U.S. Department of the Interior

The Bureau of Land Management

Grand Canyon West 69kV Interconnection Project

ENVIRONMENTAL ASSESSMENT

DOI-BLM-AZ-C010-2021-0020-EA

Serial Numbers: AZA 037402 (69kV power line), AZA 037402A (temporary construction areas) and AZA 038310 (fiber-optic line)

County: Mohave

Applicant: Hualapai Tribal Utility Authority, Hualapai Tribe
941 Hualapai Way, Peach Springs, AZ

Lands Description		
Township (North)	**Range (West)**	**Sections**
27	16	4, 7, 8, 9
	17	7, 8, 9, 10, 11, 12, 17, 18, 19
	18	13, 23, 24
28	15	3, 10, 11, 14, 15, 19, 20, 21, 22, 30, 31
	16	33, 34, 35, 36
29	15	2, 3, 9, 10, 16, 21, 22, 27, 28, 33, 34
30	14	19, 30
	15	25, 35, 36

U.S. Department of the Interior
Bureau of Land Management
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Kingman Field Office
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Grand Canyon West 69KV Interconnection Project

Table of Contents

List of Acronyms

ACEC - Area of Critical Environmental Concern
ARPA – Archaeological Resources Protection Act
AZGFD - Arizona Game and Fish Department
BLM - Bureau of Land Management
BMP - Best Management Practices
CFR - Code of Federal Regulations
CGP - Construction General Permit
DOI - Department of Interior
EA – Environmental Assessment
EIS - Environmental Impact Statement
FLPMA - Federal Land Policy and Management Act
FWS – U.S. Fish and Wildlife Service
GCW - Grand Canyon West
ha – hectares
HECG - High Energy Cost Grant
HERC - Hualapai Environmental Review Code
HTUA - Hualapai Tribal Utility Authority
IDT - Interdisciplinary Team
KFO – Kingman Field Office
km - kilometers
KOP - Key Observation Point
kV – kilovolt
KWh - kilowatt hour
m - meters
MEC - Mohave Electric Cooperative
NAGPRA - Native American Graves Protection and Repatriation Act
NEPA - National Environmental Policy Act
NHPA - National Historic Preservation Act
NRHP - National Register of Historic Places
NPDES - National Pollutant Discharge Elimination System

POD - Plan of Development

RMP - Resource Management Plan

RPM – Resource Protection Measures

ROW – Right-of-Way

RUS - Rural Utilities Service

SWPPP - Stormwater Pollution Prevention Plan

TERO - Tribal Employment Rights Office

THPO - Tribal Historic Preservation Officer

UES - UniSource Energy Services

USC - U.S. Code

USDA - U.S. Department of Agriculture

VMP - Vegetation Management Plan

VRM - Visual Resource Management

Chapter 1. Introduction

1.1 Identifying Information

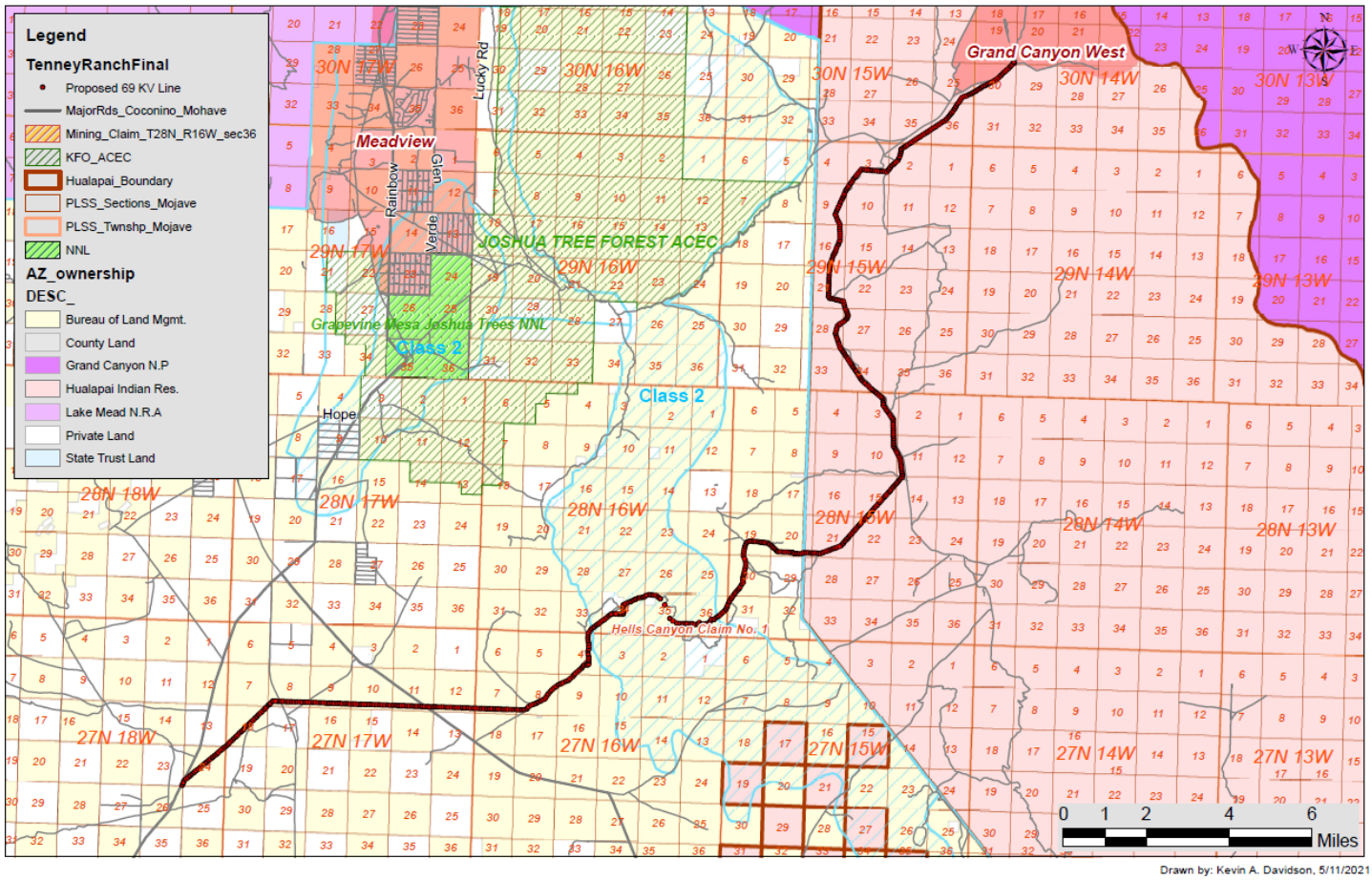
1.1.1 Title, EA Number and Type Project

Grand Canyon West 69kV Interconnection Project
DOI-BLM-AZ-C010-2021-0020-EA
AZA 037402 (69kV power line)
AZA 037402A (temporary construction areas)
AZA 038310 (fiber-optic line)

1.1.2 Location of Proposed Action

Mohave County and Hualapai Indian Reservation located in Arizona (see map below)

Proposed 69 KV Power Line from UniSource's Pierce Ferry Road Substation to Grand Canyon West



1.1.3 Name and Location of Preparing Office

Kingman Field Office (KFO), 2755 Mission Blvd., Kingman, Arizona 86401, (928) 718-3700

1.1.4 Applicant Name

The Hualapai Tribal Utility Authority on behalf of the Hualapai Tribe, 941 Hualapai Way, Peach Springs, Arizona 86434

1.2 Background

The Hualapai Tribe (the Tribe) is a Federally recognized Indian Tribe located in northwestern Arizona. The current Hualapai Reservation was established in 1883 by Executive Order and encompasses about one million acres (404,686 hectares (ha)) along 108 miles (174 kilometers (km)) of the Grand Canyon and Colorado River. Occupying part of three northern Arizona Counties (Coconino, Yavapai, and Mohave), the Reservation's topography varies from rolling grassland to thick forests and rugged canyons. Elevations range from 1,500 feet (457 meters (m)) at the Colorado River, to over 7,300 feet (2,225 m) at the highest point of the Aubrey Cliffs. The Tribe's principal economic activities are tourism, cattle ranching, and arts and crafts. The largest tourist and economic development associated with the Tribe is Grand Canyon West (GCW), located on the west rim of the Grand Canyon, in the northwestern portion of the Hualapai Reservation.

The Hualapai Tribal Utility Authority (HTUA), an institution of Tribal government established in 2014, is charged with the responsibility to oversee the development and management of electrical, water, and sewer utility services at GCW. To support future development and provide a higher quality of life for those employed at GCW, the Tribe proposes to bring electricity to GCW from the regional utility grid by constructing a power line across Bureau of Land Management (BLM), private, and Tribal lands that would interconnect to the Dolan Springs Substation, owned and operated by UniSource Energy Services (UES). The project would be funded through a U.S. Department of Agriculture Rural Utilities Service (RUS) High Energy Cost Grant (HECG), and with a RUS loan. Through the project the Tribe would reduce current electrical costs from an estimated 40 cents per kilowatt hour (KWh) for the power produced by diesel generators to less than 8 cents per KWh for grid power from Competitive Electric Providers and Hualapai Federal Hydro Allocations from the Colorado River Storage Project and Boulder Canyon Project, which would produce a savings of approximately $2 million per year. The proposed power line construction project would enable the Tribe to reduce diesel fuel consumption, reduce operating costs, and provide additional housing and reliable electrical services to those employed at GCW. Reducing energy costs associated with development in this region of the Reservation would enable the Tribe to fulfill its future growth plans for GCW. In addition, the Tribe would run a new 48-strand fiber optic line between the UES substation and GCW. At present, the only form of communication between GCW and the outside world is via microwave backhaul, which is subject to the vagaries of inclement weather and latency that impedes electronic transactions and telecommunications. The new fiber optic line would be embedded in the grounding wire that is strung along the top of the power poles.

Grand Canyon West is a tourist destination that has been the heart of the Tribe's economic development initiative for over 25 years. It has averaged 900,000 visitors per year for the past three years. The 9,000-acre (3,642 ha) development employs up to 900 people during the busy spring and summer seasons, including 250 Hualapai Tribal members. The property includes an airport and on-site housing for onsite workers. GCW is not connected to the regional electric utility grid; it currently relies on diesel generators to provide power to various load centers via a 20.8-kilovolt (kV) radial power distribution system.

The proposed project would connect the existing GCW power distribution system to the UES electric grid and would provide broadband services to GCW.

The proposed project would consist of four main components:

1. The new GCW Substation, located on Tribal lands just south of GCW.
2. A new, approximately 36-mile long, 69kV transmission line, commonly known as a sub-transmission interconnect, originating at the existing UES Dolan Springs Substation, north of Dolan Springs, Arizona, extending east and north to the new GCW Substation and then on to the existing GCW power distribution system.
3. A new 69kV circuit breaker, isolating switches, 5 MVAr capacitor bank, and primary metering point located at the UES Dolan Springs Substation.
4. A new 48-strand fiber optic line.

