DRAFT ENVIRONMENTAL ASSESSMENT
Davis–Kingman Tap 69-kV Transmission Line Rebuild
Mohave County, Arizona

DOE/EA-1665
DOI-BLM-AZ-C0-#

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LIST OF ABBREVIATIONS AND ACRONYMS

ACEC	Area of Critical Environmental Concern
ACSR	aluminum conductor steel reinforced
ADA	Arizona Department of Agriculture
ADEQ	Arizona Department of Environmental Quality
AGFD	Arizona Game and Fish Department
AGS	Arizona Geological Survey
ADOT	Arizona Department of Transportation
ADWR	Arizona Department of Water Resources
AIDTT	Arizona Interagency Desert Tortoise Team
AIRFA	American Indian Religious Freedom Act
APE	Area of Potential Effects
ARPA	Archaeological Resources Protection Act
ARS	Arizona Revised Statute
ASLD	Arizona State Land Department
ASM	Arizona State Museum
AZ	Arizona
AZPDES	Arizona Pollutant Discharge Elimination Systems
BLM	US Bureau of Land Management
BMPs	Best Management Practices
BOR	Bureau of Reclamation
CERCLA	Comprehensive Environmental Response, Contamination and Liability Act
CERCLIS	Comprehensive Environmental Response, Contamination, and Liability Information System
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CFRA	Cerbat Foothills Recreation Area
CLNB	California long-nosed bat
CO	Carbon Monoxide
Corps	US Army Corps of Engineers
CWA	Clean Water Act
dB	decibel
dBA	"A"-weighted decibel
DEM	Digital elevation model
DOE	US Department of Energy
DOI	US Department of the Interior
DSWR	Desert Southwest Region
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMF	electric and magnetic fields

EPA	US Environmental Protection Agency
ESA	Endangered Species Act of 1973 as amended
FEMA	Federal Emergency Management Agency
FLPMA	Federal Land Policy and Management Act of 1976
flycatcher	Southwestern willow flycatcher
G	Gauss
GIS	Geographic Information System
GLO	General Land Office
GPS	Global Positioning System
GWBB	Greater western bonneted bat
Hz	Hertz
IO	Isolated occurrence
KOP	Key observation point
kV	kilovolt
kV/m	kilovolts per meter
L_{dn}	Weighted 24-hour noise level
LUSTs	Leaking underground storage tanks
MEC	Mohave Electric Cooperative, Inc.
mG	milligauss
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESC	National Electrical Safety Code
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NO_2	Nitrogen Dioxide
NPS	National Park Service
NRA	National Recreation Area
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NWP(s)	Nationwide Permit(s)
OAQPS	Office of Air Quality Planning and Standards
OSHA	Occupational Safety and Health Administration
$PM_{2.5}$	Particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10}	Particulate matter less than ten microns in aerodynamic diameter
PTBEB	pale Townsend's big-eared bat
Reclamation	US Bureau of Reclamation
ROW	Right(s)-of-Way
RMP	Resource Management Plan
RPM	Resource Protection Measure

RV	Recreational Vehicle
TPF	The Peregrine Fund
SHPO	State Historic Preservation Office
SR	State Route
SWPPP	Stormwater Pollution Prevention Plan
TCP	Traditional Cultural Property
TLV	Threshold Limit Value
UNS	UniSource Energy Services
UNSE	UniSource Electric, Inc.
US	United States
USDA	US Department of Agriculture
USGS	US Geological Survey
USFWS	US Fish and Wildlife Service
uT	Microteslas
V/m	Volts per meter
VRM	Visual Resource Management
Western	Western Area Power Administration
WQARF	Water Quality Assurance Revolving Fund
ZUP	Zoning Use Permit

1.0 INTRODUCTION

1.1 BACKGROUND

Western Area Power Administration's (Western) statutory mission as an agency is to market and deliver low-cost hydroelectric power and related services to its customers. Western is one of four power marketing administrations within the U.S. Department of Energy (DOE). Western operates within a 15-state region of the central and western United States, and delivers power from 57 power plants to a service area that covers approximately 1.3 million square miles and is divided into four regions. Western operates and maintains more than 17,000 circuit-miles of transmission lines (Western 2009a). Western's transmission system carries electricity from hydropower facilities operated by the Bureau of Reclamation (Reclamation), U.S. Army Corps of Engineers (Corps), and the International Boundary and Water Commission for a total installed capacity of 10,489 megawatts (Western 2010).

The Desert Southwest Region (DSWR), based in Phoenix, Arizona, is one of Western's four regions and operates transmission lines and facilities in Arizona, California, and Nevada. The DSWR operates and maintains more than 40 substations and 3,100 miles of transmission lines and markets federal hydroelectric power to nearly 70 municipalities, cooperatives, federal and state agencies, and irrigation districts. Most power sold by DSWR is generated from power plants operated at Hoover, Parker and Davis dams. Power is also marketed from hydroelectric projects in the Bureau of Reclamation's Upper Colorado Region and the federal portion of power generated at Navajo Generating Station near Page, Arizona.

The existing Davis–Kingman Tap 69-kilovolt (kV) Transmission Line originates in Bullhead City, Arizona, at the Davis Dam Switchyard, proceeds east over the Black Mountains, through Sacramento Valley/Golden Valley, over the Cerbat Mountains, and terminates 27.3 miles east (Figure 1-1). Western's ownership ends just northwest of Kingman, Arizona, four spans east of Mohave Electric Corporation's Kingman Tap substation, and one span west of the line's connection to United Electric Corporation's 69-kV Coyote Pass-Kingman Transmission Line. The line has been in service well beyond its projected service life. The customers' load on the line has increased considerably over the years, and reliability has decreased due to natural aging, extreme weather exposure, vandalism, and lightning strikes.

Western owns, operates and maintains the existing Davis–Kingman Tap 69-kV Transmission Line, on a 100-foot-wide right-of-way (ROW) with 50-foot-wide access road ROWs. This line was constructed under contract by Reclamation between 1946 and 1947. The ROW (BLM serial case number PH-

083786) was originally authorized on January 23, 1950 to Western's predecessor, Reclamation, and then converted to a Federal Land Policy and Management Act (FLPMA) authorization on April 20, 2000. Western assumed the power marketing responsibilities of Reclamation, pursuant to Section 302 of the Department of Energy Organization Act (42 U.S.C. 7152), and those electrical transmission facilities were transferred to Western by the Office of Management and Budget Determination Order dated September 30, 1977.

As part of this Proposed Action, Western submitted a SF-299, Application for Transportation and Utility Systems and Facilities on Federal Land, to the Bureau of Land Management requesting an amendment to the Davis–Kingman Tap 69-kV Transmission Line and access road ROW reservation (BLM serial case number PH-083786) for the: 1) authorization of new access roads near existing structure 7/6, 8/1, 10/5,11/2, 11/7 and 26/5-27/3; and 2) additional ROW width between existing structures 25/2 and 25/7 (125 feet for a 4000 foot span). Western also requests a short-term ROW for laydown areas and construction areas outside of the existing Davis–Kingman ROW. Short-term ROW permit would include an additional 50 feet either side of the permanent transmission line ROW and an additional 25 feet either side of the permanent 50 foot wide access road ROW.

This Environmental Assessment (EA) evaluates the probable and known impacts to the environment from Western's Proposed Action, and reaches a conclusion about the significance of the impacts. This EA was prepared in compliance with National Environmental Policy Act (NEPA) regulations published by the Council on Environmental Quality (CEQ) (40 CFR 1500-1508) and implementing procedures of DOE (10 CFR 1021). Western is the lead federal agency responsible for preparing the EA. The Department of Interior's (DOI) Bureau of Land Management (BLM) Kingman Field Office and Reclamation's Lower Colorado Regional Office are cooperating agencies. The DOE is Western's regulatory and licensing authority as established by the DOE Organization Act 42 U.S.C., 7152(A) (3), Reclamation Project Act of 1939, 43 U.S.C. 485h(c). This EA incorporates information needed by the BLM as described in the BLM Handbook (H-1790-1) to make decisions regarding ROWs. As part of the DOE, Western is not required to obtain state or local permits. Should the Proposed Action be selected, Western would be the federal agency responsible for funding, design review, and project management.

