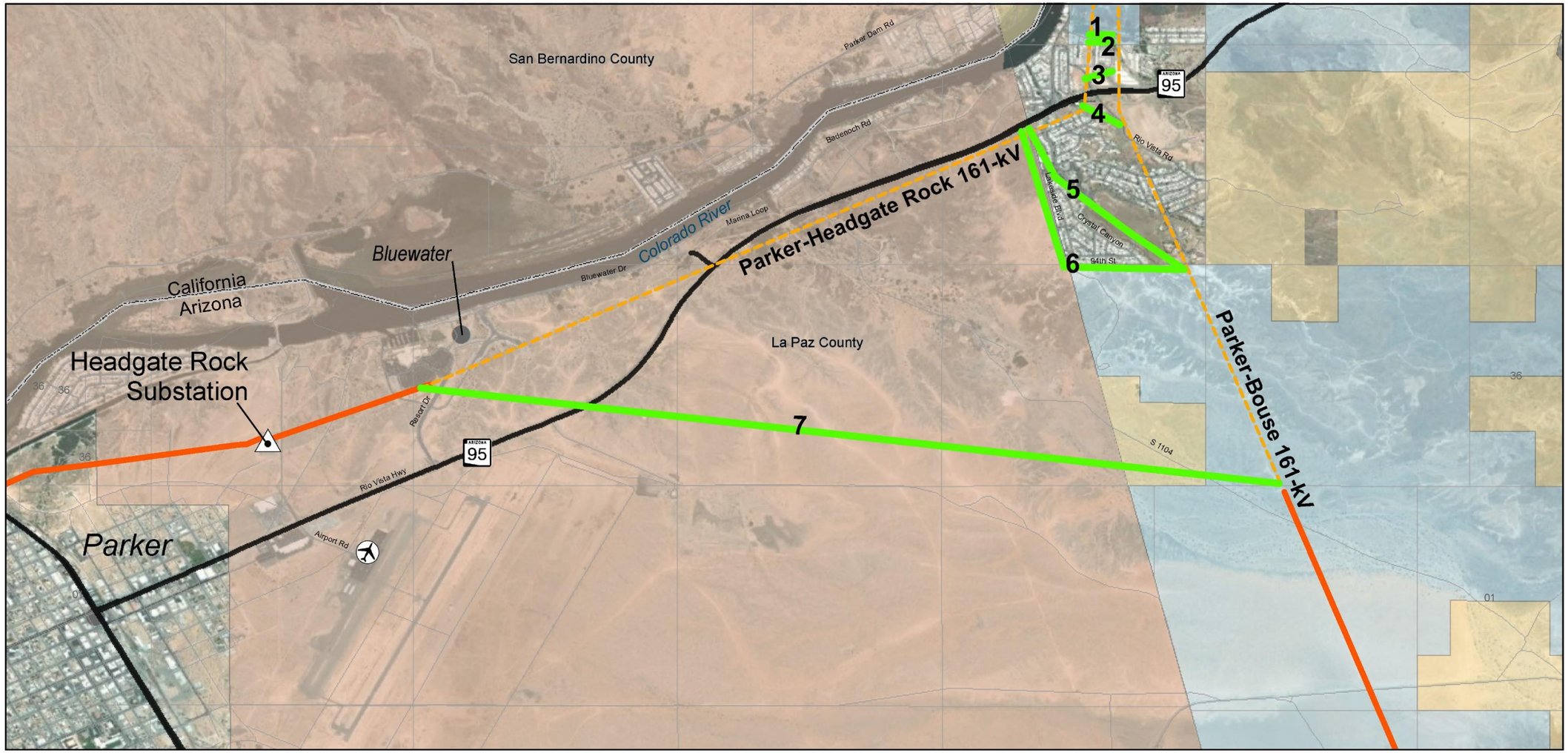


Figure 2-4 Proposed Action – New 161-kV Jumper Connection Options

2.5.2 Construction

The following sections describe the assumptions related to project implementation, design, and disturbance. These assumptions allowed for an estimate of the area of potential disturbance, both permanent and temporary.

2.5.2.1 Construction Equipment

Construction equipment would include various rubber tire vehicles or tracked equipment, including but not limited to, motor graders, bulldozers, backhoes, man haulers, front end loaders, track loaders, tractor trailers, tractor-mounted and hydraulic cranes, flatbed trucks, truck or backhoe-mounted augers, crew trucks, pickup trucks, air compressors, hydro lifts, cement mixer trucks, material trucks, tractors/harrows/discs, all-terrain vehicles, pullers, tensioners, and reel stringing trailers. A helicopter may be used to lift pole sections into place or for conductor stringing.

Construction would require up to approximately 104 construction workers, not all of whom would be on the job site at the same time. It is expected that up to 40 construction workers could be working at any single point in time across the entire Project area.

2.5.2.2 Ground Disturbance

Ground disturbance from construction would occur as a result of the following activities:

- **Foundation Excavation**. Augured holes for monopole structure installation would be approximately 4 to 7 feet in diameter and 13 to 23 feet deep. Each H-frame structure foundation would consist of two augured holes approximately 2.5 feet wide and 12 feet deep. This is considered permanent disturbance.
- **New Structure Assembly and Installation**. Structure placement activities would permanently disturb an area of approximately 0.05 acres (25-foot radius) and temporarily disturb an area of approximately 0.72 acres (100-foot radius) at each structure. Activities would include equipment setup, turnaround, and material placement.
- **Pulling and Tensioning Sites**. These sites may be up to approximately 400 feet long and 200 feet wide (1.8 acres) every 2 to 3 miles along straight segments of the new 230kV transmission lines and jumper connection. Turning structures would require two areas up to 400 feet long and 200 feet wide (7.3 acres) per structure.
- **Existing Structure Removal**. Structure removal activities would occur within the existing right-of-way and temporary use areas, or laydown yards. An area of approximately 0.41 acres per structure (75-foot radius around the structure) would be permanently disturbed by equipment setup and heavy equipment use.
- **Right-of-way Clearing and Access Roads**. Existing access roads would be rebladed and/or bulldozed as necessary to make them usable by both the construction and maintenance crews and their equipment. In some cases, existing roads would be extended to reach the new pole sites. These new access roads would be bladed to a width of 20 feet, except in washes where they would be no more than 12 feet wide. After the Project is completed, spur roads would be reclaimed to a width of 12 feet.
- **Temporary Use Disturbance Areas**. Areas of temporary disturbance would also be needed in some or all of the following locations: (1) an additional 3 feet on either side of the access road; (2) pulling and tensioning sites (at turning structures; see above); and (3) two laydown areas totaling up to 10 acres for new poles and equipment and for temporarily storing decommissioned structures.

Table 2-3 indicates the disturbance that would occur from construction of the proposed Project.

Table 2-3 Disturbance from Construction of the Proposed Project		
Project Component	**Temporary Disturbance**	**Permanent Disturbance**
New 230-kV Transmission Line		
Monopole assembly and installation (per structure)	100' radius (0.72 acre)	25' radius (0.045 acre)
Conductor pulling and tensioning – turning structures (two sites per structure)	Two 400' x 200' (7.3 acres)	N/A
Conductor pulling and tensioning – straight sections (one site every 2 to 3 miles)	400' x 200' (1.8 acres)	N/A
Access road	N/A	20' wide road surface, 18-miles
Substation Expansion		
Expansion of, and additions to, Bouse Substation	N/A	620' of fence line expanded outward 20' (0.3 acres)
Jumper Connection		
H-Frame assembly and installation (per structure)	100' radius (0.72 acre)	25' radius (0.045 acre)
Access road (Jumper Option 7 only)[2]	N/A	20' wide
Conductor pulling and tensioning – turning structures:		
Jumper Option 1 –one pull site at connection of jumper to the Parker-Bouse transmission line (per site)	400' x 200' (1.8 acres)	N/A
Jumper Option 2 –one pull site at connection of jumper to the Parker-Bouse transmission line (per site)	400' x 200' (1.8 acres)	N/A
Jumper Option 3 –one pull site west of Rio Vista Road, pull east to west (per site)	400' x 200' (1.8 acres)	N/A
Jumper Option 4 –one pull site likely along Rio Vista Road requiring short closure (per site)	400' x 200' (1.8 acres)	N/A
Jumper Option 5 – two pull sites at corner of Lakeside Blvd and 94th Street	Two 400' x 200' (7.3 acres)	N/A
Jumper Option 6 – two pull sites at corner of Lakeside Blvd and 94th Street (per site)	Two 400' x 200' (7.3 acres)	N/A
Jumper Option 7 –one pull site at connection of jumper to Parker-Bouse transmission line (per site)	400' x 200' (1.8 acres)	N/A
Decommission Segments		
Existing structure removal (per structure)	N/A	75' radius (0.41 acre)
Access road removal	12' wide	N/A
Construction Staging		
Three temporary laydown yards[2]	2.5 acres	N/A

NOTES:
[1]Jumper Option 7 is the only option that would require construction of a new access road.
[2]Site locations to be determined. Not included in resource impact calculations. Would be addressed through Best Management Practices (BMPs).

2.5.2.3 Construction Staging

Two or three temporary laydown yards outside of WAPA's right-of-way would be necessary during construction of the proposed Project. These sites would be a minimum of 2.5 acres and would be located in proximity to the new 230-kV transmission line, the new 161-kV jumper connection, and the segments of the existing 161-kV transmission line to be decommissioned and removed. The laydown areas would serve as a reporting location for workers, as a parking area for vehicles, and for equipment and material storage. These laydown yards would be inspected for cultural and biological resources prior to use. The contractor

would deliver materials from the laydown yards to the construction locations and use the right-of-way to temporarily place materials until the structures are erected. The structures would be assembled within the existing transmission line right-of-way and areas approved for temporary use.

2.5.2.4 Structure Foundation Excavation and Installation

To install foundations, the structure location would be leveled. Vertical excavations for structure foundations would be made with power auguring equipment. A vehicle-mounted power auger or backhoe would be used where soils allow such use. In rocky areas, the foundation holes would be excavated by drilling, blasting, or installing special rock anchors. All safeguards associated with using explosives (e.g., blasting mats) would be employed. In extremely sandy areas, water or a non-toxic gelling agent could be used to stabilize the soil before excavation. Excavated soil would be used for fill where suitable, and the remainder would be spread at the structure site in a manner that blends in with the characteristics of the surrounding landscape as it was prior to construction activities. Holes left overnight would be covered.

Monopole structures would be directly embedded to sit on the floor of the foundation hole with concrete poured around it. The concrete requirements for both types of structures would be similar, and the backfill for each may extend 2 feet above the ground surface. The volume of concrete that would be used per structure is estimated in Table 2-4.

Table 2-4 Estimated Concrete Requirements Per Structure

Structure Type	Single-Circuit	Double-Circuit
H-Frame	186 cubic yards	None proposed
Monopole	None proposed	89 cubic yards
Dead-End Monopole	None proposed	161 cubic yards

Assuming construction of approximately 97 new steel monopole structures and between 2 to 35 new steel H-frame structures, approximately 16,200 cubic yards of concrete would be needed that would require approximately 1,620 concrete truck loads. A concrete truck would be parked as close to the structures as feasible to provide concrete for foundations. Any excess excavated material would be used as backfill or removed from the site.

2.5.2.5 New Structure Assembly and Erection

The new structures, conductors, overhead ground wires, insulators, and other hardware would be delivered by flatbed truck, pole hauler, or helicopter to the structure site. Erection crews would assemble new structures on the ground within the transmission line right-of-way and the areas approved for temporary use. Using a crane, crews would position the structures in the augured foundation holes and backfill with concrete. Each structure is held in place with a crane or guy wire for 72 hours as the concrete foundation cures. Figure 2-5 shows photographs of typical 230-kV structure assembly and erection. Figure 2-6 shows typical transmission line construction within a right-of-way.

Figure 2-5 Typical Construction of Transmission Line Structures

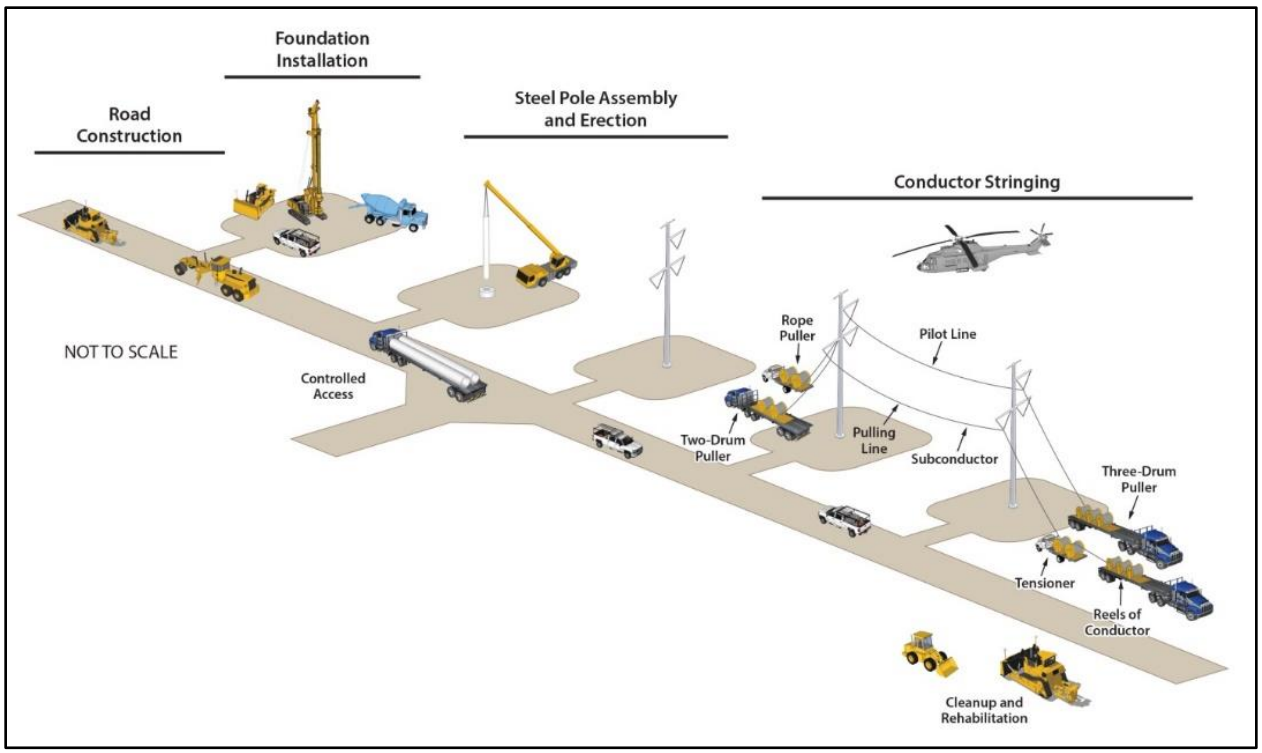


Figure 2-6 Typical Transmission Line Construction

2.5.2.6 Conductor and Ground Wire Stringing

WAPA would establish conductor and ground wire pulling, tensioning, and splicing sites along the existing and new alignment. Reels of conductor and overhead ground wire (shield wire) would be delivered to these designated areas, which would be spaced every 2 to 3 miles along the transmission line alignment as well as at each turning structure. Where possible, level locations would be selected so little or no earth moving would be required to make the site level.

To install conductors, pulleys would be attached to the bottom of the insulator. A rope would be strung from structure to structure through the stringing sheaves. The conductors would then be attached to the rope and pulled through each supporting structure under tension between pull site locations.

One overhead protection ground wire with an integrated fiber optic cable for communications purposes would be installed last and would be attached to the top of the structures using a pulling technique similar to that used for the conductors.

Prior to pulling and tensioning, workers would install temporary "guard" structures at road crossings and crossings of energized electric lines to prevent the sock line or conductors from sagging onto the roadway or other energized lines during the stringing operation.

The proper tension is established using powered pulling equipment at one end and powered braking or tensioning equipment at the other end. Crews then permanently "clip" conductors and ground wires onto new structure hardware, thereby maintaining the proper National Electric Safety Code (NESC) ground clearance for the conductors (23 feet). Once conductor and ground wire are clipped onto the new porcelain insulators hanging from the cross arms, the stringing sheaves would be removed, and vibration dampers and accessories would be installed.

In some cases, individual conductor segments must be connected (spliced) together to form a continuous line, using a mechanical device or implosive sleeve. An implosive sleeve has a small engineered implosive charge wrapped around a metallic sleeve. The two conductor segments are fed into the sleeve. The charges create an implosive compression that then joins the two conductor segments.

2.5.2.7 Access Roads (existing and new)

Existing access roads would be rebladed and/or bulldozed as necessary to make them usable for decommissioning portions of the Parker-Headgate Rock and Parker-Bouse transmission lines. Improvements to access roads could involve blading to shape existing road surfaces and turnouts, placement of surfacing aggregate to maintain or restore existing road surfacing, cleaning existing ditches and culverts, cleaning and installing culverts, and installing water bars and drain dips as needed to manage stormwater runoff. Most roads would be reconstructed or improved to a finished 14-foot-wide roadbed, although some areas would be wider to allow vehicles to negotiate curves or bends in the road and to accommodate cut and fill slopes associated with the improvements. The analysis in this EA assumes a potential disturbance width of 20 feet.

Construction of new access roads along the entire length of the new 230-kV transmission line and Jumper Option #7 (if chosen). Jumper Options #1 through #6 are in proximity to existing roads that could be used for access during construction. New access roads would be bladed to a width of 20 feet, except in washes where they would be no more than 12 feet wide. New access roads would be graded to provide a 14-foot-wide travel surface (somewhat wider on curves), with about a 20-foot-wide total area disturbed (including drainage ditches). Most access roads would be on the native surfaces (dirt roads or sparse vegetation) but the addition of rock or gravel on the surface may be added in areas where needed. Typically, a 50-foot-wide easement are obtained from the landowner for new access roads. Maximum road grades vary depending on the erosion potential of the soil: 6 to 8 percent on erodible soils, 10 to 15 percent for erosion-resistant soils.

2.5.2.8 Existing Infrastructure Removal

Demolition of the existing transmission lines would start with workers removing the conductors and overhead ground wires. The existing conductor would be wound onto spools, hauled away by truck, and recycled. Then, the guy wires and existing structures would be removed. Removal would include one of the following techniques:

- Excavate a trench at the pole base and tipping the pole out
- Use a pole-pusher to lift a pole straight out of the ground
- Cut off the poles at ground level or up to 2 feet below ground level

Crews would disassemble existing wood structures at the site. Once removed, the existing structures (where practicable) would be recycled, transferred to the public for other uses, or disposed of at a landfill. Excavations would be backfilled with native material, and the immediate area would be returned to its original contour.

2.5.2.9 Disturbance Area Restoration

All temporarily disturbed areas would be regraded and revegetated to restore them, to the extent practicable, to their preconstruction conditions. Recontouring the disturbed areas would be conducted using standard grading equipment to return the land to match, to the extent practicable, to the previously existing surface and surrounding grade and function. Grading activities would be limited to previously disturbed areas that require recontouring. Efforts would be made to disturb as little as possible the natural drainage and vegetation.

2.5.2.10 Operation, Maintenance, and Decommissioning Activities

After construction is complete, WAPA would incorporate the Proposed Action into its existing Parker-Davis transmission system maintenance and vegetation management program. WAPA would also be responsible for future decommissioning. The estimated lifespan of the Proposed Action is at least 50 years. Decommissioning of the transmission lines would include removal of structures, conductors, and ancillary equipment, which would be conducted in accordance with applicable regulations in place at the time.

Because the Proposed Action would result in a change in the location of some O&M activities if the Proposed Action is selected, thereby changing the resources that may be affected, O&M activities are analyzed in this EA as a connected action under NEPA. The environmental impacts of this program are analyzed and discussed in WAPA's Parker-Davis Transmission System Routine Operations and Maintenance Project and Proposed Integrated Vegetation Management Program (WAPA 2015). WAPA's O&M program described in WAPA 2015 includes the following activities:

- Aerial, ground, and climbing inspections
- Access road maintenance
- Integrated vegetation management (mechanical vegetation management and vegetation management using herbicide)

WAPA must comply with NERC requirements regarding transmission line reliability, including standards and requirements for maintenance and vegetation management. WAPA conducts aerial inspections on its system up to four times a year and one ground inspection every 12 to 18 months. The need for repairs, replacement, vegetation treatment, and other preventative maintenance procedures would be based on the results of these inspection reports. A summary of the O&M activities is provided in Table 2-5.

Table 2-5 Operation and Maintenance Activities

Maintenance Activity	Description
Inspection	• Aerial inspections by helicopter or small plane • Ground inspections typically conducted by pickup truck or all-terrain vehicle • Climbing inspections if needed
Integrated Vegetation Management	• Tree contact with transmission lines is a leading cause of electric power outages. Undesirable vegetation would be managed where clearance thresholds are established and proactively monitored. • **Initial Vegetation Removal**: The right-of-way would be cleared through removal of undesirable vegetation and danger trees outside the right-of-way. • **Vegetation Maintenance**: The right-of-way would be managed to protect facilities and reduce potential for fire. Minimum clearance to be maintained between vegetation and conductors is 22 feet[1] for a 161-kV structure, and 23 feet[1] for a 230-kV structure. • **Vegetation Control Methods**: Manual vegetation control methods include cutting with power saws, trimming or pruning, and slash disposal and fuels reduction; mechanical vegetation control methods include mowing/grinding and chipping. Herbicide control methods are also used.
Access and right-of-way Road Maintenance	• Maintain safe and reliable access and right-of-way roads • Inspect road structures including culverts, cattle guards, and fences • Provide new or upgraded access road drainage facilities as necessary • Install water bars to direct water flow off the road, spaced at 200 feet apart with a grade under 6 percent, 125 feet apart for grades between 6 and 10 percent, and 50 feet apart for grades between 10 and 13 percent • Install Rolling drain dips along with an earth berm at the edge of one side of the road.

Table 2-5 Operation and Maintenance Activities	
Maintenance Activity	**Description**
Standard WAPA Operation and Maintenance Protocols[2]	• Adhere to BMPs, Standard Operating Procedures (SOP), and Project Conservation Measures (PCM) as applicable
Emergency Repairs	• Problems that need immediate repair or replacement of hardware or vegetation management • Transmission Infrastructure failure • Storm and natural events damage

NOTES:
[1]The minimum clearance is based on the Occupational Safety and Health Administration (29 CFR §1910.333) minimum approach distance for non-electrical workers (rounded up to the nearest foot) plus 5 feet to account for conductor and tree movement due to wind and ice loading or increased conductor sag as a result of thermal loading. In addition, another 5 feet is added to allow for an average tree growth of 12 inches per year and a retreatment interval of not less than 5 years.
[2]Standard BMPs, SOPs, and PCMs are provided in Section 2.6 of the Parker-Davis Transmission System Programmatic Operation and Maintenance Project EA (see also Section 2.6 of this EA).

2.6 RESOURCE PROTECTION MEASURES

Table 2-6 presents the resource protection measures specific to the Proposed Action. In addition, WAPA's construction contractor would implement Standard 1 – General Requirements, Standard 2 – Sitework, and Standard 13 – Environmental Quality Protection in WAPA's Construction Standards (WAPA 2016). During O&M, WAPA would adopt the BMPs, SOPs, and PCMs from the Parker-Davis Transmission System Routine Operations and Maintenance Project and Proposed Integrated Vegetation Management Program (WAPA 2015). The BMPs, SOPs, and PCMs would be implemented as appropriate to minimize impacts on the resources discussed in this EA.

Table 2-6 Resource Protection Measures		
ID	**Measure**	**Timing**
BIO-1	**Limit Disturbance Areas.** At all proposed work areas, limit the disturbance of previously undisturbed habitats (including soils and vegetation) to the greatest extent safely practicable.	Construction and reclamation
BIO-2	**Pre-activity Clearance Surveys:** Due to the possibility that special-status wildlife and nesting birds may be found in the Project area, WAPA would assign a qualified biologist to the Project. A "qualified biologist" is defined as a person with appropriate education, training, and experience to conduct tortoise surveys, monitor project activities, provide worker education programs, and supervise or perform other implementing actions. The biologist would conduct pre-activity clearance surveys for desert tortoise and their burrows, burrowing owls, desert kit fox burrows, and other special-status species year-around. The biologist would also conduct pre-activity surveys for nesting birds at work sites where Project activities are scheduled from February 15 to August 31. If a Sonoran Desert tortoise is observed, no construction activities would take place in the vicinity of a desert tortoise until it has left the area.	Pre-construction
BIO-3	**Biological Monitor.** A qualified biologist (as defined above) would be present during any vegetation clearing or soil disturbance in Mojave Desert tortoise habitat. The Biological Monitor and all workers shall regularly observe the work areas for desert tortoise. No project activities would take place in the vicinity of a desert tortoise. If a Mojave Desert tortoise or Sonoran Desert tortoise is observed, it would be left to move away from the work site on its own. If a Mojave Desert tortoise must be moved, only an Authorized Biologist (as authorized by the U.S. Fish and Wildlife Service [USFWS] [2020]) may handle it; unauthorized handling of a Mojave Desert tortoise could constitute "take" as defined in the Endangered Species Act (ESA). If a Sonoran Desert tortoise must be moved out of harm's way, it may be moved according to the	Construction

<table>
<tr><th colspan="3">Table 2-6 Resource Protection Measures</th></tr>
<tr><th>ID</th><th>Measure</th><th>Timing</th></tr>
<tr><td></td><td>Arizona Game and Fish Department (AGFD) guidelines (AGFD 2014).The Biological Monitor would be authorized by WAPA to temporarily halt Project activities if needed to prevent potential harm to Mojave Desert tortoise or any other special-status species. The work supervisor would coordinate with the Biological Monitor on planned or ongoing Project activities and any specific pre-activity surveys or monitoring requirements for each activity in those areas. Based on pre-construction tortoise survey information (see BIO-2) and maintenance priorities, WAPA may choose to modify or postpone activities at some work areas within Mojave Desert tortoise habitat.</td><td></td></tr>
<tr><td>BIO-4</td><td>Migratory and Nesting Birds. Project activities conducted during the migratory bird breeding season, February 15 through August 31, would take place only after a Biological Monitor has surveyed the work area for active bird nests. Pre-activity surveys would be conducted no more than 7 days in advance of any ground- or vegetation-disturbing activities in any location. Project activities may not disturb an active bird nest. If an active bird nest is located on or adjacent to the work site, a Biological Monitor would designate and flag an appropriate buffer area around the nest where Project activities would not be permitted. The buffer area would be based on the bird species and nature of Project activity. Project activities outside of the breeding season would require no nesting bird surveys.</td><td>Construction and reclamation</td></tr>
<tr><td>BIO-5</td><td>Federally Listed Bird Avoidance Dates. Within riparian habitats, Project activities, including vegetation clearing, would be conducted outside of the breeding season for bird species as covered in the Lower Colorado River Multi-Species Conservation Program (LCRMSCP). Avoidance dates for all riparian habitat on the proposed right-of-way are May 10 through August 25 for southwestern willow flycatcher and yellow-billed cuckoo. If the alternative route is selected, avoidance dates for the riparian habitat on the California side of the river crossing would be March 15 through August 25 to include the Yuma clapper rail avoidance period. Project activities within the highlighted segments of riparian vegetation may be conducted from February 15 through May 9 and August 26 through August 31, only after a pre-construction nesting bird survey has been performed and appropriate avoidance buffers have been established (as stated in BIO-4 above). If the alternative route is selected, Project activities within the highlighted segment of riparian vegetation on the California side of the river, may be conducted from February 15 through March 14 and August 26 through August 31, only after a pre-construction nesting bird survey has been performed and appropriate avoidance buffers have been established.
<table>
<tr><th colspan="2">Nesting Birds Pre-Construction Surveys and Project Restrictions (Summary of Resource Protection Measures BIO-4 and BIO-5).</th></tr>
<tr><th>Date</th><th>Project Activity Restrictions or Pre-construction Survey Requirements</th></tr>
<tr><td>January 1 – February 14</td><td>No restrictions or survey requirements.</td></tr>
<tr><td>February 15 – August 31</td><td>Pre-construction nest surveys required throughout Project area; buffers and avoidance required at all bird nest locations.</td></tr>
<tr><td>March 15 – August 25</td><td>No construction activities at potential Yuma clapper rail habitat, California side of Alternative Colorado River crossing.</td></tr>
<tr><td>May 10 – August 25</td><td>No construction activities at riparian habitat due to potential southwestern willow flycatcher or yellow-billed cuckoo.</td></tr>
<tr><td>September 1 – December 31</td><td>No restrictions or survey requirements.</td></tr>
</table>
</td><td>Construction</td></tr>
</table>

Table 2-6 Resource Protection Measures		
ID	**Measure**	**Timing**
BIO-6	**Burrowing Owl.** If an active burrowing owl burrow is observed within a work area at any time of year, the Biological Monitor would designate and flag an appropriate buffer area around the burrow where Project activities would not be permitted. The buffer area would be based on the nature of Project activity.	Construction
BIO-7	**Mojave Fringe-toed Lizard.** For Project activities planned between February 15 and November 15 in the sand habitats on Parker-Bouse, mapped as creosotebush–big galleta scrub, all work areas would be surveyed by a qualified biologist prior to any ground-disturbing activities to minimize potential impacts to Mojave fringe-toed lizards. If Mojave fringe-toed lizards are present, the qualified biologist would move them out of harm's way to the extent feasible; if they cannot be moved, Project schedule or activities would be modified as feasible to minimize direct impacts.	Construction
BIO-8	**Special-status Bats.** Due to the possibility that special-status bats may roost in abandoned mines and rock outcrops, WAPA would avoid impacts to mines by ensuring that mines would not be inadvertently filled, collapsed, or destroyed and that the entrances to mines would not be blocked. WAPA would also minimize impacts to rock outcrops and rock crevices, as feasible, for access road, structure, and other work site locations. A biological monitor would flag all mines, rock crevices, and outcrops for avoidance and/or minimization of impacts prior to construction in the areas.	Construction
BIO-9	**Worker Training.** WAPA would conduct employee training to ensure that all workers on the Project site (including contractors) are aware of all applicable resource protection measures for biological resources. Specifically, workers would be required to (1) limit all activities to approved work areas; (2) report any desert tortoise, burrowing owl, or other special-status species, or bird nest observations in the work areas and access routes to the supervisor or Biological Monitor (if present on the site); (3) avoid contact with any wildlife that may approach a work area and be aware of potential venomous reptile bites from carelessness or unnecessary harassment; (4) pick up and properly dispose of any food, trash or construction refuse; and (5) report any spilled materials (oil, fuel, solvent, engine coolant, raw concrete, or other material potentially hazardous to wildlife), to the supervisor or on-site Biological Monitor. During the training, the instructor would briefly discuss special-status species that may occur in the work areas, their habitats, and requirements to avoid or minimize impacts. In addition, all workers would be informed of civil and criminal penalties for violations of the federal ESA, the Migratory Bird Treaty Act (MBTA), and the Bald and Golden Eagle Protection Act (BGEPA).	Construction
BIO-10	**Animals.** No pets would be permitted on the work site. Workers would not be permitted to feed, harm, approach, harass, or handle wildlife at any time, except to remove animals safely from work areas, as described above.	Construction
BIO-11	**Trash, Refuse, Concrete, and Other Materials:** All trash and food materials would be properly contained within vehicles or closed refuse bins while on the site and would be regularly removed from the site (at least on a weekly basis) for proper disposal. All refuse from Project activities would be removed from each work site upon completion of maintenance work. No raw cement, concrete or washings thereof, asphalt, paint, oil, solvents, or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources, shall be disposed of on-site or allowed to spill onto soil. Cleanup of any spilled material shall begin immediately.	Construction and reclamation
BIO-12	**Minimize Standing Water.** Within desert shrubland habitat, water applied to dirt roads and construction areas for dust abatement shall use the minimal amount needed to meet safety and air quality standards, to prevent the formation of puddles, which could attract wildlife to construction sites.	Construction and reclamation

Table 2-6 Resource Protection Measures		
ID	**Measure**	**Timing**
BIO-13	**Water Storage:** All water containers (i.e., tanks or trailers) would be securely covered to prevent wildlife from entering the containers and becoming trapped.	Construction and reclamation
BIO-14	**Speed Limit.** To minimize potential impacts to special-status wildlife, no vehicles would be permitted to exceed 25 miles per hour while traveling on unpaved access roads. To minimize impacts to Mojave fringe-toed lizards, no vehicles would be permitted to exceed 15 mph while traveling on access roads in sandy habitats on the Parker Dam-Bouse right-of-way, mapped as creosotebush–big galleta scrub.	Construction and reclamation
BIO-15	**Conform to Avian Power Line Interaction Committee Design Guidelines.** In order to minimize any potential electrocution hazard for golden eagles or other large birds, energized and ground conductors and hardware would be separated by 60 inches or more, or would be covered.	Construction
BIO-17	**Revegetate with Native Plants.** WAPA would revegetate any temporarily disturbed land (i.e., work sites that would not be used for future access, operations, or maintenance) with plant species that are native to the site and were present prior to the Proposed Action.	Reclamation
BIO-18	**Invasive Plant Monitoring and Removal Plan.** To prevent new invasive plants from entering the Project area during construction and ensure that existing invasive plants do not spread into surrounding habitat, an invasive plant monitoring and removal plan would be prepared and implemented. The plan would be prepared prior to Project construction and would be implemented throughout the construction and reclamation phases of the Project. The plan would be written to adequately (1) prevent new invasive plant infestations, (2) monitor work areas to identify any invasive plant infestations, and (3) control or eradicate any invasive plant infestations detected within the Project area.	Construction and reclamation
BIO-19	**Survey for Scaly Sand Food**. WAPA would survey areas of heavy soil disturbance such as electric line towers and pole placement sites for the scaly sand food prior to construction. Where possible, sites of heavy soil disturbance should be situated to minimize impacts to the scaly sand food occurring at the site. Surveys would be conducted in the months of May and June. WAPA would document the amount and location of scaly sand food that would be disturbed by the installation and or removal process. This information would be provided to the BLM's wildlife biologist in the Lake Havasu Field Office.	Pre-construction
CUL-1	**Conduct Worker's Environmental Awareness Training.** Prior to the start of Project activities, all field personnel would receive worker's environmental awareness training on cultural resources. CRIT will participate in developing and providing the training. The training would provide a description of the cultural resources that may be encountered in the Project area, outline steps to follow in the event that a cultural resource discovery is made, and provide contact information for WAPA's Regional Preservation Officer (RPO) and on-site monitor(s). The training may be conducted concurrent with other environmental training (e.g., natural resources awareness training, safety training). To assist in this effort, the construction contract would address applicable Federal and State laws regarding cultural resources, including collection and removal, the importance of cultural resources, and the purpose and necessity of protecting them. Contractors would be trained to stop work near any discovery and notify WAPA's RPO, who would ensure that the resource is evaluated and appropriately treated.	Pre-construction
CUL-2	**Development of a Cultural Resources Treatment Plan**. Prior to any construction or O&M activities, WAPA would prepare a Cultural Resources Treatment Plan (CRTP) in consultation with the relevant State Historic Preservation Officer, Federal land-managing agency, Arizona State Museum, any interested Tribes, and other interested	Decommissioning, Construction, and O&M