The proposed transmission line with fiber optic would be constructed along the 35.84 mile (57.7 km) long Tenney Ranch Road alignment. A summary of the alignment length by land jurisdiction is presented in Table 1-1.

Table 1-1. Proposed Alignment Length by Land Jurisdiction

Land Jurisdiction	***Length (approx.)***
Hualapai Reservation	16.6 miles (26.7 km)
BLM Kingman Field Office	19.2 miles (30.9 km)
Private	0.04 miles (0.06 km)
Total	35.84 miles (57.7 km)

The Tenney Ranch Road alignment begins at the existing UES Dolan Springs Substation located approximately 10 miles (16 km) northeast of Dolan Springs on Pierce Ferry Road. From the substation, the alignment would diverge from Pierce Ferry Road to the northeast and continue for approximately 2.9 miles (4.7 km), then turn east across the Hualapai Valley north of Red Lake for a distance of approximately 6.0 miles (9.7 km), crossing Stockton Hill and Antares Roads to intersect Tenney Ranch Road (also referred to as Music Mountain Road or Hells Canyon Road). At Tenney Ranch Road, the alignment follows the road in a general northeasterly direction through Hells Canyon and across a plateau for approximately 13.2 miles (21.3 km) to Buck and Doe Road on the Hualapai Reservation. At this point, the alignment follows Buck and Doe Road in a general northerly direction approximately 13.6 miles (21.9 km), past the proposed GCW Substation site, to terminate at the existing GCW distribution system tie-in located at the intersection of Diamond Bar and Quartermaster Point Roads in the southern portion of the GCW development.

1.3 Purpose and Need

The purpose of the project is to improve electrical and communication services to GCW to support existing facilities and planned developments. The BLM's purpose is to respond to an application (SF-299 "Application for Transportation and Utility Systems and Facilities on Federal Lands") submitted by the Tribe on August 23, 2017, for a right-of-way (ROW) to construct, operate, and maintain a 69kV transmission line and fiber optic line across BLM-administered lands. The need for BLM action is established by the BLM's responsibility, under the Federal Land Policy and Management Act (FLPMA) of 1976 (as amended), to respond to requests for ROW grants across BLM lands in compliance with the provisions of the applicable land use plan. The Tribe submitted an application for a HECG to RUS and has received a notice of provisional award to fund the construction of the 36-mile long, 69kV transmission line and the 48-strand fiber optic cable from Dolan Springs to Grand Canyon West.

1.4 Decision to be Made

The BLM's Authorized Officer will decide whether to approve, approve with modifications, or deny the Tribe's application for ROWs to construct, operate, maintain, and terminate a 69kV powerline and underbuilt fiber optic line across BLM-administered lands. Under the National Environmental Policy Act (NEPA), the BLM must determine if there are any significant environmental impacts associated with the Proposed Action warranting further analysis in an Environmental Impact Statement (EIS). In parallel, the Tribal Environmental Review Commission, will determine if there are any significant environmental impacts associated with the Proposed Action on tribal lands warranting further analysis in an EIS. This decision will be made based on the information presented in this EA. The HTUA would obtain a tribal resolution authorizing the construction of the power line on the Hualapai Reservation in accordance with 25 CFR 169.

1.5 Land Use Plan Conformance

The Proposed Action is subject to and in conformance with the Kingman Resource Area Resource Management Plan (RMP), which was approved in March 1995 (BLM 1995). Rationale for this statement can be found in the RMP within the Management Guidance Common to All Alternatives and Alternative 2 (specifically Linear ROWs and Visual Resources). The BLM's management goals, identified in the Lands and Realty section of the RMP, include responding to public requests for land use authorization, sales, and exchanges; supporting the multiple-use management goals and objectives of other resource programs as they relate to land and realty actions; and acquiring access to provide continuing administrative and public needs, as well as to facilitate the acquisition and disposal of public land, or interests in public land, in order to promote enhanced management and multiple uses of resources.

The RMP also states that ROW grants would include authorizations for access, utilities, and communication sites, and be evaluated through the environmental review process and granted or rejected on a case-by-case basis. Proposed projects will be coordinated, to the fullest extent possible, with all potentially affected interest groups and agencies. The Proposed Action is in general agreement with the Tribe's land use plan designation of "Open Space" for this part of the reservation.

1.6 Relationship to Statues and Regulations

This EA was prepared in compliance with the National Environmental Policy Act of 1969, the NEPA-implementing regulations of the BLM, and in accordance with the Hualapai Environmental Review Code (HERC).

Because the Tribe intends to fund a portion of the project through a RUS HECG, the EA must also meet criteria set forth in 7 Code of Federal Regulations (CFR) parts 1710 and 1970. The BLM is the lead Federal agency for the project and the RUS is a cooperating agency.

Additionally, the Proposed Action is subject to the:

- FLPMA of 1976;
- Clean Water Act 33 U.S. Code (USC) Sec. 1251, et. seq., and 33 USC Sec. 404;
- Clean Air Act Title 40 CFR parts 50 and 51;
- Endangered Species Act of 1973 16 USC Sec. 1531, et. seq., as amended;
- Archaeological Resources Protection Act (ARPA) of 1979 16 USC 470aa-mm, as amended; and the
- National Historic Preservation Act (NHPA) of 1966 16 USC Sec. 470.

Chapter 2. Proposed Action and Alternatives

2.1 Alternative A: No Action

The No-Action Alternative provides a baseline with which to compare any proposed activities. Under the No-Action Alternative, the BLM would not approve the application or authorize a ROW for a transmission line and fiber optic across BLM-administered lands. Electrical power to the GCW would continue to be provided by diesel generators until a viable alternative could be developed and telecommunication would continue to rely on microwave towers.

2.2 Alternative B: Proposed Action

The Tribe proposes to construct, operate, and maintain an aerial, three-phase, 69kV transmission line, fiber optic line and the 69kV/20.8kV GCW Substation facility, as well as the installation of switching equipment at the UES Dolan Springs Substation. Approximately 0.93 miles (1.50 km) of the power line and fiber optic line at the northern end of the alignment, south of the existing GCW distribution system tie-in, would be installed underground.

It should be noted that detailed engineering plans have not been completed for this project/proposed action. The HTUA and the BLM collaboratively developed details for the project/proposed action to a level sufficient for environmental analysis. If site-specific design and engineering varies from that analyzed in this EA, the BLM with RUS as a cooperating agency would prepare additional environmental analyses under NEPA as appropriate.

The aerial portion of the transmission line would consist of a combination of wood and steel monopole structures, ranging in height from 47.5 to 113.0 feet (14.5 to 34.4 m), supporting three 4/0 aluminum-clad steel reinforced (ACSR) conductors and an optical ground wire (OPGW) cable housing a 48-pair fiber-optic telecommunications line. Switching equipment for the new transmission line, including a 69kV circuit breaker, capacitor bank, and metering facilities, would be installed within the UES Dolan Springs Substation site or an 0.23-acre (0.09 ha) expansion area

adjacent to the site at the southern end of the transmission line alignment. The new GCW Substation would be constructed on a 0.23-acre (0.09 ha) site located next to an existing water storage facility, approximately 4.0 miles (6.4 km) south of the tie-in at the northern end of the transmission line. Two temporary staging areas would be required during construction of the proposed transmission line; the first would encompass approximately 1.0 acre (0.4 ha) located on BLM land, adjacent to the transmission line ROW, at the Antares Road crossing; the second would encompass approximately 2.0 acres (0.8 ha) located at the existing Buck and Doe Road gravel pit on the Hualapai Reservation.

Permanent ground disturbance associated with the proposed project would occur at the GCW Substation site, Dolan Springs Substation, standard and high-slope pole installation locations, including a concrete caisson, and for two-track access within portions of the alignment on BLM and Tribal lands where poles are not adjacent to existing roadways. Temporary disturbance would occur for equipment access around the pole sites, along the proposed buried portion of the alignment, and at the proposed Antares Road staging area, but not at the northern staging area on Buck and Doe Road because it has been previously cleared. The estimated actual ground disturbance associated with the project on BLM-administered lands, assuming a nominal pole spacing of 330 feet (101 m), an average overall temporary disturbance diameter of 50.0 feet (15.2 m) with a 6.6-foot (2.0-m) diameter of permanent disturbance at each standard pole site, plus 875 square feet of permanent disturbance for a caisson mounted pole and then a 10-foot (3.1-m) temporary disturbance diameter for poles located in high-slope pole sites where hand digging is proposed, is summarized in Table 2-3. Temporary disturbance areas are of sufficient size to allow work crews to drill holes then assemble and erect poles on site, or, in case of poles mounted on steep slopes, to hand dig holes and then guide the pre-assembled poles set by helicopter.

Table 2-3. Estimated Project Ground Disturbance on BLM Administered Lands

Disturbance Type	Maximum Permanent Disturbance	Maximum Temporary Disturbance
Power line access	15.5 acres [a]	15.5 acres
UES expansion	0.22 acres	0.22 acres
Pole placement (estimated 305 poles)	0.26 acres [b]	52.92 acres
Staging area	1.03 acres	1.03 acres
Vegetation management	19.15 acres in pinyon-juniper woodland [c]	19.15 acres

a. Maintain a two-track access in areas not adjacent to an existing road.
b. Assumes a permanent disturbance width of 6.6 feet (2 m) diameter per pole for most poles and an 875 sq. ft. for the Pole No. 225 caisson.
c. Refer to Appendix B – Biological Assessment and Evaluation (pp 4-5)

HTUA has developed a Vegetation Management Plan (VMP) (Appendix D), in coordination with the BLM, outlining procedures for trimming or removing vegetation beneath the proposed transmission line to maintain a fire safety zone along the length of the conductors.

The project area was divided into seven zones based on the type of vegetation present and the underlying land management agency. Zones 1-4 are under the jurisdiction of the BLM, and Zones

5-7 are under the jurisdiction of the Tribe. Treatments range from leaving the vegetation in place undisturbed (Zones 1, 2, and 7) to creating a 50-foot (15-m) safety zone centered on the line (portions of Zones 3-6). Vegetation in Zones 3-6 would be managed as described in the VMP. A total of 68.42 acres of temporary disturbance and 15.76 acres of permanent disturbance for pole placement and powerline access would occur on BLM lands as shown in Table 2-3. In addition, 19.15 acres of pinyon-juniper woodland within BLM's jurisdiction would be subject to the VMP's safety zone as well 48.85 acres on Hualapai lands. Creating the safety zone would be done in collaboration with BLM to maintain the integrity of Visual Resource Management (VRM) Class II objectives. Danger trees outside of the safety zone, but still within the ROW, may also be cut or trimmed to mitigate the danger of fire as noted in the VMP.

2.2.1 Construction of the Facilities

The number of workers, types of equipment required, and additional details for the activities described herein are identified in the Plan of Development (POD) (Appendix C). With an anticipated construction crew size of approximately 10 personnel, the estimated construction duration for the project would be between 9 and 12 months.