1.2 PROJECT DESCRIPTION

Western plans to rebuild a 26.6-mile-long portion of the existing 27.3-mile-long Davis–Kingman Tap 69-kV Transmission Line within the existing ROW in order to improve the reliability of the transmission service. The line has been in service well beyond its projected service life, customer load on the line has

increased considerably over the years, and reliability has decreased due to natural aging, extreme weather exposure, vandalism, and lightning strikes. The western-most 0.7 mile of the existing line was rebuilt as part of the Davis Dam Switchyard in 2010.

The Project involves the removal of the existing wood pole H-frame structures and conductors, and installation of new "weathering" steel monopole structures (eventually turning a natural shade of brown), new conductors, new switch assemblies, and an overhead ground wire for lightning protection. In some instances, mainly where the transmission line turns, three-pole galvanized steel structures would be used instead of monopole structures. Short-term ROW will be required for laydown areas, ground wire pulling, and tensioning and splicing sites.

The majority of the transmission line alignment is located on land administered by the BLM, Kingman Field Office and private lands. The transmission line also crosses lands administered by the National Park Service (NPS), Reclamation and Arizona State Land Department (ASLD). As a consequence of construction activities, ground disturbance would occur as a result of grading areas for structure placement and removal, constructing new roads, improving existing roads for vehicle and equipment access, and installing structures, conductors and overhead ground wire. Project construction activities and creation of new access along the transmission line would be conducted within permanent ROW and temporary use permit areas (short-term ROW).

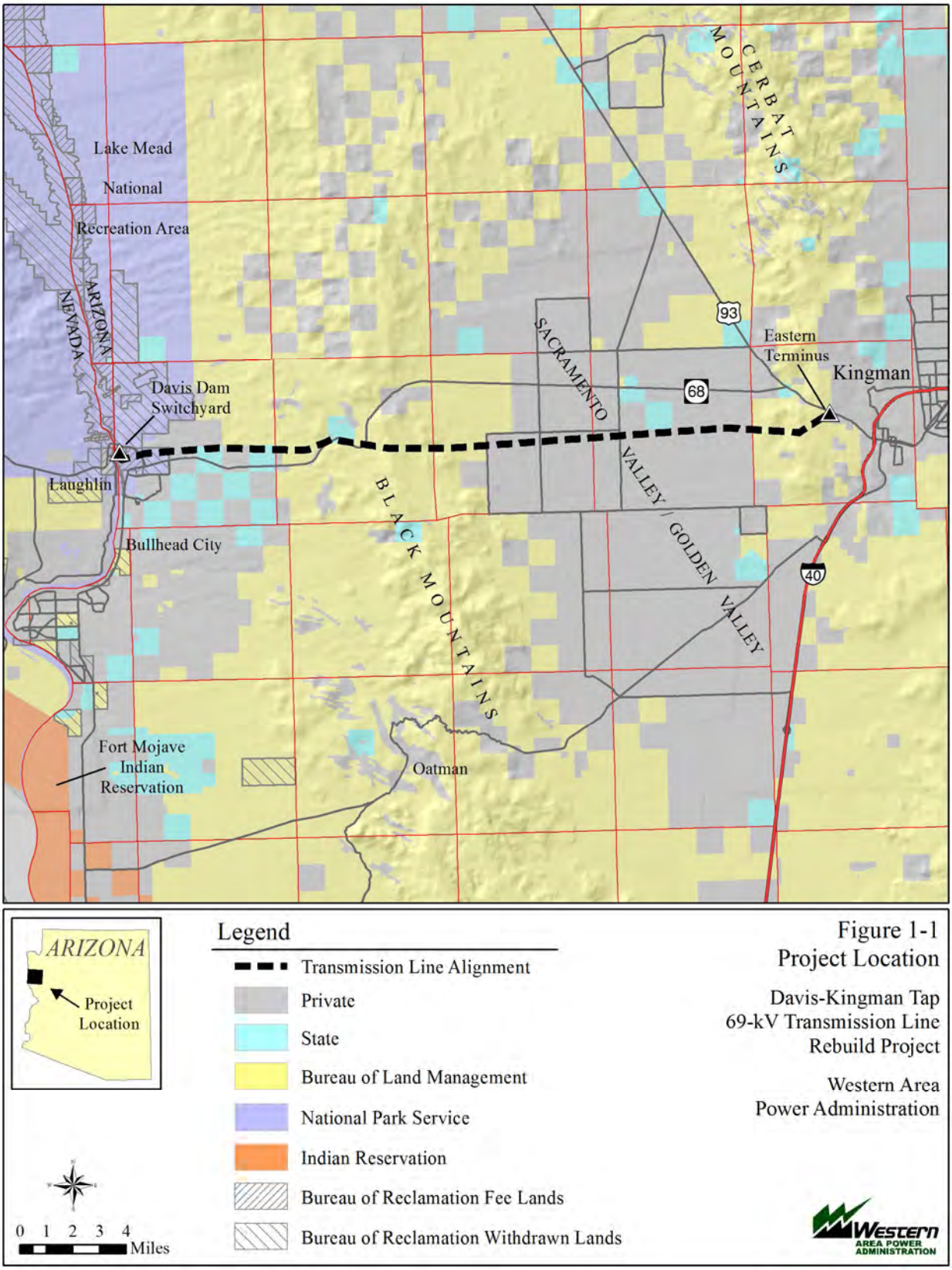
The Project footprint of the rebuilt transmission line would be identical to the 100-foot-wide ROW of the existing transmission line and all associated access roads, with the exception of an additional requested 25 feet of ROW between existing structure 25/2 and 25/7, which is a 4,000-foot distance. "Project footprint" includes the transmission line and permanent ROW. "Project area" includes the Project footprint (transmission line and permanent ROW), short-term ROW, the parking and assembly areas, and lands adjacent to the Project footprint. "Project vicinity" refers in general to the local area surrounding the Project area. For resource sections beginning in Chapter 3.0, the term "study area" refers to the Project area and the surrounding buffer area identified for that specific resource analysis.

Since NEPA studies were not performed when the Davis–Kingman Tap 69-kV transmission line was originally built, and new BLM ROW authorization is required for a 4,000-foot span of the transmission line and access roads across BLM lands, a new NEPA analysis is required for the entire Project.

Project Location

The Project is located in Mohave County, Arizona. The existing Davis–Kingman Tap 69-kV Transmission Line originates at the Davis Dam 69-kV Switchyard within the Davis Dam Substation, south of the dam and east of the Colorado River, and proceeds east over the Black Mountains, through the Sacramento/Golden Valley, and over the Cerbat Mountains, terminating 27.3 miles east (Figure 1-1). The Project would begin at Structure 0/7 and end northwest of Kingman (approximately 0.5 mile east of Coyote Pass) at the existing structure approximately 750 feet southwest of U.S. Highway 93.

The intervening valley between the Black and Cerbat mountains is geographically known as the "Sacramento Valley." This name appears on USGS quadrangle maps and is used on figures throughout this document. However, the portion of this valley traversed by the Davis–Kingman Tap 69-kV Transmission Line is also known as Golden Valley, especially among local residents. Throughout this document, this area is referred to as the "Sacramento/Golden Valley;" although "Golden Valley" is also used when referring primarily to the residential community that occupies the area.


Lake Mead
National
Recreation Area
NEVADA
ARIZONA
Davis Dam
Switchyard
Laughlin
Bullhead City
Fort Mojave
Indian
Reservation
Oatman
BLACK MOUNTAINS
SACRAMENTO VALLEY / GOLDEN VALLEY
CERBAT MOUNTAINS
Eastern
Terminus
Kingman
93
68
40
ARIZONA
Project
Location
Legend
Transmission Line Alignment
Private
State
Bureau of Land Management
National Park Service
Indian Reservation
Bureau of Reclamation Fee Lands
Bureau of Reclamation Withdrawn Lands
0 1 2 3 4
Miles
Figure 1-1
Project Location
Davis-Kingman Tap
69-kV Transmission Line
Rebuild Project
Western Area
Power Administration
Western
AREA POWER
ADMINISTRATION

The legal description of the Project by land status is shown in Table 1-1. The mileage across different land jurisdictions is provided in Table 1-2. The legal description information was derived from the Davis Dam, Union Pass, Secret Pass, Kingman NW, and Kingman U.S. Geological Survey (USGS) 7.5-minute quadrangle maps.