Table 2-6 Resource Protection Measures		
ID	**Measure**	**Timing**
	parties in accordance with the Section 106 process described in 36 CFR 800 and per these protection measures under NEPA.	
CUL-3	**Appropriate Treatment of Cultural Resources.** The CRTP would include cultural resource site avoidance measures to include at a minimum the installation of barricading materials near cultural resource sites and specify a minimum distance to be maintained for ground-disturbing activities. If a cultural resource site cannot be avoided, methods to minimize or mitigate impacts to the cultural resource site would be specified in the CRTP and those measures implemented before any ground disturbance occurs within the boundary of the cultural resource site. Measures specified in the CRTP to minimize or mitigate impacts to cultural resource sites may include a variety of methods such as data recovery, reburial of artifacts significant to an Indian Tribe, monitoring, and other measures.	Decommissioning, Construction, and O&M
CUL-4	**Construction Monitoring**. The CRTP would include a program for archaeological and tribal monitoring. At a minimum, the CRTP would specify archaeological and tribal monitoring during all ground-disturbing construction activities within 100 feet of any area of significance to a Federally Recogognized Indian Tribe regardless of NRHP eligibility.	Decommissioning, Construction, and O&M
CUL-5	**Treatment of Unanticipated Cultural Resources.** The CRTP would include procedures to be followed in the event of a discovery of cultural resources. At a minimum, the CRTP would specify that the discovery of cultural resources during decommissioning, construction, and O&M of the Project would result in ceasing project work within the vicinity of the discovery. Work would not resume until WAPA has implemented the procedures detailed in the CRTP, including notification of the cultural resource discovery to the Federal land-managing agency, the State Historic Preservation Officer, state lands department, the Director of the Arizona State Museum, and the Colorado River Indian Tribes' Tribal Council as appropriate based on land jurisdiction.	Decommissioning, Construction, and O&M
CUL-6	**Treatment and Disposition of Human Remains.** The CRTP would include procedures to follow in the event of a discovery of human remains and/or funerary objects during decommissioning, construction, and O&M activities. At a minimum, the CRTP would specify that in the event of such a discovery, all activities would cease in the vicinity of the discovery, WAPA's RPO would be immediately notified, and a reasonable effort made to protect the human remains and other cultural items. Work would not resume until WAPA's RPO has identified and implemented the appropriate action depending on the land jurisdiction: • Federal lands: WAPA must immediately notify the Federal land-managing agency of the discovery. Work should not resume until WAPAand the land manager, in consultation with stakeholders per the Native American Grave Protection and Repatration Act (NAGPRA) (43 CFR 10.4) , have determined an appropriate treatment and disposition of the remains. • Non-Federal Lands in California: WAPA must notify the San Bernardino County Coroner within 24 hours of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie potential remains shall occur until the County Coroner has determined the appropriate treatment and disposition of the human remains. If the coroner determines that the remains are or are believed to be Native American, they would contact the Native American Heritage Commission, who would notify a designated most-likely-descendant. The most-likely-descendant can inspect the site and would determine, in consultation with WAPA and the property owner, the disposition of the remains, as required by Cal PRC §5097.98.	Decommissioning, Construction, and O&M

Table 2-6 Resource Protection Measures		
ID	**Measure**	**Timing**
	• State, county or municipal lands in Arizona: WAPA's RPO must immediately inform the Director of the Arizona State Museum and determine the correct disposition of the remains, as required by A.R.S. §41-844. • CRIT Reservation: WAPA must immediately inform CRIT's THPO and the Tribal Council of the discovery. Treatment and disposition of the remains would be determined in consultation between the CRIT and WAPA, as required by NAGPRA (43 CFR 10.4). Any removal of remains must only occur by permission of CRIT and must occur according to requirements of the Archaeological Resources Protection Act (16 USC 470aa et seq.).	
CUL-7	**Cultural Resource Survey**. WAPA would perform a pedestrian survey of all proposed laydown yard locations prior to use. If any cultural resources are present, WAPA would either select a new location or consult regarding avoidance measures per the Section 106 process of the NHPA.	Decommissioning, Construction, and O&M
LU-1	**Restoration of Disturbed Areas**. The permanent right-of-way, temporary construction areas, and laydown areas would be restored as close to the original condition as practicable, in accordance with the appropriate land manager's standards and permits. Where necessary, land would be restored to its original contour and natural drainage patterns along the right-of-way.	Pre-construction
LU-2	**Restricted Off-Road Travel**. Construction vehicle movement would be restricted to the permanent right-of-way unless on authorized access roads, existing access roads, or public roads and the areas authorized for temporary use beyond the existing right-of-way. Off-road travel would be restricted to that which is absolutely necessary to complete the Project.	Pre-construction
LU-3	**Consistency with Land Use Plans and Policies**. WAPA would coordinate, as necessary, with Tribal, Federal, State, and Local land use authorities to ensure consistency with land use plans and policies.	Pre-construction
LU-4	**Communication of Temporary Closures**. Local residents would be informed of any temporary road closures.	Pre-construction
NO-1	**Coordinate Construction.** Coordinate construction activities with landowners, including notification of construction schedule and planned activities.	Pre-construction and Construction
NO-2	**Exhaust and Noise Abatement**. All engine-powered equipment would have required exhaust-noise-abatement devices that would be installed according to the manufacturer's specifications and would comply with applicable equipment noise standards.	Construction
NO-3	**Distance from Sensitive Properties**. Stationary construction equipment would be located as far from nearby noise-sensitive properties as possible.	Construction
NO-4	**Idling**. When possible, idling equipment would be shut off.	Construction
PALEO-1	**Conduct Pre-Construction Survey.** A qualified paleontologist would be retained to conduct a field reconnaissance survey of the Project area prior to any ground-disturbing activities. Any required permits would be obtained prior to the survey. The purpose of the field survey would be to visually inspect the ground surface for exposed fossils or traces thereof and to evaluate geologic exposures for their potential to contain preserved fossil material at the subsurface. Only Project areas classified as having undetermined or high paleontological sensitivity would be subject to a pedestrian survey. Particular attention would be paid to rock outcrops, both inside and in the vicinity of the Project area, and any areas where geologic sediments are well exposed. Areas determined to have low paleontological sensitivity would not require a field survey.	Pre-construction

Table 2-6 Resource Protection Measures		
ID	**Measure**	**Timing**
PALEO-2	**Document All Finds.** All fossil occurrences observed during the course of fieldwork, significant or not, would be documented and recorded at the time of discovery. The data collected for each fossil occurrence should include, at a minimum, the following information: Universal Transverse Mercator (UTM) coordinates, approximate elevation, description of taxa, lithologic description, and stratigraphic context (if known). In addition, each locality would be photographically documented with a digital camera. If feasible, with prior consent of the landowner(s), all significant or potentially significant fossils would be collected at the time they are observed in the field. If left exposed to the elements, fossil materials are subject to erosion and weathering. If the fossil discovery is too large to collect during the survey (e.g., a dinosaur skeleton or bone bed) and requires a large-scale salvage effort, then it would be documented, and a mitigation strategy would be devised pursuant to Society of Vertebrate Paleontology (SVP) guidelines (2010).	Pre-construction
PALEO-3	**Conduct Worker's Environmental Awareness Training.** Prior to the start of Project activities, all field personnel would receive worker's environmental awareness training on paleontological resources. The training would provide a description of the fossil resources that may be encountered in the Project area, outline steps to follow in the event that a fossil discovery is made, and provide contact information for the Project Paleontologist and on-site monitor(s). The training would be developed by the Project Paleontologist and may be conducted concurrent with other environmental training (e.g., cultural and natural resources awareness training, safety training).	Construction
PALEO-4	**Conduct Paleontological Mitigation Monitoring.** Prior to the commencement of ground-disturbing activities, a qualified and professional paleontologist would be retained to prepare and implement a Paleontological Resource Mitigation Plan for the Project. Initially, full-time monitoring would be required during ground-disturbing activities in the areas of the Project with high paleontological sensitivity. Part-time monitoring or spot checking would occur in areas of the Project underlain by geologic units with high paleontological sensitivity. In addition, spot checking would also occur in Project areas underlain by Quaternary alluvial deposits in order to determine if underlying sensitive geologic units are being impacted by construction, and at what depth. Monitoring would entail the visual inspection of excavated or graded areas and trench sidewalls. In the event that a paleontological resource is discovered, the monitor would have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected. Monitoring would include matrix screening for the presence of microfossils, the frequency of which would be determined by the Project Paleontologist. Monitoring is largely a visual inspection of sediments; therefore, the most likely fossils to be observed would be macrofossils of vertebrates (bones, teeth, tusk) or invertebrates (shells). At the discretion of the Project Paleontologist, the monitor would periodically screen sediments to check for the presence of microfossils that can be seen with the aid of a hand lens (i.e., microvertebrates). Should microvertebrate fossils be encountered during the screening process, then bulk matrix samples would be taken for processing off site. For each fossiliferous horizon or paleosol, a standard sample (4.0 cubic yards or 6,000 pounds) would be collected for subsequent wet-screening per SVP guidelines (2010).	Construction
PALEO-5	**Procedures for Fossil Preparation, Curation, and Reporting.** Upon completion of field-work, all significant fossils collected would be prepared for curation. Preparation would be done in a properly equipped paleontology laboratory and would include the removal of excess matrix from fossil materials, and stabilizing and repairing specimens, as necessary. Following laboratory work, all fossil specimens would be	Construction

Table 2-6 Resource Protection Measures		
ID	**Measure**	**Timing**
	identified to the lowest taxonomic level, cataloged, analyzed, and curated. The fossil specimens must be delivered to the accredited museum repository identified on the permit and receipt(s) of collections would be submitted to WAPA. This delivery would be made as soon as practical but no later than 60 days after all fieldwork is completed. The cost of curation is assessed by the repository and would be the responsibility of WAPA. At the conclusion of laboratory work and museum curation, a Paleontological Mitigation Report would be prepared describing the results of the paleontological mitigation monitoring efforts associated with the Project. The report would include a summary of the field and laboratory methods, an overview of the Project area geology and paleontology, a specimen inventory of all taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, the signed receipt of confirmation of museum deposition, and recommendations. The report would be submitted to the designated repository, WAPA, and any other interested state or Federal agencies involved within 45 days following completion of monitoring and laboratory work.	
REC-1	Alternate access to recreation areas would be coordinated with land-management agencies and communicated with members of the public.	Pre-construction
REC-2	Access roads not required after construction would be regraded, bermed, gated, or roughed up to deter public use of the roads.	Post-construction
WATER-1	Spill Prevention and Refueling. No vehicles or equipment shall be refueled within 100 feet of a drainage or wetland unless a bermed and lined refueling area is constructed. Spill kits shall be maintained on-site in sufficient quantity to accommodate at least three complete vehicle tank failures of 50 gallons each. Any vehicles driven and/or operated within or adjacent to drainages or wetlands shall be checked and maintained daily to prevent leaks of materials.	Construction
WATER-2	Maintain Existing Hydrologic Patterns. Ground-disturbing activities within the Project area would maintain existing hydrologic patterns with respect to runoff supporting seasonal wetlands, vernal pools and ephemeral drainages.	Construction and reclamation
WATER-3	Avoid or Obtain Permits for Jurisdictional Areas. Prior to the start of project activities, a set of field maps showing the known location of jurisdictional waters and/or wetlands shall be prepared and provided to all construction personnel. Impacts to areas under the jurisdiction of the U.S. Army Corps of Engineers (USACE), Arizona Department of Environmental Quality (ADEQ), and Regional Water Quality Control Board (RWQCB) would be avoided to the extent feasible. Where avoidance of jurisdictional areas is not feasible WAPA would obtain Clean Water Act (CWA) 404 (Nationwide or Individual)/401 permits applicable to the action. WAPA would perform an impact assessment for the construction activity, which would identify and quantify the acreage of each jurisdictional area (wetland, riparian). WAPA would provide creation, restoration, or preservation mitigation consistent with the 404/401 permitting requirements.	Construction
WATER-4	Minimize Soil Erosion. Construction methods shall be designed to minimize erosion and would include installation of cross drains, placement of water barriers adjacent to the road, and the application of BMPs.	Construction
WATER-5	Placement of Structures with Respect to Floodplains. To the extent practical, new structures and overland access would be located out of floodplains.	Pre-construction, Construction
WATER-6	Protection of Watercourse from Stockpiled Materials. Stockpiled materials would not be deposited near or on wash banks or other water course boundary where they can be washed away by high water or storm runoff, or can encroach, in any way, upon the	Construction

Table 2-6 Resource Protection Measures		
ID	**Measure**	**Timing**
	watercourse.	
VR-1	Structures shall be placed at the maximum feasible distance from roadway and trail crossings to reduce visual impacts, as long as other significant resources are not negatively affected.	Design and Construction
VR-2	Dulled metal finish transmission structures and non-specular conductors would be used in visually sensitive areas, including a new right-of-way on BLM and Tribal lands, and in proximity to residences.	Construction
VR-3	Where the line parallels existing transmission lines, the spacing of structures shall match the existing transmission structures, where feasible, to minimize visual effects.	Design and Construction
VR-4	Transmission line structures would not be installed directly in front of residences or in direct line-of-sight from a residence where possible. WAPA would consult with affected property owners on structure siting to reduce land use and visual impacts.	Design, Pre-construction, and Construction

2.7 NO ACTION ALTERNATIVE

The No Action Alternative is considered in all of WAPA's environmental reviews. It provides a baseline against which impacts of the Proposed Action can be compared. The No Action Alternative is also considered in all of BLM's environmental reviews. The No Action Alternative provides the BLM with information for its consideration about whether to accept or deny WAPA's request for right of-way authorization under FLPMA.

Under the No Action Alternative, WAPA would continue to operate and maintain the existing Parker-Headgate Rock and Parker-Bouse 161-kV transmission lines in their existing state and would not construct a new double-circuit, 230-kV transmission line connection between the existing Bouse Substation and the existing Parker-Liberty #2 230-kV transmission line.

WAPA anticipates that maintenance actions, including replacement of structures as needed, would be more frequent under the No Action Alternative because wood structures typically require more maintenance than steel structures. The existing wood H-frame structures were built in the 1940s and 1950s and are in poor condition. Safety of maintenance workers as well as the general public will be impacted with aging structures in place long past their serviceable life expectancy of 50 years. Unplanned outages due to failure of aged equipment are possible.

Under the No Action Alternative, WAPA would not rebuild the transmission line or upgrade access roads, or culverts, as a single coordinated project. Construction activities associated with the Proposed Action would not occur. However, the reliability and safety concerns that prompted the need for the Proposed Action would remain. WAPA would continue to operate and maintain the existing transmission line in its current condition, replacing aged and rotting structures as they deteriorate, maintaining access roads to allow access to structures on an as-needed basis, and managing vegetation for safe operation.

Given the current poor condition of the transmission line, the No Action Alternative would likely result in more frequent and more disruptive maintenance activities than has been required in the past. It might be possible to plan some repairs, but many would likely occur on an emergency basis as the transmission line continues to deteriorate.

The overall scale and scope of the repairs that would be done under the No Action Alternative would be smaller than what is planned under the Proposed Action. WAPA's maintenance program addresses immediate needs to keep the transmission line functioning and would likely not include more

comprehensive improvements such as access road work to improve water runoff or culvert replacements. Access road work under the No Action Alternative would be limited to enhancements necessary to allow access to specific structures for as-needed repairs and maintenance.

Lastly, under the No Action Alternative, WAPA's facilities would not meet NERC's, FERC's, and WECC's reliability standards. Additionally, WAPA would be failing to comply with its own standards outlined in its Power System Safety Manual.

2.8 ALTERNATIVES CONSIDERED BUT NOT EVALUATED IN DETAIL

2.8.1 Parker-Headgate Rock and Parker-Bouse Reroute, DOE/EA-1987

The Parker-Headgate Rock and Parker-Bouse Reroute consisted of approximately 18 miles of new 230-kV transmission line to replace the entire Parker-Headgate Rock transmission line and 12.3 miles of the existing Parker-Bouse transmission line. The rebuilt Parker-Headgate Rock and Parker-Bouse 230-kV transmission lines would originate at the Parker Substation and follow the existing right-of-way for approximately 1 mile. From this point, the lines would be co-located on the same steel structures for approximately 10.5 miles. The first 2 miles of the co-located transmission line route would follow the existing Parker-Bouse right-of-way before heading west and paralleling the existing Parker-Blythe 161-kV transmission line for approximately 1 mile. Next, the co-located lines would diverge from the Parker-Blythe line in a southwesterly direction along the California side of the Colorado River and continue for just over 6 miles. At this point, the co-located lines would continue southeast for approximately 1.5 miles, where they would cross the Colorado River to meet the existing Parker Dam–Headgate Rock right-of-way in Arizona.

After crossing the river and just south of Arizona State Route (SR) 95, the co-located lines would split. The Parker-Headgate Rock transmission line would follow the existing Parker-Headgate Rock right-of-way parallel to the Colorado River for 2 miles, before heading southwest to connect to the Headgate Rock Substation. From the split, the new Parker-Bouse transmission line would continue southeast for approximately 3 miles within a new right-of-way, where it would reconnect to the existing Parker-Bouse right-of-way just north of Shea Road.

WAPA's Parker-Headgate Rock and Parker-Bouse Reroute consisted of the following:

- Reroute and rebuild the Parker-Headgate Rock and Parker-Bouse 161-kV transmission lines to new 230-kV transmission lines
- Acquire or expand rights-of-way for transmission line construction and maintenance
- Remove a total of approximately 28 miles of old 161-kV lines and wood poles and relinquish to landowners portions of the right-of-way no longer needed
- Operate the two lines at 161-kV with future demand expected to create the need for 230-kV services

Development in and around Parker Strip encroaches on the right-of-way and presents numerous difficulties regarding the O&M of the transmission line. The reroute would result in the construction of a new transmission line right-of-way through the Parker Strip Special Recreation Management Area (SRMA), the Copper Basin Dunes and Crossroads off-highway vehicle (OHV) Areas, and the Parker Dam Road Back Country Byway. This development occurs on both sides of the Colorado River in both California and Arizona between Parker Dam and the town of Parker. Therefore, it is not feasible to route new transmission lines east of Parker in either California or Arizona.

2.8.2 Arizona Routing Alternative

This alternative would parallel the Colorado River similar to the Parker-Headgate and Parker-Bouse Reroute Project, but the alternative route would be located either within or west of the existing 161-kV right-of-way in Arizona instead of in California. This alternative was eliminated from consideration for the following reasons:

- The Project is proposed because of the age and poor condition of the existing 161-kV wood structures and because of encroachments that have occurred since the lines were constructed. Development in and around the Parker Strip encroaches on the right-of-way and presents numerous difficulties regarding the O&M of the transmission line. This development occurs on both sides of the Colorado River between Parker Dam and the town of Parker. Therefore, it is not feasible to route the transmission lines west of Parker and remain in Arizona.
- The Project begins at Parker Dam Substation in California. By routing the line in California, the Project avoids crossing the Colorado River into a populated area in Arizona. Given that the intent of the Proposed Action is to relocate and rebuild the new lines outside of existing development, routing the line in California was the only feasible option west of the town of Parker that would meet the Project's purpose and need.

2.8.3 East of Parker Routing Alternative

WAPA considered rerouting the proposed transmission line east around Parker to avoid existing development. However, this alternative would locate the new line in rough terrain such that construction would not be technically feasible. In addition, this alternative would require acquisition of an entirely new right-of-way for the length of the Project, which would transfer all environmental impacts to a new undisturbed corridor, whereas the route of the Proposed Action would use approximately 3 miles of existing, but expanded, right-of-way for the new double-circuit 230-kV line. Therefore, this alternative was eliminated from consideration.

2.8.4 SR 95 Crossing Alternative

WAPA considered moving the divergence point of the Parker-Headgate Rock and Parker-Bouse lines to the west side of Arizona SR 95/Rio Vista Highway. Under this alternative, there would only be one single-circuit crossing of the highway by the Parker-Bouse line instead of two (one double-circuit and one single-circuit crossing). However, after a more detailed engineering evaluation, it was determined that the crossing structure just east of the Colorado River would require the conductor arms for the Parker-Headgate Rock transmission line to be angled on the back of the structure. By changing the angle of one circuit, the overall height of this structure would need to be increased. Additionally, up to two additional single-circuit structures may have been required to accommodate greater span lengths for each circuit. Each of these structures would be larger in size than a typical single-circuit monopole, would not utilize as much of the existing transmission line right-of-way, and would result in another structure being located within approximately 400 feet of the Colorado River. Therefore, due to greater ground disturbance and visual impacts from additional larger towers, this alternative was eliminated from consideration.

CHAPTER 3 – AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 INTRODUCTION AND METHODOLOGY

3.1.1 Introduction

This chapter describes the affected environment and analyzes the potential effects on that environment that would occur from implementation of the Proposed Action. Direct, indirect, and cumulative effects are analyzed for each resource topic carried forward. As described in Section 2.2 the term Project area is used to describe the area encompassed by the 230-kV transmission line, jumper options, and decommission components of the Proposed Action..

3.1.2 Methodology

In this document, the terms effect and impact are used synonymously.

Effects are defined in 40 CFR 1508.1(g) (July 2020) as follows: "changes to the human environment from the Proposed Action or alternatives that are reasonably foreseeable and have a reasonably close causal relationship to the Proposed Action or alternatives including those effects that occur at the same time and place as the Proposed Action or alternatives and may include effects that are later in time or further removed in distance from the Proposed Action or alternatives."

The potential impacts of the Proposed Action and No Action Alternative are described in terms of their type, context, duration, and intensity. These terms are defined in Table 3-1.

Table 3-1 Impact Analysis Terminology

Impact Category	Terminology	Definition
Type	Beneficial	A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.
	Adverse	A change that moves the resource away from a desired condition or detracts from its appearance or condition.
	Direct	An effect on a resource by an action at the same place and time.
	Indirect	An effect from an action that occurs later or perhaps at a different place and often to a different resource but is still reasonably foreseeable.
	Cumulative	Impacts that occur when effects of an action when are added to, or interact with, other effects in a particular place and within a particular time.
Duration	Short-term	Occur during construction or for a limited time thereafter, generally less than two years, at which point the resources recover their pre-construction condition
	Long-term	Last beyond the construction period, and the resources may not regain their pre-construction conditions for a longer period of time.
Intensity	Negligible	Changes would not be detectable and/or measurable. The resource would essentially be unchanged or unaltered.
	Minor	Changes would be detectable, localized, and/or measurable. The resource would be slightly changed or altered.
	Moderate	Changes would be detectable, localized, and/or measurable. The resource would be altered but not modify overall resource integrity, or the impact could be mitigated successfully in the short term.
	Major	Changes would be clearly detectable, measurable, and/or have an appreciable effect on the resource. The resource would be notably changed or altered.

3.2 RESOURCES CONSIDERED BUT NOT FURTHER EVALUATED

WAPA determined the environmental resources requiring analysis within this EA. The analysis presented in this EA focuses on the issues that are relevant to the action in question. This section identifies the resources dismissed from analysis in this EA. Resources are dismissed from detailed analysis for one or more of the following reasons:

- The resource does not exist in the Project area.
- The resource would not be affected by the proposed Project, or the likelihood of impacts is not reasonably expected.
- There would be minor or no measurable effects from the proposed Project.

Environmental resources not addressed as part of this EA are listed below in Table 3-2, along with the rationale for the exclusion of analysis.

Table 3-2 Rationale for Resources Dismissed from Further Analysis

Environmental Discipline	Rationale
Hazardous Materials	It is not anticipated that any hazardous materials would be stored onsite. Should onsite refueling be necessary, appropriate BMPs would be implemented to avoid spills or contamination. WAPA's construction standard – Standard 13 Environmental Quality Protection, would be adhered to. Within Section 13.8 through 13.11 (WAPA 2016) are procedures designed to avoid contamination and spills of hazardous materials. Accidental discharges of hazardous materials would be reported to WAPA's dispatch and environmental group immediately.
Groundwater	Dewatering work would be performed in compliance with CWA Section 401, and contaminated water would not be discharged into either surface waters or groundwaters.
Rangelands	The Proposed Action would be located within the Ganado Grazing Allotment (86,800 acres, 1,690 animal unit months) and the Nine Mile Grazing Allotment (109,239 acres, 468 animal unit months) in Arizona (BLM 2021). The jumper connection and the decommissioning components of the Proposed Action would traverse the Ganado Grazing Allotment around the town of Parker and the Parker Strip in areas where it is largely developed. Depending on which jumper option is chosen, up to 12 miles of existing 161-kV transmission lines would be decommissioned and removed within the Ganado Grazing Allotment. Approximately 13 miles of the 230-kV component of the Proposed Action would also traverse the Ganado Grazing Allotment. Approximately 6 miles of the 230-kV component of the proposed Project would traverse the Nine Mile Grazing Allotment parallel to the existing 161-kV Parker-Bouse transmission line. The new 230-kV transmission line would be compatible with use of the grazing allotments and would not preclude use of the area for grazing.
Air Quality/ Climate Change	The U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) for pollutants considered harmful to public health and the environment. Six principal pollutants (carbon monoxide, nitrogen dioxide, ozone, particulate matter, sulfur dioxide, and lead), referred to as the criteria pollutants, were set under NAAQS, which placed limits on acceptable ambient concentrations. Air quality impacts due to construction of the proposed Project's transmission line and associated facilities would be minimal, and the construction activities are generally short term in nature. The primary type of air pollution during construction would be combustion pollutants from equipment exhaust and fugitive dust particles from disturbed soils becoming airborne. The amount of pollutants emitted from construction vehicles would be relatively small. Air quality impacts during O&M of the Project would be negligible. O&M vehicles would mainly use access roads, causing dust particles to be stirred up. Dust control would be provided on cleared areas on an as needed basis to reduce dust generation and off-site deposition of soil from the Project site. Measures to

Table 3-2 Rationale for Resources Dismissed from Further Analysis	
Environmental Discipline	**Rationale**
	minimize air pollution are included in the resource protection measures (see Section 2.6) and WAPA's Construction Standard 13 and standard mitigation measures. Therefore, quantities of potential emissions would be very small, temporary, and localized.
Fuels/Fire Management	The proposed Project would create potential fire hazards if the transmission line came in contact with vegetation or other structures or if the poles were struck by lightning. The vegetation in the Project area is sparse and the Project is not located in a high fire hazard area. The proposed Project would remove or replace the existing wooden poles with galvanized steel monopoles and H-frame structures, which would reduce the fire hazard caused by wood poles. The Project would be designed, constructed, and maintained in accordance with NESC requirements, which establish clearances from other man-made and natural structures as well as tree-trimming requirements. WAPA would maintain the transmission line right-of-way in accordance with existing regulations, accepted industry practices, and standard BMPs that include fire protection. Impacts from lightning strikes would be minimized by installing overhead fiber optic ground wire, which shields the conductors and reduces the risk of fire during a storm. Potential fire hazard would be no more than with the existing transmission lines.
Geology and Minerals	No known unique geologic or mineral resources exist within the Project area. No additional detailed analysis in the EA is warranted.
Intentional Destructive Acts	The proposed Project presents an unlikely target for an act of terrorism or sabotage, with an extremely low probability of attack. The DOE requires that NEPA documents explicitly address potential environmental consequences of intentional acts of destruction (DOE 2006). The purpose is to inform the decision maker and the public about chances that reasonably foreseeable accidents associated with proposed actions and alternatives could occur, and their potential adverse consequences. Reasonably foreseeable means events that may have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture and is with the rule of reason or reasonably foreseeable (40 CFR § 1502.22). This includes determining the appropriate level of detail for analysis based on the type of project, level of risk, and sensitivity for releasing information to the public. Vandalism and intentional acts of destruction (sabotage) of the proposed facility and related interconnection are unpredictable events. The chances of such acts occurring would be reduced by the limited and remote access to the Project area. In addition, WAPA inspects its transmission lines and substations on a regular O&M schedule for any signs of sabotage or vandalism and takes immediate action if a potential hazard is found. The potential for serious injury resulting from vandalism is negligible. The public should call 1-800-209-8962 should any suspicious activity be seen in the Project area or its immediate vicinity, or if anyone is seen: • Shooting at WAPA's insulators, power lines, transmission towers or substation equipment • Dumping waste or other materials on WAPA's property • Vandalizing WAPA's property, buildings, or vehicles • Stealing WAPA equipment, supplies, tools, or materials • Harming WAPA staff No additional detailed analysis in the EA is warranted. WAPA expects the proposed Project would not increase the opportunity for these acts and does not expect that it would differ from the No Action Alternative to measurably affect the risk of an intentional destructive act.
Noise and Sensitive Receptors	Adherence to WAPA's SOPs related to noise or vibration generated would not substantially adversely affect sensitive receptors or conflict with applicable Federal or State noise guidelines. Maintenance and minor repairs would typically be relatively short, addressing vegetation issues where needed, and would not substantially or adversely affect sensitive receptors or conflict with applicable Federal and State noise guidelines.

Table 3-2 Rationale for Resources Dismissed from Further Analysis	
Environmental Discipline	**Rationale**
	Due to the short duration of maintenance activities, noise or vibrations generated during these activities would not substantially affect sensitive receptors or conflict with applicable noise guidelines and performance standards.
Transportation	The Project area is accessed via SR 72, SR 95, local roads, existing access roads for the existing 161-kV lines, and existing roads on CRIT, BLM, ASLD, and Reclamation land. During construction, no more than 40 people would travel to and from the construction site on a daily basis; this limited amount would use existing transportation routes and would have no discernible impact on traffic flow rates. During operation, traffic would be limited to occasional access for routine maintenance of the transmission lines or in response to a major outage.
Areas of Critical Environmental Concern (ACEC)	ACECs are areas that the BLM designates for special management to protect important natural, cultural, or scenic resources or to identify natural hazards. There are no ACECs within the Project area. The nearest Area of Critical Environmental Concern is the Swansea Historic District, which is approximately 10 miles east of the Project area. Therefore, no measurable effect on ACECs is expected.
Wild and Scenic Rivers	There are no Congressionally designated Wild and Scenic Rivers within or immediately adjacent to the Project area, so no impact to this resource would result from the proposed Project. No additional detailed analysis in the EA is warranted.

3.3 VEGETATION

This section describes impacts of the Proposed Action and No Action Alternative on general vegetation and special-status plant species. Additional information is considered in the Biological Summary Report (Environmental Planning Group, LLC [EPG] 2021).

3.3.1 Affected Environment

The Project area is located entirely within the Lower Colorado River subdivision of the Sonoran Desert scrub biotic community, which can be characterized as the largest, hottest, and driest region of the Sonoran Desert (Brown 1994). Impacts to vegetation in these areas would be temporary, although recovery of natural vegetation in arid systems such as the Sonoran Desert is slow, and this habitat would not likely recover to its pre-disturbance conditions for several decades. Precipitation in the Sonoran Desert is bimodal, with thunderstorms in the summer and more widespread, gentler storms in the winter. The overall biotic community consists of desert indianwheat (*Plantago ovata*), devil's spineflower (*Chorizanthe rigida*), Honey mesquite (*Prosopis glandulosa*), desert ironwood (*Olneya tesota*), yellow paloverde (*Parkinsonia microphylla*), smoketree (*Psorothamnus spinosus*), creosote bush (*Larrea tridentata*), and burrobush (*Ambrosia dumosa*).

3.3.1.1 Invasive Plant Species

Invasive plant species grow in environments where they did not evolve and often have no natural enemies to limit their reproduction and spread (Westbrooks 1998). Ground disturbance can create conditions that favor invasive plant species over native vegetation. Additionally, weed seeds can be transported into work areas on vehicles and equipment that are not properly cleaned, in soils and rock material, or in seed mixes that are not weed-free. Ground disturbance in areas with existing weed populations can allow those populations to expand and further affect native vegetation. Transport of weed seeds into areas that are not infested can allow the establishment of new weed populations. Through the implementation of SOPs, BMPs, and PCMs, colonization and spread would be minimized.

3.3.1.2 Special-Status Plants

The following special-status plant species have the potential to occur within the Project area.

Scaly Sand Food (*Pholisma arenarium*) – BLMS

Scaly sand food is a BLM Sensitive (BLMS) species that prefers coastal strand and sand dunes with known occurrences in La Paz County in the Bouse Wash and Cactus Plains (AGFD 1999). Only the flowering stalk of this root parasite is normally seen above ground. Threats include urban development and OHV disturbance.

While scaly sand food was not found within the Project area during field inventories, the survey took place outside the growing season for this species. The species could potentially occur along nearly any portion of the Project area, although the preferred habitat of deep sandy soils was not consistently present within the Project area.

3.3.2 Environmental Consequences

Resource protection measures applicable to vegetation are listed below with the full text presented in Table 2-6.

- **BIO-17** states that WAPA would revegetate any temporarily disturbed land with plant species that are native to the site and were present prior to the Proposed Action.
- **BIO-18** states that an invasive plant monitoring and removal plan would be prepared and implemented to prevent new invasive plants from entering the Project area during construction and ensure that existing invasive plants do not spread into surrounding habitat.
- **BIO-19** states that surveys would be conducted for scaly sand food prior to construction and in the months of May and June.

3.3.2.1 Proposed Action

Ground disturbance can directly and indirectly affect any plants that are present, including special-status plant species. Ground disturbance that includes removal or movement of topsoil can cause the loss of most plants that are present. Seed banks may be lost if topsoil is removed or deeply overturned. Ground disturbance can also facilitate the spread of invasive plants, which are often more tolerant of disturbance than native species. Invasive plant spread may occur if seeds are already present or if seeds are transported into an area on equipment or vehicles.

Where feasible (e.g., plants are detectable and can be avoided), WAPA would conduct surveys to mark occupied habitat or individual plants for avoidance during any ground-disturbing activities.