Resource Protection Measures (RPMs) were developed for the 56 poles that would be within VRM Class II. Each pole location was reviewed in the field by BLM. The RPMs were created in accordance with the mitigation measures listed in the POD submitted by the HTUA. The RPMs are used as design features in this NEPA analysis and therefore would take full force and effect upon authorization of the proposed action.

Pole Structure Excavation and Installation: To install the wood and steel pole structures, holes varying from 7.5 to 12.0 feet (2.3 to 3.7 m) deep would be required. Width of the hole would be variable depending on the amount of rock, sand, or compacted soil encountered. For pole locations where standard pole delivery/access/installation would not meet VRM objectives and other less stringent RPMs would not work, the holes would be dug by hand and the fully framed poles would be flown in by helicopter (POD – Appendix C, Visual Resource Assessment - Appendix E). In instances where hand excavation proves problematic, HTUA would consult with BLM on the best method to install poles that meet VRM Class II objectives.

Vertical excavations for pole embedment would be made with power auger equipment. A truck-mounted power auger or backhoe would be used where soils permit. In heavy rock areas, the holes would be excavated by boring, drilling, blasting, or installing special rock anchors. All safeguards associated with using explosives would be employed. Blasting activities would be coordinated with the BLM, particularly for purposes of safety and the protection of sensitive areas. It is anticipated that the use of explosives would be either minor or not required. In extremely sandy areas, gelling or grouting agents can be used to stabilize the soil before excavation. Broad use of this technique is not anticipated. Spoil material (excavated soil) would be used for fill where suitable, and the remainder would be spread at the structure site in a manner that is consistent with the character of the surrounding landscape.

After pole structures are set in place, holes would be direct-embedded with earth backfill. In a few instances it may be necessary to backfill with concrete. Foundation excavation and installation would require access to structure sites by a power auger or drill, crane, material truck, and,

possibly, ready-mix concrete trucks. No washing of concrete equipment would occur on BLM public lands.

Pole Structure Assembly and Erection: New structures and associated hardware would be delivered to each structure site by flatbed truck or pole hauler. Using a crane, crews would position the structures in the foundation holes and then backfill with either excavated material or concrete, if needed.

Approximately eight poles are in locations where standard pole delivery/access/installation would not meet VRM Class II objectives. These holes would be dug by hand, and the fully framed poles would be flown in by helicopter. One pole location (Pole No. 225) would require the use of a caisson.

Conductor and Ground Wire Stringing: Pulling points would occur at each turning structure and at intervals of approximately 5,000 feet (1,524 m) along the straight alignments. Once equipment is ready, a rubber tracked vehicle would install the pull line from one pole structure to the next where access along the line is sufficient. A helicopter would be used when access from within the ROW is not sufficient, such as portions of Hells Canyon adjacent to Tenney Ranch Roads.

Construction Staging Areas: Two temporary staging areas would be required during construction of the proposed transmission line. The first staging area would be approximately 1.3 acre (0.52 ha) in size and located on BLM land adjacent to the transmission line ROW at the Antares Road crossing and contain a helicopter landing pad, and the second would be approximately 2.0 acres (0.8 ha) located at the existing Buck and Doe Road gravel pit on the Hualapai Reservation near the northern end of the alignment. The staging areas would be kept in an orderly condition during the construction period. The intent is to restore all construction areas to their original condition, where feasible.

Post-Construction Reclamation Measures: Areas around the poles not required for maintenance and areas between structures impacted by construction activities would be reclaimed. A reclamation plan, including re-seeding of disturbed areas, would be developed by the HTUA in association with the BLM.

Fire Protection: The construction contractor would take measures as necessary for the prevention and suppression of fire within the ROW and on adjacent public lands. These measures are included in Section 2.2.1, Design Features, of this document. The potential for power line–sparked fires would be mitigated by establishing and maintaining a tree-free 50-foot safety zone centered on the power line in areas that support taller-statured trees, such as Pinyon/Juniper, that may grow or fall onto the power line.

Interim and final soil stabilization in the ROW would occur as an ongoing process during construction, as outlined in the project's upcoming Stormwater Pollution Prevention Plan (SWPPP). The SWPPP would include Best Management Practices (BMPs) that would be implemented during construction to eliminate the discharge of pollutants including those from sediment transport.

2.2.2 Project Design Features

The following project design features have been developed to avoid or eliminate potential impacts to resources.

2.2.2.1 Air Quality

- Fugitive dust would be limited during construction by dust-control measures, such as the watering of disturbed areas by a spray bar–equipped water truck, as necessary, to comply with State requirements, local ordinances, and/or other jurisdictional agencies' requirements. Post-construction stabilization would adhere to the BMPs included in the project's SWPPP and National Pollutant Discharge Elimination System (NPDES) permits.

2.2.2.2 Cultural Resources and Native American Religious Concerns

- All BLM KFO cultural resources stipulations would be followed and attached to the Tribe's ROW grant. These stipulations may include but are not limited to temporary or permanent fencing or other physical barriers, project area reduction and/or specific construction avoidance zones, and employee education.
- All employees, contractors, and subcontractors of the project would be informed by the project proponent that cultural sites are to be avoided by all personnel, personal vehicles, and company equipment, and that it is illegal to collect, damage, or disturb cultural resources, and that such activities are punishable by criminal and or administrative penalties under the provisions of ARPA (16 U.S.C. 470aa-mm).
- Within all archaeological sites eligible for the National Register of Historic Places (NRHP), ground-disturbing activities either shall be avoided or restricted to existing disturbance corridors.
- In the event of a discovery during construction, the project proponent or contractor would immediately stop all construction activities in the vicinity of the discovery and immediately notify the BLM if the location is on lands managed by them (or the Tribal Historic Preservation Officer (THPO) if located on Tribal lands) and RUS as the funding agency with responsibilities under the NHPA. The BLM would then evaluate or cause the site to be evaluated. Should a discovery be evaluated as significant (e.g., Eligible for the NRHP or protected by Native American Graves Protection and Repatriation Act (NAGPRA) and/or the ARPA), it would be protected in place until mitigating measures can be developed and implemented according to guidelines set by the BLM, RUS, and/or the THPO.

2.2.2.3 Soils/Watershed

- Disturbed areas would be recontoured to restore the site to the approximate preconstruction contour. To the extent feasible, recontouring should be accomplished using the available, disturbed topsoil.
- To ensure that surface water quality is protected during the proposed construction, HTUA and their contractors would comply with the NPDES Construction General Permit (CGP) for Storm Water Discharges Associated with Construction and Land Disturbance. Compliance with the CGP would require development and implementation of a SWPPP that would be in effect during all construction activities. The SWPPP would identify potential sources of pollutants, including sediment, and would include BMPs designed to eliminate the discharge of these pollutants in stormwater.

2.2.2.4 Special Status Species

California Condor

- Prior to the start of construction, HTUA or their subcontractor(s) would contact the Peregrine Fund personnel monitoring California Condor *(Gymnogyps californianus)* locations and movements in the vicinity of the project area to determine the locations and status of condors in or near the project area.
- If a condor occurs at the construction site, construction activities that could result in injury to condors would cease until the condor leaves on its own accord or until techniques are employed by permitted personnel that result in the condor leaving the area.
- Construction workers and supervisors would be instructed to avoid interaction with condors and to immediately contact the US Fish and Wildlife Service (FWS) Flagstaff Suboffice or the Peregrine Fund personnel if condor(s) occur at the construction site. Non-permitted personnel cannot haze or otherwise interact with condors.
- The project site would be cleaned up (e.g., trash removed, scrap materials picked up) at the end of each workday to minimize the likelihood of condors visiting the site. Any spills of any kind, such as machinery fluid of any size, would be immediately cleaned up.

Raptors (General)

- Raptor-safe design elements in accordance with guidelines described in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) shall be incorporated into the design specifications for the line.

Golden Eagle

- Pre-construction surveys of potential Golden Eagle *(Aquila chrysaetos)* nesting habitat within the project area are recommended if construction is to occur within the January through August breeding season of this species. If nesting behaviors of Golden Eagles are identified, the BLM/Tribal biologists (depending on the jurisdiction of the observed activities) would be notified immediately to determine appropriate construction avoidance buffers around the identified nests. In the event a new golden eagle nest is discovered, all construction avoids a radius of up to 0.5 mile of any active nests between December 15 and August 1 would be implemented.

Western Burrowing Owl

- Pre-construction surveys of potential Western Burrowing Owl *(Athene cunicularia hypugaea)* nesting habitat within the project area are recommended. If Western Burrowing Owls are identified, the BLM/Tribal biologists (depending on the jurisdiction of the observed activities) would be notified immediately to determine appropriate construction avoidance buffers around the identified burrows.
- All on-site construction personnel shall receive a Western Burrowing Owl Awareness flyer.

Ferruginous Hawk

- Pre-construction surveys of potential Ferruginous Hawk *(Buteo regalis)* nesting habitat within the project area are recommended if construction is to occur within the March through September breeding season of this species. If nesting behaviors of Ferruginous Hawks are identified, the BLM/Tribal biologists (depending on the jurisdiction of the observed activities) would be notified immediately to determine appropriate construction avoidance buffers around the identified nests.

American Peregrine Falcon

- Pre-construction surveys of potential American Peregrine Falcon *(Falco peregrinus)* nesting habitat within the project area are recommended if construction is to occur within the February through August breeding season of this species. If nesting behaviors of Peregrine Falcons are identified, the BLM/Tribal biologists (depending on the jurisdiction of the observed activities) would be notified immediately to determine appropriate construction avoidance buffers around the identified nests.

Sonoran Desert Tortoise

- The Arizona Game and Fish Department (AZGFD) Desert Tortoise Handling Guidelines included shall be implemented during construction to minimize or eliminate any potential impacts to Sonoran Desert Tortoise *(Gopherus morafkai)*.
- A pre-construction survey would be required one month before construction activities would begin, and 24 hours prior to construction to determine species presence.
- All on-site construction personnel shall receive a Desert Tortoise Awareness flyer and/or on-site training by a qualified biologist.
- If a Desert Tortoise burrow is identified during construction, its location should be documented, and the BLM biologist would be notified.
- Construction holes left open overnight would be covered. Covers would be secured in place and shall be strong enough to prevent tortoise, livestock, or wildlife from falling through and into the hole.

Pinyon Jay

- Pre-construction nest surveys are recommended if construction and/or vegetation management activities occur during the Pinyon Jay *(Gymnorhinus cyanocephalus)* breeding season (March 1–August 31), and the contractor shall avoid any active bird nests. If the active nests cannot be avoided, the contractor shall notify the BLM/Tribal biologist (depending on the jurisdiction) to evaluate the situation and to determine appropriate construction avoidance buffers around the identified nests.

Mexican Vole

- Site-specific surveys for Mexican Vole *(Microtus mexicanus)* are recommended at each of the proposed pole location sites in Hells Canyon prior to construction. If this species is identified during pre-construction surveys, the BLM biologist would be immediately notified to determine the appropriate course of action to avoid impacts to this species.