TABLE 1-1
LEGAL DESCRIPTION BY LAND STATUS*

Land Status	Township	Range	Section(s)
Bureau of Land Management, Kingman Field Office	21N	20W	17,19,20,21,22,23,24
	21N	19W	19,20
	21N	17W	16,19,20,21
Private	21N	21W	21,23
	21N	20W	16
	21N	19W	21,22,23,24
	21N	18W	19,20,21,22,23,24
	21N	17W	19
National Park Service, Intermountain Region	21N	21W	19
Bureau of Reclamation, Lower Colorado Regional Office	21N	21W	19,20
Arizona State Land Department	21N	21W	22,24
	21N	20W	16

*Gila and Salt River Baseline and Meridian

TABLE 1-2
LAND STATUS MILEAGE FOR PROPOSED ALIGNMENT

Land Jurisdiction	Miles
Bureau of Land Management, Kingman Field Office	10.06
Private	12.36
National Park Service*, Lake Mead NRA	1.37
Arizona State Land Department	2.81
TOTAL	**26.60**

*Approximately 1.0 mile of NPS land is actually Reclamation Withdrawn Lands, and 0.37 mile is Reclamation Fee Lands, but are managed by the NPS.

The Davis–Kingman Tap 69-kV Transmission Line is an existing facility. Under the direction of BLM, Western submitted an application for the Davis–Kingman Tap 69-kV Transmission Line 25-foot ROW expansion, and also amended past ROW applications for the extension of new access roads. BLM would assign a ROW serial number for this project in the future. The new ROW would be authorized under FLPMA.

As part of this application, Western is requesting permanent authorization to use all of the access roads shown on Figure 1-2 (Sheets 1 through 6) for both construction and maintenance.

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Figure 1-2
Sheet 1 of 6
Transmission Line Alignment

Davis-Kingman Tap
69-kV Transmission Line Rebuild Project
Mohave County, AZ

Western Area Power Administration

Legend

- Transmission Line Centerline
- Access Road
- New Transmission Line Structure
- Transmission Line Permanent ROW (100ft)
- Transmission Line Temporary ROW (200ft)
- Access Road Permanent ROW (50ft)
- Access Road Temporary ROW (100ft)
- Turning Structure Temporary ROW (300ft)

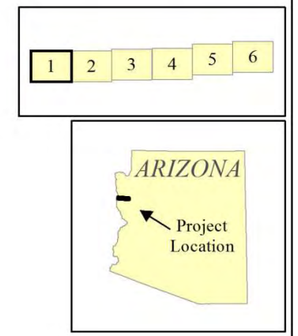

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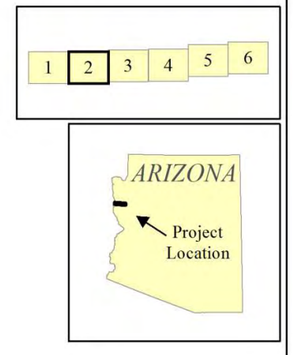
Figure 1-2
Sheet 2 of 6
Transmission Line Alignment

Davis-Kingman Tap
69-kV Transmission Line Rebuild Project
Mohave County, AZ

Western Area Power Administration

Legend

- Transmission Line Centerline
- Access Road
- New Transmission Line Structure
- Transmission Line Permanent ROW (100ft)
- Transmission Line Temporary ROW (200ft)
- Access Road Permanent ROW (50ft)
- Access Road Temporary ROW (100ft)
- Turning Structure Temporary ROW (300ft)



0 1 Miles

Western AREA POWER ADMINISTRATION

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Figure 1-2
Sheet 3 of 6
Transmission Line Alignment

Davis-Kingman Tap
69-kV Transmission Line Rebuild Project
Mohave County, AZ

Western Area Power Administration

Legend

- Transmission Line Centerline
- Access Road
- New Transmission Line Structure
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- Transmission Line Temporary ROW (200ft)
- Access Road Permanent ROW (50ft)
- Access Road Temporary ROW (100ft)
- Turning Structure Temporary ROW (300ft)

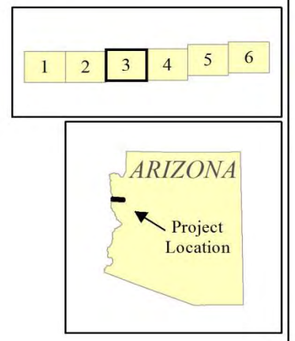

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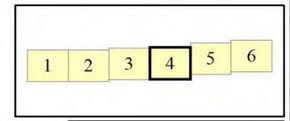
Figure 1-2
Sheet 4 of 6
Transmission Line Alignment

Davis-Kingman Tap
69-kV Transmission Line Rebuild Project
Mohave County, AZ

Western Area Power Administration

Legend

- Transmission Line Centerline
- Access Road
- New Transmission Line Structure
- Transmission Line Permanent ROW (100ft)
- Transmission Line Temporary ROW (200ft)
- Access Road Permanent ROW (50ft)
- Access Road Temporary ROW (100ft)
- Turning Structure Temporary ROW (300ft)



0 1 Miles

Western Area Power Administration

May 5, 2011 G:\Projects\Wapa\Davis-Kingman\Transmission-Alignment-Aerials\Transmission-Alignment-Aerials_11x17.mxd

Figure 1-2
Sheet 5 of 6
Transmission Line Alignment

Davis-Kingman Tap
69-kV Transmission Line Rebuild Project
Mohave County, AZ

Western Area Power Administration

Legend

- Transmission Line Centerline
- Access Road
- New Transmission Line Structure
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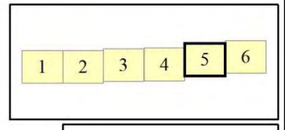
- Access Road Temporary ROW (100ft)
- Turning Structure Temporary ROW (300ft)



0 1 Miles

Western Area Power Administration

May 5, 2011 G:\Projects\Wapa\Davis-Kingman\Transmission-Alignment-Aerials\Transmission-Alignment-Aerials_11x17.mxd

Figure 1-2
Sheet 6 of 6
Transmission Line Alignment

Davis-Kingman Tap
69-kV Transmission Line Rebuild Project
Mohave County, AZ

Western Area Power Administration

Legend

- Transmission Line Centerline
- Access Road
- New Transmission Line Structure
- Transmission Line Permanent ROW (100ft)
- Transmission Line Temporary ROW (200ft)
- Access Road Permanent ROW (50ft)
- Access Road Temporary ROW (100ft)
- Turning Structure Temporary ROW (300ft)

1 2 3 4 5 6

N W E S

0 1 Miles

Western AREA POWER ADMINISTRATION

1.3 PURPOSE AND NEED

1.3.1 Western's Purpose and Need

The Davis Dam Substation serves as a distribution point for the power generated by Davis Dam. The Davis–Kingman Tap 69-kV circuit is the only point of service for two substations owned by two separate entities (UniSource Energy Services [UNS] and Mohave Electric Cooperative, Inc. [MEC]), and any problems on the line require temporary outages to all. The transmission line requires above-normal maintenance to maintain reliability, and has experienced an increased demand over the past few years. The line's wood structures have degraded due to weathering, rot, and normal aging, and are beyond their serviceable life expectancy of 50 years. Although individual structures are grounded, there is no lightning protection for the transmission line. Given the existing condition of the line, more frequent and longer unplanned power outages as well as higher maintenance costs are anticipated if the line is not rebuilt.

The access roads to the transmission line have degraded over the years and are not suitable for use without maintenance. Many locations along the access roads are steep and have eroded over time. Repairing the access roads would enable crews to reach structures quicker, resulting in less repair time and shorter customer outages.

As part of scheduled maintenance procedures, Western regularly evaluates the integrity of each structure and replaces or repairs those structures as needed. A structure testing program conducted by Western throughout the mid-2000s determined that a substantial number of the wood structures have deteriorated and no longer maintain structural integrity and strength due to shell rot and heavy weathering with deep surface cracking extending into the heartwood. Many structures are out of alignment, raked, or bowed, diminishing the mechanical properties of the structures. Similarly, numerous structure crossarms have been replaced and others are cracked and need repair. Western Maintenance crews have also had to replace porcelain suspension insulators that have been shot by vandals. The structures' conditions make them unsafe for climbing by maintenance personnel. Replacing the aging wood structures with steel monopole structures, as well as adding overhead ground wire to protect the line from lightning, would increase the reliability of the line and reduce future maintenance costs and efforts.