WAPA's O&M activities are designed to maintain a desired vegetation condition within WAPA's right-of-way and facilities. The desired vegetation condition may necessitate maintaining relatively low-growing vegetation in the transmission line rights-of-way or bare earth inside the boundaries of the substations. Thus, O&M activities could temporarily affect any vegetation that is present within treated areas through associated disturbance. Herbicide use can affect non-targeted species, including special-status plants, that are sensitive to the types of herbicides applied.

WAPA's PCMs state that herbicide use would be prohibited at all times in the vicinity of special-status species with the exception of direct application to targeted vegetation. Where feasible (e.g., plants are

detectable and can be avoided), WAPA could conduct surveys to mark occupied habitat or individual plants for avoidance during O&M activities.

New 230-kV Transmission Line

The new 230-kV transmission line would include the installation of monopole structures every 1,000 feet, depending on terrain. Installation of each structure would result in temporary disturbance of 0.72 acres per structure. Pulling and tensioning sites would involve approximately 1.8 acres of ground disturbance every 2 miles of tangent line and 7.3 acres of ground disturbance at turning points along the line. The 230-kV transmission line would result in the temporary ground disturbance of approximately 156 acres in addition to 7.5 acres of laydown areas. Vegetation clearing for staging areas, tensioning sites, and conductor pulling sites would be returned to their original contour at the end of the construction.

Foundation excavation and structure pad clearing would result in less than 0.1 acres of permanent impacts per structure. Assuming construction of 97 new structures, the 230-kV transmission line would result in ground disturbance of approximately 4.4 acres of permanent ground disturbance. Construction of a new access road along the entire length of the 230-kV transmission line would result in 45 acres of permanent ground disturbance.

The scaly sand food is a parasitic plant species that is only visible when it is flowering and remains dormant underground for the remaining part of the year. This makes it a difficult species to detect, and the most optimal time of year to conduct surveys is in May (Clark 2011). No individuals were found during the survey. However, it can be assumed they are present in the area due to the presence of common host plants like rabbitbrush (*Ericameria*) and wild buckwheat (*Eriogonum*) (Clark 2011), as well as existing records of the species in and near the Project area that have been deposited in museum collections (Southwest Environmental Information Network no date [n.d.]).

Construction of this component of the Proposed Action would result in approximately 156 acres of temporary disturbance and 49 acres of permanent disturbance to suitable habitat for scaly sand food. This would result in a direct, long-term, and minor impact to the species.

Substation Expansion

The proposed expansion of the Bouse Substation would be performed entirely within existing WAPA property. A total of 0.3 acres of permanent ground disturbance, directly adjacent to the existing substation, would occur in an area of previous disturbance devoid of vegetation. Because suitable habitat for the scaly sand food exists in this area, all ground-disturbing activities associated with expansion of the Bouse Substation are considered impacts to this species. This would result in a direct, long-term, and minor impact to the species.

Jumper Connection Options

Connecting the existing Parker-Headgate Rock and Parker-Bouse 161-kV transmission lines would include construction of new steel H-frame structures located approximately every 500 feet. Seven locations are being considered for the connection of the Parker-Headgate Rock and Parker-Bouse transmission line, ranging in length from 0.1 mile to 3.3 miles. Installation of each structure would result in temporary disturbance of 0.72 acres per structure. Pulling and tensioning sites would involve approximately 1.8 acres of ground disturbance along straight sections of line and 7.3 acres of ground disturbance at turning points where the jumper connects to the existing transmission lines. Not all of this disturbance would occur within the most suitable habitat for scaly sand food.

As shown in Table 3-3, Jumper Options 3, 5, and 6 would not cross suitable habitat for the scaly sand food and, therefore, would have no impact to this sensitive species. Jumper Option 7 would result in the greatest temporary and permanent impacts to scaly sand food. Impacts to scaly sand food from the construction of Jumper Options 1, 2, 4, or 7 would result in a direct, long-term, and minor impact.

Table 3-3 Impacts to Suitable Habitat for Scaly Sand Food		
Jumper Connection	**Temporary Impacts (acres)**	**Permanent Impacts (acres)**
Jumper Option 1	0.1	0.01
Jumper Option 2	0.1	0.01
Jumper Option 3	0.0	0.00
Jumper Option 4	0.4	0.03
Jumper Option 5	0.0	0.00
Jumper Option 6	0.0	0.00
Jumper Option 7	83.2	5.20

Decommission Segments

Removal of each structure would require approximately 0.41 acres of temporary disturbance for equipment set-up and use. Depending on which jumper option is selected, between 135 and 175 structures would be removed, resulting in approximately 82 to 106 acres of temporary disturbance. The overall impact of this project component would initially be short-term, adverse, and minor, but the long-term impact would be beneficial and minor because of the absence of O&M activities in the decommissioned right-of-way.

3.3.2.2 No Action Alternative

Under the No Action Alternative the existing transmission lines would remain operational and in place. The Proposed Action would not be constructed; therefore, construction-related direct or indirect effects to special-status or general wildlife species would not occur. However, limited vegetation clearing could occur under the No Action Alternative because of more frequent future maintenance needs for the existing wood structures, resulting in negligible, but slightly increased, long-term temporary O&M impacts over the Proposed Action.

3.4 WILDLIFE

This section describes effects of the Proposed Action and No Action Alternative on general and special-status wildlife species. Additional information is considered in the Biological Summary Report (EPG 2021).

3.4.1 Affected Environment

The Project area's desert scrub-type vegetation provides suitable habitat for an abundant and diverse wildlife community, including many special-status species that are either known to be present or have the potential to be present. Many of the wildlife species of the Lower Colorado River Valley Subdivision are small, nocturnal, and camouflaged and live below ground during the day.

3.4.1.1 General Wildlife Species

Migratory Birds

Nearly all bird species present in the Project area are protected under the MBTA. Nonnative bird species are not protected, and several species of quail may be present but are not protected under the MBTA. Protected migratory birds may be found anywhere in the Project area year-round. Many species are present in winter but migrate to other areas during the nesting season or pass though Arizona during migration but

do not nest or winter in the region. Also, many species, particularly in riparian or montane habitats, are only present during the summer nesting season and migrate to Central and South America during fall and winter.

3.4.1.2 Special-Status Species

A review of existing information for special-status species considered those listed as threatened or endangered under the ESA or California Endangered Species Act (CESA), species proposed or candidates for ESA listing, bald and golden eagles, and BLMS species. These species, their status, and their potential for occurrence in La Paz and San Bernardino Counties are listed in Table 3-4. Species unlikely to occur because of habitat or distribution limitations were omitted from further analysis. General life history information is provided for each species known to occur or for which suitable habitat is available. However, a species may potentially be present within the Project area without being affected by the Proposed Action if the species is not dependent on resources affected by the Project (e.g., some migratory birds, Colorado River fish species).

Special-status species evaluated in this EA include:

- Species that are listed, proposed, and candidate species protected under the ESA
- BLMS species
- USFWS Birds of Conservation Concern (BCC)
- Species protected under the BGEPA of 1940
- Species listed under CESA

A total of 17 special-status wildlife species were evaluated for their potential to occur within the Project area. Through a review of their habitat and distribution, it was determined that 14 of these special-status species have the potential to occur within the Project area (Table 3-4). These 14 special-status species are described in more detail below. Many of these special-status species likely only traverse the study area as they move between areas of suitable habitat. ESA-listed species are only present in the decommissioning segments of the Project area and are also addressed in the Programmatic Biological Opinion for the Parker-Davis system (USFWS 2015).

Information supporting this review included queries of publicly available information from the USFWS, Information for Planning and Consultation (IPaC), and AGFD, Heritage Database Management System, online databases, and a review of BLMS species. The IPaC query reports can be found attached to the Biological Summary Report (EPG 2021).

Table 3-4 Special-status Species Evaluated for Potential Occurrence within the Project Area

BGEPA: Bald and Golden Eagle Protection Act
BLMS: BLM Sensitive Species (Arizona)
CA T: California Threatened
CA E: California Endangered
CH: Designated critical habitat
NEP: Nonessential Experimental Population
ESA Candidate: Candidate for listing under the ESA
E: ESA Endangered Species
T: ESA Threatened Species

Common Name Scientific Name	Status	Habitat and Notes	Presence in or Near the Project Area
Mammals			
Sonoran pronghorn *Antilocapra americana sonoriensis*	NEP	Open, treeless areas in and near steep, rugged terrain. Access to water is preferred, especially during summer.	Project area is outside of known distribution.

Table 3-4 Special-status Species Evaluated for Potential Occurrence within the Project Area			
BGEPA: Bald and Golden Eagle Protection Act **BLMS:** BLM Sensitive Species (Arizona) **CA T:** California Threatened **CA E**: California Endangered		**CH:** Designated critical habitat **NEP:** Nonessential Experimental Population **ESA Candidate**: Candidate for listing under the ESA **E:** ESA Endangered Species **T:** ESA Threatened Species	
Common Name **Scientific Name**	**Status**	**Habitat and Notes**	**Presence in or Near the Project Area**
Birds			
Bald eagle *Haliaeetus leucocephalus*	BGEPA; BLMS	Present in winter along watercourses and reservoirs. Roost sites include clumps of mature, deciduous trees in riparian areas.	Yes
Golden eagle *Aquila chrysaetos*	BGEPA; BLMS	Generally, nests in remote areas with cliffs and canyons, but hunts in open grassland or chaparral habitat.	Yes
Yuma Ridgway's (clapper) rail *Rallus obsoletus* [=*longirostris*] *yumanensis*	E	Dense emergent marshy vegetation.	Yes
Yellow-billed cuckoo, Western Distinct Population Segment *Coccyzus americanus*	E; CH	Prefers large blocks of mature riparian woodlands, although younger trees and smaller habitat patches can be used. Designated critical habitat, outside Project area	Yes
Southwestern willow flycatcher *Empidonax traillii extimus*	E; CH	Dense, complex riparian habitat with trees such as willow, salt cedar, and box elder. Designated critical habitat outside Project area.	Yes
Gila woodpecker *Melanerpes uropygialis*	CA E	Occur in tall stands of cottonwoods and willows with high foliage density and often nest in Saguaro cavities.	Yes
Elf owl *Micrathene whitneyi*	CA E	Associated with saguaro cactus and riparian habitat along the Lower Colorado River, associated with mature mesquite woodlands and cottonwood-willow habitat.	Yes
Burrowing Owl *Athene cunicularia*	BLMS	Dry, open short-grass habitats.	Yes
Reptiles			
Sonoran Desert tortoise *Gopherus morafkai*	ESA Candidate	Steep, rocky slopes and sometimes in adjacent valley bottoms along desert washes.	Yes
Northern Mexican gartersnake *Thamnophis eques megalops*	T	Riparian obligate inhabiting densely vegetated permanent bodies of water. Proposed critical habitat outside Project area.	Project area is outside of known distribution.
Mojave fringe-toed lizard *Uma scoparia*	BLMS	Areas with wind-blown sand, including active dunes, sand ridges, and sandy valley bottoms.	Yes
Mojave Desert tortoise *Gopherus agassizii*	T; CA T	Sandy flats to rocky foothills, including alluvial fans, washes, and canyons where suitable soils for den construction might be found.	Yes

Table 3-4 Special-status Species Evaluated for Potential Occurrence within the Project Area			
BGEPA: Bald and Golden Eagle Protection Act **BLMS:** BLM Sensitive Species (Arizona) **CA T:** California Threatened **CA E**: California Endangered		**CH:** Designated critical habitat **NEP:** Nonessential Experimental Population **ESA Candidate**: Candidate for listing under the ESA **E:** ESA Endangered Species **T:** ESA Threatened Species	
Common Name **Scientific Name**	**Status**	**Habitat and Notes**	**Presence in or Near the Project Area**
Amphibians			
Lowland leopard frog *Lithobates yavapaiensis*	BLMS	Permanent or nearly permanent bodies of water without invasive predators. May survive brief periods of pool drying buried in damp soil.	Suitable habitat not present in Project area.
Fish			
Bonytail chub *Gila elegans*	E; CH	Deep, swift pools and backwaters of the Colorado River. Associated with mud and rock substrate.	Yes
Razorback sucker *Xyrauchen texanus*	E; CH	Backwaters and eddies with sand, mud, and rock substrate, in the Colorado River and tributaries. Designated critical habitat in the Colorado River.	Yes
Invertebrates			
Monarch butterfly *Danaus plexippus*	ESA Candidate	Migratory, using areas with nectar plants and milkweed, often in riparian corridors with appropriate roosting habitat for protection from the elements during migration. ¬	Yes

Birds

Yuma Ridgway's Rail (*Rallus obsoletus yumanensis*) – ESA Endangered

The Yuma Ridgway's rail was listed as endangered on March 11, 1967, under the name Yuma clapper rail. The Yuma Ridgway's rail inhabits dense, riparian vegetation and requires marshy environments with little residual vegetation and shallow open waters. They require prey food such as cray fish, small fish, frogs, and aquatic invertebrates. The Yuma Ridgway's rail is a subspecies which currently inhabits the Lower Colorado River from the Gulf of California in Mexico to the Upper end of Lake Mead at the Grand Canyon (AGFD 2020c). Suitable habitat for the Yuma Ridgway's rail is present along the Colorado River, between Parker and Parker Strip; therefore, presence of the species is possible, even likely, within the Project area. There is no critical habitat designated or proposed for the Yuma Ridgway's rail.

Yellow-billed Cuckoo (*Coccyzus americanus*) of the Western United States Distinct Population Segment – ESA Threatened

The western yellow-billed cuckoo is listed as threatened under the ESA with designated critical habitat outside of the Project area. The yellow-billed cuckoo inhabits desert riparian woodlands composed of willow, cottonwood, and mesquite, as well as dense thickets along streams and marshes. The species primarily nests in mature cottonwoods and willows with dense foliage (LCRMSCP 2016.). Critical habitat is designated for the species outside the Project area. Potential riparian woodland habitat for the yellow-billed cuckoo exists near the Project area along the Colorado River, and there is a potential for presence of the species within the Project area during migration or dispersal between habitat patches.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*) – ESA Endangered, Designated Critical Habitat

The southwestern willow flycatcher is a riparian obligate species that prefers to breed in vegetation along rivers, streams, and wetlands. They will utilize areas of dense trees and shrubs for nesting and foraging near surface water or saturated soils (AGFD 2020a). Southwestern willow flycatchers require dense areas of cottonwood, willow, and tamarisk vegetation for nesting. Critical habitat was designated for the southwestern willow flycatcher outside the Project area.

Bald Eagle (*Haliaeetus leucocephalus*) and Golden Eagle (*Aquila chrysaetos*) – BGEPA

Both bald eagles and golden eagles are present in the region and individuals could be seen in nearly any location outside the nesting season.

Bald eagles typically occupy areas adjacent to water where large fish and waterbirds provide food sources, although they may also travel long distances and scavenge for food away from water. A bald eagle may fly over or perch within the Project area when foraging or moving between bodies of water, and individuals are often observed foraging alongside rivers such as the Colorado.

Golden eagles occupy rugged, mountainous habitats with adequate nesting locations and foraging habitat. Typical nest sites are cliff ledges able to support large nests, with minimal human disturbance nearby, and sufficient mammal prey in the region. The species is anticipated to be present in the vicinity of the Project area to hunt for .

Gila Woodpecker (*Melanerpes uropygialis*) – CESA Endangered

The State of California and the California Department of Fish and Game (CDFG) listed the gila woodpecker as endangered in 1988 (CDFG 2008). Gila woodpeckers currently occupy parts of their historical range along the Lower Colorado River into southern Arizona. These woodpeckers use saguaro cacti and riparian woodlands, as well as tributaries and washes in cottonwood-willow habitat. Gila woodpeckers prefer high foliage density and diversity and are associated with high canopy, large trees, and snags. Their diet consists mainly of insects like beetles, grasshoppers, moths, and butterflies and will consume saguaro fruit and mistletoe berries as well (LCRMSCP 2016). Some suitable habitat is present along the Lower Colorado River; therefore, the presence of this species is possible.

Elf Owl (*Micrathene whitneyi*) – CESA Endangered

The State of California listed the elf owl as endangered in 1980 (California Department of Fish and Wildlife 2013). The current range of elf owls extends from the Lower Colorado River, from southern Nevada, eastern California, and western Arizona into New Mexico. These owls are associated with riparian forests, desert wash woodlands, upland deserts, canyon riparian forests, dry oak woodlands, wooded canyons, sycamores, and evergreen woodland habitats. Along the Lower Colorado River, they are known to inhabit mesquite woodlands and cottonwood-willow riparian areas. Elf owls prefer habitats with excavated cavities for nesting sites, as well as a high percentage of canopy cover, and are known to use cavities in the main stem of a saguaro (LCRMSCP 2016). Suitable habitat exists along the Lower Colorado River, and there is a potential for presence of this species within the Project area.

Western Burrowing Owl (*Athene cunicularia*) – BLMS

Western burrowing owls are a species of concern by the USFWS, protected by the MBTA, and the State of Arizona. Burrowing owls are partially migratory and are generally present in higher numbers during winter in the Colorado River Valley. However, some individuals are present year-round (Klute 2003). Burrowing

owls typically require holes excavated by mammals such as ground squirrels, badgers, coyotes, and foxes, and soils must be suitable for burrowing. These burrows are required for their survival and reproduction.

Birds of Conservation Concern

BCCs have been identified by the USFWS as "species, subspecies, and populations of all migratory, nongame birds that, without additional conservation actions, are likely to become candidates for listing under the ESA of 1973." Within the vicinity of the Project area, the following species have been identified as BCCs: Clark's grebe (*Aechmophorus clarkii*), Costa's hummingbird (*Calypte costae*), LeConte's thrasher (*Toxostoma lecontei*), marbled godwit (*Limosa fedoa*), western burrowing owl (*Athene cunicularia*), and the willet (*Tringa semipalmata*).

Reptiles

Sonoran Desert Tortoise (*Gopherus morafkai*) – ESA Candidate

The Sonoran Desert tortoise occupies rugged, steeply inclined desert hills and mountains as well as caliche caves in desert washes. The BLM has designated habitat categories that rank from Category I (most important to Sonoran Desert tortoise conservation, highest protection in management decisions) to Category III (lower importance to Sonoran Desert tortoise conservation, lower level of protection) (BLM 1988). The Project crosses some areas designated as Category III habitat. Along with suitable forage plants, adequate shelter sites are a requirement of the species. Shelter sites can include boulder piles, burrows, and caliche caves.

Mojave Desert Tortoise (*Gopherus agassizii*) – ESA Threatened, California Threatened

The Mojave Desert tortoise is listed as threatened under both the ESA the CESA. They inhabit the area north and west of the Colorado River and prefers sandy soil in open washes in creosote-bush flats. Mojave Desert tortoises are most active during spring and after summer rains but may emerge nearly any time of year after rainfall. The majority of their time is spent underground in burrows. The Project area is not within USFWS designated critical habitat for the Mojave Desert tortoise. The nearest critical habitat is approximately 10 miles west of the Headgate Rock Substation (USFWS 1994). Much of the Project area in California, except for the immediate vicinity of the Colorado River and developed areas, is suitable habitat for the Mojave Desert tortoise.

Mojave Fringe-toed Lizard (*Uma scoparia*) – BLMS

The fringe-toed lizard is endemic to Southern California and a small part of western Arizona, where it is limited to aeolian sand habitats. Primary threats to this species include habitat loss due to urban development, agriculture, and OHV use (Hollingsworth and Beaman, n.d.). This species is found near Parker, Arizona, mostly on fine, wind-blown sands in and around the Bouse Dunes and Cactus Plains and along the Colorado River but also on coarser sand substrates (AGFD 1996).

Fish

Bonytail Chub (*Gila elegans*) – ESA Endangered, Designated Critical Habitat

The bonytail chub requires the main stream portions of mid-sized rivers, over mud and rock substrates. In the Spring, they can be found in ponded and inundated terrestrial habitats for spawning. Adults will utilize reservoirs and open waters during nighttime hours and interstitial spaces associated with shoreline bounder fields during the day (AGFD 2020b). Critical habitat for the Bonytail Chub exists north of Parker Dam at Lake Havasu, 0.2 miles from the proposed decommissioning.

Razorback Sucker (*Xyrauchen texanus*) – ESA Endangered, Designated Critical Habitat

The Razorback Sucker will utilize a variety of habitats from mainstream channels to slower backwaters of medium and large streams and rivers. Historically, they have preferred low velocity riverine habitats, floodplains, lakes and other wetland habitats within major channels. They are known to inhabit depths of a meter or more over sand, mud, or gravel substrates. Razorback Suckers tend to spawn in rockier substrates, while juveniles require shallow, warm water. Adults need the deeper waters of reservoirs or large eddies with pools (AGFD 2020d). Critical habitat for the species has been designated between Parker Dam and Blythe along the Colorado River.

Invertebrates

The monarch butterfly is the only special-status species invertebrate likely to occur in the study area. Monarchs are migratory and pass through Arizona annually. Milkweed species are required food plants for monarch larvae, and reproduction on native and ornamental milkweed species has been recorded in Arizona. Milkweed is not common in the general vicinity of the Project area; therefore, monarch butterflies are not likely to reproduce within the Project area. Since monarch butterflies migrate, they may occur outside of typical habitat during migratory flights. Southwestern Arizona is not a part of a major migration corridor for the species, although some individuals may pass through the region. Small populations of monarch butterflies are known to spend the winters along the Colorado River in Parker and Lake Havasu (Morris et al. 2015).

3.4.2 Environmental Consequences

This section summarizes the types of potential effects to wildlife, including special-status species, that may result from the Proposed Action. Adverse impacts may result from construction due to direct loss of habitat, potential disturbance from noise and activity, artificial lighting, and risk for mortality from ground-disturbing activities, vehicle strikes, and collision with transmission lines. The implementation of resource protection measures would minimize the impacts to general wildlife and special-status species from the Proposed Action.

This EA summarizes the potential impacts of the entire Proposed Action and No Action alternatives. However, the decommissioning of the existing Parker-Davis transmission line was previously analyzed programmatically by WAPA (WAPA 2015, Aspen 2012). Potential impacts to ESA-listed species for the decommissioning were also addressed through a Programmatic Biological Opinion (USFWS 2015). Together, these documents address O&M (including decommissioning) on the existing Parker-Davis system under both the Proposed Action and No Action alternatives but do not address the construction of new transmission lines.

The resource protection measures applicable to wildlife are listed below with the full text presented in Table 2-6.

- **BIO-1** limits the disturbance of previously undisturbed habitats to the greatest extent practicable.
- **BIO-2** requires that pre-activity clearance surveys be conducted when the possible presence of special-status wildlife and nesting birds exists within the Project area and also necessitates the presence of a qualified biologist to supervise construction activities.
- **BIO-3** states that a qualified biologist would be present during any vegetation clearing or soil disturbance in Mojave Desert tortoise habitat.

- **BIO-4** requires that Project activities conducted during the migratory bird breeding season (February 15 through August 31) would take place only after a Biological Monitor has surveyed the work area for active bird nests.
- **BIO-5** requires that Project activities within riparian habitats would be conducted outside of the breeding season for bird species covered in the LCRMSCP.
- **BIO-6** states that if an active burrowing owl burrow is observed within a work area at any time, the Biological Monitor would designate and flag an appropriate buffer area around the burrow which would prohibit Project activities in that area.
- **BIO-7** requires that for Project activities planned between February 15 and November 15 in the sand habitats of the Mojave fringe-toed lizard on Parker Dam-Bouse all work areas would be surveyed by a qualified biologist prior to any ground-disturbing activities to minimize potential impacts to Mojave fringe-toed lizards.
- **BIO-8** states that WAPA would avoid impacts to mines by ensuring that mines would not be inadvertently filled, collapsed, or destroyed and that the entrances would not be blocked due to the potential presence of special-status bats that may roost in abandoned mines and rock outcrops.
- **BIO-9** states that WAPA would conduct employee training to ensure that all workers on the Project site are aware of all applicable resource protection measures for biological resources and the appropriate protocol to follow in the instances of encountering wildlife on the Project site.
- **BIO-10** states that no pets would be permitted on the work site, and workers would not be permitted to feed, harm, approach, harass, or handle wildlife at any time, except to remove animals safely from work areas, as described in detail in BIO-9 in Table 2-6.
- **BIO-11** requires all workers to remove and properly contain all trash and food materials within vehicles or closed refuse bins while on the work site.
- **BIO-12** requires that all water applied to dirt roads for dust abatement, within desert shrubland habitat, shall use the minimum amount needed to meet safety and air quality standards, to prevent the formation of puddles, which could attract wildlife to work sites.
- **BIO-13** requires that all water containers be securely covered to prevent wildlife from entering containers and becoming trapped.
- **BIO-14** states that no vehicles would be permitted to exceed 25 mph while traveling on unpaved access roads, to minimize the potential impact to special-status wildlife. In sandy habitats, no vehicles would be permitted to exceed 15 mph while traveling on access roads to minimize the impacts to Mojave fringe-toed lizards.
- **BIO-15** states that energized and ground conductors and hardware would be separated by at least 60 inches, or would be covered, in order to minimize any potential electrocution hazard for golden eagles or other large birds.

3.4.2.1 Proposed Action

Human presence and the noise generated by vehicles and equipment can disturb wildlife present near work areas. Disturbance can result in wildlife avoiding the area temporarily, and these effects would have a higher impact if the work area contained critical resources or important parts of the animal's home range. Nesting birds, particularly raptors, can abandon nests under some conditions when subject to disturbance. During construction activities for the Project, short-term noise and disturbance associated with human presence would occur and cause some species to avoid the general vicinity of construction activities.

Burrowing species and small animals, however, that do not necessarily avoid work areas may be difficult to detect and would be at risk. Vehicles may collapse burrows, and mechanical clearing or contouring may collapse or close off burrows. Species such as small mammals, reptiles, and burrowing owls would be at the greatest risk from these types of effects.

During and after construction activities for the Project, human activities can attract coyotes (*Canis latrans*) and common ravens (*Corvus corax*), particularly if food waste is not properly contained. These species are predators on sensitive wildlife species and by providing supplementary nutrition can indirectly increase the predation risk for those sensitive species. In the absence of harassment, hunting, and other activities perceived as a threat, wildlife may become more acclimatized to human presence. All of these impacts to general wildlife could occur with the Proposed Action anywhere ground disturbance or other human activity occurs as a result of the Proposed Action.

In addition to those potential impacts to general wildlife, the following sections describe some species-specific impacts that are possible due to the implementation of the Proposed Action, if any species addressed in Table 3-4 may be present on that Project component. Environmental laws and regulations and applicable agency requirements would be included in the annual training program for WAPA O&M personnel. WAPA would coordinate with regulatory and land-management agencies to ensure that specific actions have the lowest potential for adverse effect. As defined in WAPA's Construction Standards, WAPA would minimize the impacts as part of the Project (WAPA 2016) as described in Section 2.6.

New 230-kV Transmission Line

Terrestrial Species

Burrowing species are at the greatest risk as they may take shelter in their burrows and are unlikely to avoid construction areas. Likewise, Sonoran Desert tortoises spend the majority of their time underground (AGFD 2014). Therefore, burrowing species would be at a unique risk of harm during construction activities, especially during ground disturbance, and future maintenance activities. These Project activities may injure individuals or damage their burrows. Project activities would be planned to avoid burrow locations and to detect them during pre-construction surveys. Equipment set-up and staging would be planned to avoid burrow locations. Resource protection measures BIO-1, BIO-2, BIO-3, and BIO-14 require reduced speed limit, a pre-construction clearance, and a Biological Monitor, which would avoid direct take and minimize habitat degradation.

Construction of this component of the Proposed Action would result in 110 acres of temporary impact and 37 acres of permanent impact to Mojave fringe-toed lizard habitat. Mojave fringe-toed lizards are rarely surface-active between November and February except during warmer periods, and breeding season is between May and July (California Herps n.d.). They are highly vulnerable to off-road activity and could be susceptible to vehicle strikes during construction activities, although the mobility of the species allows them to avoid work areas and some other construction-related threats. Overall impacts to this species would be adverse, short-term, and negligible.

Impacts to habitat used by terrestrial wildlife species would be adverse, long-term or permanent, and negligible. Permanent disturbance (areas occupied by Project features) would no longer support habitat. Temporary disturbance would recover after construction of the Project, but vegetation recovery in arid regions may take several decades. During recovery of temporary disturbance areas, some habitat values would be present but in an altered state compared to undisturbed habitat.

Birds

Ground-disturbing activities do not typically create a risk for most adult birds. However, active nests (containing eggs or young) are at risk during vegetation removal. Although adults often avoid vehicles, burrowing owls may take shelter in their nests underground when alarmed. Among bird species, this places them at unique risk of harm during ground disturbing activities. Suitable habitat for burrowing owls, as well as suitable burrows, were noted within the Project area; however, no individuals were observed during field surveys. Some collision risk for birds would be created by the Project, and any burrowing owls or active bird nests not detected by preconstruction surveys would be at risk during ground-disturbing activities.

Construction activities could potentially result in the loss of active bird nests, which would be a violation of the MBTA. Removal of vegetation for the preparation of implementing a new line can result in the destruction of nests that are present, while also increasing predation risk by exposing them. Construction activities would be scheduled outside of nesting season for migratory birds when possible. If construction activities cannot be scheduled outside of the nesting season, WAPA would conduct surveys to mark and avoid active nests that are present before proceeding. Overall, impact to birds would be adverse, negligible, and long-term.

Aquatic Species

No perennial water bodies are crossed by the 230-kV component of the Proposed Action; therefore, no impacts on aquatic species are anticipated from implementation 230-kV component of the Proposed Action.

Substation Expansion

The proposed expansion of the Bouse Substation would be performed entirely within existing WAPA property. A total of 0.3 acres of permanent ground disturbance, directly adjacent to the existing substation, would occur in an area of previous disturbance and devoid of vegetation, resulting in an adverse, permanent, and negligible impact to wildlife.

Jumper Connection Options

Terrestrial Species

Installation for the connection of Parker-Headgate Rock and Parker-Bouse 161-kV structures would result in temporary disturbance of 0.72 acres per structure. Pulling and tensioning sites would involve approximately 0.45 acres of ground disturbance per structure along straight sections of line and 0.69 acres of ground disturbance per structure at turning points along the line. The connection options range in length from 0.1 mile to 3.3 miles.

As shown on Table 3-5, Jumper Option 7 would result in the greatest temporary and permanent impacts to Sonoran Desert tortoise. The majority of this disturbance would occur during construction and be restored within the right-of-way following construction. Jumper Option 7 would result in indirect, direct, and minor impacts to Sonoran Desert tortoise.

Jumper Options 1 through 6 would not create any disturbance to for Mojave fringe-toed lizard, and Jumper Option 7 would result in the greatest temporary and permanent impacts (Figure 2-4). Option 7 would result in direct, long-term, and minor impact to Mojave fringe-toed lizard.

Table 3-5 Impacts to Suitable Habitat for Sonoran Desert Tortoise and Mojave Fringe-Toed Lizard				
Jumper Connection	Sonoran Desert Tortoise		Mojave Fringe-Toed Lizard	
	Temporary Impacts (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)	Permanent Impacts (acres)
Jumper Option 1	0.1	0.0	0.0	0.0
Jumper Option 2	2.9	0.0	0.0	0.0
Jumper Option 3	0.0	0.0	0.0	0.0
Jumper Option 4	0.4	0.0	0.0	0.0
Jumper Option 5	1.4	0.1	0.0	0.0
Jumper Option 6	9.5	0.6	0.0	0.0
Jumper Option 7	83.2	5.2	10.1	0.6

Birds

Impacts to bird species typically associated with Sonoran Desertscrub in the new 230-kV component of the Proposed Action would be similar to impacts associated with construction of the new 230-kV transmission line.

Aquatic Species

No perinnial water bodies are crossed by the jumper options; therefore, no impacts on aquatic species are anticipated from implementation of any of the jumper options.

Decommission Segments

Approximately 24 miles of 161-kV transmission lines are proposed to be decommissioned and removed from the chosen connection option to the Parker Substation. During decommissioning of the existing transmission lines, surrounding wildlife would be impacted by the noise and presence of construction vehicles and human activity. Resources may be able to recover following decommissioning. Temporary impacts are those that occur only during activities associated with the Project such as noise disturbance from construction machinery. However, during removal, each structure would require approximately 0.41 acres of temporary disturbance for equipment set-up and use. Assuming between 135 and 175 structures are removed, decommissioning would result in approximately 82 to 106 acres of temporary disturbance.

Terrestrial Species

Decommissioning segments of the existing Parker-Headgate Rock and Parker-Bouse 161-kV lines would remove structures along 18 to 23 miles of right-of-way. After vegetation recovery, decommissioning would beneficially impact habitat in these areas. Up to 4 miles of transmission lines proposed for removal in California cross suitable habitat for the Mojave Desert tortoise. Suitable habitat for the Sonoran Desert tortoise is present along decommission segments in Arizona. Resource protection measures must be followed to minimize the risk of vehicle strikes, other hazards, or indirect adverse effects to these species. In California, resource protection measures must be implemented consistent with the Progammatic Biological Opinion for the Parker-Davis system (USFWS 2015).

Mojave fringe-toed lizards are rarely surface-active between November and February except during warmer periods, and breeding season is between May and July (California Herps n.d.). They are highly vulnerable to off-road activity and could be susceptible to vehicle strikes during construction activities. Overall impacts to subterrestrial species by this action would be adverse, short-term, and negligible.

Birds

Impacts to bird species typically associated with Sonoran Desertscrub in the decommission segment would be similar to impacts associated with construction of the new 230-kV transmission line. The decommission segment also crosses the Colorado River. The Colorado River is utilized as habitat and a migratory corridor by many species that have the potential to occur within the Project area, including BCCs and other sensitive species such as the Clark's grebe, Yuma Ridgway's rail, marbled godwit, willet, and burrowing owl. The decommissioning and removal of these towers and lines will ultimately decrease the potential for air strikes by birds migrating or dispersing along the Colorado River. The impacts of decommissioning the existing line will be beneficial, negligible, and long-term.

Aquatic Species

Two aquatic species, the bonytail chub and razorback sucker are endangered and known to occur in the Colorado River within the Project area. The bonytail chub has critical habitat designated just north of the Project area in Lake Havasu; however, the razorback sucker has critical habitat within the Project area between Parker Dam and Blythe, California.