Pinto Beardtongue

- Site-specific surveys for Pinto Beardtongue *(Penstemon bicolor)* are recommended at each of the proposed pole location sites in Hells Canyon prior to construction. If individuals are identified at one or more of the pole sites, they should be flagged for avoidance during construction. If individuals are identified at a pole site that cannot be avoided by slight modification of the affected pole location, they should be transplanted outside the planned disturbance area.

Joshua Tree

- Joshua Trees *(Yucca brevifolia)* shall be avoided to the extent practicable during construction. If any cannot be avoided, transplanting or salvage of affected plants by a landscape contractor licensed by the State of Arizona may be required at the BLM's discretion.

Red-tailed Hawk

- Pre-construction surveys of potential Red-tailed Hawk *(Buteo jamaicensis)* nesting habitat within the project area are recommended if construction is to occur within the February through August breeding season of this species. If nesting behaviors of Red-tailed Hawks are identified, the BLM/Tribal Biologists (depending on the jurisdiction of the observed activities) would be notified immediately to determine appropriate construction avoidance buffers around the identified nests.

Migratory Birds

- If construction is to occur during the general March through August migratory bird breeding season, a nest search would be required prior to construction. If nests are identified, the BLM/Tribal biologists (depending on the jurisdiction of the observed activities) would be notified immediately to determine appropriate construction avoidance buffers around the identified nests.

Monarch Butterfly

- All milkweed species would be avoided or salvaged if within construction areas.

2.2.2.5 Fire and Fuels

- There would be no smoking during the period of the year when fire restrictions are in effect unless within a closed vehicle.
- All diesel-powered equipment, except those that are supercharged, shall have an approved spark arrestor, one round-pointed shovel, one axe, and a dry chemical extinguisher.
- All supercharged equipment shall have one round-pointed shovel and a dry chemical extinguisher.
- All gasoline-powered equipment shall have an approved spark arrestor, standard muffler and light exhaust system, one round-pointed shovel, one axe, and a dry chemical extinguisher.
- Power saw operators are required to carry a carbon dioxide or dry chemical extinguisher and must keep a round-pointed shovel at their gas can and within 200 feet (61 m) of where the saw operates.
- Construction crews would be equipped with shovels, rakes, and a fire extinguisher or other fire suppression equipment.
- No debris burning is allowed nor open burning of construction trash on BLM-administered lands or tribal lands.

2.2.2.6 Livestock Grazing

- All gates would be left as found, and any fences that need to be temporarily removed to allow vehicle access would be repaired following construction.

2.2.2.7 Paleontology

- If fossil remains are encountered during construction, all work within 100 feet (30.5 m) of the find would be temporarily halted or diverted until a qualified paleontologist examines the discovery. On BLM or private lands, the BLM KFO would be contacted. On Tribal lands, the Hualapai Cultural Resources Department would be contacted for any fossil remains encountered.

2.2.2.8 Wastes, Hazardous or Solid

- If suspected hazardous materials are encountered during construction or if a spill occurs on BLM or private lands, the Tribe's contractor would notify the BLM KFO. For spills occurring within Tribal boundaries, the Hualapai Fire Department/Emergency Medical Service would be notified.
- Construction sites would be maintained in sanitary condition. Waste materials at construction sites would be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

2.2.2.9 Visual Resources

- Vegetation management activities would be limited to those outlined in the approved Vegetation Management Plan as described in Appendix D.
- To the extent practicable, poles would be placed close to the existing public roadways during final design. This would minimize the look of a separate adjacent linear feature through the landscape by utilizing the existing disturbance and associated form, line, and texture associated with the roadbed.
- All trees removed from the safety clear zone would be removed by hand using chainsaws and cut as close to the base of the ground as possible. Hazard trees identified outside of the clear zone that are large enough to fall onto the line would also be removed by hand.
- The roadbed of Tenney Ranch Road would overlap with the safety clear zone in most areas, minimizing changes to form, line, and texture of the characteristic landscape as a result of vegetation clearing.
- Wood poles or color-treated steel poles selected from the BLM's Standard Environmental Color Chart (CC-001:June 2013) would be used.
- All structures would use brown or grey porcelain insulators.
- The disturbance area around each pole would be minimized.
- The use of cut and fill on slopes would be minimized.
- Native topsoil would be retained for backfill.
- Disturbed areas would be reseeded using a BLM-approved weed-free seed mix.
- Irregular disturbance patterns would be used.
- All RPMs identified in Appendix E, Attachment 1 would be followed on a site-specific basis according to the pole numbering contained in that document. These RPMs include strategies for pole siting, installation methods, alternatives for design of poles and spans, and references pertinent to vegetation management strategies in Zone 3.

2.2.2.10 Noxious and Invasive Weeds

- Vehicles and equipment, including undercarriage, would be spray-washed prior to arriving at the worksite to minimize the introduction of noxious weeds. All construction equipment and project vehicles would arrive at the work site clean and remain weed free for the duration of this project.
- HTUA would control invasive weeds and non-native species of plants that appear on disturbed areas within the limits of the proposed ROWs. Any necessary weed control

would be completed according to specified methodology determined by the BLM Authorized Officer or by Hualapai Forestry Department (depending on the jurisdiction).
- Wastewater generated during construction from trucks and washing of exteriors of construction equipment and vehicles to remove accumulated dirt (which, if required, would be performed in approved locations off-site), would be managed such that there would be no discharge off-site or discharge to surface waters.
- Temporary-work spaces impacted by construction activities would be re-seeded with native species found in the project area.

2.2.2.11 Vegetation

- Consult with the Hualapai Forestry and Hualapai Department of Cultural Resources prior to removal of trees and Hualapai sensitive plant species on tribal lands.

2.2.3 Right-of-Way Description

If approved, the BLM would issue the Tribe two ROWs and one short-term ROW for construction purposes. The first ROW, AZA 037702, would be for the 69kV transmission line extending from the Dolan Springs Substation to the Hualapai Reservation boundary. This ROW would be approximately 19.23 miles (30.6 km) in length, 100 feet (30.5 m) in width, encompassing 233 acres (94 ha). The fiber optic ROW, AZA 038310, would be coterminous with the power line ROW. The short-term ROW, AZA 037702A, would encompass 1 acre, and would be issued for up to one year. Rights-of-ways AZA 037702 and AZA 038310 would be granted in perpetuity to the Hualapai Tribe in the spirt of government-to-government cooperation and as permitted by current regulations. The HTUA would obtain a tribal resolution, in accordance with 25 CFR 169, authorizing the construction of the power line on the Hualapai Reservation for a distance of 16.6 miles (26.7 km).

Notice to Proceed (Form 2800-15): Due to the number of design features and requirement for pre-construction surveys, the BLM would issue a Notice to Proceed concurrently with the right-of-way grant. The HUTA would be required to obtain approval from the BLM Authorized Officer (by signature on the Notice to Proceed) prior to the commencement of any surface disturbing activities.

2.3 Alternatives Considered but Eliminated from Further Consideration

Three alternative transmission line alignments and the possibility of GCW using renewable energy sources rather than grid power were considered during project development.

2.3.1 Diamond Bar Alignment

From the Dolan Springs Substation, the proposed Diamond Bar alignment would continue northeast along Pierce Ferry Road for approximately 12.3 miles (19.8 km) across the Hualapai Valley, crossing Stockton Hill and Antares Roads, to Diamond Bar Road. From this point, the alignment would follow Diamond Bar Road approximately 18.3 miles (29.5 km) east through the Grapevine Mesa Joshua Trees National Natural Landmark and BLM Joshua Tree Forest/Grand Wash Cliffs Area of Critical Environmental Concern (ACEC), then continue northeast through Grapevine Canyon to the existing transformer at GCW.

In 2018, the BLM requested that the Tribe reconsider an alignment along Diamond Bar Road. The Tribe investigated the alternative and completed resource studies along the route in 2018 and 2019. In May 2019, the BLM notified the Tribe that an alternative along Diamond Bar Road would not conform to the Kingman RMP. According to the Kingman RMP, one of the management prescriptions identified for the ACEC does not allow for the removal of any native plant for surface-disturbing projects unless they are salvaged (Management Prescription 17, Kingman RMP, page 98). The BLM determined that the success of native plant salvage would be uncertain; therefore, the proposed alignment along Diamond Bar Road would not be in conformance with the RMP. The Diamond Bar Alignment was dismissed from further consideration.

2.3.2 Clay Springs Alignment

From the Dolan Springs Substation, the Clay Springs alignment would follow the proposed Tenney Ranch Road alignment until just west of its intersection with Tenney Ranch Road. Here the Clay Springs alignment would turn southeast overland to its intersection with Clay Springs Road, then follow Clay Springs Road northeasterly to Buck and Doe Road, then continue north along Buck and Doe Road to GCW.

Previous cultural resource studies and Hualapai oral histories indicate that the Clay Springs route passes through a culturally sensitive landscape around Clay Springs. The area around Clay Springs was frequented by members of the Clay Springs band of Hualapai, and the canyon surrounding these springs has very high potential for substantial prehistoric and historic structures and artifacts. Historic artifacts and, structures, and features were previously documented on BLM and Hualapai lands in this area. Because of the cultural sensitivity of this area and potential for additional archaeological sites, the Clay Springs alignment was dismissed from further consideration.

2.3.3 Buck and Doe Road Alignment

A suggested alignment along Buck and Doe Road between the Mohave Electric Cooperative (MEC) assets in Peach Springs and GCW was proposed during the Tribe's public outreach period. MEC does not have the necessary capacity to supply the GCW load; the line would not be within MEC's certified service area, and the Tribe would be paying MEC's higher electric rate (tariff) because MEC does not have an Open Access Transmission Tariff, which would allow MEC to transport power between a third-party energy provider and the Tribe at a more efficient rate. The total length of this alignment from Peach Springs to GCW is approximately 60.0 miles (96.6 km), or 70 percent longer than the proposed line from Dolan Springs. For these reasons, the Buck and Doe Road Alignment was dismissed from further consideration.

2.3.4 Renewable Energy Sources

The goal of this Proposed Action is to connect the GCW to the regional electric grid via hardline power lines. Several members of the public requested the Tribe consider a renewable source of energy, such as that provided by solar or wind generation. These options, while under consideration and further investigation for future uses, do not meet the current goal of tying the GCW facilities into the regional grid. At this time, renewable sources of energy production as a sole means to power GCW are dismissed from further consideration.

Chapter 3 Affected Environment and Environmental Consequences

This chapter presents the potentially affected existing environment (i.e., the physical, biological, social, and economic values and resources) of the impact area for issues identified through both internal and external scoping as described below. This chapter also presents the expected effects from implementing the alternatives on the resources of concern. Effects are caused by the action occurring contemporaneously, at a later point in time or resulting from incremental actions when added to other past, present, or reasonably foreseeable actions, regardless of what agency or person undertakes such other actions. This EA describes effects to BLM-managed lands.