Western proposes to rebuild the existing Davis–Kingman Tap 69-kV Transmission Line because the individual line components (structures, insulators, conductor) have been in service well beyond their projected service life spans; the customers' load on the line has increased considerably over the years; and

safety and reliability have decreased due to natural aging, extreme weather exposure, vandalism, and lightning strikes.

1.3.2 BLM's Purpose and Need and Decision to be Made

The purpose of the Proposed Action is to facilitate Western's ability to reconstruct the Davis–Kingman Tap 69-kV Transmission Line where it exists on BLM administered public lands. The need for BLM's action is to meet its obligations under the Federal Land Policy and Management Act (FLPMA) to respond to Western's application for new access roads; additional ROW width between existing structures 25/2 and 25/7; and temporary use permits for laydown areas and construction areas outside of the existing ROW. The BLM would decide whether or not to grant the amendment, and if so, under what terms and conditions.

Reclamation is a cooperating agency and is working with the BLM to expedite the project and reduce duplication among NEPA and other permitting requirements.

1.4 APPLICABLE REGULATORY REQUIREMENTS AND REQUIRED COORDINATION

1.4.1 Applicable Laws and Regulations

The following Table 1-3 summarizes applicable laws and regulations as they pertain to the Project. Table 1-4 summarizes permits, licenses, and entitlements required for this Project.

TABLE 1-3
SUMMARY OF APPLICABLE LAWS AND REGULATIONS

Law / Regulation	Applies to
American Indian Religious Freedom Act	Archaeological resources and Tribal consultation
Antiquities Act of 1906	Archaeological resources and Tribal consultation
Archaeological Resources Protection Act	Archaeological resources and Tribal consultation
Clean Air Act	Air pollution prevention and control Emission levels of regulated pollutants
Clean Water Act (Sections 401/402/404)	Surface water quality Discharge or dredge or fill materials into jurisdictional waters of the US
Endangered Species Act	Threatened and endangered species
Executive Order 11593	Protection and enhancement of the cultural environment
Executive Order 11988/11990 (10CFR 1022 DOE)	Floodplains and wetlands
Executive Order 12898	Environmental justice
Executive Order 13112	Noxious weeds

Executive Order 13175	Consultation and coordination with Tribal government
Executive Order 13212	Energy policy
Farmland Protection Policy Act	Prime and Unique Farmlands
Federal Land Policy and Management Act	Management of public lands
Migratory Bird Treaty Act	Protection of Selected Bird Species
National Environmental Policy Act	Federal undertakings / DOE NEPA regulations
National Historic Preservation Act (NHPA)	Historic properties and traditional cultural properties
Native American Graves Protection and Repatriation Act of 1990	Archaeological resources and Tribal consultation
Noise Control Act of 1972, as amended	Noise protection
Occupational Safety and Health Act	Health and safety standards
Pollution Prevention Act of 1990	Reducing potential for pollution sources
Secretarial Order 3206	Endangered Species Act and Tribal Trust responsibilities

TABLE 1-4
SUMMARY OF PERMITS AND AUTHORIZATION

Permitting Agency	Permit/Authorization
Bureau of Land Management, Kingman Field Office	FLPMA ROW authorization; Cultural Permit No.: BLM-AZ-310-10-26
US Army Corps of Engineers	Section 404 Clean Water Act
Arizona Department of Environmental Quality	Arizona Pollutant Discharge Elimination System Permit for construction activities and Section 401 water quality certification
Arizona Department of Transportation	Encroachment Permit, Oversized Load Permit
Arizona State Land Department/Arizona State Museum	Arizona Antiquities Act Permit Nos.: 2009-023bl, 2010-051bl
Bureau of Reclamation, Lower Colorado Regional Office	Archaeological Resource Protection Act (ARPA) Permit No.: LC-AZ-09-10
National Park Service, Pacific West Region	ARPA Permit No.: PWR-1979-10-AZ-01

1.4.2 Conformance with Land Use Plans

The Project would be constructed, operated, and maintained in conformance with the following federal, county, and city agency plans.

BLM Kingman Resource Management Plan

The BLM's Kingman Resource Management Plan (RMP) is the governing document for BLM land within the Project area. The Proposed Action for a FLPMA ROW is in conformance with the *Kingman Resource Area Proposed Resource Management Plan and Final Environmental Impact Statement* which was approved in 1993, and is consistent with the following statement on page 66: "Additions to existing lines not within [designated] corridors would be permitted following compliance with the National Environmental Policy Act…" (BLM 1993).

BLM Black Mountain Ecosystem Management Plan and Environmental Assessment

In 1996, the BLM developed the Black Mountain Ecosystem Management Plan and Environmental Assessment in response to long-standing resource use conflicts and management controversies, and particularly regarding livestock, wildlife (mainly bighorn sheep), and wild burros. The purpose of the plan is "to facilitate multiple-use management, while ensuring the sustained health of the land" (BLM 1996). The plan is the primary document for managing all public lands within the Black Mountain ecosystem.

Lake Mead NRA General Management Plan

The Lake Mead National Recreation Area (NRA) is a unit of the National Park Service (NPS), an agency whose mission, as defined in the Organic Act of 1916, is "to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such a manner as would leave them unimpaired for the enjoyment of future generations." The Lake Mead NRA, administered by the NPS, has as its guiding document the 1986 General Management Plan/Environmental Impact Statement. The General Management Plan, A Lake Management Plan/Environmental Impact Statement, which tiered from the 1986 plan, was prepared in 2003 to provide additional and more specific guidance for the long-term management of Lake Mead and Lake Mohave (NPS 1986, 2003). These two documents provide long-term guidance for the recreation area. A General Management Plan Amendment for Low Water Conditions was prepared in 2005 to address unforeseen and unpredicted drought conditions (NPS 2005).

Mohave County General Plan

The Mohave County General Plan (2005) is the document that guides the county on a course of action to manage growth, preserve the quality of life, and ensure sustainability. The plan establishes policies and programs to address the many issues facing the County. The ultimate goal of the plan is to present one document that reflects a County-wide consensus and ensures a coordinated effort between incorporated cities and towns, federal, state, Native American, and regional agencies, and public/private service providers. Additionally, this plan aims to meet required state law "to conserve the natural resources of the county, to insure efficient expenditure of public funds, and to promote the health, safety, convenience, and general welfare of the public." The current plan represents a revision of the original plan adopted in 1995, with reaffirmation and reassessment of community values (Mohave County 2005).

City of Kingman General Plan

Kingman's General Plan was adopted in November 2003. It is a general development plan which covers the City of Kingman and an adjacent unincorporated portion of Mohave County. The purpose of the plan is to be a statement of community concerns and development policies intended to aid decision-making regarding future community growth issues (City of Kingman 2003).

City of Bullhead City General Plan

Bullhead City's General Plan was adopted in June 2002. The plan's purpose is to provide a clear vision for City decision-makers, residents, and others working within the City to provide a blueprint for growth and development that would enhance the life of City residences and businesses. The plan constitutes the implementation strategy for goals, objectives, and policies (City of Bullhead City 2002).

1.5 PROJECT SCOPING ACTIVITIES

Western notified interested agencies, Tribes, organizations, and individuals about the Proposed Action (see Appendix A). Western distributed scoping letters to landowners, specific companies, organizations, and members of the general public. The primary purpose of the letters was to inform known stakeholders about the Project and to solicit their input regarding Project alternatives and other issues to be addressed in the EA. These efforts were carried out pursuant to the "scoping process," as defined by CEQ's regulations implementing NEPA. Agencies and tribes contacted as part of this process are listed in Section 4.0. Issues and concerns identified during the scoping process are listed below, and have been considered in the preparation of this EA.