While no disturbance is anticipated to occur in aquatic habitats, the decommissioning component of the Proposed Action includes removing existing transmission line crossings at the Colorado River. Ground disturbance adjacent to or upstream from aquatic sites can affect downstream aquatic habitat by contributing sediments to runoff during rainfall. Any pollutants that are present would also have the potential to reach aquatic sites. Sediment in runoff, if increased above the natural sediment load of the aquatic habitat, can affect species by clogging gills, reducing sunlight penetration and resulting productivity, and filling in stream substrate that can result in burying eggs and spawning sites. Since the Proposed Action would result in more than 1 acre of ground disturbance, it would require an Arizona Pollutant Discharge Elimination System permit and a project-specific Storm Water Pollution Prevention Plan (SWPPP). Soil disturbance would be contained to the Project site through implementation of the Project-specific SWPPP that requires the implementation of erosion-control measures. The SWPPP would also include measures to control pollutant discharge to prevent pollutants from entering receiving waters during and after construction activities.

No impacts associated with decommissioning the existing lines are anticipated to affect the razorback sucker and bonytail chub (Aspen 2012).

3.4.2.2 No Action Alternative

Under the No Action Alternative, the existing transmission lines would remain operational and in place. The Proposed Action would not be constructed; therefore, construction-related direct or indirect effects to special-status or general wildlife species would not occur. However, limited habitat clearing could occur under the No Action Alternative because of more frequent future maintenance needs for the existing wood structures, resulting in negligible, but slightly increased, long-term temporary O&M impacts over the Proposed Action.

3.5 SOIL RESOURCES

The existing soil resources within the Project area are described below, followed by a discussion of the potential effects of the Proposed Action and mitigation and minimization measures.

3.5.1 Affected Environment

This section describes the existing soil types, erosion potential and slopes, and prime farmland soils within the Project area.

Soil Types

Soil types can be described by their erodibility from water and wind. A soil's K-factor indicates the susceptibility of the soil to sheet and rill erosion by water. K-factor estimates are based primarily on percentage of silt, sand, and organic matter on soil structure and saturated hydraulic conductivity. K-factor values range from 0.02 to 0.69 with a higher value representing a higher susceptibility to sheet and rill erosion by water. A soil's erodibility from wind is classified by Wind Erodibility Group (WEG), where soils that have similar properties affecting their susceptibility to wind erosion are grouped together. WEG values range from group 1, which are the most susceptible to wind erosion, to group 8, which are the least susceptible to wind erosion.

According to the U.S. Department of Agriculture-Natural Resource Conservation Service (USDA-NRCS) Soil Survey Spatial and Tabular Data (SSURGO 2.2), a wide variety of soil types, with wide ranging K-factors and WEGs, are found within the Project area. Soils within the Project area vary in terms of their water and wind erodibility, where some soils have high susceptibility to water erosion while also having a low susceptibility to wind erosion, or vice versa. Soils within the Project area range from K-.02 to K-.28, and WEG-6 to WEG-2 (USDA-NRCS 2021).

Prime Farmland

Under the Federal Farmland Protection Policy Act of 1981, the USDA-NRCS defines farmlands as follows:

- Prime Farmland. Land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops. It can economically produce sustained high yields of these crops when treated and managed according to acceptable farming practices.

- Unique Farmland. Land other than prime farmland that is used to produce specific high-value food and fiber crops. It can economically produce sustained high yields of these specialized crops when treated and managed according to acceptable farming practices.

- Farmland of Statewide Importance. Land that has been identified by criteria determined by the Colorado State Experiment Station, the Colorado State Department of Agriculture, and the Colorado State Soil Conservation Board.

- Farmland of Local Importance. Land that has not been identified as having national or statewide importance yet may have local significance based on the goals of the community and of the various agricultural enterprises that maintain a viable agricultural community.

Although the majority of the CRIT Reservation is devoted to farming, lands within the Project area are not actively farmed. The online USDA-NRCS Web Soil Survey tool was used to ascertain the existence of prime and unique farmland soils in the study area. The USDA-NRCS has designated certain soils in the study area as unique farmland. USDA-NRCS identifies prime unique farmland in undeveloped portions of the Project area in the northern tip of the CRIT Reservation, near the Avi Suquilla Airport.

3.5.2 Environmental Consequences

3.5.2.1 Proposed Action

Soil Type

Erosion is the natural process by which water or wind removes soil from its natural location. Vegetation removal has the potential to impact soil resources by increasing the amount of exposure of susceptible soils to water and wind erosion at the land surface. The potential for bare-ground conditions during construction activities could result in a degradation of the land surface, reducing long-term soil productivity through loss of topsoil material, and nonpoint pollution as eroded soil material is washed into nearby streams or water bodies.

Impacts to soils in the Project area, including soil compaction and soil erosion by wind and water, would occur from construction and operation of the Project. Soil resource protection measures to minimize impacts to soils, including those for stormwater, erosion, and fugitive dust control, would be implemented as part of the PCMs and project SWPPP. The soil structure can be affected as a result of the Project activities compacting soils, destroying composition, and inhibiting future plant growth. Excavation activities associated with the Proposed Action could disturb soils and increase soil erosion and sediment transport rates. Vegetation removal destabilizes soils and slopes, also leading to elevated erosion and sediment transport rates. Project activities involve the use of major equipment that may disturb and erode soils. WAPA would implement BMPs, SOPs, and WAPA's Construction Standards to minimize or avoid impacts to soil resources, which would occur by ensuring soil conditions are left to facilitate proper vegetation regrowth and minimizing disturbance and removal of soils and vegetation as much as possible. Some activities may require work outside of the right-of-way (e.g., conductor pulling and tensioning sites, washout repair, installations of culverts), and WAPA would coordinate with the appropriate land-management agency or landowner in these instances (WAPA 2016).

When installing a new structure or if a structure needs to be modified, maintenance activities would be designed to reduce erosion and sedimentation in streams and washes. When culverts are installed, consideration of existing water and soil resources would be considered and, where appropriate, low-water crossings would be installed instead of a culvert. Applicable permits would be obtained and, if needed, erosion sediment controls would be installed on disturbed soils as soon as possible (i.e., before site work is complete) consistent with the terms and conditions of all applicable permits (WAPA 2016). Construction of Proposed Action components, including the 230-kV, jumper option, and decommission segments would result impact to soil resources that would be short-term, adverse, and minor.

Prime Farmland

While the construction of Proposed Action components would not directly impact agricultural production, minor direct impacts to prime farmland soils could occur if Jumper Option 7 is selected. Jumper Option 7 would traverse lands identified by the USDA-NRCS as farmland of unique importance. Approximately 3.6 acres of land in the vicinity of Jumper Option 7 is identified as farmland of unique farmland. The potential exists for activities to convert agricultural land to other uses, such as by constructing a new facility. For any action involving the conversion of important farmland, WAPA would prepare the appropriate sections of an AD-1006 Farmland Conversion Impact Rating Form for the action and would coordinate with the local USDA-NRCS representative to determine the overall impact of the conversion to ensure compliance with the Farmland Protection Policy Act.

3.5.2.2 No Action Alternative

Under the No Action Alternative, the existing transmission lines would remain operational and existing facilities would not be expanded or decommissioned. Under the No Action Alternative the existing transmission lines would remain operational and in place. The Proposed Action would not be constructed; therefore, construction-related direct or indirect effects to soil resources would not occur. However, limited soil disturbance could occur under the No Action Alternative because of more frequent future maintenance needs for the existing wood structures, resulting in negligible, slightly increased long-term temporary O&M impacts over the Proposed Action.

3.6 WATER RESOURCES

This section describes the affected environment and environmental consequences for water resources within the Project area. The water resources inventory includes streams and wetlands, floodplains, and water quality.

A secondary data inventory of water resources was conducted along the transmission line centerlines and proposed access road. Information and data for the inventory was obtained from the U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) and Watershed Boundary Dataset, ADEQ, Arizona Department of Water Resources, and USFWS.

3.6.1 Affected Environment

The USGS maintains the Watershed Boundary Dataset, which defines the aerial extent of surface water drainage in four different levels for all land and surface areas. For the purposes of this study, the Project area was assessed using Hydrologic Regions, Hydrologic Subregions, and Subbasins. The Project area includes one Hydrologic Region, the Lower Colorado, and is located within one Hydrologic Subregion, the Lower Colorado (Hydrologic Unit Code [HUC] 1503) and two Subbasins, the Mesquite Mountain-Bouse Wash (HUC10-15030105) and Imperial Reservoir (HUC10-15030104) (USGS 2014). .

3.6.1.1 Streams and Wetlands

The Project area includes numerous named and unnamed streams and other water bodies.

The USGS NHD defined the following terms for streams. The term perennial is used to describe a stream that contains water throughout the year, except for infrequent periods of severe drought. Within the Project area, perennial water is limited to the Colorado River and Imperial Reservoir (ADEQ 2016). The term intermittent refers to a stream that contains water for only part of the year but more than just after rainstorms and at snowmelt. The term ephemeral describes a stream that contains water only in direct response to precipitation (synonymous with arroyo, gully, wash).

The NHD reported no perennial streams, 34 ephemeral streams, and 9 intermittent streams crossed by the Project, although all streams reported as intermittent were confirmed to be ephemeral during field surveys. No artificial paths were reported by the NHD. With the exception of the Colorado River, all streams crossed by the Project are ephemeral, and some of these may be considered jurisdictional waters of the United States. The Lower Colorado subregion encompasses the entirety of the Project area and the Colorado River is located in the northwestern portion of the Project area, approximately 1 mile northwest of Parker, Arizona (USDA-NRCS 2021). All features identified by the NHD were located along the existing or proposed transmission line segments, and none were within the Bouse Substation or its proposed expansion.

The Project area includes approximately 11 potential wetlands identified in the USFWS National Wetlands Inventory (USFWS 2020), including rivers and streams. The total distance of wetlands crossed by the proposed right-of-way is approximately 0.48 miles, and the largest single crossing is less than 0.07 miles. However, this dataset includes many features that do not meet the regulatory definition of a wetland under the CWA.

3.6.1.2 Floodplains

Most of the floodplains within the Project area are crossings associated with streams or rivers such as the Colorado River. These are approximate areas designated as Zone A or 100-Year Floodplains by Federal Emergency Management Agency (FEMA). Figure 3-1 shows the floodplains in the Project area.

Information regarding flood hazards in the Project area was gathered from the National Flood Hazard Layer, which is updated monthly and includes all Flood Insurance Rate Maps databased, in addition to any Letters of Map Revisions. Special Flood Hazards are those subject to inundation by the 1 percent annual flood chance event and are classified into many different zones. The Project area crosses a large Zone A floodplain associated with the Osborne Wash. Zone A is an approximate delineation of the 100-year floodplain that is not based on detailed observation and does not have base flood elevations determined. Jumper Option 7 crosses the floodplain associated with Osborne Wash approximately 1 mile north of Shea Road (U.S. Department of Homeland Security 2015). Moderate flood hazard areas, labeled Zone X, are the areas between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood. The area east of the Colorado River falls within this flood zone, which includes Jumper Options 1 through 6 and the portion of the Project that is proposed for decommissioning.

3.6.1.3 Water Quality

The ADEQ conducts a comprehensive analysis of water quality data every 2 years, as required by the CWA. This analysis and data are presented in Arizona's impaired surface waters. According to the ADEQ 2016 report (published July 2017), Arizona has 10 different watersheds with impaired waters. There are no impaired waters that fall within the Project area.

The ADEQ conducted ambient, water quality monitoring of the Imperial Reservoir and found low levels of metals such as selenium, copper, and lead. This reservoir is classified as a Category 1, meaning it still maintains all of its uses (ADEQ 2016). Ambient monitoring of Parker Dam placed it in Category 2, meaning that all uses are attaining except for full body contact, in this instance.

The Colorado River RWQCB is responsible for Region 7 in California which includes San Bernardino County.

3.6.2 Environmental Consequences

Potential impacts to water resource were evaluated based on a comparison of the baseline condition of the affected environment and the likely effects of the Proposed Actions. Impacts are associated with contamination of a water resource from an accidental spillage of fuel or other hazardous substance (such as an herbicide), increased sedimentation due to loss of vegetation or changes to existing drainage and erosional patterns, increased turbidity from stream crossings, and affected jurisdictional waters and wetlands.

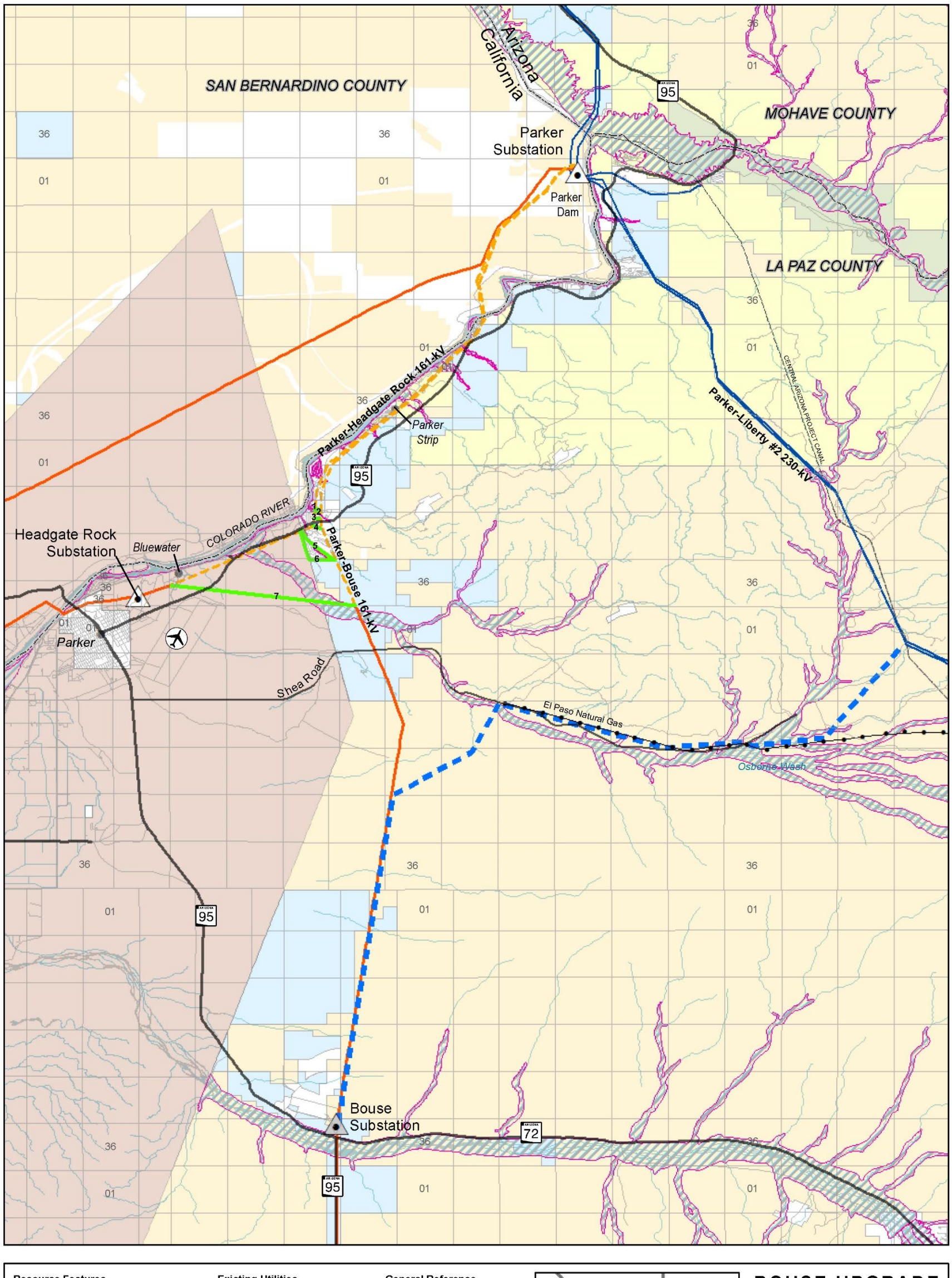


Figure 3-1 Floodplains in the Project Area

The Proposed Action would avoid impacts to streams, wetlands, and floodplains to the extent possible. Resource protection measures applicable to water and soil resources are listed below with the full text presented in Table 2-6.

- **WATER-1** states that no vehicles or equipment shall be refueled within 100 feet of a drainage or wetland unless a bermed and lined refueling area is constructed.

- **WATER-2** states that ground-disturbing activities within the Project area would maintain existing hydrologic patterns with respect to runoff supporting seasonal wetlands, vernal pools, and ephemeral drainages.

- **WATER-3** specifies that impacts to areas under the jurisdiction of the USACE, ADEQ, and Colorado River RWQCB would be avoided to the extent feasible. When avoidance is not possible, necessary permits would be acquired.

- **WATER-4** states that construction methods shall be designed to minimize erosion and would include installation of cross drains, placement of water barriers adjacent to the road, and the application of BMPs.

- **WATER-5** states that to the extent practical, new structures and overland access would be located out of floodplains.

- **WATER-6** states that stockpiled materials would not be deposited near or on wash banks or other water course boundary where they can be washed away by high water or storm runoff, or can encroach, in any way, upon the watercourse.

3.6.2.1 Proposed Action

New 230-kV Transmission Line

Construction of the new 230-kV component of the Proposed Action would include activities such as foundation excavation, new structure assembly and installation, establishment of pulling and tensioning sites, right-of-way clearing, access road construction, and temporary laydown areas. WAPA has built resource protection measures into the Proposed Action that would require construction activities to maintain existing hydrologic patterns, reduce the potential for fuel spills, and minimize direct construction impacts when possible.

Streams and Wetlands

Potential impacts to streams and wetlands are expected to be minimal with the application of the appropriate SOPs, BMPs, and PCMs. Activities that include more ground disturbance increase the potential impacts from sedimentation and impacts to potentially jurisdictional waters. These activities fall under category B and would be conducted while implementing WAPA's PCMs. As described in in the Parker-Davis Transmission System Routine Operation and Maintenance Project and Proposed Integrated Vegetation Management Program (WAPA 2015), WAPA would maintain an appropriate buffer around wetlands, seeps, springs, ponds, lakes, rivers, streams, marshes, or their associated habitats. Erosion control measures would be implemented to minimize the potential for siltation and run-off. In-stream work would be conducted during no-flow or low-flow conditions. Prior to activities within or near jurisdictional waters, WAPA would perform an impact assessment, which would identify and quantify the acreage of each jurisdictional area and would provide creation, restoration, or preservation mitigation consistent with permitting requirements. If determined necessary, WAPA would prepare appropriate documentation to

demonstrate that those impacts would be covered under Nationwide Permit 12 under Section 404 of the CWA. Impacts that exceed the limits of coverage by Nationwide Permit 12 are not anticipated to result from the Project. Overall impacts to water resources would be negligible, adverse, and long-term.

Floodplains

Activities associated with the new 230-kV component of the Proposed Action includes approximately 18 miles of new 230-kV transmission line strung on steel structures. Activities associated with the Proposed Action could affect floodplains if new structures were designed or placed in a manner that would impede or re-direct floodwater. Also, grading associated with a new access road could redirect floodwater if incorrectly designed. In addition to the potential for new structures to affect the flow of water across a floodplain, new structures could be damaged by floodwater if incorrectly sited.

The new 230-kV component of the Proposed Action would connect the Bouse Substation to the Parker-Liberty #2 230-kV transmission line. North of the substation, the new transmission line would parallel the existing Parker-Bouse 116-kV transmission line for approximately 7 miles before diverging from the existing line and heading east, generally paralleling Shea Road along the Osborne Wash. The new 230-kV transmission line and access road would traverse approximately 2.2 miles of Zone A floodplain associated with Osborne Wash (Figure 3-1). WAPA has built resource protection measures into the Proposed Action, which would ensure that transmission structures would be properly designed and located and would not impede, redirect, or be damaged by floodwater or impact the functionality of existing flood control structures or otherwise alter the natural drainage pattern. Additionally, all permanent access road crossings would be designed to meet roadway standards when building low-water crossings within a designated floodplain. All wash crossings would be designed to allow surface waters to flow unhindered over the crossing. WAPA would consult with the USACE and other agencies with floodplain responsibility as needed prior to the construction of any structure or access road. All fill or riprap placed within a stream or river channel would be limited to the minimum area required for access or protection of existing facilities. After construction, the surface would be restored to existing conditions and elevations, resulting in no long-term impacts. Overall impacts to floodplains would be direct, short-term, and negligible.

Water Quality

Water conservation measures to minimize the potential for impacts to water quality include avoidance of wet soils and areas recently subjected to heavy rains and restoration and/or revegetation of disturbed areas. The water conservation measures would minimize erosion; ensure proper drainage; and ensure proper selection, handling, and application of herbicides. As a result, potential surface water contamination, (including avoidance of identified wetlands), grading, and other soil-disturbing activities would be minimized. The following would also result from implementing the water conservation measures:

- Provide appropriate reporting and cleanup of accidental releases of hazardous materials
- Prohibit discharge of contaminants to surface waters
- Install erosion control devices
- Comply with the SWPPP
- Maintain adequate buffer zones around jurisdictional waters, including wetlands

Impacts to groundwater could occur if an accidental release of hazardous materials seep into the subsurface aquifer, or if shallow or perched groundwater is intercepted during construction and dewatering activities that are required. Excavation activities for tower replacement or other construction activity may intercept shallow groundwater and require pumping to continue to work. If improperly conducted, these dewatering activities could introduce contaminants into the groundwater.

All releases or discharges of hazardous materials within the Project area from construction activities would be cleaned up and/or remediated in accordance with applicable Federal, State, and Local regulations. Accidental discharges of hazardous materials would be reported to WAPA's dispatch and environmental group immediately. It is not anticipated that any hazardous materials would be stored onsite. All herbicide spill requirements would be followed in the rare case of an herbicide spill, including containment, cleanup, and notification procedures. Contractors would submit a spill response plan that is approved by WAPA. Dewatering work would be performed in compliance with CWA Section 401, and contaminated water would not be discharged to either surface waters or groundwater. These measures would minimize impacts to water quality. Overall impacts to water resources would be negligible, adverse, and long-term.

Substation Expansion

The proposed expansion of the Bouse Substation would be performed entirely within existing WAPA property. A total of 0.3 acres of permanent ground disturbance directly adjacent to the existing substation would occur in an area of previous disturbance.

Streams and Wetlands

No streams or wetlands are present within or adjacent to the boundary of the substation or expansion area, and no direct impacts to streams or wetlands are anticipated. With implementation of SOPs, BMPs, and PCMs, no offsite or indirect impacts to streams or wetlands are anticipated.

Floodplains

No floodplains are present within or adjacent to the boundary of the substation or expansion area, and no direct impacts to floodplains are anticipated. With implementation of SOPs, BMPs, and PCMs, no offsite or indirect impacts to floodplains are anticipated.

Water Quality

No surface water resources are present within or adjacent to the boundary of the substation or expansion area. With implementation of SOPs, BMPs, and PCMs, no impacts to surface water or groundwater quality are anticipated.

Jumper Connection Options

The Proposed Action would include construction of a relatively short section of 161-kV transmission line connection (jumper) to connect the Parker-Headgate Rock and Parker-Bouse transmission lines. Construction of the jumper connection would include activities such as foundation excavation, new structure assembly and installation, establishment of pulling and tensioning sites, and right-of-way clearing. No new access roads would be constructed for Jumper Options 1 through 6. Existing roads would be used for the construction, operation, and maintenance of these jumper options. Jumper Option 7 is the only option that would require construction of an access road. WAPA has built resource protection measures into the Proposed Action that would require construction activities to maintain existing hydrologic patterns, reduce the potential for fuel spills, and minimize direct construction impacts when possible.

Streams and Wetlands

Impacts to streams and wetlands associated with the construction of jumper options would be similar to those described for the 230-kV component of the Proposed Action. Potential impacts to streams and wetlands are expected to be minimal with the application of the appropriate SOPs, BMPs, and PCMs. Overall impacts to water resources would be negligible, adverse, and long-term.

Floodplains

Activities associated with the jumper option component of the Proposed Action could affect floodplains if new structures were designed or placed in a manner that would impede or redirect floodwater. Also, grading associated with a new access road could redirect floodwater if incorrectly designed. Depending on which jumper option is chosen, approximately 0.03 to 1.4 miles of Zone A floodplain associated with Osborne Wash would be crossed (see Table 3-6). WAPA has built resource protection measures into the Proposed Action, which would ensure that transmission structures would be properly designed and located and would not impede, redirect, or be damaged by floodwater. Therefore, any adverse impacts associated with placement of a new structure within a floodplain would be direct, short-term, and negligible.

Table 3-6. Impacts to Zone A Floodplains

Jumper Connection	Miles Crossed
Jumper Option 1	0.10
Jumper Option 2	0.03
Jumper Option 3	0.00
Jumper Option 4	0.00
Jumper Option 5	0.10
Jumper Option 6	0.00
Jumper Option 7	0.80

Water Quality

Impacts to water quality associated with the construction of jumper options would be similar to those described for the 230-kV component of the Proposed Action.

Decommission Segments

The decommission segments of the Proposed Action would include the removal of the Parker-Headgate Rock and Parker-Bouse 116-kV transmission lines. All necessary encroachment permits would be acquired from the appropriate authorities, including USACE. In addition to crossing of the Colorado River, the decommission segments of the Proposed Action cross numerous named and unnamed ephemeral desert washes as described above in Section 3.6.1.2. Ground-disturbing activities associated with the decommissioning component of the Proposed Action would be related to removal of existing structures, reblading and regrading of existing access roads and clearing of temporary laydown areas. The decommissioning component of the Proposed Action would include removing approximately 24 miles of existing 161-kV transmission lines, including approximately 135 to 175 H-frame structures.

Streams and Wetlands

Removal of existing infrastructure would, for the most part, be limited to these previously disturbed areas, where the area was cleared for the original transmission line construction. Resource protection measures WATER–1, WATER–2, and WATER–3 implemented as part of the Proposed Action would require construction activities to maintain existing hydrologic patterns, reduce the potential for fuel spills, and minimize direct construction impacts when possible. Therefore, the decommission component of the Proposed Action would avoid direct, long-term impacts to streams and wetlands.

Floodplains

Removal of the existing 161-kV transmission line, including approximately 135 and 175 wood H-frame structures (depending on which jumper option is chosen), would have a minor, direct beneficial impact on floodplains. Except for the western bank of the Colorado River, all 100-year flood zones in the Project area are in Arizona. A negligible impact on floodplains or drainages would occur under the Proposed Action.

The SOPs and PCMs would be implemented during O&M, which would ensure that impacts to floodplains and to WAPA's surrounding transmission system would remain negligible.

Water Quality

Impacts to water quality associated with the construction of jumper options would be similar to those described for the 230-kV component of the Proposed Action.

3.6.2.2 No Action Alternative

Under the No Action Alternative, the existing transmission lines would remain operational and existing facilities would not be expanded or decommissioned.

Under the No Action Alternative, the existing transmission lines would remain operational and in place. The Proposed Action would not be constructed; therefore, construction-related direct or indirect effects to special-status or water resources would not occur. However, limited habitat clearing could occur under the No Action Alternative because of more frequent future maintenance needs for the existing wood pole structures, resulting in negligible, but slightly increased, long-term temporary O&M impacts over the Proposed Action.

3.7 CULTURAL RESOURCES AND NATIVE AMERICAN CONCERNS

3.7.1 Introduction and Methodology

This section of the EA describes the area of potential effect (APE) for cultural resources and examines the potential effects, including damage, loss, degradation, or other disturbance to cultural resources under the Proposed Action and No Action Alternative.

The term cultural resources refers to a broad category of resources that include prehistoric and historic archaeological sites, buildings, districts, structures, locations, or objects considered important to a culture or community for scientific, traditional, religious, or other reasons. Cultural resources deemed significant for their contribution to broad patterns of history, prehistory, architecture, engineering, and culture are eligible for listing on the National Register of Historic Places (NRHP) and afforded certain protections under the National Historic Preservation Act (NHPA). However, WAPA is also analyzing impacts to cultural resources that may not be eligible for listing on the NRHP. Because the Project is a Federal undertaking, it is subject to compliance with Section 106 of the NHPA of 1966, as amended (16 USC 470 et seq.). Section 106 (36 CFR Part 800, as amended August 5, 2004) requires Federal agencies to consider the effects of their undertakings on historic properties and consult with the SHPO. In addition, Section 106 and the American Indian Religious Freedom Act (AIRFA) of 1978 also specify that Native American concerns be taken into consideration.

To be eligible for listing on the NRHP, a property must be significant under one or more of four evaluation criteria:

- Criterion A: Associated with events that have made a significant contribution to the broad patterns of our history
- Criterion B: Associated with the lives of persons significant in our past

- Criterion C: Embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction
- Criterion D: Yielded, or may be likely to yield, information important in prehistory or history

In addition, a property must be able to convey its significance through the retention of specific aspects of integrity, such as location, design, materials, setting, workmanship, feeling, and association. In general, properties less than 50 years of age, unless of exceptional importance, are not eligible for listing on the NRHP.

3.7.2 Area of Potential Effects

As defined in Section 106 (36 CFR Part 800.16[d]), the APE refers to the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties," is "influenced by the scale and nature of an undertaking," and "may be different for different kinds of effects caused by the undertaking." The APE for the Project consists of a 200-foot- wide area centered on the proposed transmission centerline, decomission segment centerline and jumper option centerlines.

To support WAPA's compliance with NHPA Section 106, EPG archaeologists conducted a cultural resources study consisting of a detailed records review and an intensive pedestrian survey for the proposed transmission centerline APE, a review of AZSITE cultural resources records and prior survey report for the decomission segment APE, and a review of AZSITE cultural resources records for jumper option APEs.

3.7.3 Native American Concerns

Section 106 also specifies that as the lead Federal agency, it is WAPA's responsibility to ensure consultation occurs with interested tribes to identify properties of special significance to them in the Project area. This responsibility is reinforced by the AIRFA directing Federal agencies to minimize interference with the free exercise of Native American religion and accommodate access to and use of important religious sites. Properties identified through the Tribal consultation process may include traditional cultural properties, sacred landscape or landscape elements, and traditional use areas important for Native American cultural and religious practices. Consultation is ongoing between WAPA and CRIT. WAPA's consultation efforts are described in Chapter 4.

In a letter dated February 18, 2021, the CRIT provided comments on the Project, including comments related to cultural resources. CRIT members consider prehistoric cultural resources, natural landscapes, and cultural landscapes to be sacred, finite resources. Further, the CRIT's Mohave tribal members consider disturbance to any ancestral cultural resources taboo and a severe cultural harm. CRIT encourages that cultural resources not be restricted to what State or Federal agencies define as a cultural resource but also consider fewer tangible resources such as cultural landscapes, viewsheds, and natural resources important for traditional cultural and religious practices. Section 3.7.6 provides an analysis of potential impacts to cultural landscape elements.

3.7.4 Cultural Resource Surveys

Cultural resource surveys were conducted of the APE from April 19 through May 26, 2021. To promote identification of culturally valued resources beyond traditional archaeological materials, the EPG survey crew was accompanied by historic preservation specialists from the CRIT. With one exception (described below), the proposed transmission APE was subjected to an intensive Class III survey using linear transects with spacing at 15 meters apart. The goals of the cultural resource field survey were as follows:

- Identify and record all cultural resources, including prehistoric sites, historic sites 45 years or older, and traditional cultural properties
- Identify areas not surveyable and why (e.g., density of vegetation, degree of slope)
- Update documentation for previously recorded sites
- Evaluate the significance of cultural resources

Cultural resource sites and diagnostic artifacts were recorded with submeter accuracy using a GPS unit (Trimble Geo7x). In addition, data regarding each site were entered into the geographic information system database using the GPS unit, in accordance with a standardized data dictionary. This information included site type, quantity and type of artifacts, site condition or integrity, and any explanatory comments. Non-diagnostic artifacts were recorded using the ESRI Collector application on mobile devices at 2- to 5-meter accuracy.

During fieldwork, the survey crew encountered several dune areas along the existing Parker-Bouse transmission line. Numerous, deep animal burrows in these areas provided treacherous footing as these burrows were not always visible on the surface and would collapse underfoot. Burrow density was very high along a 350-meter long segment of APE and was deemed unsafe for pedestrian survey. The area extends between existing Parker-Bouse structures 16/4 and 16/5 and totals approximately 4.4 acres. In this area, the survey crew walked along the existing access road and visually inspected the dune area but did not achieve complete survey coverage.

3.7.5 Affected Environment

Eighteen cultural resource sites have been identified within the APE, either from prior surveys or the cultural resources survey conducted by EPG for the new 230-kV component of the Proposed Action (Table 3-7) as follows:

- Four prehistoric cultural resource sites were documented in the Class III pedestrian survey of the new 230-kV component of the Proposed Action. Two sites are activity areas or possible camp sites and have experienced degradation as a result of natural erosion processes. These sites are recommended to be ineligible for listing on the NRHP. A third site appears to be a prehistoric activity area or camp site adjacent to a prehistoric trail and is in relatively good physical condition. This site is recommended eligible for listing on the NRHP. A final prehistoric site was previously recorded by the Museum of Northern Arizona and consists of a series of rock shelters, hunting blinds, water catchments, and Native American shrines, dating in age perhaps as early as Paleoindian (10,000 BC) through the AD 1400s. The site is also recommended eligible for listing on the NRHP.
- Two cultural resource sites were identified during prior survey of jumper options and decommission segment of the Proposed Action. AZ L:16:24 (ASM) is a prehistoric lithic reduction site that would be crossed by Jumper Option 6. AZ L:12:57(ASM) is the Parker-Bouse transmission line itself, which is part of the decommission segment, and all jumper options would intersect this site. Both sites were recommended not eligible for listing on the NRHP
- Twelve additional cultural resource sites were identified during prior surveys of the decommission segments component of the of the Proposed Action: Historic-era cultural resource sites consist of a historic dam district, two transmission lines, and historic features with trash. Prehistoric/native American cultural resource sites consist of a petroglyph site, and seven lithic scatters (including three with rock features). Petroglyphs are often considered sacred by Native American groups and may be considered traditional cultural properties or sacred sites. Preventing access to these resources can be an impact as well.

All of the required surveys are complete for the decommissioned portion of the Project.