For purposes of the impact analysis, past, present, and reasonably foreseeable projects were evaluated that may, in combination with the current project, result in noteworthy effects. Current uses in the project area include rural residential, transportation corridors, livestock grazing/ranching-related uses, dispersed recreational uses including off-highway vehicle use, sightseeing, and hiking. Reasonably foreseeable actions include the expansion of facilities at GCW as outlined in the Tribe's Master Plan (Hualapai 2016).

The No-Action Alternative reflects the current situation within the project area and will serve as the baseline for comparing the environmental impacts of the analyzed alternatives.

3.1 Scoping and Issue Identification

3.1.1 Internal Scoping

The KFO NEPA Interdisciplinary Team (IDT) conducted internal scoping by reviewing the proposed project and its location to identify potentially affected resources and land uses, and an initial list of resources was developed for review. The IDT reviewed comments received from the public during outreach meetings and following the initial results of fieldwork and data reviews to further develop and provide feedback regarding the issues list for the EA.

3.1.2 External Scoping

The Tribe held several open house meetings in the vicinity of the project area in May 2019. The purpose of the public meetings was to inform the public of the scope of the project and the project location, including alternative routes under consideration, and to solicit comments regarding potential issues. Meetings were held in Peach Springs on May 21, Dolan Springs on May 22, and Meadview on May 23, 2019. Meeting location and times were advertised in several local newspapers and community newsletters prior to the meetings. Comments from the public were collected within the 30-day period following the public meetings. Appendix A summarizes the public outreach process and comments received.

3.1.3 Issues

Using the external scoping comments submitted and input from the BLM KFO IDT, a list of issues to analyze in detail in this EA was developed in accordance with guidelines set forth in the BLM NEPA Handbook (BLM 2008). The key issues identified during public and agency scoping are summarized in Table 1-2.

Table 3-1. Issues Identified for Detailed Analysis

Resource and Issue No.	Issue Statement
Issue 1 Visual Resources	How would the construction, operation, and maintenance of the transmission line located within Visual Resource Management (VRM) Class II and IV impact the form, line, color, and texture of the existing characteristic landscape in terms of contrast.
Issue 2 Social and Economic Conditions	How would the construction and operation of the transmission line impact the social and economic conditions in the region?
Issue 3 General Wildlife	How would the proposed transmission line, new substation, and associated elements of the project impact wildlife species within the project area?
Issue 4 Special-status Species	How would the construction and operation of the transmission line, new substation, and associated elements of the project impact special-status plant and wildlife species within the project area?
Issue 5 Vegetation	How would the proposed transmission line, new substation, and associated elements of the project impact vegetation within the project area?

The following issues were evaluated and are not discussed in further detail in this EA for the reasons described in Table 3-2.

Table 3-2. Resources Considered but Not Included in Further Detail

Resource Considered	Rationale for Not Further Discussing in Detail in the EA
Air Quality	Design features for fugitive dust control, such as the watering of disturbed areas by a spray bar–equipped water truck, have been incorporated into the project as necessary to comply with State requirements, local ordinances, and/or other jurisdictional agency requirements. In addition, the existing diesel generators powering operations at GCW would be used only for back-up power supply. This would reduce diesel usage by 1,000 gallons per day (365,000 gallons per year) and reduce soot and particulates emissions in a Class I airshed.

Resource Considered	Rationale for Not Further Discussing in Detail in the EA
Cultural Resources	Class III surveys of the project area were conducted in December 2018 and January, March, and November 2019, to determine what, if any, cultural resources would be impacted by the implementation of the proposed action (Lyon et al. 2019). The survey identified 10 archaeological sites and 53 isolated occurrences along the Tenney Ranch Road alignment. All sites are prehistoric artifact scatters, and all were recommended as Eligible for listing in the National Register of Historic Places under Criterion D based on their potential to provide important information on the prehistory of the Grand Wash Cliffs area. Wherever feasible, these sites would be preserved in place and avoided during construction and maintenance of the proposed power line. With the avoidance of the sites, implementation of the Proposed Action would have no adverse effect on cultural resources or Native American concerns.
Soils/ Watershed	There are no perennial or intermittent waterways in the project area; however, the alignment associated with the Proposed Action crosses several ephemeral washes. Disturbed areas would be re-contoured to restore the site to the approximate preconstruction contour using the available, disturbed topsoil. All construction and vehicular traffic would be confined to the designated ROW. Permanent new access roads would not be constructed. In addition, the project would comply with required Clean Water Act Section 402 water quality protection measures by implementing a SWPPP to eliminate the potential release of pollutants into stormwater.
Traffic	During public scoping, Dolan Springs residents expressed concerns about an increase in traffic through the community during construction. Traffic data recorded by Mohave County in 2016 indicates that there were 1,930 average daily trips on Pierce Ferry Road through Dolan Springs. An average crew size of 10 workers would be involved in construction activities, and most are assumed to commute from Kingman and Peach Springs. Assuming 3 to 4 workers per vehicle, this would equate to approximately 6 vehicles per day traveling to/from the project area during construction (assuming foremen/supervisors = 2 vehicles; 3 Tribal members carpooling from Peach Springs = 1–2 vehicles; 5 additional construction personnel carpooling = 2 for 6 vehicles, or 12 trips per day). Workers would likely travel to the project area via Pierce Ferry Road/U.S. 93 and Stockton Hill Road from Kingman and Antares Road and Buck and Doe Road from Peach Springs. Construction equipment would be brought to a staging area and stored for use; daily equipment-hauling traffic through the community would not occur. Even if all 24 estimated construction-related worker trips were to occur through Dolan Springs, this additional traffic would be negligible relative to the measured average daily trips of Pierce Ferry Road and would have no adverse effect on local traffic patterns.

Resource Considered	Rationale for Not Further Discussing in Detail in the EA
Fire and Fuels	The Tribe and its contractors would adhere to fire prevention and suppression measures included in the project's Plan of Development (Appendix C) . These fire prevention and suppression measures address accidental fire within the ROW and adjacent public lands resultant from construction activities associated with the project. No open burning of construction trash would occur on BLM-administered lands. All gasoline-powered equipment used during construction would be equipped with spark-arresting equipment, such as mufflers or other spark-arresting devices, that would serve to minimize or otherwise eliminate the production of sparks. A clearance zone under and adjacent to the power lines would be maintained by the Tribe to prevent vegetation from growing into the lines as described in the VMP (Appendix D).
Recreation	No developed recreational facilities, such as maintained trails, are present within the project area. Dispersed recreational activities occur in the project area such as camping, hiking, backpacking, horseback riding, mountain bike riding, off-highway vehicle use, sightseeing/viewing in the Hells Canyon area, and hunting (Arizona Game Unit 15A and B). The new power line and its construction are not expected to block access to trails or impede dispersed recreational activities.
Invasive Non-native Species	Four invasive plant species were identified during biological resources surveys of the project area conducted in May 2018 and March 2019 (see Biological Assessment and Evaluation in Appendix B). Design features include standard noxious weed stipulations and monitoring effective at preventing the spread of noxious weeds and invasive plants. All equipment would be inspected for the presence of noxious weeds and cleaned prior to entering public land. All equipment traveling in or out of weed-infested areas shall be cleaned after use on public land. Where required, following construction, all disturbed areas would be reseeded with species native to the project area in a seed mixture developed in coordination with and as stipulated by the BLM. The seed mix would be weed free.
Special Management Areas	There are no special management areas within the project area.

Resource Considered	Rationale for Not Further Discussing in Detail in the EA
Livestock Grazing	The project area crosses three BLM grazing allotments: Gold Basin, Cane Springs, and Upper Music Mountain. Construction activities at any given location would be of short duration and would not impact these grazing allotments. All gates would be left as found, and any fences that need to be temporarily removed to allow vehicle access would be repaired following construction. The project crosses the New Water Grazing District on tribal lands and occurs largely along Buck & Doe Road. No reductions in available forage for livestock would be expected.
Paleontology	Design features have been incorporated to minimize potential impacts to paleontological resources. If fossil remains are encountered during construction, all work within 100 feet (30.5 m) of the find would be temporarily halted or diverted until a qualified paleontologist examines the discovery. Whether the find is on BLM or private lands, the BLM KFO would be contacted. On Tribal lands, the Hualapai Cultural Resources Department would be contacted for any fossil remains encountered.
Wastes, Hazardous or Solid	Design features incorporated into the project include procedures for suspected hazardous materials, if encountered during construction or if a spill occurs on lands outside of the Tribal boundaries due to an unforeseen circumstance such as an equipment malfunction, the Tribe's contractor would notify the BLM KFO. For spills occurring with Tribal boundaries, the Hualapai Fire Department Emergency Medical Services would be notified. Construction sites would be maintained in sanitary condition. Waste materials at construction sites would be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter, including but not limited to human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

Key: BLM = Bureau of Land Management; KFO = Kingman Field Office; ROW = right-of-way.

3.2 Issues Brought Forward for Detailed Analysis

3.2.1 Issue One: Visual Resources

Issue Statement: How would the construction, operation, and maintenance of the transmission line located within Visual Resource Management (VRM) Class II and IV impact the form, line, color, and texture of the existing characteristic landscape in terms of contrast.

The project area is located in BLM VRM Classes II and IV. VRM Classes are used by the BLM to objectively manage the aesthetic value of landscapes and determine if proposed activities are in conformance with a particular landscape based on the allowable level of change or contrast within a landscape. Objectives for VRM Classes II and IV are outlined in the Kingman Resource Area RMP (BLM 1995) and serve as a baseline for determining the allowable level of change or contrast:

- **Class II Objective:** (Retention of the landscape character) Includes areas where changes in any of the basic elements (form, line, color, or texture), caused by management activities, should not be evident in the characteristic landscape (BLM 1995).
- **Class IV Objective:** (Modification of the landscape character) Includes areas where changes may subordinate the original composition and character. They should, however, reflect what could be a natural occurrence in the characteristic landscape (BLM 1995).

Project Setting - Affected Environment

Only the Proposed Action Alternative was evaluated for visual impacts. Portions of the transmission line that are on Tribal lands were not included in the analysis because BLM does not manage visual resources on lands not under BLM jurisdiction, the same is true for private lands in the area. The Tribe does not have visual resource management objectives.

VRM Class IV accounts for approximately 80% or 187 acres, while VRM Class II accounts for approximately 20% or 46 acres of the project area. The project area is located within the Basin and Range and Colorado Plateau physiographic provinces and vegetation in the area is characterized by Mojave Desert scrub and Joshua trees at the lower elevations transitioning into an interior chaparral and pinyon-juniper woodland at the upper elevations of the project area. Views are characterized by large flat valleys including Hualapai Valley that are broken with low-rolling hills and deep canyons such as Hells Canyon that lead into steep mountains along the eastern edge of the project area and include views of the Grand Wash Cliffs geographic feature highlighting the transition between the Basin and Range and Colorado Plateau physiographic provinces.

Existing cultural modifications within the project area include a ranch headquarters with associated outbuildings, scattered range improvements, agricultural areas, the Western Area Power Administration's 500kV Mead–Phoenix and 345kV Mead–Liberty; and the Arizona Public Service's Four Corners-Moenkopi-El Dorado 500kV transmission lines that cross the Hualapai Valley floor, and local paved and unpaved roads.