USFWS

- Recommends development of an avian protection plan to reduce risks to avian interaction
- Recommends use of anti-perching devices on structures
- Recommends maintaining sanitary conditions and reduce water sources at work areas to avoid attracting ravens or other predators of desert tortoises

NPS/Lake Mead NRA

- Would not authorize construction of new access routes, and staging areas must be located outside the NRA boundary
- Requests measures to reduce spread of non-native plant species within the NRA

- Requests Western not use new transmission line structures that were taller than the existing structures
- Requests all project employees attend an on-site orientation meeting regarding NPS rules and measures
- Requests restoration or revegetation in temporary work areas at project completion

Arizona Game and Fish Department (AGFD)

- Recommends transmission line design to prevent raptor electrocution
- Recommends conducting wildlife surveys for Gila monster, desert tortoise and western burrowing owl prior to construction
- Recommends limiting project activity during avian breeding season, and conducting avian surveys prior to construction

Arizona Department of Environmental Quality (ADEQ)

- Recommends reducing disturbance of particulate matter during construction
- Recommends revegetating any disturbed land not used
- Recommends removing unused material and soil
- Obtain necessary permits

Sierra Club

- Recommends avoiding or minimizing impacts to wildlife
- Concerned about the spread of invasive plant species

Unisource Energy Services (UNSE)

- Requests moving eastern terminus point to the northwest, near the UNSE Coyote Breaker

General Public

- Requests minimizing grading work to reduce [water] erosion
- Concerned about additional "taking" of more private land and replacing private fence after construction

- Concerned whether there would be more power going through the lines, and its health effects on dogs and humans
- Requests to be added to the mailing list
- Recommends the EA analyze potential impacts on and mitigation for animal and plant species, and wilderness, visual, and energy resources

Western also solicited public comment through local newspaper notifications in Mohave Valley, Arizona (Mohave Valley Daily News) and Laughlin, Nevada (Laughlin Nevada Times) during the week of August 23, 2010 (Appendix A). Five public comments were received as a result of these notifications.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

Western proposes to rebuild the Davis–Kingman Tap 69-kV Transmission Line by:

- Removing the existing wood pole H-frame structures and conductors
- Excavating for new structure foundations; including augering, drilling, blasting or installing special rock anchors
- Installing new weathering steel monopole structures, new conductors, and an overhead ground wire for lightning protection along the existing alignment (in some instances, three-pole galvanized steel structures would be used instead of monopole structures)
- Clearing areas for conductor and ground wire pulling, and tensioning and splicing sites
- Stringing new 795 kcmil ACSR conductor on new porcelain insulators
- Replacing the existing switch assemblies
- Widening the ROW from 100 feet to 125 feet between existing Structure 25/2 and Structure 25/7 (a 4,000 foot span)
- Constructing new access roads and improving existing access roads where required to make them passable for construction and maintenance vehicles (access roads may be widened up to approximately 15-20 feet in width to accommodate construction equipment)
- Blocking access roads after construction with natural barriers or gates to keep motorized vehicles out

BLM's Proposed Action

The BLM would issue a FLPMA-compliant ROW to Western for the Davis–Kingman Tap 69-kV Transmission Line for additional ROW width between existing structures 25/2 and 25/7; ROW for new access roads; and temporary use permits for laydown areas and construction areas outside of the existing ROW.

2.1.1 Design Characteristics

Western designs, constructs, operates, and maintains transmission lines to meet or exceed the requirements of the National Electrical Safety Code (NESC), U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) Standards, and Western's policies for safety and protection of landowners, property, wildlife, and the public. All permanent improvements in proximity to the

transmission line, such as fences, metal gates, and metallic structures, would be grounded in accordance with existing codes. Table 2-1 depicts relevant design characteristics of the Project.

TABLE 2-1.
PROJECT DESIGN CHARACTERISTICS

Feature	Description
Type of structure (typical)	Weathering steel monopole
Types of structure (certain instances)	Three-pole galvanized steel
Structure height (typical)	Approximately 65-120 feet
Structure width (typical)	Base approximately 30 inches
Span length (typical)	Approximately 600-1000 feet
Number of structures per mile	Approximately 6 per mile
Permanent Easement/Right-of-way (ROW) width	100 feet (except 125 feet between existing structure 25/2 and 25/7, a 4,000 foot span)
Voltage	69,000 volts alternating current
Circuit configuration	Single circuit, one conductor per phase with three phases, horizontal configuration
Conductor size	795 Kcmil (1.108 inch diameter) aluminum conductor, steel reinforced
Overhead groundwire size	0.5-inch diameter steel
Ground clearance of conductor	Minimum 22 feet at 176 °F (max. conductor operating temp.)
Structure foundations	Direct buried, with concrete backfill

Structures

Western proposes to erect weathering steel monopole transmission structures. These structures would be composed of a single pole, ranging from approximately 65 to 120 feet tall and 30 inches wide at their bases (Figure 2-1; Photograph 2-1).

At several mountainous locations, three-pole galvanized steel structures would be used instead of monopole structures (Figure 2-1). This three-pole structure design would permit longer spans, thereby eliminating as many as two intermediate structure sites. Removing these intermediate structures also eliminates any need for access to the former structure sites. At a three-pole structure, the individual poles would be spaced approximately 25 feet apart. The two outer poles would be approximately five to ten feet taller than the center pole.

Dead end and turning structures will be composed of three separate steel monopoles, 50 to 80 feet in height, one for each conductor, without davit arms, and with the outer-most poles also supporting the overhead ground wires.

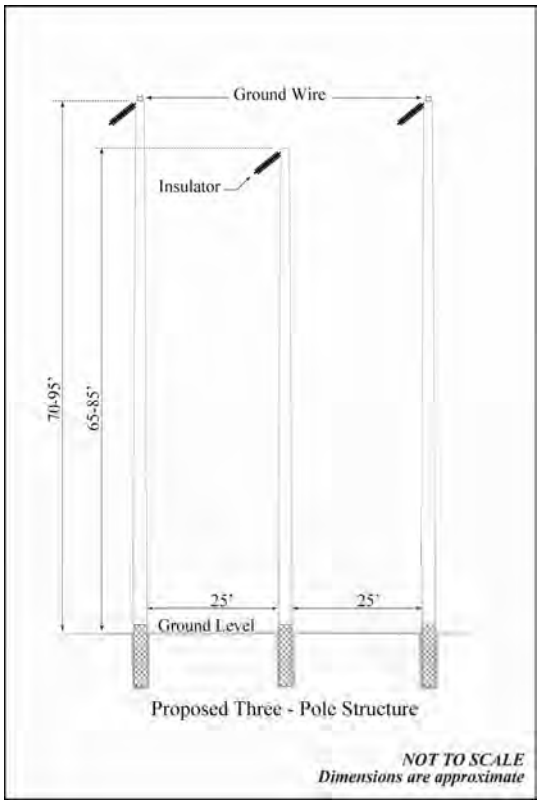
PHOTOGRAPH 2-1
Typical-style monopole structure and monopole with "weathering" steel finish.

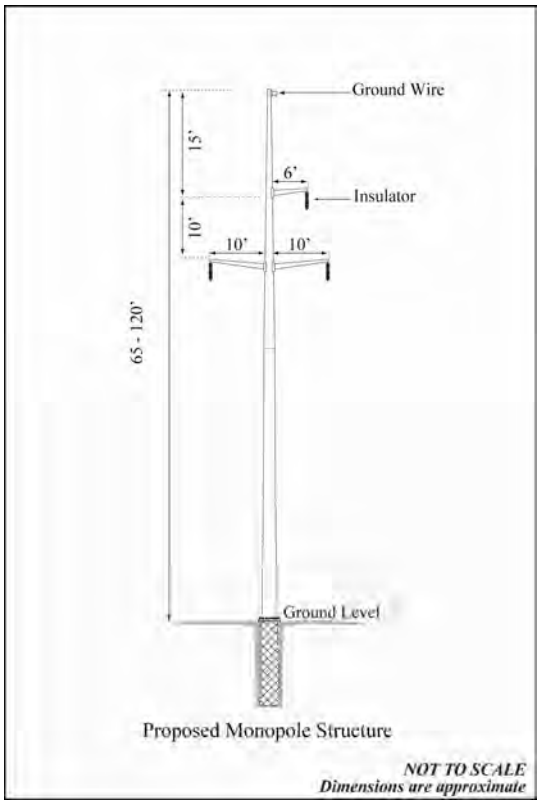
Conductor

The conductor is the cable strung between transmission line structures, through which the electric current flows. The three conductors which would compose a single-circuit would be steel reinforced aluminum (ACSR).

The minimum height of the conductors above the ground would be 22 feet, based on the requirements of the NESC and Western design policy. The minimum conductor ground clearance governs the design height of each structure, based on topography and requirements for safety. The minimum conductor ground clearances will in some instances be greater, for example where existing distribution and transmission lines must be crossed. These changes in height are not abrupt, but gradual over several spans.