Table 3-7 Cultural Resource Sites in the Area of Potential Effects			
Site ID	**Jurisdiction**	**Site Description**	**Location**
BSE-1	BLM	Prehistoric eroded thermal features and lithic debitage	230-kV portion of the Proposed Action
BSE-2	BLM	Prehistoric eroded thermal features and lithic debitage	230-kV portion of the Proposed Action
BSE-3	BLM	Prehistoric trail, thermal feature, and lithic debitage	230-kV portion of the Proposed Action
NA 22507	BLM	Prehistoric shelters, shrines, blinds	230-kV portion of the Proposed Action
AZ L:16:24(ASM)	ASLD and Private	Prehistoric lithic reduction site with features	Jumper option 6
Parker Bouse Transmission Line	Multiple	Historic transmission line	Decommission segment and all jumper options
CA-SBR-10395H	BLM, private	Parker Dam district	Decommission segment
AZ L:12:12(ASM)/ CA-SBR-8006H	BLM	Historic features and trash scatter	Decommission segment
AZ L:16:35(ASM)	ASLD	Empire Substation Petroglyphs	Decommission segment
AZ L:12:15(ASM)/ CA-SBR-8917H	State land, BLM, Private	Parker–Gila 161-kV Transmission Line	Decommission segment
AZ L:16:11(ASM)	ASLD	Rock features and lithic scatter	Decommission segment
AZ L:16:24(ASM)	ASLD	Lithic scatter	Decommission segment
AZ L:12:57(ASM)	BLM, private, ASLD, CRIT	Parker Dam-Headgate Rock 161-kV Transmission Line	Decommission segment
AZ L:16:12(ASM)	Private	Lithic scatter	Decommission segment
AZ L:15:3(ASM)	CRIT	Rock feature and lithic scatter (site destroyed)	Decommission segment
AZ L:15:4(ASM)	CRIT	Rock features and lithic scatter	Decommission segment
AZ L:15:5(ASM)	CRIT	Lithic scatter (site destroyed)	Decommission segment
AZ L:15:6(ASM)	CRIT	Lithic scatter (site destroyed)	Decommission segment

3.7.6 Environmental Consequences

Short-term impacts include the potential for surface and subsurface disturbance of cultural properties during implementation of the Project. Through implementation of the resource protection measures, WAPA would ensure that impacts to significant cultural resources are avoided to the greatest extent possible. Although it is possible that undiscovered cultural resources exist in the APE (e.g., buried cultural sites), implementing the resource protection measures would also help to ensure that adverse impacts to such resources are avoided to the greatest extent possible. Resource protection measures applicable to cultural resources are listed below with the full text presented in Table 2-6.

- **CUL-1** states that prior to the start of Project activities all field personnel would receive worker's environmental awareness training on cultural resources.
- **CUL-2** states that WAPA would develop a CRTP in consultation with the relevant State Historic Preservation Officer, Federal land-managing agency, Arizona State Museum, any interested Tribes, and other interested parties in accordance with the Section 106 process described in 36 CFR 800 and per these protection measures under NEPACultural Resources Treatment Plan (CRTP) that will identify avoidance, reduction, or mitigation measures for cultural resources.

- **CUL-3** states that in the event that unanticipated archaeological resources are discovered during decommissioning, construction, and O&M of the Project, all activities must cease in the immediate vicinity of the discovery.
- **CUL-4** states that the CRTP would include a program for archeological and tribal monitoring.
- **CUL-5** states that CRTP would include procedures to be followed in the event of a discovery of cultural resources.
- **CUL-6** states that The CRTP would include procedures to follow in the event of a discovery of human remains and/or funerary objects during decommissioning, construction, and O&M activities.
- **CUL-7** states that WAPA would survey all proposed laydown yard locations prior to use and that if any cultural resources are present, WAPA would either select a new location or consult regarding avoidance measures per the Section 106 process of the NHPA.

The Project includes a series of resource protection measures that require construction to avoid cultural resources and to develop and implement a Cultural Resources Treatment Plan (CRTP) prior to any ground-disturbing activities. These measures also set up procedures to be followed in the event of incidental discoveries of cultural resources or human remains. Additionally, the dust, noise, and erosion abatement measures in the resource protection measures and WAPA's Construction Standard 13 Environmental Quality Protection would help prevent indirect impacts from construction activities. While some adverse impacts are expected to be permanent, they can be mitigated through implementation of measures outlined in the CRTP.

3.7.6.1 Proposed Action

New 230-kV Transmission Line

Direct adverse permanent impacts to cultural resource sites would be primarily caused by ground-disturbing activities. Ground disturbance from construction of each new structure is expected to be approximately 0.72 acres per structure, while ground disturbance at pulling and tensioning sites would be approximately 1.8 acres (7.3 acres at turning points). The depth of the excavations for the transmission structures could potentially reveal unanticipated cultural resources. Additionally, the locations of the three staging areas, totaling up to 10 acres, would be determined at a later date and would be inspected for cultural and biological resources prior to use.

Construction would result in indirect impacts to the integrity of feeling and setting of cultural resource sites, including cultural landscapes. Temporary impacts to setting and feeling would result from the presence of construction equipment and its associated noise. Permanent damage to historic environmental resources and prehistoric rock art may be caused by vibration, dust, erosion, and vehicle emissions.

Construction of the new 230-kV transmission line would avoid direct effects to cultural sites BSE-1, BSE-2, and BSE-3 by placing transmission structures and access to avoid these sites. Direct effects to cultural site NA 22507 would be avoided by routing the line north of the fencing that protects the site.

The access road associated with the new 230-kV transmission line would potentially provide access for dispersed recreation/OHV travel beyond the proposed transmission line corridor. Dispersed recreation/OHV travel could result in alteration, degradation, or damage to cultural resource sites.

Overall, direct impacts to cultural resources would be avoided. Indirect impacts to cultural resources would be reduced or mitigated through implementation of the CRTP. In the event that unanticipated cultural

resources are identified during construction or O&M then procedures in the CRTP for their evaluation, avoidance and/or mitigation would be followed.

Substation Expansion

The proposed substation expansion area is previously disturbed. There are no cultural resource sites present in the substation expansion area. In the event that unanticipated cultural resources are identified during construction or O&M then procedures in the CRTP for their evaluation, avoidance and/or mitigation would be followed.

Jumper Connection Options

Jumper Options 1 and 2 were partially surveyed for cultural resources with no cultural sites identified. Unsurveyed portions of these jumper options are located in a wash setting and not likely to possess unrecorded cultural resource sites.

Jumper Options 3 and 4 were partially surveyed for cultural resources with no cultural sites identified. Unsurveyed portions of these jumper options are disturbed by modern development and not likely to possess unrecorded cultural resource sites.

Jumper Option 5 was partially surveyed for cultural resources with no cultural sites identified. Unsurveyed portions of this jumper option are disturbed by modern development or located in a wash setting and not likely to possess unrecorded cultural resource sites.

Jumper Option 6 has been partially surveyed for cultural resources and intersects a documented cultural site, AZ L:16:24(ASM). The site is a prehistoric lithic reduction site with prehistoric features, including lithic reduction or chipping stations present.

Jumper Option 7 has been partially surveyed for cultural resources on CRIT lands. Any cultural resource sites documented would require permission from CRIT to examine those records.

All undisturbed areas in the selected jumper option that were not previously surveyed would be subjected to survey prior to construction. In the event that the survey identifies cultural resources or if unanticipated cultural resources are identified during construction or O&M, then procedures in the CRTP for their evaluation, avoidance, and/or mitigation would be followed.

Decommission Segments

Decommission segments have been completely surveyed for cultural resources, including the historic Parker-Bouse transmission line itself. The Parker-Bouse Transmission Line was previously recorded as part of site AZ L:12:15(ASM), also known as the Parker-Gila 161-kV Transmission Line and was determined ineligible for the NRHP under any criteria in 2019.

The decommission segments of the Proposed Action would result in direct adverse impacts to cultural resource sites, mostly in the form of ground disturbance from the removal of existing transmission structures, conductors, and guywires. An area of approximately 0.41 acres per structure (75-foot radius around the structure) would be disturbed by equipment set-up and use. Assuming between 135 and 175 structures are to be removed, decommissioning would result in between 82 and 106 acres of ground disturbance.

Construction disturbance related to decommissioning could result in direct impacts to cultural sites, although such impacts are anticipated to be negligible since the proposed disturbance areas were previously disturbed during construction of the transmission line. Direct impacts to cultural sites during

decommissioning would be avoided through implementation of a CRTP that specifies archaeological and tribal monitoring, hand cutting of structure poles, and non-ground disturbing removal within cultural sites.

Construction would result in temporary, indirect impacts to the integrity of feeling and setting of cultural resources. Removal of transmission structures and other elements would restore elements of integrity to cultural landscapes and Native American sites. Their removal would result in reduced integrity to setting and materials of the Parker Dam Historic District, but the reduced integrity is anticipated to be minor.

In the event that unanticipated cultural resources are identified during construction or O&M, then procedures in the CRTP for their evaluation, avoidance, and/or mitigation would be followed.

3.7.6.2 No Action Alternative

Under the No Action Alternative, the existing transmission lines would remain operational and existing facilities would not be expanded or decommissioned. The Proposed Action would not be constructed; therefore, no new ground disturbance or construction-related direct or indirect effects to cultural resources would occur. The access road associated with the Parker-Bouse 161-kV transmission line would continue to provide access for dispersed recreation/OHV travel beyond the existing transmission line corridor. Dispersed recreation/OHV travel would continue to result in alteration, degradation, or damage to cultural resource sites. Retention of the existing transmission line would fail to improve the integrity of Native American sites and cultural landscapes.

3.8 TRIBAL RESOURCES

This section describes the effects of the Proposed Action and No Action on tribal resources identified during scoping, including the Projects' potential for impacts to plants and animals and historic resources. Native American tribes may know of additional resources with special significance or places of traditional cultural importance within the Project area.

For direct, indirect, and cumulative impacts, the Project area for tribal resources is La Paz County. This Project area was selected to represent the area in which the cultural landscape elements may be impacted as a result of implementing the Project.

3.8.1 Affected Environment

During the EA scoping period, WAPA contacted ten Native American tribal governments to seek concurrence with a finding of effect as part of the NHPA Section 106 Process (see Section 4.1 for list). WAPA initiated consultation with these Native American tribes on the basis of proximity of ancestral lands to the Project area or previously stated interest by the tribes.

In a letter dated February 18, 2021, the CRIT provided comments on the Project and requested cultural resources not be restricted to what State or Federal agencies define as a cultural resource but also consider tangible resources such as cultural landscapes, viewsheds, and natural resources important for traditional cultural and religious practices. To promote identification of culturally valued resources beyond traditional archaeological materials, historic preservation specialists from the CRIT participated in survey and site recording of the APE.

Natural Resources

The natural landscape is important to CRIT and other tribes and includes biological (plant and animal) and non-biological (clay, stone, water) resources that are critical not just for food, fuel, or tools, but also as elements of ritual practice. Vegetation and wildlife communities in the Project area are considered

important tribal resources throughout the Sonoran Desertscrub biotic community. Similar vegetation communities and habitat types as those that would be disturbed by the Proposed Action occur in abundance on the undeveloped public lands to the north and west of the Project area and throughout the Project area. In La Paz County, there are approximately 1,366,911 acres of the Sonora-Mojave Creosotebush-White Bursage Desert Scrub vegetation community and 1,263,279 acres of the Sonoran Paloverde-Mixed Cacti Desert Shrub vegetation community.

Tribal Cultural Resources

Cultural resource sites have been documented throughout La Paz County on all land jurisdictions. More than 2,400 cultural resource sites are listed in AZSITE, the official data repository for culture resource sites. There are also numerous cultural resources in La Paz County that fall below site criteria thresholds established by the Arizona State Museum that nevertheless are considered important ancestral places for Native American tribes regardless of NRHP eligibility recommendations proffered by non-tribal members. Tribal participation in cultural inventories and archaeological monitoring promotes identification and protection of tangible and intangible resources important to tribes.

3.8.2 Environmental Consequences

3.8.2.1 Proposed Action

The Proposed Action would result in ground disturbance, addition of visual elements in some areas, and removal of visual elements in other areas.

Natural Resources

The Proposed Action would result in the permanent loss of approximately 131 to 156 acres of vegetation. This disturbance represents less than 0.01 percent of the Sonora-Mojave Creosotebush-White Bursage Desert Scrub and Sonoran Paloverde-Mixed Cacti Desert Shrub vegetation communities in the Project area. The permanent loss of vegetation would potentially be offset as native vegetation is re-established along the right-of-way of decommission segments. Disturbance to plant resources would be negligible to minor.

The Proposed Action would result in no direct loss of animals through implementation of project mitigation measures. There would be permanent loss of between 131 to 156 acres of habitat (less than 0.01 percent county-wide) for some animal species. The permanent loss of habitat would potentially be offset as native vegetation is re-established along the right-of-way of decommission segments, ranging from 220.6 to 283.6 acres. There would be temporary disturbance to local animals during construction as a result of noise and unfamiliar scents. Disturbance to animal resources would be negligible to minor.

The Proposed Action would result in temporary disturbance to soil and sediments, and would not disturb other non-biological resources such as stone or water. Disturbance to non-biological resources would be negligible.

Tribal Cultural Resources

The CRIT THPO identified the cultural site documented as NA-22507 to be of significant tribal concern and recommended that the proposed 230-kV transmission line be rerouted to the north of the fence surrounding the cultural site to reduce or avoid impacts. The proposed 230-kV transmission line was rerouted to ensure avoidance of this important resource.

Additional cultural resources of particular concern to tribes may exist along the proposed action alignment. Impacts to such resources would be mitigated or avoided by consulting with tribes during preparation and implementation of the CRTP and by including tribes in construction monitoring.

3.8.2.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be constructed and, therefore, would not result in new impacts to cultural landscape elements present within the Project area.

3.9 LAND USE

This section of the EA characterizes the existing land use, applicable plans regulating land use, and potential impacts associated with the Proposed Action and No Action Alternative.

3.9.1 Affected Environment

The majority of the Project area is comprised of Federal public lands managed by the BLM. Other entities with jurisdiction over lands within the Project area include Tribal (CRIT), ASLD, Reclamation, and La Paz County. The Proposed Action includes a new right-of-way across the following:

- Public lands managed by the BLM
- Tribal lands managed by the CRIT
- Public land managed by the ASLD

Depending on which jumper option is chosen, the Proposed Action also includes the decommissioning and removal of up to 24 miles of the existing Parker-Headgate Rock and Parker-Bouse transmission lines. The Proposed Action includes relinquishment of the existing right-of-way as follows:

- Public land managed by the BLM
- Public land managed by the ASLD
- Private land managed by La Paz County
- CRIT Reservation land
- Land managed by Reclamation

Prior to Project construction, WAPA must coordinate with the regulatory agencies and the CRIT to obtain any required ROW grants and permits for the Project. Agency approval will be subject to an evaluation of the Project's consistency with the management plans and policies that are applicable to the Proposed Action's alignment.

BLM lands in the Project area are governed by the Lake Havasu Field Office RMP (BLM 2007), which "may allow the use of the public lands… through issuance of right-of-way" for such use as power lines, access roads, telephone lines, and communication facilities. The Lake Havasu Field Office RMP encourages use of designated corridors "[t]o minimize adverse environmental impacts and the proliferation of separate ROWs, the utilization of shared ROWs would be required to the extent practical." The entirety of the Proposed Action, on BLM land, would be within two existing designated utility corridors:

- The Parker-Blaisdell "B"-(UC-6B) corridor, which includes the existing Parker-Bouse 161-kV transmission line
- The El Paso Natural Gas (LGN-11) corridor, which encompasses an above-ground natural gas pipeline along Shea Road.

The Proposed Action connects to the existing Parker-Liberty #2 230-kV transmission line within a third designated utility corridor, the Parker-Liberty (UC-5). These designated corridors apply only to BLM-administered lands. Because the Proposed Action would be located within designated utility corridors, it would be consistent with the BLM's Lake Havasu Resource Management Plan and would not require a Plan Amendment.

The La Paz County Comprehensive Plan (La Paz County 2005, as amended 2017) does not expressly identify utility corridors for transmission infrastructure; however, it states that "any new industrial development should be located along a major arterial corridor, rail connection, or state highway, or in close proximity to the interstate corridor."

The Project area includes the northern portion of the CRIT Reservation. CRIT Land Code guides land use planning and development on the Reservation. The limited private land within the Project area is primarily located along SR 95 including within the Town of Parker and the unincorporated community of Parker Strip. The Town of Parker is divided into two non-contiguous sections. The northern portion consists of the original town and is located within the CRIT Reservation and the southern portion, known as Parker South, is located in the southern portion of the Project area near the intersection of SR 95 and SR 72. Parker South is largely undeveloped. Development within the CRIT Reservation must be consistent with the Comprehensive General Plan. The CRIT is a cooperating agency for the Project and has reviewed the reports and provided input on the Project. WAPA will continue to coordinate with the CRIT to acquire any necessary lease agreements and to ensure that the Proposed Action is consistent with tribal plans and policies.

The Avi Suquilla Airport is located on the CRIT Reservation, immediately east of the Town of Parker. The Avi Suquilla Airport operates under the jurisdiction of the CRIT and the Federal Aviation Administration (FAA) and has operational boundaries that extend into the surrounding airspace that limit building/structure heights in the vicinity of the airport.

The main access to the Project area would be SR 95, SR 72, Shea Road, and numerous residential streets in the unincorporated community of Parker Strip. An existing access road parallels nearly the entire length of the Parker-Bouse 116-kV transmission line.

3.9.1.1 Planned Land Uses

BLM lands managed under the Lake Havasu Field Office RMP have several different objectives based upon various resource categories consistent with multiple uses such as recreation, grazing, and wildlife habitat. The La Paz County Comprehensive Plan Future Land Use Map (2005, as amended 2017) indicates the land within the Project area as having a future land use designation of public lands. The San Bernardino County Land Use Plan (County of San Bernardino 2007) designated non-Federal and State lands as having resource conservation zoning. ASLD does not have a specific management plan for this area.

3.9.2 Environmental Consequences

WAPA would coordinate with the affected land-management agencies to ensure that activities under the Proposed Action would be consistent, to the maximum extent practicable, with the applicable land use plans and regulations of the land-management agency.

3.9.2.1 Proposed Action

The resource protection measures applicable to land use are listed below with the full text presented in Table 2-6.

- **LU-1** states that the permanent right-of-way, temporary construction areas, and laydown areas would be restored as close to the original condition as practicable, in accordance with the appropriate land manager's standards and permits. Where necessary, land would be restored to its original contour and natural drainage patterns along the right-of-way.
- **LU-2** states that construction vehicle movement would be restricted to the permanent right-of-way unless on authorized access roads, existing access roads, or public roads and the areas authorized for temporary use beyond the existing right-of-way. Off-road travel would be restricted to that which is absolutely necessary to complete the Project.
- **LU-3** states that WAPA would coordinate, as necessary, with Federal, State, Tribal, and Local land use authorities to ensure consistency with land use plans and policies.
- **LU-4** states that local residents would be informed of any temporary road closures.
- **NO-1** states that WAPA would coordinate construction activities with landowners, including notification of construction schedule and planned activities.
- **NO-2** states that all engine-powered equipment would require exhaust-noise-abatement devices which would be installed according to the manufacturer's specifications and would comply with applicable equipment noise standards.
- **NO-3** states that stationary construction equipment would be located as far from nearby noise sensitive properties as possible.
- **NO-4** states that when possible idling equipment would be shut off.

New 230-kV Transmission Line

The new 230-kV transmission line would be within designated utility corridors on BLM-managed lands. From the Bouse Substation, north for approximately 7 miles, the new 230-kV portion of the Proposed Action would parallel the existing 161-kV Parker-Bouse transmission line within the Parker-Blaisdell "B" corridor, and the remainder would be within the El Paso Natural Gas corridor (LGN-11). The Proposed Action would be authorized on BLM-managed land with a right-of-way grant containing terms and conditions WAPA must comply with to prevent undue and unnecessary degradation. Construction of the 230-kV transmission line would create short-term disturbance to surrounding land uses from the noise and movement of construction equipment along public roadways. While construction of the Proposed Action would result in short-term, adverse impacts, it would not preclude existing use on BLM lands that would result in minor long-term impacts.

Substation Expansion

The proposed expansion of the Bouse Substation would be performed entirely within existing WAPA property. A total of 0.3 acres of permanent ground disturbance directly adjacent to the existing substation would occur in an area of previous disturbance, resulting in a negligible land use impact.

Jumper Connection Options

Jumper Options 1, 2, 6, and 7 would create short-term disturbance to surrounding land uses from the noise of construction and movement of construction equipment along public roadways (Table 3-8). Jumper

options 3, 4, and 5 conflict with existing commercial and residential development, traversing both residential and commercial properties and crossing over homes and commercial buildings. All jumper options would lower the extent of conflict that currently exists with past encroachments along the Parker-Headgate Rock and Parker-Bouse 161-kV rights-of-way, removing approximately 24 miles of existing transmission line and reducing conflicts that contribute to safety issues cited in the Project's Purpose and Need. Jumper Option 7 would be 0.5 miles north of Avi Suquilla Airport's runway. If Jumper Option 7 is chosen, WAPA will coordinate with the CRIT and the FAA regarding compliance with airspace restrictions related to the Avi Suquilla Airport. WAPA will request a preliminary Project review from the FAA as part of a civilian hypothetical review (14 CFR Part 77.19), which determines if Project structures would not exceed height restrictions related to the Avi Suquilla Airport's horizontal surface elevation limit. Further, WAPA will follow the FAA Obstruction Evaluation/Airport Airspace Analysis process and will file a Notice of Proposed Construction or Alteration with the FAA for the selected Project route once determined.

Table 3-8 Jumper Connection

Jumper Option	Jurisdiction	Location	Length (mile)	Land Use Conflict
1	ASLD	North of Cienega Springs Road	0.1	Undeveloped, parallel to Cienega Springs Road
2	ASLD	South of Cienega Springs Road	0.1	Undeveloped, parallel to Cienega Springs Road
3	Private	South of Storage Place Rd	0.1	Crosses over commercial structure in Cienega Springs
4	Private	West of Rio Vista Rd, South of ARS 95 overpass	0.2	Crosses over one home in Cienega Springs
5	Private	East of Lakeside Boulevard, North of 94th Street	0.9	Crosses over seven homes in Cienega Springs
6	ASLD , CRIT	Along Lakeside Blvd	1.1	Undeveloped, adjacent to residence in Cienega Springs
7	ASLD, CRIT, BLM	North of Avi Suquilla Airport	3.3	Undeveloped; however, FAA coordination necessary due to proximity to Avi Suquilla Airport.

The Avi Suquilla Airport is a prominent land use and defining feature located east of the Town of Parker. The airport does not operate commercial passenger flights but does operate more than 11,250 flights annually (CRIT 2016). The facility operates under the jurisdiction of the CRIT and the FAA and has operational boundaries that extend into the surrounding airspace, which limit building/structure heights in the vicinity of the airport.

WAPA conducted a preliminary review of FAA obstruction evaluation and determined that Jumper Option 7 may exceed Part 77 obstruction standard. As recommended by the FAA, WAPA would coordinate with the FAA 90 days prior to planned construction and would considerer mitigation, including adjusting structure span and height, marker balls, or undergrounding short sections of the Jumper Option, if necessary. If undergrounding is required, additional supplement analysis would be required.

Decommission Segments

The Proposed Action includes removal of nearly 24 miles of the existing Parker-Headgate Rock and Parker-Bouse transmission lines, which traverse BLM and Reclamation lands, State Trust lands, and private land in unincorporated La Paz County. More than 3 miles of existing transmission line are located adjacent to residential and commercial uses along the Arizona side of the Colorado River.

Removal of segments of the 161-kV transmission lines would create similar temporary nuisance impacts to the adjacent land uses from construction equipment and removal activities. However, this component of the Project introduces a major long-term beneficial effect as it would eliminate an industrial land use from the

immediate vicinity of existing residential, commercial, and recreation uses, as well as eliminate the need for future O&M activities along the Parker Strip.

3.9.2.2 No Action Alternative

Under the No Action Alternative, no rights-of-way would be granted for the Project, nor would rights-of-way be relinquished back to the land managers. Under the No Action Alternative, the existing transmission lines would remain operational and in place, and existing safety issues would not be addressed. The Parker-Headgate Rock and Parker-Bouse transmission lines would require increased routine and emergency maintenance, including replacement of individual structures as the line continues to age, resulting in long-term, minor impacts.

3.10 RECREATION

This section describes impacts of the Proposed Action and No Action Alternative on recreation resources within the Project area.

3.10.1 Affected Environment

3.10.1.1 Federal

The Lake Havasu Field Office RMP documents the desired future conditions on BLM-managed lands through land use allocations, special designations, or other management actions (BLM 2007). SRMAs are designed to provide public enjoyment and resource protection. The Project area crosses two SRMAs, Gibraltar to the east and Parker Strip to the west. The Gibraltar SRMA is currently managed for hiking, backpacking, wildlife watching, and primitive dispersed camping with the intention to preserve the area as a natural scenic environment. The Parker Strip SRMA is managed with the intention to continue to provide recreational opportunities like OHV use, boating access, wildlife viewing, and camping to a variety of visitors. As detailed in Table 3-9, Recreation Management Zones (RMZ) are identified within these SRMAs which provide specific planning and management.

Furthermore, Parker Dam Road is designated as a Back Country Byway with high scenic, historic, archaeological, or other public interest value. Additionally, Shea Road and Swansea Road have been nominated as a National Back Country Byway. The Backcountry Byway designation focuses primarily on roads that have high scenic historic, archaeological, or other public interest values.

Table 3-9 Special Management Areas

Special Designation	Distance from Proposed Action	Desired Conditions
Designated Wilderness		
Gibraltar	0.2 miles north	Managed for wilderness characteristics. Vehicle trespass discouraged.
East Cactus Plain	4.0 miles	Managed for wilderness characteristics. Vehicle trespass discouraged.
Swansea	0.3 miles	Managed for wilderness characteristics. Vehicle trespass discouraged.
Wilderness Study Area		
Cactus Plain	0.3 miles south	Managed in a manner that does not impair the suitability of the area for future designation as wilderness.

Table 3-9 Special Management Areas		
Special Designation	**Distance from Proposed Action**	**Desired Conditions**
Recreation Management Areas		
Gibraltar SRMA	Gibraltar Wilderness RMZ 1, traversed by proposed action	Objectives for semi-primitive experience, allowing for a range of dispersed recreation experiences with a focus on wilderness trekking.
	Shea Hills RMZ 3, traversed by proposed action	Rural Natural, allowing for a range of activities with special focus on trekking and OHV touring.
	Shea Road/Osborne Wash RMZ 5, traversed by proposed action	Rural Developed, allowing for a range of OHV-related activities with special focus on unrestricted OHV play and dispersed camping opportunities.
Parker Strip SMRA	Parker Strip Urban RMZ 1, traversed by proposed action	Suburban experience, focus on vacation use/seasonal occupancy sites and recreation such as boating.
Back Country Byway		
Parker Dam Road (existing)	Traverses Project area	The byway is used by recreational visitors to access 11 BLM-developed recreation sites and 11 concessions.
Parker Bouse Swansea Loop (nominated)	Traverses Project area	The byway offers views of the Gibraltar Mountain and East Cactus Plain Wilderness Areas, remnants of ranching activities, the old Swansea railroad grade, the Central Arizona Project, and prehistoric sites.

3.10.1.2 State Trust Land

Recreation opportunities on Arizona State Trust land include camping, hiking, biking, OHV use, and wildlife viewing. A recreation permit is required to recreate or travel on Arizona State Trust land.

3.10.1.3 Tribal Land

The CRIT Reservation encompasses nearly 50 miles of Colorado River frontage, offering sandy beaches and access to river recreation. The BlueWater Resort & Casino is located on the CRIT Reservation approximately 0.5 miles northeast of Headgate-Rock Substation with the existing Parker-Headgate Rock transmission line being at the edge of the facility's parking lot, 0.1 miles from the Casino's entrance. This recreational site consists of a hotel, casino, conference center, and a marina and includes access to the Colorado River.

3.10.1.4 La Paz County

Several resorts and RV Parks are located along the Arizona and California sides of the Colorado River. Recreational uses include boating, golf courses, and beach access. The Proposed Action would remove portions of the existing 161-kV transmission lines in the vicinity of these recreational resources throughout the Parker Strip.

The Parker 400 Desert Race OHV Course is located near Parker, Arizona in La Paz County and is managed by both the AGFD and the BLM Lake Havasu Field Office. The Lake Havasu Field Office has defined Parker 400 approved routes that snake throughout the Gibraltar SRMA and Extensive Recreational Management Areas. The Southern California Speedboat Club hosts the Spring Classic (Season Kickoff) in La Paz County, Arizona, in late March. The Parker Enduro occurs in late October, and the Annual Thanksgiving Regatta is held during Thanksgiving weekend in La Paz County, Arizona.

3.10.2 Environmental Consequences

3.10.2.1 Proposed Action

Potential impacts to recreation include brief audible disturbances, short-term disturbance of land during construction, and potential temporary restrictions on access to recreation opportunities. During construction, there may be some temporary disruption to recreation in the areas immediately adjacent to the construction areas to ensure public safety. However, there is a large expanse of dispersed recreational opportunities surrounding the Project area. There would be no changes in recreational opportunities upon completion of the Proposed Action. Construction and operation of the Proposed Action and the new right-of-way authorization under FLPMA from BLM would not increase the demand for recreation and would not conflict with, physically alter, or decrease accessibility to established or planned recreational areas. No construction activities would occur within the Gibraltar Wilderness or Cactus Plain Wilderness Study Area (WSA). During construction there would be more truck traffic along these roadways; however, it would not impede access to any recreation within the Project area.

The resource protection measures applicable to recreation are listed below with the full text presented in Table 2-6.

- **REC-1** states that alternate access to recreation areas would be coordinated with land-management agencies and communicated with members of the public.
- **REC-2** states that access roads not required after construction would be regraded, bermed, gated, or roughed up to deter public use of the roads.

New 230-kV Transmission Line

The Proposed Action would result in the construction of a new 230-kV transmission line and access road through the Shea Hills RMZ 3 and Shea Road/Osborne Wash RMZ 5 and would parallel and cross the nominated Parker-Bouse-Swansea Back Country Byway. Much of the new 230-kV transmission line on BLM land would cross through a semi-primitive (9.7 miles) and rural natural (8.2 miles) recreation setting, with a small amount of rural-developed recreation setting traversed along Shea Road/Osborne Wash (BLM 2007). Approximately 7 miles of the new line would follow a new right-of way adjacent to the existing Parker-Bouse transmission line. Overall impacts to recreation resources would be indirect, short-term, and negligible.

Substation Expansion

The proposed expansion of the Bouse Substation would be performed entirely within existing WAPA property. A total of 0.3 acres of permanent ground disturbance directly adjacent to the existing substation would occur in an area of previous disturbance, therefore the substation expansion is anticipated to result in no direct or indirect impacts to recreation sites.

Jumper Connection Options

The locations being considered for connecting the Parker-Headgate Rock and Parker-Bouse transmission lines would be located on public land managed by ASLD (Jumper Options 1 and 2), on residentially developed private land (Jumper Options 3, 4, and 5), or on public land managed by ASLD, CRIT, and BLM (Jumper Options 6 and 7). The land use in the vicinity of these options is either residential development or undeveloped. No recreation exists within the vicinity of these options. Therefore, none of the connection options are anticipated to result in direct or indirect impacts to recreation sites.

Decommission Segments

The Proposed Action would include the decommissioning and removal of portions of the existing 161-kV transmission lines through the Parker Strip SRMA and along the Parker Dam Road National Back Country Byway. The removal of these transmission lines would result in temporary nuisance impacts such as noise and construction traffic to recreationists along the Colorado River. However, these impacts would be short-term and would not preclude the use of recreational resources in this area. The decommissioning component of the Project would create a long-term beneficial effect to recreationists as it would remove an industrial use from the landscape and eliminate the need for future O&M activities along this portion of the transmission corridor. Overall impacts to recreational resources would be short-term and minor. In addition, SOPs would be implemented during O&M, which would further reduce impacts to recreation and to WAPA's surrounding transmission system.

3.10.2.2 No Action Alternative

Under the No Action Alternative, the existing transmission lines would remain operational and in place. Under the No Action Alternative the existing transmission lines would remain operational and in place. The Proposed Action would not be constructed; therefore, construction-related direct or indirect effects to recreation resources would not occur. However, existing transmission lines would require increased routine and emergency maintenance under the No Action increasing the potential for disruption to recreateators in the areas immediately adjacent to emergency maintenance activities, resulting in negligible, slightly increased temporary O&M impacts over the Proposed Action.

3.11 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

This section describes the existing socioeconomic conditions and environmental justice (EJ) issues that pertain to the Proposed Action. Issues appearing in this section include population, housing, employment, income, minority communities, and income status. Executive Order 12898 requires Federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States. Minority populations include all persons identified by the U.S. Census Bureau to be of Hispanic or Latino Origin, as well as non-Hispanic persons who are African American, American Indian and Alaska Native, or Native Hawaiian or other Pacific Islander. Low-income populations are those that fall within the annual statistical poverty thresholds from the Bureau of the Census for the 2020 Census.

3.11.1 Affected Environment

Agriculture, historically the major economic base within the Project area, the economy is now based primarily on tourism, retail trade and services.

3.11.1.1 Population

Table 3-10 offers population projections for San Bernardino County, California, and La Paz, County, Arizona. It is projected that San Bernardino County would see a somewhat substantial growth in population through 2050 while La Paz County shows a slower growth rate over the same period of time.

Table 3-10 Population Projections for San Bernardino County and La Paz County

County	2020	2030	2040	2050
San Bernardino County, California	2,217,398	2,395,632	2,529,068	2,611,732
La Paz County, Arizona	21,600	22,600	23,500	24,700
SOURCES: California Department of Finance 2013 and Arizona Department of Administration 2012.				

3.11.1.2 Travel and Tourism

As shown in Table 3-11, tourism related employment in La Paz County represents double that of Arizona or the U.S. The industries that make up tourism related employment include retail trade, passenger transportation, arts and entertainment, and accommodation and food services. This information can be utilized to understand travel- and tourism-related economic activity and its influence on a local population (U.S. Department of Commerce 2018).

Table 3-11 Travel and Tourism, Private Employment (2016)

Category	La Paz County, Arizona	Arizona	United States
Total Private Employment, 2016	4,077	2,379,409	126,752,238
Percent of Total	46.2%	18.0%	15.8%

NOTE: This aggregate data represents the entire Parker Strip area in Arizona.
SOURCE: U.S. Department of Commerce 2018

3.11.1.3 Housing

Table 3-12 shows data on the availability of housing in San Bernardino County and La Paz County, which are expected to house workers during the construction phase of the Project.