Public use of the areas surrounding the project are mainly associated with local and regional travelers including local-area commercial workers, tourists heading to the GCW Skywalk, and recreationists participating in a wide-array of dispersed recreational activities including off-highway vehicle use, hunting, wildlife watching, and motorized touring. These public users make up the group of casual observers that would be viewing the project. Viewing durations of the project range from long-term viewers (e.g., residences at the Music Mountain Ranch Headquarters located in T. 28N, R. 16W, Section 34 NW1/4NW1/4) to short-term viewers usually characterized by local and regional travelers, tourists, and recreationists. Long-term viewers are typically viewing the project into perpetuity while short-term viewers view the project for abbreviated time periods, usually lasting less than two (2) hours at a time or while traveling through the project area.

Environmental Consequences

Alternative A: No-Action Alternative

Impacts: The No-Action Alternative would result in no change to the existing conditions and, therefore, there would be no impacts to Visual Resources in the Proposed Action area.

Alternative B: Proposed Action

A visual resource assessment (Appendix E) compared the level of visual modifications, or visual contrast, to the landscape that would likely result from the implementation of the Proposed Action. The visual assessment was conducted as outlined on page 1 of Appendix E. Differences determined in the visual assessment were then scored to calculate the degree of contrast expected on the landscape. Each of the 16 Key Observation Point (KOP) locations were assessed, and a Visual Contrast Rating Worksheet and visual simulation was completed (see Appendix E). A summary of the visual assessment that includes the level of visual contrast (none, weak, moderate, or strong), duration of casual observer exposure to the project, and determination of VRM conformance is provided in Table 3-3.

The BLM, in coordination with the HTUA, developed RPMs, as outlined in section 2.2.2.9 under Design Features, for the portion of the proposed line that would be in the area classified as VRM Class II. These RPMs are pole site–specific and would ensure that construction of the line would meet the objectives for the VRM designation and therefore would be in conformance with the Kingman RMP (see Appendix E). These design features (RPMs) have been introduced to reduce the visual impacts of the proposed construction to a level of acceptable change.

Table 3-3. Landscape Change, Viewer Exposure Summary, and VRM Conformance for the 16 KOPs located along the Proposed Transmission Line

KOP Number/ VRM Class	KOP Location	Landscape Change		Viewer Exposure	VRM Conformance	
		Overall Visual Contrast	Source of Contrast	Extent and Duration	Design Features	Are VRM Objectives Met?
1 VRM 4	Dolan Springs Substation	None	None	Low and Transitory	None	Yes
2 VRM 4	Stockton Hill Road	Weak	Structures[1]	Low and Transitory	None	Yes
3 VRM 4	Stockton Hill Road	Weak	Structures	Low and Transitory	None	Yes
4 VRM 4	Antares Road	Weak	Structures	Low and Transitory	None	Yes
5 VRM 4	Antares Road	Weak	Structures	Low and Transitory	None	Yes
6 VRM 4	BLM Rt #7027	Weak	Structures	Low and Transitory	None	Yes

KOP Number/ VRM Class	KOP Location	Landscape Change		Viewer Exposure	VRM Conformance	
		Overall Visual Contrast	Source of Contrast	Extent and Duration	Design Features	Are VRM Objectives Met?
7 VRM 4	BLM Rt #7027	Moderate	Structures	Low and Transitory[2]	Powerline moved to follow alignments of existing roads.	Yes
8 VRM 4	Tenney Ranch Road	Moderate	Structures	Low and Transitory	Powerline moved to follow alignments of existing roads.	Yes
9 VRM 2/4	Tenney Ranch Road	Moderate	Structures	Extended; Ranch Headquarters	See Appendix E for KOP 9	Yes, with design features
10 VRM 2	Tenney Ranch Road	Moderate	Structures and Vegetation	Extended; Ranch Headquarters	See Appendix E for KOP 10	Yes, with design features
11 VRM 2	Tenney Ranch Road	Moderate	Structures and Vegetation	Extended; Ranch Headquarters	See Appendix E for KOP 11	Yes, with design features
12 VRM 2	Hells Canyon Road	Moderate	Structures and Vegetation	Low and Transitory	See Appendix E for KOP 12	Yes, with design features
13 VRM 2	Hells Canyon Road	Moderate	Structures and Vegetation	Low and Transitory	See Appendix E for KOP 13	Yes, with design features
14 VRM 2	Hells Canyon Road	Moderate	Structures and Vegetation	Low and Transitory to Moderate[3]	See Appendix E for KOP 14	Yes, with design features
15 VRM 2	Hells Canyon Road	Strong	Structures and Vegetation	Low and Transitory	See Appendix E for KOP 15	Yes, with design features
16 VRM 2	Hells Canyon Road	Moderate	Structures and Vegetation	Low and transitory	See Appendix E for KOP 16	Yes, with design features

[1] Resulting from added structures in the form of wood monopoles and conductors.
[2] The proposed power line would closely follow the alignment of BLM Route 7027, starting approximately 0.25 miles (0.4 km) southwest of KOP 7 and continuing to follow the alignment of Tenney Ranch and Hells Canyon Roads, with slight deviations to avoid private property and existing mining claims. A traveler would view the line along the road for a given distance, but exposure time at any given point would be brief unless noted otherwise.
[3] KOP 14 is located at the top of Hells Canyon. Exposure time would increase if a viewer chose to sightsee from this vantage point.

The proposed power line generally follows the alignment of the Tenney Ranch Road within VRM Class II areas, reducing the visual impact of the width of the disturbance area. Vegetation treatments, specifically in VRM Class II areas or Zone 3, as described in Appendix D would ensure that VRM objectives for Class II areas are met while following best management practices for reducing wildland fire risk as it relates to operation and maintenance of the proposed 69kV line.

The proposed action with inclusion of design features outlined in section 2.2.2.9 would be in conformance with the management objectives of VRM Class II and IV. Appendix E summarizes RPMs which have been included into the design features of the proposed action as a result of the visual resource assessment. The visual resource assessment concluded that from seven (7) of the KOPs in VRM Class II, a moderate contrast would be present and from one (1) KOP in VRM Class II, a strong contrast would be present as the project was originally proposed. Through the BLM's contrast rating process, it was determined that minimizing access roads to poles (see RPMs 1, 2, and 3 in Appendix E) and reducing vegetative material removal in Zone 3 (Appendix D and referenced in Attachment 1 of Appendix E) would reduce overall contrast to weak when compared to the existing characteristic landscape and these strategies were incorporated into the design features of the proposed action. Therefore, the proposed action is in conformance with VRM Class II objectives and impact to the aesthetic value of the landscape and to the casual observer is expected to be minimal. Additionally, the BLM would work with the ROW holder prior to issuing a Notice to Proceed to verify that all pole locations have been marked and reviewed by the BLM to ensure compliance with the design features and vegetation management strategies.

Impacts

Construction of the portion of the proposed transmission line in the Hualapai Valley would result in a negligible impact on the visual resources in that area because the new line would be similar in disturbance to the existing transmission lines present. The remainder of the proposed line north of Antares Road would be in an area that currently has no existing electrical lines; however, impacts to visual resources resulting from construction in that area are anticipated to be minor because the new line would be constructed along existing linear road features minimizing contrast through VRM Class II.

3.2.2 Issue Two: Social and Economic Conditions

Issue Statement: How would the construction and operation of the transmission line impact the social and economic conditions in the region?

Project Setting - Affected Environment

The Hualapai Reservation is a sovereign Indian nation. The Tribe is governed by an executive (Tribal Council) and judicial branch. The Tribal Council oversees 375 employees in 19 administrative departments (Hualapai 2016).

Population and Demographics

The most recent population data are estimates from the U.S. Census Bureau. Census data is provided below (Table 3-4) for Mohave County; Dolan Springs, the largest population center in the Proposed Action area; and the Hualapai Reservation.

Table 3-4. Population

Area	Population
Mohave County	209,550[1]
Dolan Springs	2,479[2]
Hualapai Indian Reservation and Off-Reservation Indian Trust Land (2017)	1,441[3]

Source[1]: U.S. Census Bureau 2019a.

Source[2]: U.S. Census Bureau 2019b.

Source[3]: U.S. Census Bureau 2019c.

Most Hualapai Tribal members reside in the capital of Peach Springs, Arizona. Peach Springs is about 50 miles (80.5 km) northeast of Kingman, Arizona, the Mohave County seat and regional commercial center (Hualapai 2019). On the Hualapai Indian Reservation and Off-Reservation Indian Trust Lands, 91 percent of the population are classified as Native American or Alaskan Native–Alone. Only 7 percent of the population is classified as White-Alone.

Industry

The principal economic activities on the Hualapai Reservation are tourism, cattle ranching, and arts and crafts. There is no casino gaming on the Hualapai Reservation. Tribal lands are rich in hunting, fishing, and river rafting opportunities. The Tribe sells guided big-game hunting permits for desert bighorn sheep, elk, deer, antelope, javelina, mountain lions, turkey, and small game on the Hualapai Reservation.

All commercial activity on the Reservation takes place in either Peach Springs or Grand Canyon West. Peach Springs has a small grocery store, a gas station, and a gift shop, hotel, and restaurant. Tribal administration, public schools, and State/Federal government provide the bulk of current full-time employment and are located in Peach Springs (Hualapai 2019). The Grand Canyon Resort Corporation is owned by the Hualapai Tribe. They manage several enterprises that employ nearly 900 full-time and part-time employees during the peak tourist season (Spring and Summer). These include (Hualapai 2016):

- Grand Canyon Skywalk
- Grand Canyon West and Hualapai Ranch
- The Hualapai River Runners and Pontoons
- The Hualapai Lodge (60 rooms)
- The Diamond Creek Restaurant
- The Walapai Market and Fuel Station

Founded in 1988, GCW is situated on a 9,000 acre (3,642 ha) lease at the west rim of the Grand Canyon and offers an alternative to the Grand Canyon National Park. Current visitation is around 900,000 people annually; however, that number is projected to more than double in the next 20 years (Hualapai 2016).

Income

The median income for the Hualapai Indian Reservation and Off-Reservation Indian Trust Lands was $36,053. Within the Hualapai Indian Reservation and Off-Reservation Indian Trust Lands 36.4 percent of all people were living below the poverty line.

Unemployment
Unemployment on the Hualapai Reservation is at 20.6 percent (U.S. Census Bureau 2019b), considerably higher than surrounding areas.