FIGURE 2-1.
PROPOSED STRUCTURE DIAGRAMS





Insulators

Insulators, made of chocolate brown colored glazed porcelain, would be used to suspend the conductors from each structure. Insulator assemblies maintain electrical clearances between the conductors, the structure, and the ground.

Overhead Ground Wire (Shield Wire)

To protect the circuit from lightning, one overhead ground wire, one-half inch in diameter, would be installed on top of the structures. Energy from lightning strikes would be transferred through the ground wire, to adjacent structures, and to ground.

2.1.2 Right-of-Way Needs

Length of ROW and Permanent Width

Western would maintain the permanent 100-foot-wide (50 feet on each side of the centerline) transmission line and 50-foot-wide (25 feet wide on each side of the centerline) access road ROW after

construction has been completed. Western would need 125-foot-wide (62.5 feet on each side of the centerline) ROW between existing structures 25/2 and 25/7. The additional width in this 4,000 foot span is required for blowout conditions. Blowout is the greatest displacement, horizontally from the ROW centerline, and occurs near the location of maximum line sag (usually mid-span).

Temporary Use Areas Needed

Temporary use permit areas required for construction activities would be identified prior to use and surveyed for environmental impacts. Total acreage would be forwarded to BLM when survey data has been collected. Temporary use permit areas would include 1) an additional 50 feet either side of the permanent transmission line ROW and 2) an additional 25 feet either side of the permanent 50-foot-wide access road ROW.

At angle structures, where the transmission line changes direction, a radius of 300 feet from the base of the structure would include both permanent transmission line easements and temporary use permit areas (Figure 2-2).

Access Roads

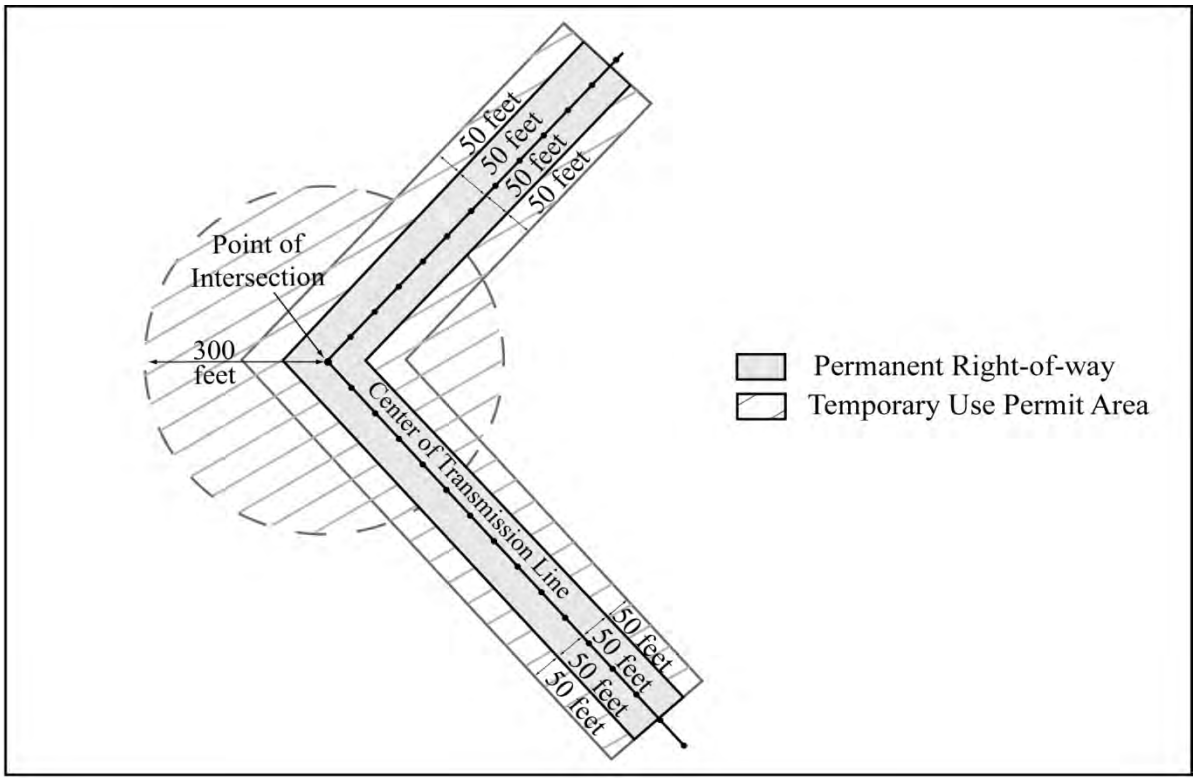
Constructing new roads and improving existing roads would be required for the project. Western has identified existing authorized and unauthorized roads that would be required to gain access to the transmission line right-of-way and temporary use areas. Access roads may be widened to 15 to 20 feet to accommodate construction equipment. In some cases, existing roads would need to be extended to reach the new pole sites.

Existing access roads would be rebladed and/or bulldozed as necessary to make them usable by both the construction and maintenance crews and their equipment. A cut and fill method could be employed to make improvements to access roads with the potential for fill materials to be brought in from outside sources. Also, in many cases access road improvements could be limited to small-scale grading by bulldozer. Equipment movement along the sides of access roads may result in vehicle parking alongside access roads near structures, in order not to impede public use of access roads.

It is anticipated that access roads with less than 90-degree angle turns would encounter tire rutting and crushed vegetation in an approximate 25-foot radius area at the turn. This would result from longer vehicles (tractor-trailer rigs, pole haulers) swinging wide on the exterior angle or cutting across on the

interior angle in order to move through sharp turns on access roads. After the project, roads would be reclaimed to a width of 12 feet.

FIGURE 2-2
PROPOSED RIGHT-OF-WAY AT TURNING STRUCTURE LOCATIONS



2.1.3 Project Activities

Construction of the transmission line would be done by a construction contractor. Transmission line construction normally follows a sequence of events consisting of access road construction, clearing and leveling structure sites, augering holes, assembling and erecting the structures, stringing, tensioning, clipping conductors, cleanup and restoration. These events as wells as others construction activities are described below.

Right-of-Way Clearing

The Project is located in an area with sparse vegetation. Clearing of natural vegetation would be required for construction purposes at new and existing structure sites and access roads, and may also be required for long-term electrical safety, maintenance, and transmission reliability. At each structure site, an area would be disturbed by the movement of vehicles, disassembly or assembly of structure elements, and

necessary crane and auger equipment setup and maneuvers. To meet Western's safety requirements, in areas where the topography at the structure has a slope greater than 4:1, an approximate 25-foot radius may require soil cut and fill work to level the area so that cranes, augers, and line truck (manlifts) outriggers can be properly set. Safety risks are exceeded if cranes, augers, and line trucks (manlifts) cannot be properly set with their outriggers.

At the base of each structure, an approximate 50-foot radius would be required for heavy equipment use. Heavy equipment use is defined as an area where the ground is driven over, around and parked on such that most if not all of the vegetation can be crushed and the soil and rock structure of the area can be displaced or altered.

Construction Schedule

The start of construction depends on the availability of appropriated funds. Western anticipates construction will begin Fall 2011. Western will not initiate any construction without the prior written authorization of the BLM Authorized Officer. Such authorization shall be a written Notice to Proceed issued by the BLM Authorized Officer. Construction activities could take a year to complete.

Laydown Areas

Laydown areas would serve as a reporting location for workers, parking area for vehicles, and equipment and material storage. New structures would be delivered to and stored at the Davis Substation. The construction contractor would likely rent one place that is privately owned and already fenced for trailers, equipment storage, etc. The contractor would deliver materials to the construction locations and use the ROW to lay them down until the structures can be erected. Structures would be stored and assembled in exiting ROW or temporary use permit areas. A substantial amount of vehicle and pedestrian traffic would occur inside the laydown areas. This would cause soil rutting and crushed vegetation, very similar to heavy equipment use. A heavy equipment use area is an area where the ground is driven over, around, and parked on in such a manner that most, if not all, of the vegetation may be crushed and the soil or rock structure of the area may be displaced or altered.

Foundation Excavation and Installation

Vertical excavations for structure foundations would be made with power augering equipment. A vehicle-mounted power auger or backhoe would be used where soils permit. In rocky areas, the foundation holes would be excavated by drilling or blasting; or use of special rock anchors would be employed. All safeguards associated with using explosives (e.g., blasting mats) would be employed.