Table 3-12 Housing Availability 2019)

County	Total Housing Units	Vacant Units	Percent Occupied	Percent Vacant
San Bernardino County, California	720,577	87,716	88.2	11.8
La Paz County, Arizona	1,103	960	87.0	13.0

NOTE: American Community Survey 5-year estimates. This aggregate data represents the entire Parker Strip area in Arizona.
SOURCE: Headwaters Economics 2021

3.11.1.4 Low Income and Minority Populations

The states of Arizona and California have minority populations of 43.1 and 60.8 percent, respectively. San Bernadino County has a minority population (53.9 percent) that is somewhat lower (7 percent greater) than the state of California, and La Paz County has a minority population lower (17 percent lower) than that of the state of Arizona (26.4 percent).

The Proposed Action is within the immediate proximity of seven U.S. Census Tracts and CRIT land. San Bernardino County, California, has 28.6 percent of its population classified as low income and 53.9 percent minority population. La Paz County, Arizona, has 22.4 percent of its population classified as low income and a 39.1 percent minority population (Table 3-13).

Table 3-13 Population Characteristics of Census Tracts Traversed and Within 0.5 Miles of Proposed Project Route

Census Tract	Low Income Percentage	Minority Percentage
251 (San Bernardino County, California)	28.6	53.9
201 (La Paz County, Arizona)	18.7	26.4
202.01 (La Paz County, Arizona)	21.5	21.2
202.02 (La Paz County, Arizona)	6.3	16.8
205.02 (La Paz County, Arizona)	26.5	11.8
9402 (La Paz County, Arizona)	13.1	72.6
9403 (La Paz County, Arizona)	36.4	90.6
CRIT	25.7	78.5

Source: U.S. Census Bureau 2019

The low-income populations in the Project area do not exceed the threshold of greater than 50 percent. Minority populations in the Project area that exceed 50 percent of the total population include census tracts 2.51, 9402, and 9403 and CRIT. Table 3-13 presents data on individuals within the defined poverty status, which represent between 6.3 and 36.4 percent of the population (in 2019). The highest level of poverty occurs in Census Tract 9403 in La Paz County, Arizona (36.4 percent). The low-income populations in the Project area do not exceed the threshold of greater than 50 percent.

3.11.2 Environmental Consequences

3.11.2.1 Proposed Action

Neither low income nor minority populations would be disproportionately impacted by the Proposed Action. Segments of the population are lower income, particularly on the CRIT land. Portions of the Parker-Headgate Rock and Parker-Bouse 161-kV transmission lines are located on private lands in La Paz County and have been encroached upon by residential, commercial, and industrial development with structures built with WAPA's rights-of-way directly under conductors. These encroachments make accessing the transmission line facilities for maintenance difficult and unsafe. Decommissioning these lines would result in a long-term and beneficial impact by removing hazards for residents as well as maintenance workers in areas like Parker Strip, which is anticipated to see a load growth in the coming years. The short-term impacts are similar to every population in each census tract identified. The Proposed Action would address existing safety issues and would result in reduced risk of wildfires and complications associated with encroachment issues. These benefits would improve in an identical manner for all within the service area. Benefits to the local economy associated with construction of the Proposed Action and periodic maintenance during operation are expected to be minor due to the size of the peak workforce and limited duration of construction.

Seven options are under consideration to connect the Parker-Headgate Rock and Parker-Bouse transmission lines. Jumper Options 1 through 5 would cross lands within census tract 202.01 with no EJ population. Jumper Options 6 and 7 would both cross lands within census tract 9403 and the CRIT. However, no residential or commercial developments on CRIT lands are crossed by Jumper Options 6 or 7. The closest developments to the Proposed Action on CRIT land include the Avi Suquilla Airport and the Blue River Resort and Casino. Jumper Options 6 and 7 are the only components of the Proposed Action that would traverse census tracts with EJ populations. However, no direct impacts to residential or commercial land uses would occur within census tracts 9402 and 9403 or the CRIT land. Impacts to EJ populations within census tracts 9402 and 9403 and the CRIT land are not greater by comparison to the populations within other census tracts along the Proposed Action route. The Proposed Action results in no direct impacts to EJ populations. Similarly, indirect impacts associated with the Proposed Action would not disproportionately affect minority or low-income populations. The Proposed Action would not have a disproportionately high or adverse effect on minority or low-income populations. No impact would occur.

3.11.2.2 No Action Alternative

Under the No Action Alternative, temporary impacts from construction activities would not occur, and the No Action Alternative would not interfere with or preclude existing land uses. The existing land use conflicts would continue to present reliability and safety concerns.

3.12 VISUAL RESOURCES

This section analyzes impacts of the Proposed Action and No Action Alternative on visual resources, including levels of anticipated visual contrast and proximity to sensitive viewers. The Project area for visual impacts is a 5-mile radius around the Project elements, which is generally the maximum distance at which facilities such as those of the Proposed Action could be seen (Sullivan et al. 2014).

3.12.1 Affected Environment

The study area can be characterized by two distinct landscapes that include rugged terrain and riparian vegetation along the Colorado River and the broad, desert plain of Parker Valley with widely scattered, small mountain ranges of mostly barren rock. Major cultural modifications include residential and commercial development in and around the Town of Parker, the community of Parker Strip, existing transmission lines and distribution lines, and major roadways that include SR 95 and SR 72. The vegetation and soil colors represented in the undeveloped landscape consist of earth tones (browns, tans, grays, and greens).

Most visitors arrive at the study area on SR 95, which connects Lake Havasu City to the Town of Parker and Interstate 10. BLM lands within the study area are attractive and heavily used for winter tourism and recreation, including OHV use, the river-oriented recreation along the Parker Strip, and many campgrounds and RV parks.

3.12.1.1 BLM Contrast Rating Process

BLM-administered lands crossed by the Proposed Action are subject to objectives developed using the BLM Visual Resource Management (VRM) System (BLM Handbooks 8400, 8410, and 8410-1). The VRM process consists of three steps: (1) assessment of the scenic quality of the landscape, (2) the sensitivity of the people to change in the landscape, and (3) the viewing distance. The resulting management Classes describe the different degrees of modification allowed to the basic elements of the landscape.

Scenic Quality

Scenic Quality is a measure of the overall impression or appeal of an area created by the physical features of the landscape, such as natural and built features. These features create the distinguishable form, line, color, and texture of the landscape composition that can be rated for scenic quality using criteria such as distinctiveness, contrast, variety, harmony, and balance. The three scenic quality classes can be described as follows:

- A – Most outstanding landscape characteristics of the region
- B – Exhibits a combination of outstanding and common landscape features
- C – Has landscape features that are common to the region

Viewer Sensitivity

Viewer sensitivity is intended to be a measure of public concern for scenic quality (BLM Handbook 8410-1) and is typically based on the type of area and its level of use. However, intuitively, concern for scenery varies widely depending upon the visitor's primary recreation activity and the focus of their attention or interest. Activities that involve the thrill of driving, take place at higher speeds or require concentration to navigate hazards (such as skiing, avoiding obstacles while driving an OHV, or running river rapids), were considered to have lower viewer sensitivity. Slower-paced activities that involve visitors being immersed

in the landscape (such as hiking or backpacking) and viewing-related activities (such as wildlife, historic sites, or nature study) were considered to have higher viewer sensitivity (Palmer et al. 2019).

Viewing Distance Zones

Visibility is of particular importance in the analysis of impacts for transmission projects. The nature and magnitude of visual contrast is influenced by the distance at which a proposed action is viewed. The term viewing distance refers to the viewer's physical distance from the Project components and is based on the fact that one's ability to see details dissipates over distance. Landscapes are generally subdivided into three distance zones based on relative visibility from travel routes or observation points. The foreground includes areas that are less than 1 mile from the viewing location, in which Project features are likely to be a major focus of visual attention. The middleground includes areas that are 1 to 3 miles from the viewing location, in which the Project would be noticeable to casual observers. The background zone is 3 to 5 miles from the viewing location, which is generally the maximum distances at which the facilities could be seen. To be included within this distance zone, vegetation should be visible at least as patterns of light and dark. This seldom-seen zone includes areas that are usually hidden from view as a result of topographic or vegetative screening or atmospheric conditions.

Visual Resource Management Classes

The BLM determines VRM classes through analyses of multiple land uses and natural resources for all BLM-administered lands through the RMP process. VRM classes are a land use plan decision that guides future site-specific management actions for implementing the RMP (Table 3-14).

Table 3-14 Visual Resource Management Classes

VRM Class	Visual Resource Objective	Relationship to the Casual Observer
Class I	Preserve the existing character of the landscape	Activities should not be visible and must not attract attention.
Class II	Retain the existing character of the landscape	Activities may be low but should not attract attention. Changes must repeat form, line, color, and texture of the characteristic landscape.
Class III	Partially retain the existing character of the landscape	Activities may attract attention but should not dominate the view. Changes should repeat form, line, color, and texture of the characteristic landscape.
Class IV	Provide for management activities that require major modification of the existing character of the landscape	Activities may attract attention, may dominate the view, but are still mitigated.

In the vicinity of the 230-kV portion of the Project, the VRM objectives are Classes III and IV, and in the vicinity of the decommission portion of the Project, the VRM Classes are II and III.

3.12.1.2 Key Observation Point Overview

In consultation with the BLM, the following key observation points (KOP) were established to represent common and/or sensitive viewer locations within the study area (Table 3-15).

Table 3-15. Key Observation Points

Key Observation Points	Scenic Quality Rating	Sensitivity Level	Distance Zones	Visual Resource Class
KOP 1 – Shea Road/Osborne Wash	C	Moderate	Foreground	III and IV
KOP 2 – SR 95 and Resort Drive	B	High	Foreground	III
KOP 3 – SR 95 near Cienega Springs residences	C	Moderate	Foreground	IV
KOP 4 – Parker Strip	B	High	Foreground	II & III

KOP 1 – Shea Road/Osborne Wash

KOP 1 is located along the south side of Shea Road, north of Osborne Wash (Figure 3-2). Shea Road is located within a designated utility corridor situated between the Gibraltar Wilderness and the Cactus Plain WSA. Shea Road is nominated as a Back Country Byway. This area is managed by the BLM for intensive OHV use and dispersed camping. The KOP represents the views of recreators and drivers along Shea Road looking southeast. Views from this KOP would include the new 230-kV component of the Proposed Action where it crosses and then parallels Shea Road on land identified as having VRM Classes III and IV, comprised of scenic quality B and C and moderate sensitivity within the foreground-middleground distance zone. However, while Osborne Wash and Black Peak are identified as scenic quality C, lands along and to the north of Shea Road—which are less interesting in terms of vegetation and landform and include cultural modifications such as the road itself, an above-ground oil and gas pipeline, and OHV-related routes—are rated as having a higher scenic quality rating (B). The visual resource inventory (VRI) notes indicate that this area is visually less interesting. VRIs are often conducted at a small scale, especially for inventories where comparison to regional landscapes is key to identifying outstanding landscape feature. However, upon inspection at a project level along with field verification, the scenic quality of this area is more accurately classified as scenic quality C (see Visual Contrast Rating Worksheet in Appendix B).

At its nearest point, KOP 1 is within 0.2 miles of the Proposed Action. Visitors to the KOP are provided panoramic views to the east and south across an immense open desert. Vegetative cover includes creosote, galleta grass, bursage, and small cacti. Views to the west and north from this location are somewhat more contained by rugged volcanic rock of Gibraltar Mountain and Black Peak. Cultural modifications in the area include Shea Road and surface disturbance from OHV use in and around Osborne Wash.

Viewers at the KOP are looking at an unpaved OHV staging area within the immediate foreground. Dark brown low hills and rugged mountains are in the middleground. The staging area is flat and uniformly light tan-gray and stippled. Sparse dark green native vegetation forms an irregular green pattern across the desert floor. Brown fence posts that delineate the visitor's kiosk area create short distinct vertical lines that are irregularly repeated and occasionally connected by short undulating diagonal lines of wire. Few single wood light poles create occasional vertical lines that are faded with distance. Thousands of spectators and participants would likely utilize this and the surrounding areas during the winter when it is heavy visitor season and the Parker 400 off-road race occurs.

Figure 3-2 View Looking Southeast from KOP 1

KOP 2 – SR 95 and Resort Drive

KOP 2 is located on CRIT land along SR 95 north of the Town of Parker (Figure 3-3). KOP 2 represents the views of travelers along SR 95. KOP 2 offers expansive views of natural landforms and native vegetation interspersed with scattered facilities, including those of Avi Suquilla Airport and the BlueWater Resort & Casino, both of which are owned and operated by the CRIT. Throughout most of the Project area views are open and unobstructed. Any structure taller than the relatively low-lying native vegetation would be visible for long distances.

Views from KOP 2 are looking northeast and would include views of the 161-kV Jumper Option 7. Lands surrounding KOP 2 exhibit a combination of outstanding and common landscape features, and high sensitivity views within foreground-middleground distance zone. At its nearest point, KOP 2 is within 0.3 miles from the Proposed Action.

Figure 3-3 View Looking East from KOP 2

KOP 3 – SR 95 near Cienega Springs Residences

KOP 3 is located north of Parker along Crow's Nest Drive in the Cienega Springs (Figure 3-4). The KOP represents the views from residences looking northeast toward the removal portion of the Proposed Action. Depending upon which jumper option is chosen, the new connection between the Parker-Headgate Rock and Parker-Bouse transmission lines and associated removal of these lines to the north would occur to the north or to the south of this KOP. At its nearest point, the KOP is within 0.2 miles from the Proposed Action. Foreground suburban landscapes quickly transition to views of transmission structures along nearby ridgelines. The background contains Aubrey Hills and the Bill Williams Mountains to the east and Whipple Mountains to the West, which provide visual interest and contrast. Although existing transmission infrastructure is highly visible in the panoramic views from Cienega Springs, residents would consider any increase in industrial character, structure prominence, or view blockage an adverse visual change.

Figure 3-4 View Looking North from KOP 3

KOP 4 – Parker Strip

KOP 4 is located within Parker Strip along the Colorado River (Figure 3-5). This area is managed by the BLM for a variety of recreation activities. The KOP represents the view of recreators at Crossroads Campground looking southeast who would be viewing the removal of segments of Parker-Headgate Rock and Parker-Bouse 161-kV transmission lines. BLM-administered land is designated VRI Class II, comprised of scenic quality B, and is high sensitivity within the foreground-middleground distance zone. At its nearest point, the KOP is within 0.4 miles from the Proposed Action. Visitors to the Crossroads Campground are provided open views of the Colorado River and its vegetated banks. The background contains low horizontal forms of distant hills, which provide visual interest and contrast. However, the viewshed contains man-made features including residential development and skylined transmission structures.

Figure 3-5 View Looking Southeast from KOP 4

3.12.2 Environmental Consequences

Visual impacts are determined by assessing the level of change to the landscape (contrast) perceived by sensitive viewers (KOPs). Using BLM form 8400-4 (Visual Contrast Rating Worksheet) contrast was characterized and documented (per BLM guidance) from KOPs that demonstrate compliance with VRM

classes (Table 3-16). It is reasonable to conclude that lower viewer sensitivity paired with lower visual change would generally result in lower visual impact. Conversely, higher viewer sensitivity paired with greater visual change would result in a greater visual impact.

Table 3-16 Compliance with Agency Management Objectives

Contrast Level	I	II	III	IV
Strong	No	No	No	Yes
Moderate/Strong	No	No	Yes	Yes
Moderate	No	Yes	Yes	Yes
Weak/Moderate	No	Yes	Yes	Yes
Weak	No	Yes	Yes	Yes

The resource protection measures applicable to visual resources are listed below with the full text presented in Table 2-6.

- **VR-1** states that structures shall be placed at the maximum feasible distance from roadway and trail crossings to reduce visual impacts, as long as other significant resources are not negatively affected.
- **VR-2** states dulled metal finish transmission structures and non-specular conductors would be used in visually sensitive areas, including a new right-of-way on BLM and Tribal lands and in proximity to residences.
- **VR-3** states that where the line parallels existing transmission lines, the spacing of structures shall match the existing transmission structures, where feasible, to minimize visual effects.
- **VR-4** states that transmission line structures would not be installed directly in front of residences or in direct line-of-sight from a residence where possible. WAPA would consult with affected property owners on structure siting to reduce land use and visual impacts.

3.12.2.1 Proposed Action

New 230-kV Transmission Line

The new 230-kV transmission line would be prominently visible to travelers on Shea Road and to OHV recreationists within the Osborne Wash RMZ. Views would be affected by the short-term construction impacts associated with the Proposed Action; however, the transmission line structures would cause major, long-term change to scenery. Large monopole structures, with a strongly vertical character and obviously non-natural geometry, would contrast strongly with the surrounding, more natural-appearing landscape. The Proposed Action would not repeat the basic elements of the existing natural features in the landscape (rolling to level and horizontal to irregular lines). The visual contrast would be greatest where no existing transmission structures are present. Views from KOP 1 along Shea Road do not include existing transmission lines.

Although the area around KOP 1 is relatively undeveloped, notable built features include the paved and unpaved roads and an above-ground natural gas pipeline generally paralleling Shea Road. While these deviations from the natural landscape character decrease viewer sensitivity and viewer expectation to some extent, this area does not presently contain structures of similar scale and character to the proposed 230-kV transmission line. Based on the flat to slightly rolling landforms in the Project area, views of the Proposed Action from Shea Road would generally be from a neutral position and would include skyline views of the transmission lines and monopole structures. The resulting visual contrast (for form and line) would range from moderate to strong and the overall visual impact of this change would be moderate to high. The VRM Class IV objective allows for activities in which the visual change may dominate the view and be a major

focus of viewer attention; however, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements of the landscape.

After the implementation of mitigation measures VR-1 through VR-4, the overall level of change would be moderate/strong and would be consistent with the applicable VRM Class III and Class IV management objective. It is important to note, however, that a portion of this area is classified as scenic quality B and that the lands traversed by the Proposed Action would be within a designated utility corridor located between the Gibraltar Wilderness or Cactus Plain WSA in which the placement of utilities is encouraged in order to avoid the proliferation of utility infrastructure across BLM lands.

The open terrain along this route segment combined with the presence of the Gibraltar Wilderness to the north and Cactus Plain WSA to the south further restricts the ability to screen the structures from view, blend them more effectively with a different background, or reroute the alignment. Therefore, localized reroutes would not be effective.

Jumper Connection Options

The options to connect the existing Parker-Headgate to the Parker-Bouse transmission line would be visible from numerous residences within Cienega Springs as well as from SR 95 (Table 3-17). Depending on which jumper option is chosen, the new segment of 161-kV transmission line (jumper) would be as short as 0.1 mile or as long as 3.3 miles. The proposed structures would be similar in height and design to the existing 161-kV structures but would be steel instead of wood. Several connection options would be prominently visible to both northbound and southbound travelers on SR 95. While each connection option is spanning between two existing transmission lines, views from the KOP would provide open expansive views to Jumper Option 7 in an area that does not currently contain structures of similar scale and character. The resulting structural visual contrast (for form and line) would range from moderate for more distant views from SR 95 to strong for more proximal views when the Project crosses the highway. The overall level of change would be moderate to high. It is important to note that Jumper Option 7 would result in the removal of the greatest length of existing transmission lines through Parker Strip, beneficially affecting the greatest number of sensitive residential views.

Table 3-17 Jumper Connection

Jumper Option	Jurisdiction	Location	Length (mile)	Visual Change
1	ASLD	North of Cienega Springs Road	0.1	Moderate contrast. Prominently visible within the immediate foreground of residential views along River Glen Mobile Road in context of existing transmission lines.
2	ASLD	South of Cienega Springs Road	0.1	Moderate contrast. Prominently visible within the immediate foreground of residential views along River Glen Mobile Road in context of existing transmission lines.
3	Private	South of Storage Place Roadd	0.1	Moderate contrast. Prominently visible within the immediate foreground of residential views along Harbor View Road West in context of existing transmission lines.
4	Private	West of Rio Vista Road, South of ARS 95 overpass	0.2	Moderate contrast. Prominently visible within the immediate foreground of residences along Lakeside Boulevard and 94th Street in context of existing transmission lines.
5	Private	East of Lakeside Boulevard, North of 94th Street	0.9	Moderate contrast. Prominently visible within the immediate foreground of residences along Lakeside Boulevard and 94th Street in context of existing transmission lines.
6	ASLD, CRIT	Along Lakeside Boulevard	1.1	Moderate contrast. Prominently visible within the immediate foreground of residences along Lakeside Boulevard and 94th Street in context of existing transmission lines.

Table 3-17 Jumper Connection				
Jumper Option	Jurisdiction	Location	Length (mile)	Visual Change
7	ASLD, CRIT, BLM	North of Avi Suquilla Airport	3.3	Moderate/strong contrast. The new structures would cause a noticeable increase in structure prominence and industrial character visible from SR 95. Structure skylining and view blockage of background sky and mountains would also occur. The openness of the terrain and scale of the structures would allow foreground to distant views of the transmission line (structures and conductors) from SR 95.

Decommission Segments

This portion of the Project area includes the Colorado River and the border between California and Arizona. On the Arizona-side, the land is largely developed and private, with riverfront communities like Moovalya Keys, Miraleste Shores, and Marina Manor making up most of the shoreline with some county and state parks interspersed. On the California side, the land is almost completely public and managed by the BLM. The permanent removal of segments of existing transmission lines along the Parker Strip would result in a long-term beneficial visual impact to sensitive receptors such as residences and recreators along the Colorado River.

3.12.2.2 No Action Alternative

Under the No Action Alternative, the existing transmission lines would remain operational and existing facilities would not be expanded or decommissioned. The Proposed Action would not be constructed; therefore, no new ground disturbance or construction-related direct or indirect effects to visual resources would occur. The existing transmission lines would require increased routine and emergency maintenance, including replacement of individual structures, as the line continues to age. Implementation of the No-Action Alternative would not affect visual resources or the existing visual character of the surrounding area. The No-Action Alternative would have no direct or indirect effect on visual resources.

3.13 CUMULATIVE IMPACTS SUMMARY

Cumulative impacts occur when effects of an action are added to or interact with other effects in a particular place and within a particular time. It is the combination of these effects and any resulting environmental degradation that is the focus of this cumulative impact analysis. To determine the cumulative effects in the Project area, a review was completed of past, present, and reasonably foreseeable future projects within 5 miles of the Project transmission alignments and their short- and long-term incremental effects on the environment were analyzed. Past projects were considered to be those completed within the last 10 years. Because planned projects are not always carried to completion, the window for future reasonably foreseeable projects was projected only for those projects anticipated to have on-site impacts within 5 years. Table 3-18 lists the past, present, and reasonably foreseeable future actions that may have impacts that could combine with the impacts of the Proposed Action to result in cumulative effects.

Table 3-18 Past, Present, and Reasonably Foreseeable Future Actions				
Project Name	Project Description	Project Type	Status	Project Location
Parker-Blythe 161-kV Rebuild Study	The Parker-Blythe #2 161-kV transmission line was built in 1969. The transmission line is 63.9 miles long. H-frame structures with 3-pole wooden structures at angle points and dead-ends.	Electric Utility Line	Future/Pending	Between Parker and Blythe Substations

Table 3-18 Past, Present, and Reasonably Foreseeable Future Actions				
Project Name	**Project Description**	**Project Type**	**Status**	**Project Location**
Bouse-Kofa 161-kV Rebuild	The Bouse-Kofa 161-kV transmission line is a single circuit, 84.3-mile line segment of the overall Parker-Gila 161-kV Transmission Line originally built in 1943.	Electric Utility Line	Present	Between Bouse and Kofa Substations
Parker-Davis Transmission System Routine Operation and Maintenance Project and Proposed Integrated Vegetation Management Program (WAPA 2015)	WAPA conducts routine O&M and implements an integrated vegetation management program on the Parker-Davis Transmission System	Electric Utility Line	Past and Present	Parker-Davis Transmission System
Routine Transmission inspections	WAPA conducts aerial inspections of transmission facilities via helicopter	Electric Utility Line	Past and Present	Parker-Davis Transmission System
Past/Present Dispersed Recreation OHV Travel on BLM lands	Dispersed recreation, including OHV travel	Recreation	Past and Present	BLM lands within Project area

3.13.1 Vegetation

Cumulative impacts to vegetation and special-status plants could result from implementation of the Project along with past, present, and reasonably foreseeable future actions that would occur near or at the same time as Project activities. Vegetation removal, management in other ROWs, grazing, and any ground-disturbing developments would contribute to the cumulative loss or alteration of native vegetation. The Proposed Action would contribute cumulatively to actions that cause ground disturbance in potential habitat for the scaly sand food. WAPA would implement BMPs, PCMs, and SOPs to minimize the Project's contribution to cumulative impacts to vegetation and special-status plants.

Cumulative impacts may also result if non-native invasive species are allowed to spread or be introduced in the area. Table 3-18 lists past, present, and reasonably foreseeable future actions that may cumulatively impact vegetation resources in the Project area. Most of these past, present, and future projects are construction, operation, and maintenance of linear infrastructure and would have impacts to vegetation similar to those for the Proposed Action. However, the construction phase of these projects would be temporary and not overlap with that of the Proposed Action, and maintenance activities would be widely dispersed and of short duration. The Proposed Action includes several resource protection measures to minimize or avoid impacts to the vegetation in the Project area. In addition, SOPs and biological resources PCMs would be implemented during O&M that would reduce impacts to vegetation and minimize or avoid the spread of invasive or non-native weeds.

3.13.2 Wildlife

Impacts from the Proposed Action could result in a cumulative effect on wildlife with other past, present, or reasonably foreseeable future actions. Vegetation management along transmission line rights-of-way, recreation activities such as OHV use, and any ground-disturbing developments would contribute to the cumulative loss or alteration of habitat used by wildlife. The Proposed Action includes several resource protection measures to avoid or minimize impacts to wildlife in the Project area. In addition, the SOPs and PCMs would be implemented during O&M, which would reduce impacts to wildlife and to WAPA's surrounding transmission system. Table 3-18 lists past, present, and reasonably foreseeable future actions

that may cumulatively impact wildlife in the Project area. The majority of these past, present, and future projects are construction, operation, and maintenance of linear infrastructure would have similar impacts to wildlife as the Proposed Action. However, the construction phase of these projects would be temporary and not overlap with that of the Proposed Action, and maintenance activities would be diffused over a large geographic area and of short duration.

3.13.3 Soil Resources

Cumulative effects to soils from the Proposed Action in addition to past, present, and reasonably foreseeable future actions are not anticipated. While localized impacts to soil would occur from any project with ground-disturbing activity, State and Federal requirements for contractors to obtain an Arizona Pollutant Discharge Elimination System permit and prepare a project-specific SWPPP for project disturbances of 1 acre or more to ensure that soil disturbances are contained to the Project site. Therefore, it is not anticipated that any incremental effects from the Proposed Action combined with other past, present, or reasonably foreseeable future actions would result in substantial cumulative impacts to soil resources.

3.13.4 Water Resources

There are no perennial streams, wetlands, or riparian areas within the Project area. The Proposed Action includes several resource protection measures to minimize or avoid impacts to water resources in the Project area. In addition, the SOPs and PCMs would be implemented during O&M, which would reduce impacts to floodplains and to WAPA's surrounding transmission system. The construction phase of these projects would not overlap with that of the Proposed Action, and maintenance activities would be spread over a large geographic area and would be short in duration. Therefore, the cumulative impact of the Proposed Action when combined with impacts of the past, present, and reasonably foreseeable future actions on water resources would be negligible.

3.13.5 Cultural Resources and Native American Concerns

Past, present, and reasonably foreseeable future actions may cumulatively impact cultural resources in the Project area if the characteristics of a property that rendered it eligible for listing in the NRHP were altered or degraded, or if cultural resources were damaged. The Proposed Action would not contribute to cumulative impacts to cultural resource sites because no cultural resource sites would be impacted. Implementation of the Proposed Action, along with past, present, and reasonably foreseeable actions, would include construction of a transmission line and associated access. Implementation of the Proposed Action could reasonably provide access that attracts additional dispersed recreation/OHV travel in an area beyond that studied for cultural resources.

3.13.6 Tribal Resources

When combined with the past, present, and future projects, the Proposed Action's impacts to the cultural landscape as measured by ground disturbance would result in a negligible cumulative impact to tribal resources.

3.13.7 Land Use

Cumulative effects on Federal, State, and Tribal lands could involve conflicts with existing land use plans and policies. However, with the exception of Jumper Options 3, 4, and 5, the Proposed Action is consistent with applicable land use plans and policies and would not contribute to cumulative impacts regarding land use conflicts. In addition, potential cumulative impacts to land use could include the disruption of access to private properties and public areas and the generation of noise, dust, and odors that could affect landowners, business owners, patrons, recreationists, and other land uses that are near the Proposed Action. These

impacts would be temporary, and they would occur over several miles of transmission line rights-of-way for no more than a few days at each pole location, so they would not be concentrated in one location. The Proposed Action includes several resource protection measures to minimize impacts to land use in the Project area. In addition, SOPs would be implemented on the Proposed Action during O&M, which would reduce impacts to land uses and to WAPA's surrounding transmission system. Therefore, the Proposed Action's contribution to cumulative impacts would be negligible.

3.13.8 Recreation

Impacts from the Proposed Action could result in a cumulative effect on recreation with other past, present, or reasonably foreseeable future actions. Cumulative effects would occur during construction and maintenance activities as a result of access impediment, increased noise levels, and aesthetic impacts. However, the construction phase of these projects would not overlap with that of the Proposed Action, and maintenance activities would be spread over a large geographic area and are short in duration. The Proposed Action includes several resource protection measures to minimize impacts to recreation resources in the Project area. In addition, SOPs would be implemented on the Proposed Action during O&M, which would reduce impacts to recreation and to WAPA's surrounding transmission system. Therefore, the Proposed Action's contribution to cumulative impacts would be negligible.

3.13.9 Socioeconomics and Environmental Justice

Impacts from the Proposed Action could result in a cumulative effect on socioeconomics and EJ with other past, present, or reasonably foreseeable future actions as a result in similar short- and long-term social and economic changes as those of the Proposed Action. The majority of these projects are also construction, operation, and maintenance of linear infrastructure which would result in minor impacts to local businesses from the construction workforce's needs for temporary housing and spending at local food and retail establishments. The construction phase of these projects would be temporary and not overlap with that of the Proposed Action, and maintenance activities would occur over a large geographic area and be of short duration. The Proposed Action is not expected to result in growth-inducing impacts. The Proposed Action would not remove existing obstacles to growth, nor would it inhibit growth, and it is not anticipated that any incremental effects from the Proposed Action combined with other past, present, or reasonably foreseeable future actions would result in cumulative impact to socioeconomics or EJ.

3.13.10 Visual Resources

Cumulative visual effects would result from the incremental modification of the landscape's scenic quality because disruptions to sensitive viewsheds would result from the construction, operation, and maintenance of the Proposed Action, in combination with other past, present, and reasonably foreseeable future actions presented in Table 3-18. These projects are for construction, operation, and maintenance of linear infrastructure. The Proposed Action includes decommissioning of existing transmission lines along the Parker Strip, constructing a new transmission line parallel to an existing transmission line, and constructing new transmission line in an area with no existing above ground utilities. Where decommissioning of existing lines occurs, they cumulatively reduce the industrial character of the landscape by decreasing the amount of infrastructure. Long-term cumulative visual quality along the new build portions of the Proposed Action corridor is low to moderate in areas with existing industrial infrastructure. The cumulative change in areas where the Proposed Action overlaps with the projects listed in Table 3-18 to visual contrast is minor. The cumulative effects to visual contrast are minor. In addition, SOPs would be implemented along the Project during O&M, which would reduce impacts to visual resources and to WAPA's surrounding transmission system.

CHAPTER 4 – COORDINATION AND CONSULTATION

WAPA invited the BLM, Reclamation, ASLD, and CRIT to be cooperating agencies for this Project. These agencies have been involved throughout the NEPA process, including during scoping and EA development. Table 4-1 provides a list of Federal, State, and Local agencies and organizations contacted during preparation of the EA.

Table 4-1 Environmental Assessment Information Contacts

Agency/Organization	Name and Title
Federal	
Bureau of Land Management, Lake Havasu Field Office	Jason West, Field Office Manager Sheri Aherns, Acting District Administrative Officer Angelica Rose, NEPA Specialist Amanda Sparks, Field Office Manager (Acting)
Bureau of Reclamation, Yuma Area office	Maria Ramirez, Area Manager
Tribal	
Colorado River Indian Tribe	Gregory Fisher, Director of Planning Brian Etsitty, Acting THPO Director Amelia Flores, Chairwoman Dennis Patch, Chairman Ted Swendra, Avi Suquilla Airport Manager
State	
Arizona State Land Department	Ruben Rojeda, Section Manager
Arizona State Historic Preservation Office	Jeff Humphrey, Field Supervisor
Local and Other	
San Bernardino County	Terri Rahhal, Director, Lan Use Services
La Paz County	Nora Yackley, Planning and Zoning Board of Supervisors
Town of Parker	Nora Yackley, Developmental Services Director

4.1 NHPA SECTION 106 CONSULTATION

WAPA is the lead Federal agency in the NHPA Section 106 process. Table 4-2 describes WAPA's Tribal consultation activities completed to date.

Table 4-2 Consultation Summary

Date	Description
August 2, 2018	Letter from the State Historic Preservation Officer informing WAPA that the six transmission lines that have been evaluated are ineligible for listing on the NRHP.
February 6, 2019	WAPA letter to invite the BLM to be a cooperating agency on the Project.
February 6, 2019	WAPA letter to invite Reclamation to be a cooperating agency on the Project.
February 13, 2019	Letter from SHPO to WAPA addressing the decision of ineligibility for the Parker-Blythe Transmission Line for listing under the NRHP.
February 14, 2019	Letter to SHPO regarding NRHP Evaluation of Parker Blythe I Transmission Line in La Paz County, Arizona.
February 27, 2019	Reclamation response to WAPA declining invitation to be a cooperating agency on the Project.
March 12, 2019	BLM's reply to WAPA accepting invitation to be a cooperating agency on the Project.
April 12, 2019	Letter from WAPA to CRIT seeking concurrence with a finding of effect in the NHPA Section 106 process regarding a proposal for geotechnical drilling.
April 12, 2019	Letter from WAPA to the Fort McDowell Yavapai Nation seeking concurrence with a finding of effect in the NHPA Section 106 process regarding a proposal for geotechnical drilling.
April 12, 2019	Letter from WAPA to Fort Mojave Indian Tribe seeking concurrence with a finding of effect in the NHPA Section 106 process regarding a proposal for geotechnical drilling.