Environmental Consequences

Alternative A: No-Action Alternative

Under the No-Action Alternative, the BLM would not approve a ROW grant authorizing construction of a transmission line across BLM-administered lands. Electrical power to the GCW would continue to be provided through diesel generators until an alternative can be developed. Presently, the diesel generators can produce up to 2.1 megawatts of electricity. Their capacity is anticipated to be exceeded in less than 10 years (Hualapai 2016). Implementation of the No-Action Alternative would result in limitations on future growth at GCW. This would limit economic growth of both the Tribe and Tribal members. Reliance on the generators would continue to be a drain on the GCRC's operational expenses and would have adverse effects to socioeconomics. These effects would be disproportionate to minority and low-income populations located on the Hualapai Indian Reservation and Off-Reservation Tribal Trust Lands. The No-Action Alternative is not anticipated to have an impact on traffic and public access in the Proposed Action area.

Alternative B: Proposed Action

Construction
Construction of the Proposed Action would have beneficial, short-term socioeconomic effects to residents of Mohave County, Dolan Springs, and the Hualapai Reservation. In the short term, power line construction would provide employment opportunities for both Tribal members and non-members. It is anticipated that construction would employ approximately 10 construction workers and 1 or 2 additional supervisors over a 12-month period.

Per the Tribal Employment Rights Office (TERO) Ordinance, Section 3, Indian Preference in Employment, preference would be given to Tribally-owned construction firms for contractor selection, and the selected construction contractor would be required to offer Hualapai and other Native Americans employment to build the power line. Under this ordinance, employers are required to give preference in the award of subcontracts to Tribally-owned and other Indian-owned firms and enterprises. An Indian-owned firm is one that has qualified as such under the BIA Self-Determination regulations. In addition, the HTUA TERO office would establish minimum numerical goals and timetables for the employment of Indians. These minimums would be applicable to employers associated with the Proposed Action.

Operations
Once completed, the new 69kV power line could supply up to 5 megawatts of low-cost electricity. This would reduce the current electrical costs from an estimated 40 cents per KWh from diesel generation to less than 8 cents per KWh. The reduction in cost is derived from a reduction in diesel fuel consumption; access to market power purchases, which are substantially less than the current diesel production costs; and the direct delivery of low-cost Hualapai Federal Hydropower allocations. Over the long term, the power line would help maximize tourism at GCW and overall revenues from the GCW development, allowing for future expansions. Visitation to GCW is

currently projected to be at 2.8 million people annually sometime between the years 2030 and 2035.

Such access to additional and lower-cost energy would provide continued growth at GCW, allowing more Hualapai Tribal members to be employed and increasing the job base for Mohave County residents. Operation and maintenance of the line itself would employ approximately four power line workers over the long term.

Increased Tribal revenues and personal income is expected to result in improved Tribal services and a higher standard of living for many Tribal members. The project would have a beneficial effect by increasing the personal income of residents and affecting demand for products in the local grocery stores. Although employment on Tribal lands favors Tribal members, many GCW employees live in the surrounding communities, such as Dolan Springs, Kingman, or other unincorporated areas. Over 400 employees at Grand Canyon West live off the Tribal lands. An increase in personal income through increased employment opportunities could benefit surrounding communities as well. The Proposed Action would have a moderate beneficial impact related to Social and Economic Conditions.

3.2.3 Issue 3: General Wildlife

Issue Statement: How would the proposed transmission line, new substation, and associated elements of the project impact wildlife species within the project area?

Project Setting - Affected Environment

Field surveys of the project area were conducted in May 2018 and March 2019 and the results reported in the Biological Assessment and Evaluation (see Appendix B). Refer to this report for a full analysis of the wildlife species that may occur within the project area.

The proposed transmission line crosses two biotic communities that include wildlife species such as mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), various small mammals, reptiles including Mojave Rattlesnake (*Crotalus scutulatus*), Desert Rosy Boa (*Lichanura trivirgata*), and avian species such as vultures, hawks, quail, and Loggerhead Shrike (*Lanius ludovicianus*). Mohave Desert scrub gives way to Great Basin Conifer Woodland in the Hells Canyon transition to the plateau where elk (*Cervus canadensis*), Pinyon Jay (*Gymnorhinus cyanocephalus*), Black-throated Gray Warbler (*Dendroica nigrescens*), Scott's Oriole (*Icterus parisorum*), and several types of rodents are found (see Appendix C within Appendix B - Biological Assessment and Evaluation for full list of species).

Environmental Consequences

Alternative A: No-Action Alternative

The No-Action Alternative would result in no impacts to wildlife or their habitat as there would be no changes to the area.

Alternative B: Proposed Action

Impacts to the general wildlife in the area include the removal of forage and habitat, disturbance of possible burrows and temporary displacement by project activities. The acreage of forage and

habitat disturbed as shown in Table 2-3, of which 19.15 acres would occur in the pinyon-juniper woodland within BLM's jurisdiction. Approximately 48.85 acres of pinyon-juniper woodland occur on tribal lands.

With the implementation of the design features listed above in Section 2.2.1, impacts to general wildlife would be minimized or avoided. Design features to minimize potential impacts to wildlife species include raptor-safe design elements incorporated into the design specifications, covering holes and trenches overnight to prevent entrapment, and avoiding active nest sites. Minor, short-term effects may result from localized construction noise occurring over a year of power line placement. Additional noise would be generated by hauling construction materials along Tenney Ranch Road, Buck and Doe Road or along the transmission line right-of-way where the line crosses over land from one of the two lay-down areas. Biophysical responses (e.g. modification to feeding or reproductive behavior) may occur due to increased noise, human activity, and ground vibrations. The disturbance to prey and foraging areas would be temporary and localized to the construction zone. It is expected that ground dwelling animals would relocate to the surrounding area. Direct impacts may occur such as striking or crushing animals by equipment.

The Proposed Action would have no long-term adverse impact on most general wildlife species; therefore, in combination with other past, present, or reasonably foreseeable future actions, the Proposed Action would not have an adverse impact on these resources. During construction of the powerline and associated facilities, a maximum of 70 acres would be temporarily disturbed for a period of up to nine (9) months. After construction, approximately 17 acres would be permanently disturbed from new powerline facilities. Vegetation removal would occur on approximately 19.15 acres of public lands. Some avian and small ground-dwelling species, however, may be negatively impacted as raptors would have new and stable hunting platforms on which to safely perch. Short-term negative impacts would be minimized by not constructing the power line during the nesting season. Impacts may occur to individual species, impacts to the populations of general wildlife are expected to be minor adverse and would not result in a threat to the species population. All actions would have similar indirect impacts and would include the loss or modification of habitat, which would displace species or remove forage or shelter.

3.2.4 Issue 4: Special Status Species

Issue Statement: **How would the proposed transmission line, new substation, and associated elements of the project impact special status plant and wildlife species within the project area?**

Project Setting - Affected Environment

Field surveys of the project area were conducted in May 2018 and March 2019 and the results reported in the Biological Assessment and Evaluation (Appendix B). Refer to this report for a full analysis of the special status species that may occur within the project area. Of the 71 FWS-listed and BLM and Tribal Sensitive plant and animal species listed for the Colorado River District and the western portion of the Reservation, the analysis determined that 24 special status species had the potential to occur in the project area based on specific habitat requirements.

The FWS lists nine wildlife species (six Endangered, two Threatened, and one Experimental Non-essential Population) and no flowering plant species for the project vicinity in Mohave County,

Arizona. The BLM maintains a list of Sensitive wildlife and plant species, including 34 wildlife species and 16 plant species that are known or suspected to occur within the Colorado River District. At the BLM's request, Mexican Vole was evaluated in the BAE along with the BLM Sensitive species. The Hualapai Tribe lists 20 Sensitive wildlife species for the western portion of the Reservation. A search of the Arizona Game and Fish Department's Online Review Tool indicated that four Sensitive BLM species, including Golden Eagle, Ferruginous Hawk, American Peregrine Falcon, and Speckled Dace *(Rhinichthys osculus)* had documented occurrences within 3.0 miles (4.8 km) of the project vicinity.

Environmental Consequences

Alternative A: No-Action Alternative

The No-Action Alternative would result in no impacts to special status species in the Proposed Action area. In addition, the No-Action Alternative is not anticipated to have an impact on special status species in the Proposed Action area as none of the activities associated with building a powerline would occur.

Alternative B: Proposed Action

California Condor Experimental Population (10j)

Construction activities related to implementation of the proposed action may affect but is not likely to adversely affect the Experimental Non-essential Population of California Condor. Additionally, the construction activities may impact, but likely would not result in a trend towards Federal listing or loss of viability for 23 BLM and Tribal Sensitive species. Tables 3-5 through 3-7 below summarize the species, their status, and recommended determinations of effect.

With the implementation of the design features built into the proposed action (as listed above in Section 2.2.1), impacts to special status species would be minimized or avoided. Design features to minimize potential impacts to wildlife species include raptor-safe design elements incorporated into the design specifications, covering holes and trenches overnight to prevent entrapment, and avoiding active nest sites. Impacts to habitat and forage would be similar to those listed in Section 3.2.3 – General Wildlife. Therefore, the Proposed Action would have no long-term effect to special status species. Minor, short-term effects may result from localized construction noise as various parts of the line are constructed by work crews, a negligible and temporary disturbance to prey or foraging areas during construction as poles are placed and then conductor strung, and a temporary increase in human presence over several months of construction of activity.

Golden Eagle

No Golden Eagles or nests were observed during the biological survey; however, this species has a known occurrence within 3-miles of the project. Design features are incorporated into the proposed action to minimize or avoid direct impacts during construction and project design specifications (raptor proof). Spatial and seasonal buffer zones are a regularly used means to protect individual nest sites/territories to ensure successful breeding. Generally, a 0.5-mile buffer is applied to protect golden eagles at their nest site from construction disturbance. Thus, the potential golden eagle nest is not expected to be impacted by construction activities. Impacts to species would be temporary displacement from activities and reduced habitat and forage potentials for that area.

Other Raptor Species (Ferruginous Hawk and American Peregrine Falcon)
No Ferruginous Hawks or American Peregrine Falcons were identified at the time of survey, and no raptor nests were identified in or adjacent to the surveyed area, however, this species has known occurrences within 3 miles of the project area Design features are incorporated into the proposed action to minimize or avoid direct impacts during construction and project design specifications (raptor proof). Impacts to species would be temporary displacement from activities and reduced habitat and forage potentials for that area.

Western Burrowing Owl
No burrowing owls or their sign have been found within the project area during surveys, however, habitat is present, and species has a known occurrence within 3 miles of the project area. Design features are incorporated into the proposed action to minimize or avoid direct impacts during construction. If burrowing owls occur within the project footprint or project area, potential direct impacts from project activities could include increased potential for a strike and/or mortality resulting from excavations, potential entrapment within burrows (partial burrow collapse), and negative biophysical response (e.g., modification to feeding or reproductive behavior) to elevated disturbance levels (e.g., human presence, elevated noise and ground vibration levels, etc.). These impacts would be limited to the period of construction and to intermittent maintenance activities. The potential for impacts to this species would be reduced through the implementation of design features outlined above.

Pinyon Jay
Suitable pinyon-juniper woodland habitat for Pinyon Jay is present in the higher-elevation portions of the project area. Construction of the proposed transmission line and vegetation management activities during the line's operation would impact up to 68 acres of pinyon-juniper habitat. Design features incorporated into the proposed action would minimize or avoid direct impacts. Impacts would include up to 68 acres of reduction in nesting and foraging habitat for the Pinyon Jay within the project area.