Blasting activities would be coordinated with the BLM, particularly for purposes of safety and protection of sensitive areas (e.g., springs, cultural resources). In extremely sandy areas, water or a gelling agent may be used to stabilize the soil before excavation. Spoil material (excavated soil) would be used for fill where suitable, and the remainder would be spread at the structure site.

Structures would be direct-embedded with concrete backfill. Foundation excavation and installation would require access to all structure sites by a power auger or drill, crane, material truck, and ready-mix concrete trucks.

Structure Assembly and Erection

Structure replacement activities include: (1) mobilizing construction vehicles, equipment and poles along either new or existing access roads to each structure site, and (2) assembling and erecting the structures. Sections of the new structures and associated hardware would be delivered to each structure site by flatbed truck or pole hauler. Erection crews would assemble new structures on the ground within the permanent transmission line ROW and the temporary use permit areas (Photographs 2-2). Using a crane, crews would position the structures in the augured foundation holes and backfill with concrete. Structure placement activities on straight segments of the line can be accomplished using an approximate 100-foot radius at each structure which allows for equipment setup and turnaround, and material placement. Within an approximate radius of 50 feet from the base of the structure this area would be disturbed by heavy equipment use. Area further out to within an approximate 100-foot radius from the base of the structure would be disturbed by soil rutting and crushed vegetation. Activities beyond the 100-foot radius at the base of the pole may require some vehicle turning.

Some existing structures would be removed with no replacement installed. Where the terrain is more accessible, the span length of the new steel monopoles may be increased and fewer steel monopoles may be required to replace the existing structures.

PHOTOGRAPH 2-2.
Typical monopole structure placement, with crews and equipment at work at the structure site.

Note: The latter two photos are with a bolted pole on a concrete base foundation and not the direct embedded steel monopoles with concrete backfill, to be used on the Project.

Conductor and Ground Wire Stringing

Western would establish conductor and ground wire pulling, tensioning and splicing sites along the proposed alignment. Reels of conductor and overhead ground wire (shield wire) would be delivered to these designated areas spaced about every two to three miles along the transmission line alignment, and at each turning structure. Where possible, level locations would be selected so little or no earth moving would be required. These sites may be approximately 400 feet long and 100 feet wide in line of the transmission line and approximately 300 feet long and 100 feet wide at turning structures. They may have to be cleared of vegetation and would be disturbed by the movement of vehicles and other activities. When these sites are located within the straight segments of the transmission line they mainly occur within the permanent transmission line easement. When they occur at turning structures they would be located just beyond the conductor, if it was to continue in line. Thus each turning location is located on the exterior angle and would result in two sites radial to structure on the continued angles. The conductors and shield wires would then be pulled into place from these locations. Pulling, tensioning and splicing sites would be selected to avoid sensitive resources. Pulling, tensioning and splicing sites specifically at turning structures would mainly be located within the temporary use permit areas.

Crews then install insulators and sheaves. Sheaves are rollers attached to the lower end of the insulators at the end of each supporting structure cross-arms. The sheaves allow crews to pull sock lines, rope or wire used to pull transmission line conductors into place. Once the equipment is set up, a light-weight vehicle would pull the sock line from one supporting structure to the next where access along the line is available. Pulling the sock line is an activity that can be done by overland access and that is why it is most often done with a small light-weight vehicle. If an access road is within or directly adjacent to the transmission line it can be used for pulling the sock line. At each structure, the sock line would be hoisted to the cross-arm and passed through the sheaves on the

ends of the insulators. The sock line would be used to pull the conductor through the sheaves. The conductors would then be attached to the sock line and pulled through each supporting structure under tension. After the conductors are pulled into place, they are pulled to a pre-calculated sag and then tension-clamped to the end of each insulator. The final step of the conductor installation process is to remove the sheaves and install vibration dampers and accessories.

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

Disassembly and Removal of Existing Structures

Approximately 175 structures are proposed for removal. Existing wood structures would be removed by cutting off the structure at ground level and then disposing of it in accordance with environmental regulations. Wood remaining in the ground would be ground down below grade and left to naturally decay. Extraction of the entire length of a pole structure often results in greater soil and habitat disturbance and often breakage of equipment posing a greater safety danger to workers. Crews would then disassemble existing wood structures at the site. The disassembled structures would be removed from the work sites. Cranes, large trucks, and pickup trucks would be required for efficient removal of the transmission line. Structure removal activities would occur within the permanent ROW and temporary use areas. An area of heavy equipment use and setup at the base of the structures is anticipated to be an approximate 25-foot radius.

Right-of-Way and Access Road Cleanup and Restoration

Western would ensure that construction sites, material storage yards, and access roads are kept in an orderly condition during construction. Waste construction materials and rubbish would be removed from all construction areas daily and disposed of at approved facilities. Any damaged gates and fences would be repaired.

Restoration would be completed following construction and cleanup. All structure assembly and erection pads not needed for normal maintenance would be returned to their original contour and natural drainage patterns would be restored. Other disturbed surfaces would be restored to the original contour as required by the BLM and Lake Mead NRA, or county and private owners. Western would reseed according to land management agency regulations and permit guidelines. Water diversions (i.e., waterbars) would be constructed along the access roads where necessary to control surface water drainage and erosion. After

construction is complete, access roads not needed for operation and maintenance would be closed using a natural barrier or gate. The intent would be to restore all construction areas to their original condition, where feasible.

Safety Program

Western considers public and worker safety a priority. It is Western's objective to maintain system reliability and public safety while protecting the natural resources. Western would prepare and conduct a safety program in compliance with all applicable federal, state, and local safety standards and requirements, and Western's general practices and policies. The safety program would include, but not be limited to, procedures for accident prevention, use of protective equipment, medical care of injured employees, safety education, fire protection, and general health and safety of employees and the public. Western would also establish provisions for taking appropriate actions in the event the contractor fails to comply with the approved safety program.

Operation and Maintenance

Western designs, constructs, operates, and maintains transmission lines to meet or exceed the requirements of the NESC, U.S. Department of Labor Occupational Safety and Health Standards, and Western's own policies for safety and protection of landowners, their property, and the public. This project will restore access points to each structure to ensure Western's Maintenance crews will have adequate access for the future.

The day-to-day operation of the line would be directed by system dispatchers in a power control center in Phoenix, Arizona. These dispatchers use communication facilities to control the transfer of electrical power through the line at the Davis Dam Switchyard.

Western's preventative maintenance program for transmission lines includes routine aerial and ground patrols. Maintenance may include inspection and repair or replacement of damaged conductors, structures, and insulators. Inspections on the transmission line right-of-way and associated access roads are conducted quarterly by aircraft patrols. No landing strips or heliports are required. Western would maintain gates installed by Western on access roads.
Maintenance activities, both emergency and planned, will be conducted by ground-based vehicles. Emergency repair would involve prompt movement of crews to repair and replace damaged equipment. If Western damages access roads, Western would repair them as needed.

Because of the arid, sparsely vegetated characteristics of the proposed Project area, minimal and infrequent measures would be necessary to control vegetation. Tree and shrub trimming and removal may be required at structures and along the permanent ROW to control vegetation that may jeopardize the maintenance, safety, or reliability of the line.

All ground-disturbing activities would take place when soil surface conditions are dry and when necessary, Best Management Practices (BMPs), such as silt fences for sediment control, would be installed to prevent sediment from entering washes. Whenever possible, vegetation would be avoided and left in place.

Electrical Outages

Although the existing Davis–Kingman Tap 69-kV Transmission Line would be taken out of service during the construction period, no long-term interruption of electrical service to any of Western's customers would be necessary. Electrical service to Western's customers would be rerouted through alternate paths to maintain service during the construction period. The line would be de-energized in segments to accommodate construction. This process avoids service interruptions to customers, but puts more stress on the system and is not a long-term solution for serving customers.

Conductor Splicing

When two conductor segments are spliced together to form a continuous line, either a mechanical device or implosive method to connect metal sleeves is used to connect the conductor. Western anticipates that it would use implosive connector technology on this line to weld the spliced. Table 2-2 displays the estimated total number of conductor splices required based on 1,000 feet of conductor per spool.