Table 4-2 Consultation Summary	
Date	**Description**
April 12, 2019	Letter from WAPA to the Fort Yuma-Quechan Tribe seeking concurrence with a finding of effect in the NHPA Section 106 process regarding a proposal for geotechnical drilling.
April 12, 2019	Letter from WAPA to the Hopi Tribe seeking concurrence with a finding of effect in the NHPA Section 106 process regarding a proposal for geotechnical drilling.
April 12, 2019	Letter from WAPA to the Hualapai Tribe seeking concurrence with a finding of effect in the NHPA Section 106 process regarding a proposal for geotechnical drilling.
April 12, 2019	Letter from WAPA to the Moapa Band of Paiute Indians seeking concurrence with a finding of effect in the NHPA Section 106 process regarding a proposal for geotechnical drilling.
April 12, 2019	Letter from WAPA to the Pueblo of Zuni seeking concurrence with a finding of effect in the NHPA Section 106 process regarding a proposal for geotechnical drilling.
April 12, 2019	Letter from WAPA to the Arizona State Historic Preservation Officer seeking concurrence with a finding of effect in the NHPA Section 106 process regarding a proposal for geotechnical drilling.
April 12, 2019	Concurrence letter fromthe Arizona SHPO.
April 12, 2019	Letter from WAPA to the Yavapai-Prescott Indian Tribe seeking concurrence with a finding of effect in the NHPA Section 106 process regarding a proposal for geotechnical drilling.
April 12, 2019	Letter from WAPA to the Yavapai-Apache Nation seeking concurrence with a finding of effect in the NHPA Section 106 process regarding a proposal for geotechnical drilling.
May 9, 2019	Request by CRIT to reserve capacity on the proposed transmission line for the Tribes to tie into.
July 11, 2019	Letter from WAPA to the BLM Lake Havasu Field Office regarding the SF-299 Application.
February 18, 2021	Letter from CRIT to WAPA addressing Project concerns in response to scoping.

4.2 ESA SECTION 7 CONSULTATION

Consultation under Section 7 of the ESA is required if a federal action may affect any ESA-listed species. Consultation under Section 7 of the ESA is required if the action may affect a species proposed for ESA listing. WAPA has previously conducted Section 7 consultation for O&M activities on the Parker-Davis system, including the decommissioning that would be a part of the Proposed Action (USFWS 2015). Section 7 consultation requirements have been met for that part of the Proposed Action.

The proposed construction of a new transmission line was not addressed in the previous Section 7 consultation. However, no species listed or proposed for listing under the ESA are present in the area affected by the proposed new transmission line, and no additional Section 7 consultation is required.

CHAPTER 5 – APPLICABLE LAWS, REGULATIONS, AND OTHER REQUIREMENTS

Table 5-1 summarizes laws, regulations, and guidelines that apply to the Project.

Table 5-1 Laws, Regulations, and Guidelines

Subject	Legislation	Agency	Applicability
Endangered species	ESA of 1973 as amended, state laws	USFWS	Federal: Issue biological opinion on threatened and endangered species (Section 7) State: Issue an opinion on project impacts to state threatened and endangered species
Migratory birds	MBTA	USFWS	Consultation on ways to avoid or minimize effects on migratory birds
Bald and golden eagles	BGEPA	USFWS and wildlife agency	Consultation on ways to avoid or minimize effects on bald and golden eagles
Historic preservation	Archeological and Historic Preservation Act of 1974, Archeological Resources Protection Act of 1979, NHPA of 1966	SHPO	Issue cultural resource clearance, required before construction
American Indian lands	AIRFA, as amended	Potentially affected Indian Tribes	Consultation to avoid infringement on areas of religious value to Native American groups
Prime and unique farmlands	Farmland Protection Policy Act of 1981	Soil Conservation Service, state or local agencies	Evaluate impacts to prime and unique farmlands
Floodplains	Executive Order 11988	USACE, state agencies	Evaluates potential floodplain effects
Wetlands	Executive Order 11990	USACE, state agencies	Evaluates potential effects on wetlands
Water pollution	CWA	EPA	Evaluate impacts to water quality, use and drinking water standards
Soils	Soil and Water Resources Conservation Act of 1977	Soil Conservation Service	Evaluate impacts of erosion impacts, loss in land and water productivity
Air	Clean Air Act as amended	EPA, state agencies	Evaluate impacts of air quality on public health
Airspace and Aviation	Aeronautics and Space Objects Affecting Navigable Airspace (14 CFR 77)	FAA	Consultation to avoid activities affecting Federal airspace and aviation

Table 5-2 summarizes the required permits and authorizations for the Project.

Table 5-2 Authorizations, Permits, Reviews, and Approvals		
Approving Agency	**Applicability**	**Statutory Reference**
Burea of Land Management	Issue right-of-way grant for construction of transmission line facilities across Federal lands (SF-299)	FLPMA (Public L 94-579) USC 1761-1771 and 43 CFR 2800
	Issue temporary use permit(s) (Form 2920)	43 USC 1201; 43 CFR Part 2920
Bureau of Indian Affairs	Consultation regarding construction within Indian Reservation Boundaries	
CRIT	Issue permit(s) to cross Indian reservation lands	
State Historic Preservation Office	Section 106 Compliance or Consultation	NHPA, 36 CFR part 800; 16 USC 47
U.S. Fish and Wildlife Service	Analysis to determine if the Proposed Action would violate the ESA	ESA Section 7 Consultation, 50 CFR Part 17, 16 USC 1536
Federal Aviation Administration	Project Component Height Relative to Air Traffic; Form 7460-1	49 USC 1501, 14 CFR Part 77

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CHAPTER 7 – REFERENCES

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Appendix A. Scoping Report

Western Area Power Administration

Scoping Report for the Bouse Upgrade Project

Prepared by
U.S. Department of Energy
Western Area Power Administration
Desert Southwest Region

Cooperating Agencies
U.S. Department of Interior
Bureau of Land Management
Colorado District – Lake Havasu Field Office

Colorado River Indian Tribes

March 2021

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Appendices

1.0 INTRODUCTION

1.1 Purpose of the Scoping Report

The purpose of this scoping report is to provide an overview of the Western Area Power Administration's (WAPA) Bouse Upgrade Project (Project), to document the scoping process, and to discuss the findings from the process. Scoping is a collaborative public and agency involvement process implemented early in the National Environmental Policy Act of 1969 (NEPA) process. Its purpose is to determine the scope of issues to be addressed and to identify potentially significant issues to be addressed in the Environmental Assessment (EA). The scoping period for the Bouse Upgrade Project EA began on December 5, 2020, when public notices for the virtual open house were mailed and ended on February 17, 2021. Comments received during the public scoping period and input received from agencies are summarized in Section 2.2. of this report.

1.2 Project Overview

WAPA is proposing four-phases for the Project so it can continue to provide safe, reliable electric service to its current and future customers located along the Colorado River in La Paz County, Arizona, and San Bernardino County, California, by rebuilding, upgrading, and decommissioning components of the existing Parker-Davis Transmission system.

The proposed Project's four stages include:

1. Constructing an approximately 18-mile-long, new, double-circuited, 230-kilovolt (kV) transmission line connection between the existing Bouse Substation and the existing Parker-Liberty 2 230kV transmission line.

2. Expanding the existing 161kV Bouse Substation to a 230kV substation by adding breakers, switches, 230/161kV transformer, and two 230kV bays.

3. Connecting the existing Parker-Bouse 161kV transmission line to the Parker-Headgate Rock 161kV transmission line by selecting one of seven jumper options, which would complete a 161kV circuit from Bouse Substation to the Headgate Rock Substation.

4. Decommissioning and removing two 10- to 13-mile-long segments of the existing Parker-Bouse and Parker-Headgate Rock 161kV transmission lines that cross the Parker strip.

2.0 DESCRIPTION OF THE SCOPING PROCESS

The first step in the scoping process is to develop an EA, which required hosting a virtual public scoping meeting due to the COVID-19 pandemic to gather questions and comments from the public, interested stakeholders and other agencies which will be incorporated into the Draft EA. The meeting was advertised on the Project website and in a newspaper advertisement, and the materials are described in the sections below.

2.1 Project Website

WAPA developed a Project website at *https://www.wapa.gov/regions/DSW/Environment/Pages/Bouse-Upgrade-Project.aspx*. It provides background information, a description of the Project, its current status, contact

information, and Project documents. It also allowed visitors to submit comments on the Project via email until the comment period ended on February 17, 2021.

2.2 Letter and Mailing List

In December 2020, Environmental Planning Group (EPG), a Terracon Company, mailed a letter on WAPA's behalf announcing the virtual public open house on January 11, 2021, to 256 property owners and interested parties. WAPA provided the notification mailing list to EPG, and EPG coordinated the mailing via a direct mailing company.

The notification itself was a six-page, single-sided letter with four color maps. It was mailed via standard first-class mail on December 5, 2020. The notification also was placed on the Project website, *https://www.wapa.gov/regions/DSW/Environment/Pages/Bouse-Upgrade-Project.aspx*. The letter is included in **Appendix A.**

2.3 Newspaper Advertisement

EPG also arranged the publication of an advertisement announcing the January 11, 2021, scoping meeting in the *Parker Pioneer* newspaper on January 3, 2021. An example of the newspaper advertisement is included in **Appendix A.**

2.4 Scoping Meeting

WAPA hosted a virtual public scoping meeting via WebEx on January 11, 2021, to introduce and gather feedback on the proposed Project from the public and stakeholders impacted by the Project. The event was advertised via direct mail, newspaper advertisement, and on the Project website. The meeting was scheduled from 2 pm to 5 pm; but due to limited attendance, the meeting ended at 2:35 p.m. after multiple calls for questions or comments were made.

Attendees were greeted with an overview message by EPG's Senior Public Involvement Specialist Vanessa Yohe about how questions could be asked throughout the presentation and during the question and answer (Q&A) session using the Q&A function of WebEx and how they could raise their hand to be called on during the Q&A session. Those on the phone were notified they could send any comments or questions via email to WAPA's acting Environmental Manager Andrew Montaño at *montano@wapa.gov*.

Then WAPA's acting Vice President of Transmission Assets Martin O'Rourke introduced WAPA followed by Andrew Montaño introducing an EA and how the public could comment. Then, Project Manager Anthony Gagajewski went over the project itself followed by Andrew Montaño teeing up the Q&A session moderated by WAPA's Desert Southwest Region's Environmental Manager Sean Berry. There were no questions. Vanessa Yohe provided the virtual public scoping meeting's closing, and the meeting officially ended at 2:35 p.m.

Comments were accepted through February 17, 2021, via email directly to *montano@wapa.gov* or via the Project website, text or phone to Andrew Montaño at (720) 962-7253, or by mail to: Western Area Power Administration, Andrew Montaño, NEPA Document Manager, P.O. Box 281213, Lakewood, CO 80228-8213.

All materials from the January 2021 public scoping meeting are included in **Appendix B.**

3.0 SCOPING RESULTS

3.1 Method of Comment Collection and Analysis

WAPA collected comments about the issues that should be considered for the EA through the public scoping meeting by letters, email, and text. All comments were reviewed to identify issues or concerns. During the development of the alternatives considered in the EA, EPG and WAPA will take into consideration the issues brought forward in these comments.

3.2 Summary of Public Comments Received

WAPA received seven public comments. Three were from members of the public; three were from the same business, and one was from a Native American tribal agency, the Colorado River Indian Tribes (CRIT).

One public comment requested that alternatives being considered be south of his property on Fenton Drive. WAPA's Environmental Manager Sean Berry confirmed there are three jumper alternatives south of this address.

The two other public comments supported going with jumper alternative 7, while the business supported jumper alternatives 4-7.

CRIT had two main concerns about the Project. First, that it should be designed to better facilitate the development of solar energy projects on the reservation, and that the Project's environmental review be adequate to address potential impacts to the tribes' cultural resources.

Appendix C contains the comment table summarizing comments submitted during the public scoping process.

Appendix A: Notifications for WAPA Virtual Public Scoping Meeting for January 11, 2021

Direct Mail – 6-page, 11” x 8 ½” letter sent on December 5, 2020, to 256 property owners and stakeholders.

Department of Energy
Western Area Power Administration
P.O. Box 281213
Lakewood, CO 80228-8213

Subject: Scoping Notification Letter for Environmental Assessment for WAPA’s Bouse Upgrade Project (DOE/EA-2106)

Dear Interested Party:

Western Area Power Administration (WAPA), a power-marketing agency within the U.S. Department of Energy, invites you to provide comments and input regarding WAPA’s proposed Bouse Upgrade Project.

WAPA proposes to re-build, upgrade, and decommission components of the Parker-Davis Transmission system to improve overall system reliability, safety, and to better meet future transmission needs. The existing Parker-Headgate Rock and Parker-Bouse 161-kilovolt (kV) transmission lines, located along the Colorado River in La Paz County, Arizona and San Bernardino County, California, are part of the Parker-Davis Transmission System. The transmission lines were installed in the 1950s with wood pole H-frame structures, and many of the structures are in poor condition and difficult to access.

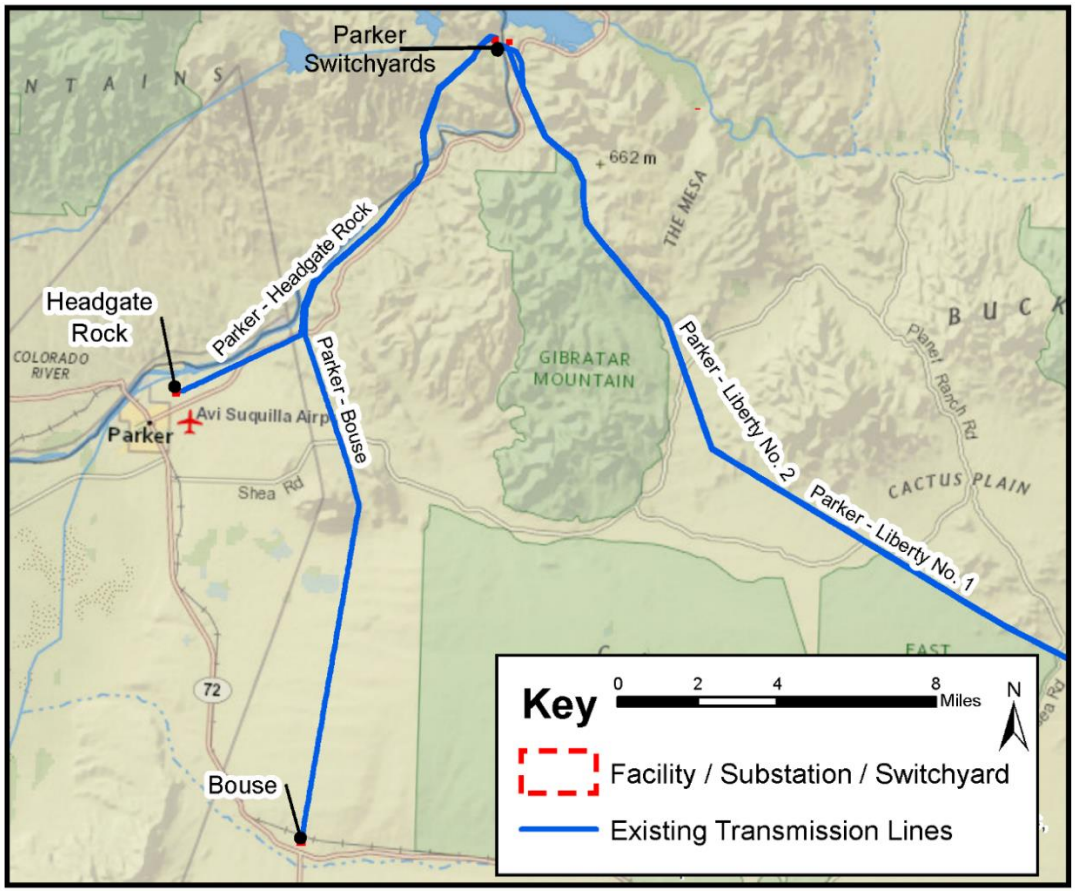


Figure 1. Existing Transmission Lines from Parker to Headgate Rock and Parker to Bouse Substations.

The proposed Project involves the four phases described below:

1. Construct an approximately 18-mile-long, new, double-circuited, 230-kV transmission line connection between the existing Bouse Substation and the existing Parker-Liberty 2 230-kV transmission line (Figure 2).

2. Expand the existing Bouse Substation by adding breakers, switches, a 230/161-kV transformer, and two 230-kV bays.

3. Connect the existing Parker-Bouse 161-kV transmission line to the Parker-Headgate Rock 161-kV transmission line, which would complete a 161-kV circuit from Bouse Substation to the Headgate Rock Substation; and

4. Decommission and remove two 10- to 13-mile-long segments of the existing Parker-Bouse and Parker-Headgate Rock 161-kV transmission lines that cross the Parker strip (Figure 3).

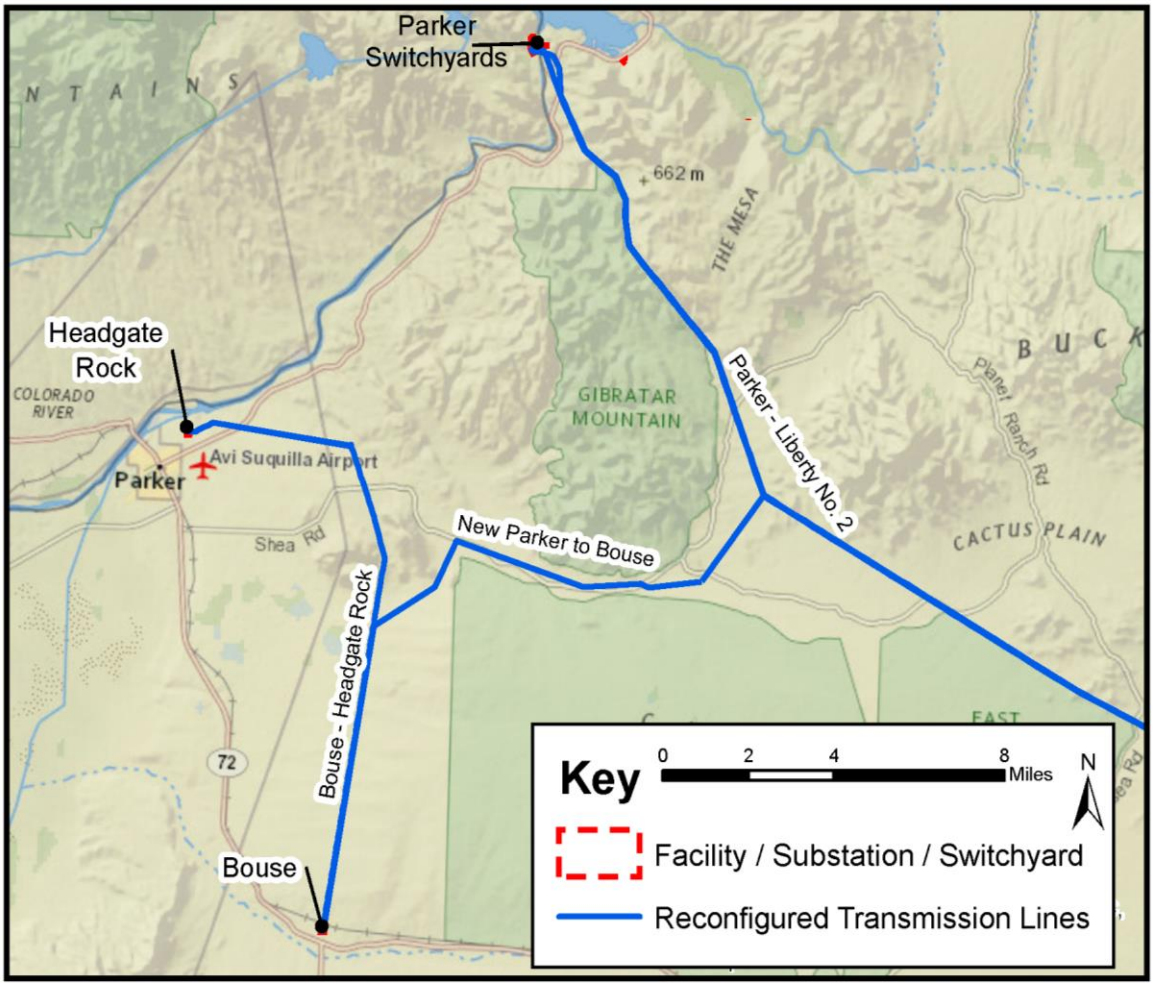


Figure 2. Reconfigured Transmission Lines from Parker to Bouse and from Bouse to Headgate Rock per Alternative 7.

Construction of a new, double-circuited, 230-kV transmission line connection between the existing Bouse Substation and the existing Parker-Liberty 2 230-kV transmission line:

To construct an approximately 18-mile-long 230-kV transmission line connection between the existing Bouse Substation and the existing Parker-Liberty 2 230-kV transmission line, WAPA would need to obtain 0.3 miles of right-of-way across land managed by the Arizona State Land Department and 18 miles of right-of-way across land managed by the Bureau of Land Management in La Paz County (Figure 2). The new line would connect at the existing Parker-Liberty 2 230-kV transmission line near the Hayden-Rhodes Aqueduct and run along or near Swansea Mine Road and Shea Road, before meeting with the existing Parker-Bouse 161-kV transmission line approximately 1.8 miles southeast of Black Peak. The line would continue south along the existing Parker-Bouse 161-kV transmission line until terminating at the Bouse Substation located 0.2 miles north of Arizona State Route 72 and Arizona State Route 95's intersection.

Connection of the existing Parker-Bouse 161-kV transmission line to the Parker-Headgate Rock 161-kV transmission line (Jumpers):

The connection of the existing Parker-Bouse 161-kV transmission line to the Parker-Headgate Rock 161-kV transmission line completes a circuit that transmits power from the Bouse Substation to the Headgate Rock Substation on the existing infrastructure. The remaining segments of the Parker-Headgate Rock and Parker-Bouse transmission lines that run north of the connection point through the Parker Strip to the Parker Substation would be deenergized.

WAPA identified the following seven alternative connection points (Jumpers) for the existing Parker-Bouse and Parker-Headgate Rock 161-kV transmission lines.

1. Alternatives 1 and 2 would run along Cienega Springs Road within the southern end of the Parker Strip, requiring approximately 0.1 miles of right-of-way across land managed by the Arizona State Land Department (ASLD) (Figure 3).

2. Alternative 3 is located south of Storage Place Road within the southern end of the Parker Strip, requiring approximately 0.1 miles of right-of-way across private land (Figure 3)

3. Alternative 4 is located west of Rio Vista Road, south of the ARS 95 overpass within the southern end of the Parker Strip, requiring approximately 0.2 miles of right-of-way across private land (Figure 3).

4. Alternative 5 is located east of Lakeside Boulevard and north of 94th Street within the southern end of the Parker Strip, requiring approximately 0.9 miles of right-of-way across private land (Figure 3).

5. Alternative 6 is located along Lakeside Boulevard and 94th Street outside the Parker Strip, requiring 0.5 miles of right-of-way across ASLD managed land and 0.6 miles of right-of-way within the Colorado River Indian Reservation (Figure 3).

6. Alternative 7 is located about a mile south of the Parker Strip terminating near the Blue Water Casino, requiring 0.3 miles of right-of-way across ASLD management land, 0.3 miles across land managed by the Bureau of Land Management, and 2.7 miles of right-of-way within the Colorado River Indian Reservation (Figure 3).

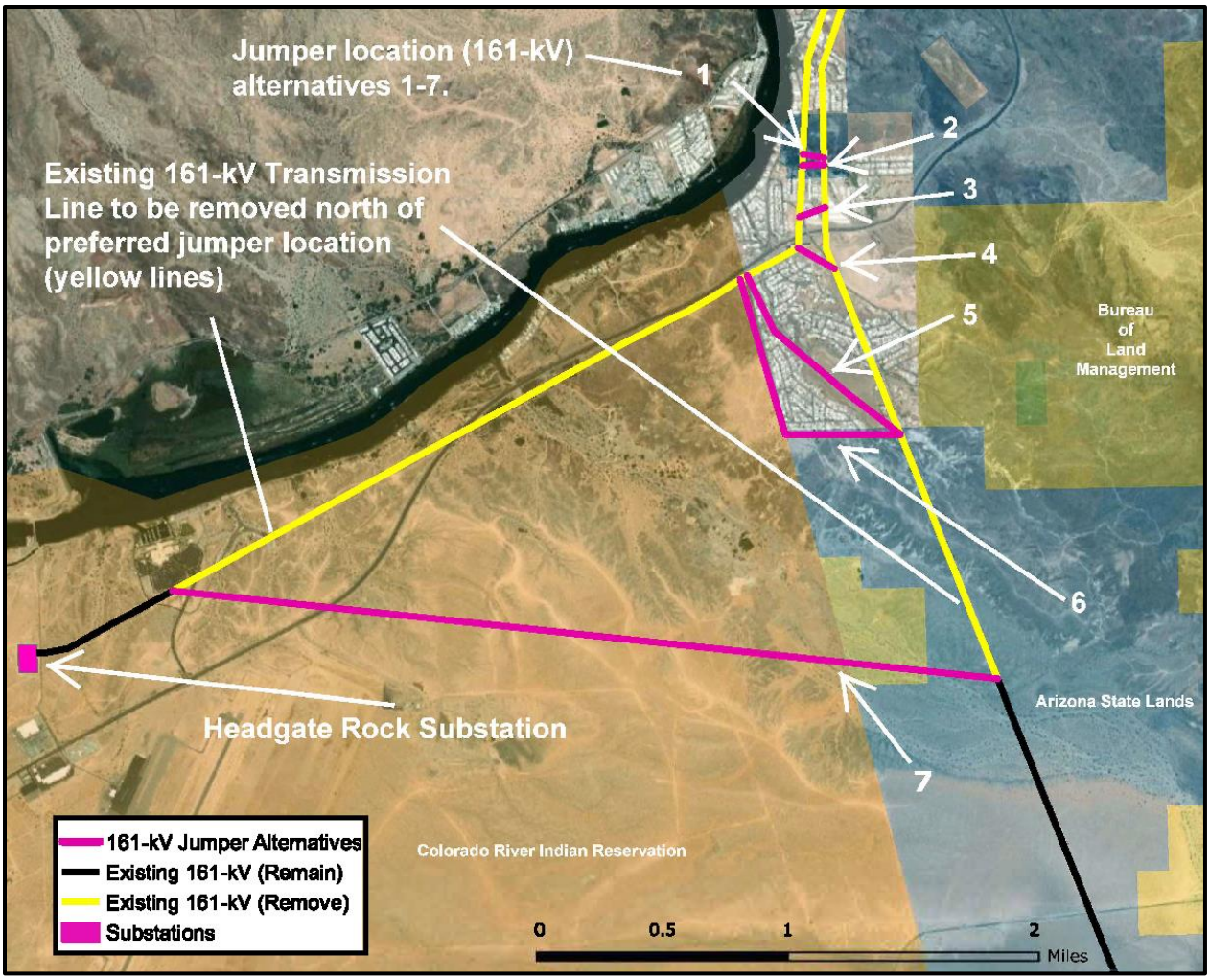


Figure 3. Connection Points (Jumpers) for the existing Parker-Bouse 161-kV transmission line to the Parker-Headgate Rock 161-kV transmission line.

Decommissioning and removal of segments of the existing Parker-Bouse and Parker-Headgate Rock 161-kV transmission lines:

Depending on the selected alternative connection point, WAPA would remove up to 13 miles of the Parker-Headgate Rock and Parker-Bouse transmission lines, traversing portions of the Colorado River Indian Reservation, the Parker Strip, private land, land managed by ASLD, land managed by the Bureau of Reclamation, land managed by the Bureau of Land Management, and the Colorado River within San Bernardino and La Paz Counties.

Your comments and input:

WAPA requests your comment regarding issues, concerns, and suggestions you may have regarding the proposed Project and alternatives. Your comments will help define issues and alternatives for consideration in the environmental review processes, including the following:

Law or Order	Environmental Processes	Public Input Sought
Clean Water Act & Executive Order 11988 Floodplain Management	WAPA will assess Project impacts, if any, to waters of the U.S., floodplains, and wetlands and comply with the requirements of applicable U.S. Army Corps of Engineers Section 404 permits.	WAPA seeks your input about floodplains and wetlands located near the Project and ways to avoid or minimize impacts.
Endangered Species Act and other Special Status Species	WAPA will serve as lead Federal agency for Section 7 consultations with the U.S. Fish and Wildlife Service. WAPA will evaluate threatened, endangered, and other special status species and their habitat that could be affected by the proposed action. WAPA will conduct a biological review of the areas impacted.	WAPA seeks your observations about the occurrence of protected species near the Project and suggestions on ways to avoid or minimize impacts to wildlife.
National Environmental Policy Act	WAPA will serve as lead Federal agency in the preparation of an Environmental Assessment of the proposed action, its alternatives, and its impacts.	WAPA seeks your comments about alternatives and environmental issues that you would like to see discussed in a Draft Environmental Assessment.
National Historic Preservation Act	WAPA will serve as the lead Federal agency for Section 106 consultations with the State Historic Preservation Officers, Indian tribes, and consulting parties. WAPA plans to conduct an archaeological survey.	WAPA seeks your suggestions about cultural resource data sources and applicable types of identification efforts.

Comments can be provided in writing (via email or U.S. Mail). Please submit your comments by **February 17, 2021**.

Mail: Western Area Power Administration
Andrew M. Montaño, NEPA Document Manager
P.O. Box 281213
Lakewood, CO 80228-8213

Email: *montano@wapa.gov*

Virtual Public Scoping Meeting:

Due to COVID-19 concerns, WAPA will be hosting a web-based virtual public scoping meeting using WebEx. This virtual public scoping meeting will be held to provide interested parties an opportunity to learn about the proposed Project, ask questions, and provide comments. The WebEx will be held on **January 11, 2021 from 2:00 pm to 5:00 pm Mountain Standard Time**. Please visit the Project website (*link below*) prior to January 11, 2021 for more information on how to access the WebEx as well as to view instructions on how to participate.

The Project website can be found at:

https://www.wapa.gov/regions/DSW/Environment/Pages/Bouse-Upgrade-Project.aspx

We look forward to receiving your comments on this proposed Project and hope that you will be able to attend the public scoping meeting.

Sincerely,

Andrew M. Montaño
Environmental Manager

Advertising – One ad in a community publication
Parker Pioneer – January 3, 2021

Western Area
Power Administration

Join us for a Virtual Public Open House

Western Area Power Administration (WAPA) is in the planning stages of upgrading the existing transmission line system along the Colorado River in the Parker area to improve service to current and future customers. The project will include decommissioning and removing portions of existing 161kV lines, upgrading existing 161kV lines and substations to 230kV, and constructing a new 230kV line in the vicinity of Parker, AZ. The proposed project addresses development in the area since the existing lines were built to improve overall service to WAPA customers while making safety and security upgrades. WAPA also will analyze the environmental impacts to resources in the proposed project area.

Members of the public and interested parties are invited and encouraged to join WAPA for a Virtual Public Open House Meeting on January 11, 2021 from 2:00 p.m. to 5:00 p.m. MST via WebEx. Attendees will learn about the current status of the project and participate in a Q&A session. Please visit the project website (*link below*) prior to January 11, 2021 for more information on how to access the WebEx link and view instructions on how to participate.

Open House:
January 11, 2021 from 2:00 pm to 5:00 pm MST

Information about the project can be found on the project website:
https://www.wapa.gov/regions/DSW/Environment/Pages/Bouse-Upgrade-Project.aspx

Opportunity to comment:
Comments about the project may be submitted by mail or email. Send comments by **February 17, 2021**.

Address:
Western Area Power Administration
Andrew Montano, Environmental Project Manager & Planner
P.O. Box 281213
Lakewood, CO 80228-8213

Email: montano@wapa.gov

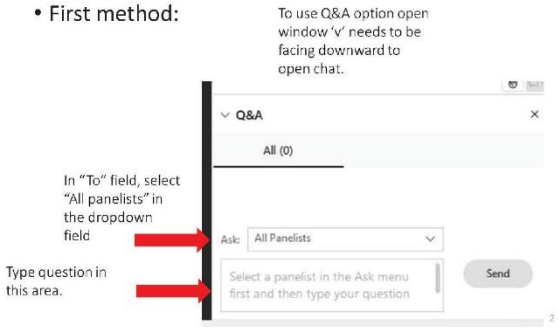
Appendix B: Scoping Meeting Materials

Bouse Upgrade Project
Environmental Assessment

Anthony Gagajewski
Project Manager, WAPA
Virtual Public Scoping Meeting, January 11, 2021

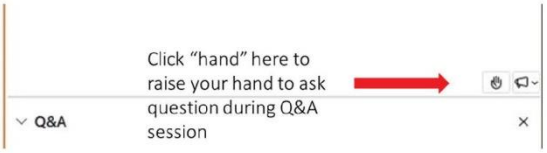
How to submit questions on WebEx

- First method:



How to submit comments on WebEx

- Second method:

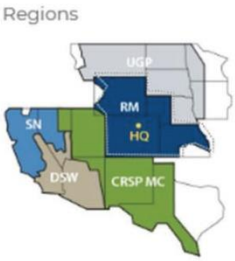


Meeting Agenda

- Introduction to WAPA
- Environmental Assessment objectives
- Topics for public comment
- Bouse Upgrade Project
- Project purpose and need
- Project description
- How to submit comments
- Q&A session
- Closing

Introduction to WAPA

- Western Area Power Administration (WAPA) is one of four power marketing administrations within U.S. Department of Energy (DOE) that market and transmit reliable, cost-based hydroelectric power.
- WAPA's service area covers a 15 state region in the central and western United States with headquarters in Lakewood, CO and 5 regions.