Bat Species (Townsend's Big-eared Bat, Spotted Bat, Greater Western Mastiff Bat, Allen's Big-eared Bat, Cave Myotis)
The project area does not contain roosting habitat for the five bat species evaluated; however, it does contain desert scrub and woodland vegetation supporting insect species that could be utilized by these species as forage. Reduced vegetation would indirectly impact foraging opportunities but would not impact the species population.

Monarch Butterfly
Desert Milkweed and flowering plants were observed within the project footprint. The proposed project may impact Monarch Butterfly through the disturbance of vegetation that may provide breeding, foraging, and overwintering habitat for this species. Flowering plants would be available outside of the project. Avoidance and salvage of milkweed species would reduce impacts to species breeding habitat.

Sonoran Desert Tortoise
No Sonoran Desert Tortoise individuals, sign, or burrows were observed in the project area during the biological survey; however, habitat may be present. Design features have been incorporated

into the proposed action to minimize or avoid direct impacts to this species. Impacts include increased potential for a vehicle or equipment to crush a tortoise, potential entrapment within excavations, and negative biophysical responses (e.g., modification to feeding or reproductive behavior) resulting from elevated disturbance levels. Long-term, minor adverse indirect impacts resulting from all proposed action alternatives could include localized reductions in foraging habitat or quality by fragmenting habitat through the construction of access roads and/or spreading of noxious weeds.

Mexican Vole

No Mexican Voles or their sign, such as scat and raceways, were observed during the survey, however this species has habitat and known occurrences within 3 miles of the project area. Design features are incorporated into the proposed action to minimize or avoid direct impacts. Impacts would include potential habitat loss for the species.

Plant Species (Pinto Beardtongue and Joshua Tree)

Two Pinto Beardtongue plants were observed in the vicinity of Cedar Spring during the survey, which indicates the presence of suitable and occupied habitat. No individuals of this species were observed along the remainder of the alignment during the survey. Joshua Trees were observed during survey in most portions of the project area that contain Mojave Desert scrub vegetation. Design features are described above and within the BAE to minimize direct impacts and provide avoidance where possible. Impacts that could occur would be loss of individual plants from unsuccessful avoidance or salvage.

Table 3-5. FWS-listed Species Potentially Occurring in the Project Area

Scientific Name	Common Name	Status	Individuals Present?	Potential Habitat Present?	Finding
Gymnogyps californianus	California Condor	E, ENP, HTS	NPTS	Yes	May Affect[a]

[a] The full "May affect" determination is "may affect, not likely to adversely affect."

Key: E = Endangered; ENP = Experimental Non-essential Population; HTS = Hualapai Tribe Sensitive; NPTS = not present at time of survey.

Table 3-6. BLM Sensitive and Priority Species Potentially Occurring in the Project Area

Scientific Name	Common Name	Individuals Present?	Potential Habitat Present?	Finding[b]
Sensitive Species				
Aquila chrysaetos	Golden Eagle [a]	NPTS	Yes	May Impact
Athene cunicularia hypugaea	Western Burrowing Owl	NPTS	Yes	May Impact
Buteo regalis	Ferruginous Hawk	NPTS	Yes	May Impact
Corynorhinus townsendii	Townsend's Big-eared Bat	NPTS	Yes	May Impact

Scientific Name	Common Name	Individuals Present?	Potential Habitat Present?	Finding[b]
Danaus plexippus	Monarch Butterfly	NPTS	Yes	May Impact
Euderma maculatum	Spotted Bat	NPTS	Yes	May Impact
Eumpos perotis californicus	Greater Western Mastiff Bat	NPTS	Yes	May Impact
Falco peregrinus anatum	American Peregrine Falcon [a]	NPTS	Yes	May Impact
Gopherus morafkai	Sonoran Desert Tortoise [a]	NPTS	Yes	May Impact
Gymnorhinus cyanocephalus	Pinyon Jay	Yes	Yes	May Impact
Idionycteris phyllotis	Allen's Big-eared Bat	NPTS	Yes	May Impact
Myotis velifer	Cave Myotis	NPTS	Yes	May Impact
Pennstemon bicolor	Pinto Beardtongue	Yes	Yes	May Impact
Yucca brevifolia	Joshua Tree	Yes	Yes	May Impact
Priority Species				
Microtus mexicanus	Mexican Vole	NPTS	Yes	May Impact

[a] Hualapai Tribal Sensitive.

[b] All "May Impact" findings are "May Impact, but is not likely to result in a trend towards Federal listing or loss of viability."

Key: NPTS = not present at time of survey.

Table 3-7. Hualapai Tribe Sensitive Species Potentially Occurring in the Project Area

Scientific Name	Common Name	Individuals Present?	Potential Habitat Present?	Finding [a]
Antilocapra americanus	Pronghorn	Yes	Yes	May Impact
Buteo jamaicensis	Red-tailed Hawk	Yes	Yes	May Impact
Cervus canadensis	Elk	Yes	Yes	May Impact
Erethizon dorsatum	Porcupine	NPTS	Yes	May Impact
Lynx rufus	Bobcat	NPTS	Yes	May Impact
Odocoileus hemionus	Mule Deer	Yes	Yes	May Impact
Ovis canadensis	Desert Bighorn Sheep	NPTS	Yes	May Impact
Taxidea taxa	Badger	NPTS	Yes	May Impact

[a] All "May Impact" findings are "May Impact but is not likely to result in a trend towards Federal listing or loss of viability."

3.2.5 Issue 5: Vegetation

Issue Statement: How would the proposed transmission line, new substation, and associated elements of the project impact vegetation within the project area?

Project Setting - Affected Environment

Field surveys of the project area were conducted in May 2018 and March 2019 and the results reported in the Biological Assessment and Evaluation (see Appendix B). Refer to this report for a full analysis of the vegetation that may occur within the project area.

The proposed transmission line crosses two biotic communities, the Mohave Desert Scrub Zone and the Great Basin Conifer Woodland. Joshua trees (*Yucca brevifolia*), honey mesquite (*Prosopis glandulosa*) and creosote bushes (*Larrea tridentata*) dominate the lower elevations with several varieties of pinyon-juniper (single leaf pinyon - *Pinus monophyla*, black brush - *Acacia rigidula Benth*, and one seed junipers - *Juniperus monosperma*) found in the upper elevations (Appendix C Biological Assessment and Evaluation for full list of species). Groundcover includes Blackbrush, Mormon Tea (*Ephedra*), several varieties of cholla, and grass species.

Noxious and invasive plant species were encountered at five of the six sample survey locations along the route with Cheatgrass (*Bromus tectorum*) having the highest level of invasiveness, Redstem Stork's Bill (*Erodium Cicutarium*) and Prickly Russian Thistle (*Kali tragus*) most moderately invasive. Other noxious, non-native, and invasive species may be present within the area. It is common for invasive species to come in after construction and soil disturbance. Design features are incorporated to minimize or avoid impacts from invasive species. Cleaning of vehicles and re-seeding will reduce the opportunity for invasives to establish within disturbed sites.

Environmental Consequences

Alternative A: No-Action Alternative

The No-Action Alternative would result in no significant impacts to vegetation in the Proposed Action area. In addition, the No-Action Alternative is not anticipated to have an impact on vegetation within the Proposed Action area as no new facilities would be built and no ground disturbance or vegetation removal would occur.

Alternative B: Proposed Action

Impacts to the vegetation in the area include the removal of trees under power line, trimming of bushes to approximately three feet high under the power line, with upward feathering to the edge to right-of-way, and clearance around the base of each pole. The acreage of forage and habitat disturbed is shown in Table 2-3 of which 19.15 acres occur in the pinyon-juniper woodland within BLM's jurisdiction. Approximately 48.85 acres of pinyon-juniper woodland would be disturbed on tribal lands.

With the implementation of the design features listed above in Section 2.2.1, impacts to vegetation would be minimized or avoided. Design features to minimize potential impacts to vegetation include hand-cutting trees (vs. clear cutting) and feathering vegetation within the right-of-way, using the drive and crush method to access the pole locations and hand digging poles where terrain is steep (greater than 1:4 slope as noted in RPMs) to avoid large areas of temporary disturbance. Areas where crushing of vegetation may occur around poles should recover within a year after

construction. Lands kept clear of vegetation would be limited to the base of each pole or up to 34 square feet per pole with the notable exception of the 900 square feet needed to construct the caisson/revetment for the central pole required to span Hells Canyon. Clearing vegetation would not exceed the amount needed to maintain safe power line operations and meet VRM Class II objectives (Appendix D). Vegetation clearing does not include native grasses that would be re-seeded around the base of each pole to decrease erosion. At the time of re-seeding a native seed mixture would be formulated by BLM wildlife biologist.

To reduce the spread of invasive plant species, work crews would avoid crushing of invasives. Vehicles would be cleaned prior to project construction to avoid introduction of weed species to the area (See Section 2.2.2.10 - Noxious and Invasive Weeds Measures).

4.0 Supporting Information

4.1 Individuals, Organizations, or Agencies Consulted

Table 4-1 contains a list of individuals, and organizations that were consulted during the preparation of this EA.

Table 4-1. Individuals, Organizations, and Agencies Consulted

Name	Tribe, Organization, or Agency
Online Review Tool Report	AZGFD HDMS
IPaC	United States Fish and Wildlife Service
Peter Bungart	HTUA Archaeologist, Tribal Historic Preservation Office

4.2 List of Preparers

Tables 4-2 lists the BLM IDT members who assisted in the preparation of this EA, and Table 4-3 lists other preparers of the document.

Table 4-2. BLM Preparers

Name	Title
Joelle Acton	Wildlife Biologist
Thomas Thompson	Archaeologist
Matthew Driscoll	Outdoor Recreation Planner
Maria Nicoletti	Lead Realty Specialist
Angelica Rose	Planning and Environmental Coordinator
Mark (Andy) Whitefield	Surface Protection Specialist (Retired)

Table 4-3. Other Preparers

Name	Title	Responsible for the Following Section(s) of this Document
Ashley D'Elia	Tierra GIS Specialist	Visual Resources Simulations and Mapping
Allison Getty	Tierra Environmental Compliance Lead/Project Manager	Quality Assurance
Jennifer Jennings	Tierra Senior Biologist	All
Tim Jordan	Tierra Senior Biologist	Biological and Vegetation Resources
Theresa Knoblock	Tierra Senior Planner/Environmental Compliance Lead	Quality Assurance
Jerry Lyon	Tierra Principal Investigator	Cultural Resources
David McIntyre	Tierra Senior Planner	Social and Economic Resources
Kevin Davidson	Hualapai Tribe	Editing
Kristen Bastis	Environmental Protection Specialist, RUS	All

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2019c Hualapai Indian Reservation and Off-Reservation Indian Trust Land. Excel spreadsheet. On file, Hualapai Tribe, Peach Springs, Arizona.

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List of Appendices