Introduction to WAPA

- WAPA's Desert Southwest Region delivers power to customers by operating, maintaining:
  - More than 80 substations
  - More than 3,500 miles of transmission line
- Majority of WAPA power sold is generated from power plants operated at Hoover, Parker and Davis Dams

Scoping Meeting objectives

- Gather public questions, comments about proposed project

Environmental Assessment objectives

- WAPA has determined that an Environmental Assessment (EA) would need to be prepared to evaluate the significance of potential impacts resulting from proposed project
- Council on Environmental Quality (CEQ) regulations provide guidance on the preparation of EA and define significance

Environmental Assessment objectives

- National Environmental Policy Act (NEPA) of 1969
- Provides interested public, agencies opportunity early in planning process to:
  - Provide input
  - Identify issues
  - Offer solutions
- WAPA is lead agency for this EA
- Bureau of Land Management (BLM) is cooperating agency

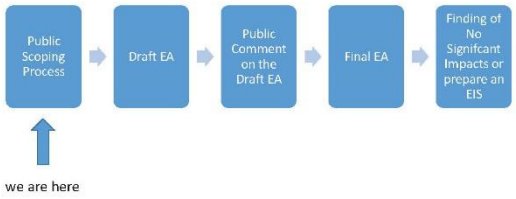
Environmental Assessment objectives

- What is included in EA:
  - Need for proposed project
  - Alternatives considered
  - Environmental impacts of each alternative
  - Findings – determine if there is significant impact

Some environmental resources considered in EA

- Air Quality/Climate Change
- Cultural and Paleontological Resources
- Environmental Justice
- Farmlands – Prime or Unique
- Floodplains
- Land Use
- Migratory Birds
- Minerals
- Native American Religious Concerns
- Noise and Sensitive Receptors
- Recreation
- Public Health and Safety
- Socioeconomic
- Soils
- Threatened or Endangered Species
- Travel Management
- Vegetation
- Visual Resources
- Wastes – Hazardous or Solid
- Water Quality – Drinking or Ground
- Weeds – Invasive and Non-native
- Wetlands/Riparian Zones
- Wild and Scenic Rivers
- Wild Horses/Burros
- Wilderness
- Wildlife

Environmental Assessment process overview



Topics for public comment

- Input about floodplains, wetlands located near project, ways to avoid/minimize impacts
- Observances about occurrence of protected species near project
- Suggestions on way to avoid/minimize impacts to wildlife
- Comments about alternatives, environmental issues to be discussed in Draft Environmental Assessment
- Suggestions about cultural resource data sources, applicable types of identification

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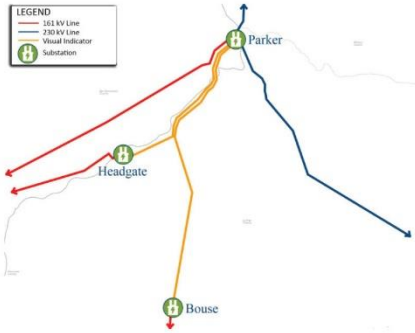
Bouse Upgrade Project



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Bouse Upgrade Project

- Purpose and need:
  - Parker-Bouse and Parker-Headgate Rock 161-kV Transmission lines are beyond their service lives and in a state of disrepair.
  - Reliability of transmission service will be compromised without mitigation.
  - Maintain public safety, reduce risk
- Objective
  - Mitigate the maintenance and safety issues surrounding the Parker-Bouse and Parker-Headgate Rock transmission lines.

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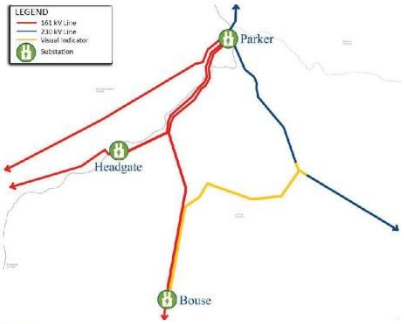
Phase 1

- Construct new double circuit, 230-kV transmission line between Bouse Substation, Parker-Liberty #2 230-kV line



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Phase 2

- Expand existing Bouse Substation by adding:
  - Breakers
  - Switches
  - 230/161-kV transformer
  - Two 230-kV bays

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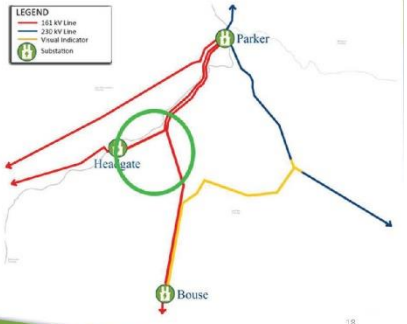
Phase 3

- Connect Parker-Bouse 161-kV transmission line to Parker-Headgate Rock 161-kV line to complete 161-kV circuit from Bouse Substation to Headgate Rock Substation



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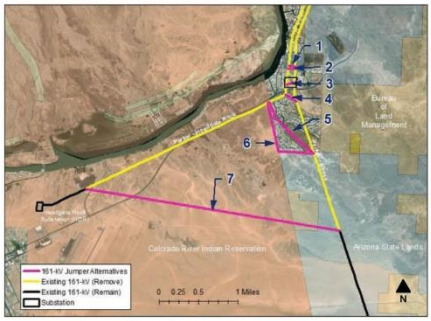
All Jumper Alternatives



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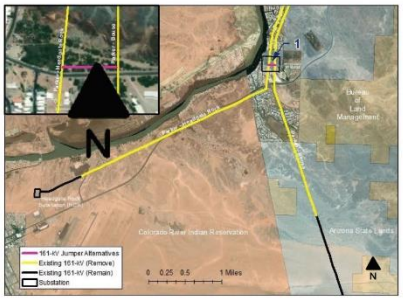
Jumper Alternative 1

- Runs along Cienega Springs Road with southern end of Parker Strip
- Requires approximately 0.1 miles of ROW across Arizona State Trust Land



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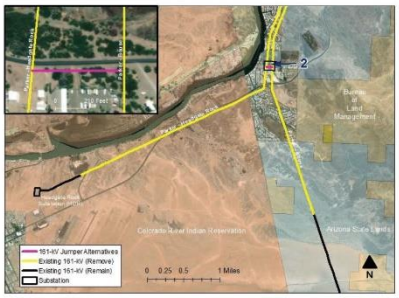
Jumper Alternative 2

- Runs along Cienega Springs Road with southern end of Parker Strip
- Requires approximately 0.1 miles of ROW across land managed by Arizona State Trust Land



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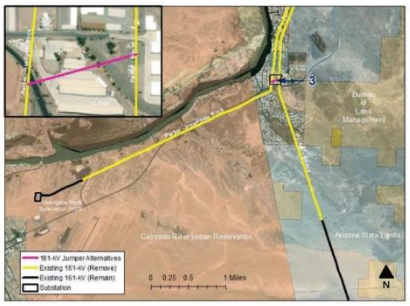
Jumper Alternative 3

- Located south of Storage Place Road within southern end of Parker Strip
- Requires approximately 0.1 miles of ROW across private land



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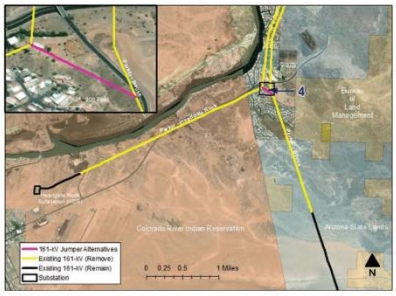
Jumper Alternative 4

- Located west of Rio Vista Road, south of State Route 95 overpass within southern end of Parker Strip
- Requires approximately 0.2 miles of ROW across private land



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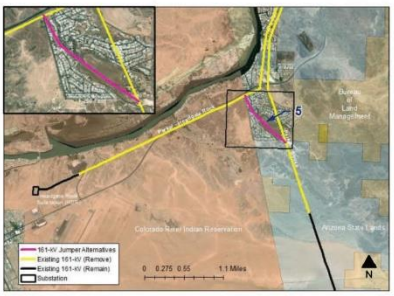
Jumper Alternative 5

- Located east of Lakeside Boulevard, north of 94th Street within southern end of Parker Strip
- Requires approximately 0.9 miles of ROW on private land



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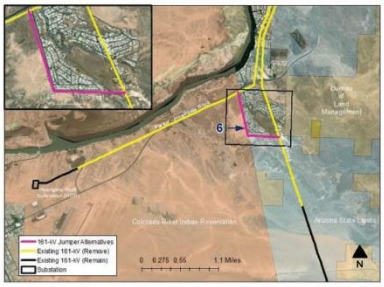
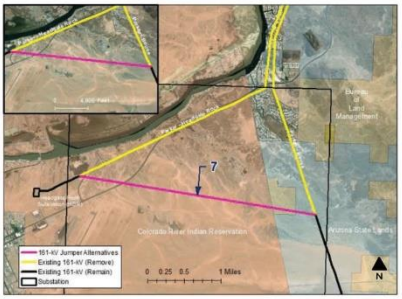
Jumper Alternative 6

- Located along Lakeside Boulevard, 94th Strip
- Requires 0.5 miles of ROW across Arizona State Trust Land
- Requires 0.6 miles of ROW within Colorado River Indian Reservation



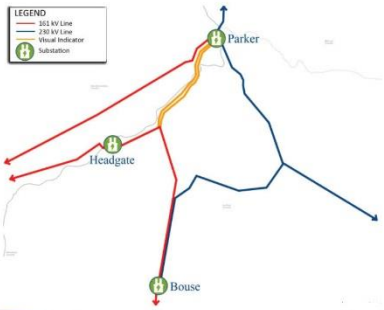
Jumper Alternative 7

- Located about a mile south of Parker Strip
- Terminates near Blue Water Casino
- Requires 0.3 miles of ROW across Arizona State Trust Land
- Requires 0.3 miles across BLM-managed land
- Requires 2.7 miles of ROW within Colorado River Indian Reservation



Redundant Transmission Lines

- With this new path, the Parker-Headgate and Parker-Bouse transmission lines would no longer be needed

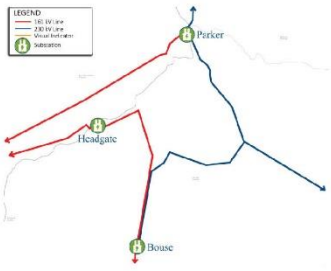


Phase 4

- WAPA would remove up to 13 miles of Parker-Headgate Rock and Parker-Bouse transmission lines depending on alternative connection point selected

Phase 4

- The Parker-Headgate and Parker-Bouse lines could be removed up to the point of interconnection between Bouse and Headgate Rock
- This removes the line from a major portion of the strip in Parker



How to submit public comments

- Public comments accepted via:
  - Email: montano@wapa.gov
  - Snail mail:
    Western Area Power Administration
    Andrew M. Montaño, NEPA Document Manager
    P.O. Box 281213
    Lakewood, CO 80228-8213
- Deadline: **February 17, 2021**
- Project website available at:
  https://www.wapa.gov/regions/DSW/Environment/Pages/Bouse-Upgrade-Project.aspx

Q&A session

- After meeting, email: montano@wapa.gov with questions, comments

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Thank you!

- Public comments, questions accepted via:
  - Email: montano@wapa.gov
  - Snail mail:
    Western Area Power Administration
    Andrew M. Montaño, NEPA Document Manager
    P.O. Box 281213
    Lakewood, CO 80228-8213
- Deadline: **February 17, 2021**
- Project website available at:

https://www.wapa.gov/regions/DSW/Environment/Pages/Bouse-Upgrade-Project.aspx

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Appendix C: Scoping Comments Table

Number	Date Received	Actual Comment	Notes
1	1/8/2021	WAPA's Sean Berry received a call from a gentleman who would prefer alternatives south of his residence at/near Crow's Street. Sean Berry believes three alternatives are south of this address.	Email forwarded from Sean Berry. Sean spoke with Robert on the phone. Sean emailed synopsis of conversation.
2	1/11/2021	Reference: Scoping Notification Letter for Environmental Assessment for WAPA's Bouse Upgrade Project (DOE/EA-2106). Dear WAPA Administration, I have received the above referenced letter and would like to submit some feedback regarding the potential impact on its environmental and economic impact. First let me say I applaud your proposal to improve the electrical transmission within the La Paz county area. As you point out, the existing lines are very old and have wooden pole structures. These may now be dangerous to the environment, for example in terms of potential fire hazard and power outages. I believe that alternatives 1 to 6 have greater potential for these hazards than alternative 7 by installing lines near private property having flammable structures and propane, natural gas and gasoline storage. Yes, new poles would mitigate much of this danger, but we are talking about a very long term solution with potential for future problems. It seems best to completely remove the lines by using alternative 7. This would also have the advantage of increasing the revenue potential for La Paz County in the Parker Strip as development would not be hampered by easements and related regulations. It is very heartening to learn about the worthwhile project and I look forward to its completion.	US Mail
3	1/11/2021	First text: "I can hear you but no visual." Response: "Correct. Those who called in on the phone could only hear the presentation but not see it." Second text: "I was on my pc. Very nice presentation. I surely hope you choose number 7 as it appears to be far away from any civilization. Thank you." Response: "Thank you! We appreciate your comment. Can you provide me with your name so I can capture your recommendation of option 7? Thanks. If you have any other comments, please email them to me at montano@wapa.gov. We appreciate your taking the time to attend today's meeting." Third and final text: " I own property on Rio Vista Road on the Parker strip consisting of 16 acres." Response: "Thank you so much!"	Comments sent via text message during and after public scoping meeting.
4	1/11/2021	Hello, We were unable to attend the online meeting. Is there somewhere we can go see or hear the transcripts of today's online meant?	Email. Response: Good afternoon. We are sorry to hear that you could not attend today's meeting. The meeting was not recorded, so there are no transcripts to share. If you have questions/comments pertaining to the Environmental Review process, the Environmental Assessment document that we'll be preparing to analyze the potential impacts from the project, or anything else related to the environment, please send me your questions/comments to *montano@wapa.gov*, or via US Mail to: Andrew M. Montaño, NEPA Document Manager, Western Area Power Administration, HQ, P.O. Box 281213, Lakewood, CO 80228. You can also call me at the numbers listed below. If you need assistance making sense of our project maps that were included in the scoping letter, or if you need someone to better explain to you what we are proposing to do as part of the Bouse Upgrade Project, please contact Anthony Gagajewski at 602-605-2629 or by email at *gagajewski@wapa.gov*. I plan on updating the project webpage tomorrow to remove our public meeting info. from the page and to update the public as to our next steps in this environmental review. Please check out the webpage tomorrow to get that information: *https://www.wapa.gov/regions/DSW/Environment/Pages/ Bouse-Upgrade-Project.aspx*. Thank you for your interest in the Bouse Upgrade Project. Andrew
5	1/11/2021	Hello, I just didn't know if we were going to have a chance to give any input or vote. It would be great if option, 4, 5, 6, or 7 would work rather than seeing the lines cross the highway. But any option at this point would be celebrated if we could keep the lines from running up river and crossing all of the high value property along the river. We are extremely eager to hear of any developments on this project, please let us know if we can sign up for anything to be kept informed?	Email. Response: Understood. There's no voting, but we are open to hearing your comments. It sounds like you prefer the options that move the line crossings away from residential areas, correct? I'm attaching a map of our 7 jumper alternative areas. It sounds like you prefer options 4-7. To assist on how to best read the map I've attached, and with respect to the two yellow lines indicated on the map, say theoretically if we were to choose option 6 as our final option, then both of the yellow lines (left/right) north of option 6 would be removed. The same is true if we were to choose option 7 as our final option, theoretically, that is: then both of the yellow lines (left/right) would be removed north of option 7. We will not know which option is ultimately chosen until we hear from the public and other interested parties as to what their preference is. This will be known something during the environmental review process. It also sounds like you received a Scoping Letter from us, too. If so, you're already on our mailing list. We'll be sending out another letter once we have prepared and released the Draft Environmental Assessment, which I expect sometime later this year. You can also continue to keep check out our project website, too, for the latest information. Thank you, Andrew

Number	Date Received	Actual Comment	Notes
6	1/11/2021	Yes we did receive the scoping letter, and we prefer option 7-4 to keep lines further from the upriver area. Thank you we look forward to hearing more about the options to move forward.	No email response back.
7	2/18/2021	Colorado River Indian River Tribes (CRIT) Chairwoman Amelia Flores sent a 10-page letter. The first four pages references the project and the additional six pages outlined CRIT's "Government-to-Government Consultation Policy of the Colorado River Indian Tribes." As Ms. Flores points out in her letter, WAPA has not recognized this policy so any communication between the organization is for informational purposes only. However, Ms. Flores requested that WAPA acknowlege CRIT's policy. As outlined in Ms. Flores's letter, CRIT engaged an outside transmission expert to assess the proposed project, which resulted in the Tribes comments and requests. This include designing the project to better facilitate development of on-Reservation solar energy projects. To do this the tribes would like to see the 161kV line between Park and Headgate Rock maintained and not decommissioned. They would like information on the full rating of the new 230kV line and the interconnection service level at the Bouse Substation. They would like information about the anticipated MW ratings of the lines once rebuilds are complete, and rebuild timings for planned or considred upgrades for nearby 161kV system lines for Parker-Blythe, Headgate-Blythe and Bouse. CRIT would like to know the anticipated incremental level of Available Transmission Capacity (ATC) from Bouse to Parker and Bouse to Liberty with the new 230kV line. The group indicates that WAPA's interconnection queue shows a 160 MW Solar project (G42) and they would like to know whether this project's updates are required because of G42. They would also like to know whether the G42 project will limit interconnection capability at the Headgate or Bouse substations. CRIT would like to know an estimated interconnection capability of both Headgate Rock and Bouse substations before and after the proposed project. CRIT's second concern is that the project's Environmental Review adequately address potential cultural resources impacts. According to the belief system of CRIT's Mohave members, disturbance of any cultural resources and artifacts of their ancestors is taboo and considered a severe cultural harm. CRIT is concerned about the unearthing particularly of prehistoric archeological resources and impacts to other cultural resources. When preparing EISs and EIRs, CRIT would like to expand the definitions to include viewsheds and landscapes, plants and animals used in and/or central to cultural and religious practices and creations stories, spirtual connection and religious and customary practices (e.g., hunting and gathering, religious ceremonies, and ancient trails). By expaning the definition of cultural resources for this project, WAPA will ensure the impacts to a host of important tangible and intangilble resources to the tribes are properly considered. CRIT would like WAPA to consider doing a full Environmental Impact Statement (EIS) instead of only an EA because the project is cited on Tribal members' ancestral territory and that other nearby projects have had significant cultural resource impacts and it is likely that this project will have significant cultural resource impacts as well. They are also concerned about archeological resources such as creamation sites and other artifacts including groundstones, ceramics and lithics. Therefore CRIT would like all cultural resources surveyed, inventoried and evaluated in a manner that does no harm to the resources or removes them from the site prior to the preparaiton of the EA or EIS. CRIT would also like WAPA to ensure other mitigation measures are developed to protect cultural resources. This could include using tribal monitors during all activities that could potenially impact cultural resources including, but not limited to mowing, grading and excavation.	

Appendix B. Visual Resources Contrast Rating Sheets

Form 8400-4
(June 2018)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: March 21, 2021
District Office:
Field Office: Lake Havasu Field Office
Land Use Planning Area: Colorado River

SECTION A PROJECT INFORMATION

1. Project Name: Bouse Upgrade Project EA
2. Key Observation Point (KOP) Name: KOP 1 – Shea Road/Osborn Wash (230 kV Component)
3. VRM Class at Project Location: III & IV (upon inspection at a project level along with field verification, the scenic quality of this area is more accurately classified as scenic quality C.)
4. KOP Location (T.R.S.)
(Lat. Long.)
34°7'46.62"N 114°10'9.69"W
5. Location Sketch

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat to rolling terrain	Low, irregular, simple, sparse	Very few
LINE	Horizontal and diagonal	Diffuse edge	Thin, vertical
COLOR	Foreground: light tan with flecks of gray Background: dark brown	Olive green, orange-tan	Dark brown, wood
TEX-TURE	Smooth, sandy, no visible water	Foreground: medium to fine-textured rounded shrubs Middleground: smooth, dense, carpet-like vegetative layer Background: Smooth, fine	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat	Linear forms created by clearing	Geometric, linear sequence of monopole transmission structures
LINE	Horizontal and curved	Line created by edge of clearings and graded access road following contours	Prominent vertical structures
COLOR	Lighter soils exposed where areas cleared of vegetation for installation of new structures and construction of access roads.	No change	Metallic conductors, galvanized steel gray tower structures
TEX-TURE	No change	No change	New 230 kV transmission structures increase coarse texture.

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM			X			X				X		
	LINE		X				X			X			
	COLOR			X				X			X		
	TEXTURE			X				X				X	

2. Does project design meet visual resource management objectives? ☒Yes ☐No (Explain on reverse side)

3. Additional mitigation measures recommended ☒Yes ☐No (Explain on reverse side)

Evaluator's Names	Date
Teresa O'Neil	June 5, 2021

(Continued on Page 2)

Comments from item 2.

Distance. KOP 1 is less than 0.2 miles west of the New 230 kV component of the Proposed Action. The Proposed Action crosses into the view heading north to Shea Road where it heads southeast along the road.

Angle of Observation. KOP 1 is at a horizontal observational angle to the Proposed Action.

Length of Time the Project is in View. The Proposed Action would be viewed for up to 5 miles as it parallels and then crosses Shea Road.

Relative Size or Scale. The relative size of the structures would be taller than anything existing in the view. Because of the relative size of the structures when compared to the setting, and the proximity to KOP 1, the Proposed Action would result in strong contrast.

Season of Use. There would be few changes to scenery across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be greater contrast where the structures are back lit.

Recovery time. Restoration of vegetation can take several years to complete. Vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place because of the distance from KOP 1 and the small scale of vegetation

Spatial Relationship. The landscape in the foreground is open graded landscape with sparse patches of desert vegetation. There are mountains in the background. The Proposed Action's structures and conductors are in the foreground and would be visible against the sky, creating new contrast within the existing landscape.

Atmospheric Conditions. Changes in atmospheric conditions are not expected to contribute to changes in contrast. However, during times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the new 230 kV structures as they are farther from KOP 1.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along the Proposed Action's alignment would attract more attention to the Project. During operation, the structures would be static.

Photo 1 The component of the Proposed Action seen from KOP 1 is located on BLM lands.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- Incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Locate new access roads parallel to contours of landform wherever feasible.
- Do not apply paint or permanent discoloring agents to rocks or vegetation to indicate survey or construction activity limits. Surveyors, flagging, or other suitable materials should be used to delineate limits.
- In construction areas where excavation is not required, leave vegetation in place wherever possible and maintain the original contours in an undisturbed condition.

Form 8400-4
(June 2018)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: March 21, 2021
District Office:
Field Office: Lake Havasu Field Office
Land Use Planning Area: Colorado River

SECTION A PROJECT INFORMATION

1. Project Name: Bouse Upgrade Project EA

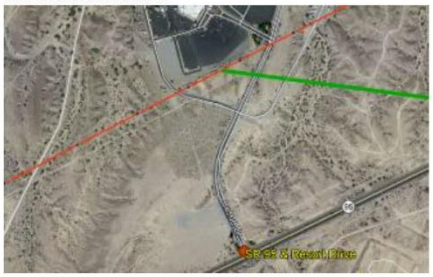
2. Key Observation Point (KOP) Name: KOP 2 – SR 95 and Resort Drive (161 kV Connection Option)

3. VRM Class at Project Location: NA, passes through non-BLM land

4. KOP Location (T.R.S.)

(Lat. Long.)
34°9'36.06"N 114°16'0.45"W

5. Location Sketch



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat to rolling terrain	Mostly low, irregular, simple, with some tall palm trees	Geometric, tall, narrow, curved road forms, blocky, complex
LINE	Horizontal and diagonal	Irregular	Vertical, horizontal, curved roads, rectilinear
COLOR	Foreground: light tan with flecks of gray Background: dark brown	Olive green, orange-tan	Full range of colors
TEX-TURE	Smooth, sandy, no visible water	Scattered, stippled, sparse	Random, ordered, clumped

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	No change	Area created by edge of clearings	Same with more pronounced structures in middleground
LINE	No change	Line created by edge of clearings	Same with a few more pronounced vertical lines in the middleground
COLOR	Lighter soils exposed where areas cleared of vegetation for installation of new structures	No change	Same
TEX-TURE	No change	No change	Negligible change in texture.

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1) STRONG	MODERATE	WEAK	NONE	VEGETATION (2) STRONG	MODERATE	WEAK	NONE	STRUCTURES (3) STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM			X			X					X	
	LINE			X			X				X		
	COLOR			X				X				X	
	TEXTURE			X				X				X	

2. Does project design meet visual resource management objectives? ☒Yes ☐No (Explain on reverse side)

3. Additional mitigation measures recommended ☒Yes ☐No (Explain on reverse side)

Evaluator's Names	Date
Teresa O'Neil	June 5, 2021

(Continued on Page 2)

SECTION D. (Continued)

Comments from item 2.

Distance. KOP 2 is approximately 0.3 miles south of connection Option 7. The Proposed Action crosses into the view heading east, from the point along the existing Parker-Bouse transmission line near the BlueWater Resort and Casino and the Avi Suquilla Airport.

Angle of Observation. KOP 2 is at a horizontal observational angle to the Proposed Action.

Length of Time the Project is in View. The Proposed Action would be viewed for up to 3 miles as it traverses the northern section of the CRIT reservation within ¼ mile of the Avi Suquilla Airport.

Relative Size or Scale. The relative size of the structures would be similar to the existing 161 kV H-frame structures that can be viewed along SR 95 near KOP 2. The conductors and structures are similar in form, line, and scale but different in color and texture as the proposed connection option, which would be steel instead of wood. Connection Option 7 would introduce similar structures to those existing in the setting but alter the location as connection Option 7 allows for removal of the greatest length of existing transmission lines out of all of the connection options. Connection Option 7 would eliminate the following:

- one of the two Parker-Headgate Rock transmission line crossings of SR 95
- the Parker-Bouse transmission line crossing of SR 95
- approximately 8-miles of the Parker-Headgate Rock and Parker-Bouse transmission lines paralleling SR 95,
- nearly 4 miles of the Parker-Headgate Rock and Parker-Bouse transmission lines that traverse residential development within the communities of Cienega Springs and Parker Strip

Season of Use. There would be few changes to scenery across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be greater contrast where the structures are back lit.

Recovery time. No vegetation clearing around the work areas would be expected because of the dominance of paved surfaces. Overall, project contrasts and impacts would be moderate .

Spatial Relationship. The landscape in the foreground is road surface and gravely sandy roadside with sparse patches of desert vegetation and wide open views to adjacent terrain. There are mountains in the background. The Proposed Action's structures and conductors are in the foreground and would be visible against the sky creating new contrast within the existing landscape.

Atmospheric Conditions. Changes in atmospheric conditions are not expected to contribute to changes in contrast. However, during times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the jumper connection as they are farther from KOP 2.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along the Proposed Action's alignment would attract more attention to the project. During operation, the structures would be static.

Photo 1 The component of the Proposed Action seen from KOP 2 is located on tribal (non-BLM lands).

SECTION D. (Continued)

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- Incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Locate new access roads parallel to contours of landform wherever feasible.
- Do not apply paint or permanent discoloring agents to rocks or vegetation to indicate survey or construction activity limits. Surveyors, flagging, or other suitable materials should be used to delineate limits.
- In construction areas where excavation is not required, leave vegetation in place wherever possible and maintain the original contours in an undisturbed condition.

Form 8400-4
(June 2018)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: March 21, 2021
District Office:
Field Office: Lake Havasu Field Office
Land Use Planning Area: Colorado River

SECTION A PROJECT INFORMATION

1. Project Name: Bouse Upgrade Project EA
2. Key Observation Point (KOP) Name: KOP 3 – Cienega Springs (Connection Options)
3. VRM Class at Project Location: NA, passes through non-BLM land
4. KOP Location (T.R.S.)
(Lat. Long.) 34°10'47.34"N 114°13'21.12"W
5. Location Sketch

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat to rolling terrain	Low, irregular, simple, sparse	Rectangular (buildings) tall, geometric, linear sequence of H-frame transmission structures
LINE	Horizontal and diagonal	Irregular	Straight (buildings) Tall, parallel, straight (H-frame transmission structures)
COLOR	Foreground: light tan with flecks of gray Background: dark brown	Olive green, orange-tan	Beige, white (buildings) Dark brown (H-frame transmission structures
TEX-TURE	Smooth, sandy, no visible water	Foreground: medium to fine-textured rounded shrubs Middleground: smooth, dense, carpet-like vegetative layer Background: Smooth, fine	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	No change	No change	Geometric, linear sequence of monopole transmission structures
LINE	No change	No change	Prominent vertical structures
COLOR	Lighter soils exposed where areas cleared of vegetation for installation of new structures and construction of access roads.	No change	Metallic conductors, galvanized steel gray tower structures
TEX-TURE	No change	No change	Negligible change in texture.

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM			X			X					X	
	LINE		X				X				X		
	COLOR			X				X			X		
	TEXTURE			X				X				X	

2. Does project design meet visual resource management objectives? ☒Yes ☐No (Explain on reverse side)

3. Additional mitigation measures recommended ☒Yes ☐No (Explain on reverse side)

Evaluator's Names	Date
Teresa O'Neil	June 6, 2021

(Continued on Page 2)

Comments from item 2.

Distance. KOP 3 is located between the existing Parker-Headgate Rock (to the west) and Parker-Bouse (to the east) transmission lines and is located between connection option #4 (to the north) and #5 (to the south). The existing and the proposed facilities are close to KOP 3, approximately 0.2 miles at their nearest point.

Angle of Observation. KOP 3 is at a horizontal observational angle to the Proposed Action.

Length of Time the Project is in View. The Proposed Action would be viewed for up to 5 miles as it parallels and then crosses Shea Road.

Relative Size or Scale. The relative size of the structures would be taller than anything existing in the view. Because of the relative size of the structures when compared to the setting, and the proximity to KOP 3, the Proposed Action would result in strong contrast.

Season of Use. There would be few changes to scenery across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be greater contrast where the structures are back lit.

Recovery Time. No vegetation clearing around the work areas would be expected because of the dominance of paved surfaces. Restoration of vegetation can take several years to complete. Despite this, in areas were vegetation clearing would occur, weak contrast is anticipated due to the small scale of vegetation.

Spatial Relationship. The landscape is composed of dramatically rolling terrain and desert scrub vegetation. There are mountains in the background. The existing structures and conductors are in the foreground and middle ground are visible against the sky creating new contrast within the existing landscape.

Atmospheric Conditions. Changes in atmospheric conditions are not expected to contribute to changes in contrast. However, during times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the new 230 kV structures as they are farther from KOP 3.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along the Proposed Action's alignment would attract more attention to the Project. During operation, the structures would be static.

Photo 1 The component of the Proposed Action seen from KOP 3 is located on BLM lands.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- Incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Locate new access roads parallel to contours of landform wherever feasible.
- Do not apply paint or permanent discoloring agents to rocks or vegetation to indicate survey or construction activity limits. Surveyors, flagging, or other suitable materials should be used to delineate limits.
- In construction areas where excavation is not required, leave vegetation in place wherever possible and maintain the original contours in an undisturbed condition.

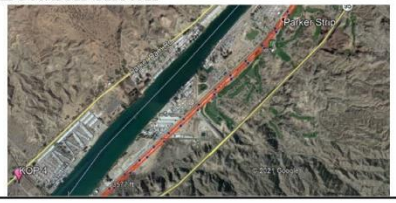
Form 8400-4
(June 2018)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: March 21, 2021
District Office:
Field Office: Lake Havasu Field Office
Land Use Planning Area: Colorado River

SECTION A PROJECT INFORMATION

1. Project Name: Bouse Upgrade Project EA
2. Key Observation Point (KOP) Name: KOP 4 – Parker Strip (Decommission Segments)
3. VRM Class at Project Location: II and II (also on non-BLM lands)
4. KOP Location (T.R.S.)
(Lat. Long.) 34°12'43.05"N 114°13'1.43"W
5. Location Sketch



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rounded, smooth, simple, irregular; choppy water surface	Sparse, tall, columnar (trees), low patchy grasses	Square, triangular, rectangular (buildings) Low, flat, geometric (deck/pier) Thin, narrow (skylined utility poles most evident)
LINE	Diagonal	Columnar, spherical	Straight, horizontal, vertical, and angular (buildings) Straight, horizontal (deck/pier) Thin, narrow (utility pole)
COLOR	Dark brown, tan	Foreground: dark green Background: tans and browns, some green	White, salmon, brown (buildings) Brown (utility pole)
TEX-TURE	Smooth	Foreground: rough, coarse (trees) Background: Smooth, fine	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	No change	No change	Reduced geometric, linear sequence, from the removal of the existing H-frame structures
LINE	No change	No change	Reduced vertical lines prominently skylined above residential development
COLOR	Lighter soils exposed where areas cleared of vegetation for installation of new structures	No change	Reduced color contrast from removal of skylined structures
TEX-TURE	No change	No change	No change

SECTION D. CONTRAST RATING ☒ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM			X				X					X
	LINE			X				X					X
	COLOR			X				X					X
	TEXTURE			X				X					X

2. Does project design meet visual resource management objectives? ☒Yes ☐No (Explain on reverse side)

3. Additional mitigation measures recommended ☐Yes ☒No (Explain on reverse side)

Evaluator's Names	Date
Teresa O'Neil	June 6, 2021

(Continued on Page 2)

Comments from item 2.

Distance. KOP 4 is approximately 0.25 miles west of the decommission segment of the Proposed Action. The Proposed Action crosses into the view heading northeast along Riverside Drive toward the Parker-Dam substation.

Angle of Observation. KOP 4 is located at the shoreline of the Colorado River while the Parker-Headgate Rock and Parker-Bouse transmission lines are along the ridgeline defining the eastern edge of the Colorado River. The observational angle is inferior to the Proposed Action, further highlighting the skylined effect of the existing transmission lines.

Length of Time the Project is in View. The Proposed Action would be viewed for up to 5 miles as it parallels Riverside Drive on the Arizona side of the Colorado River.

Relative Size or Scale. While KOP 4 has views of a substantially developed landscape, the existing structures to be decommissioned are skylined along the ridgeline defining the Colorado River and contribute to visual clutter and degradation of the local view.

Season of Use. There would be few changes to scenery across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year.

Recovery Time. Restoration of vegetation can take several years to complete. Because of the angle of observation, disturbance to vegetation is not anticipated to be visible from KOP 4.

Spatial Relationship. The landscape in the foreground is shoreline and water. Views are somewhat constrained by the ridgelines of the Colorado River. The existing transmission lines' structures are in the foreground and are visible against the sky, creating strong contrast within the existing landscape. Decommissioning of these transmission lines would reduce the amount of visual contrast in the existing setting.

Atmospheric Conditions. Changes in atmospheric conditions are not expected to contribute to changes in benefit from decommissioning the existing transmission lines.

Motion. On windy days, the water of the Colorado River provides motion within the landscape. In the short term, motion associated with construction equipment and decommissioning of existing structures along the existing alignment would attract some attention.

Photo 1 The Decommission Segment of the Proposed Action seen from KOP 4, which is located on BLM lands.

Additional Mitigating Measures (See item 3)