TABLE 2-2
SPLICE CALCULATIONS FOR PROPOSED ACTION (SINGLE CIRCUIT)

	Conductor Length (feet)	Number of Splices / Conductor	Number of conductors Per Circuit	Total Number of Splices
Conductor length and Total splices	140,448	141	3	423

2.1.4 Personnel and Equipment

Table 2-3 provides assumptions for construction personnel and equipment required for rebuild of the Davis–Kingman Tap 69-kV Transmission Line. The tasks would be conducted in stages; therefore, personnel and equipment would not be working on all tasks simultaneously at a given location.

TABLE 2-3 TYPICAL ASSUMPTIONS FOR PERSONNEL AND EQUIPMENT REQUIRED		
Tasks	**Staffing**	**Equipment**
Access roads, gates and clearing	2 to 4 equipment operators	1 motor grader; 1 pickup truck; 1 D9-bulldozer (tracked); 1 backhoe
Preparing structure sites, construction yard, wire handling site	8 to 12 laborers/equipment operators	1 dozer or motor grader; 2 pickup trucks
Materials hauling	4 to 8 laborers/equipment operators	1 to 2 tractor trailers; 1 to 2 tractor-mounted cranes; 1 to 2 pickup trucks; 1 to 2 flatbed trucks
Removal of existing structures	3 to 5 laborers/equipment operators	1 crane, 50- to 100-ton capacity; 2 flatbed trucks; 1 tractor trailer; 2 pickup trucks
Foundation excavation	4 to 8 laborers/equipment operators	2 tractors with augers; 2 pickup trucks; 1 backhoe; 1 compressor
Foundation setting	12 to 18 laborers/equipment operators	3 flatbed trucks; 3 crew pickup trucks; 3 air compressors; 3 hydro lifts
Concrete placement	4 to 5 laborers	2 cement mixer trucks; 1 pickup truck; 1 manhaul
Structure assembly	6 to 12 linesmen/groundsmen and crane operators	1 to 3 hydraulic cranes; 4 to 6 pickup trucks; 1 to 3 flatbed trucks; 1 compressor
Structure erection	5 to 8 linesmen/groundsmen and crane operators	1 crane, 50- to 100-ton capacity; 2 pickup trucks
Wire stringing	15 to 20 linesmen/groundsmen	2 pullers; 2 tensioners; 4 reel stringing trailers; 1 materials truck; 2 dozers; 5 to 6 pickup trucks; 1 to 2 quads
Cleanup	2 to 4 laborers	1 bulldozer w/ripper (tracked vehicle); 1 grader; 1 front-end loader; 1 tractor/harrow/disk; 1 pickup truck

2.2 ESTIMATED RIGHT-OF-WAY AND GROUND DISTURBANCE

2.2.1 Estimated Right-of-Way

For the Proposed Action alternative, Western would use the existing permanent 100-foot wide transmission line ROW (approximately 322.4 acres). Western has requested an additional 25 feet of permanent ROW from structure 25/2 to 25/7 (approximately 2.3 acres; a total 125-foot ROW for an approximate 4,000-foot span), and an undetermined length of new access road ROW from the BLM. Additional permanent ROW on state and private lands would not be necessary.

2.2.2 Estimated Ground Disturbance

Temporary and permanent ground-disturbing activities would occur from existing transmission line structure removal, and proposed transmission line construction and maintenance. Ground disturbance

would be limited to the permanent ROW and the authorized temporary use permit areas. Much of the permanent ROW area between structure locations would remain undisturbed, except where pole removal takes place, since construction and maintenance activities would only require use of portions of this area. Western has identified the primary roads that would be used to gain access to the Proposed Action (see Figure 1-2). These roads may require improvements such as blading to a smooth and level condition. After the project is complete, roads will be reclaimed to a width of 12 feet.

Temporary ground disturbance is defined as disturbance occurring only during construction and in association with certain maintenance activities. Specifically, temporary ground disturbance as a result of Project implementation would occur in the following areas:

- Existing structure removal locations (an area within a 50-foot radius; or a 0.18 acre area at each structure). Heavy equipment use would occur within a 25-foot radius. Temporary disturbances within this area are not expected to exceed the 100-foot permanent ROW.
- Assembly and erection areas for monopole structures in new locations (an area within a 100-foot radius; or a 0.72 acre area at each structure). Heavy equipment use would occur within a 50-foot radius. Temporary disturbances within this area are not expected to exceed the 100-foot permanent ROW.
- Assembly and erection areas for three-pole turning structures in new locations (an area within a 300-foot radius; or a 1.6 acres area at each structure).
- Conductor/groundwire pulling and tensioning/splicing sites (400 feet by 100 feet at straight segments of the transmission line, and 300 feet by 100 feet at each turning structure; or 0.92 acre and 0.70 acre, respectively). These areas would occur approximately every two to three miles along the proposed transmission line and at each turning structure.

Permanent ground disturbance is defined as disturbance occurring over the life of the Project. Permanent ground disturbance would occur as a result of overland access and the installation of new structure bases. For the Project, Western has committed to accessing the majority of the Project route through the use of existing access roads or by overland travel within the ROW. However, for the purposes of analysis, standard, worst-case temporary and permanent ground disturbance estimates are used in this analysis to assess potential Project impacts. Permanent ground disturbance as a result of Project implementation would occur where:

- Overland access routes are established (2.0 acres per mile).

- Steel three-pole structure bases would be installed (assume three five-foot diameter foundations per structure; 0.0014 acre each structure).
- Steel monopole structure bases would be installed (assume one five-foot diameter foundations per structure; 0.0005 acre each structure).

Western has indicated that up to two primary staging areas would be used during the construction period, and would be determined at a later time. Each staging area would be located on a previously disturbed site within or near the transmission line on land approved by the BLM or private party.

The estimated temporary and permanent ground disturbance associated with the proposed construction of the Proposed Action alternative is shown in Table 2-4 by project component.

TABLE 2-4
PROPOSED ACTION ESTIMATED GROUND DISTURBANCE

Project Activity	Amount	Est. Temporary Disturbance (acres)	Est. Permanent Disturbance (acres)
New monopole structure installation	Approximately 146 structures	105	0.073
New 3-pole structure installation	Approximately 9 structures	14.4	0.013
Existing structure removal	Approximately 175 structures	31.5	-
Overland access	26.6 miles		53.2
Conductor/Groundwire pulling/Tensioning/Splicing Sites (0.92 acres per site)	15	13.8	-
Staging areas	2	-	-
	Total:	**164.7**	**53.28**

2.3 RESOURCE PROTECTION MEASURES

Western would incorporate the following resource protection measures (RMPs) into project construction specifications to protect natural, human, and cultural resources in the Project area. These protection measures have been approved by Western's Desert Southwest Region for this Project's construction activities, and are designed to minimize, reduce, or eliminate impacts of the Proposed Action. Western's *Construction Standard 13 - Environmental Quality Protection* (Western's Construction Standards 13) and Western's Standard Mitigation Measures for Construction, Operation, and Maintenance of Transmission Lines (Western's standard mitigation measures) are found in Appendix B.

2.3.1 Land Use

- The permanent ROW, temporary construction areas, and staging areas would be restored as close to the original condition as practicable, in accordance with the appropriate land manager's standards and permits. Where necessary, land would be restored to its original contour and natural drainage patterns along the ROW.
- All construction vehicle movement outside the permanent ROW would be restricted to BLM authorized access roads, existing access roads, or public roads, and the areas authorized for temporary use beyond the existing ROW. Overland travel would be restricted to that which is absolutely necessary to complete the project.
- Vehicles operating on non-public access roads would observe a speed limit of 15 mph or less.
- Prior to beginning work within the Lake Mead NRA, all project personnel would receive a short on-site orientation from a NPS employee regarding rules and park-specific mitigation measures.
- Access roads not required after construction would be gated, bermed, or "roughed up" to deter public use of the roads.
- Previously disturbed areas would be used to store equipment and supplies during construction. Western would coordinate with the BLM and others on using existing areas for project staging areas.
- In the event of property damage caused by the activities of Western personnel or contractors, Western would quickly investigate and reasonably attempt to settle with the party who incurred property damages.
- Some land uses occurring within the ROW would require temporary closure or limited access. Proper signage would be posted in these areas prior to and during construction.

2.3.2 Biological Resources

General Conservation Measures

- Prior to the commencement of construction activities, a worker education program would be conducted to inform workers of sensitive species that may be present in the Project area, measures required to minimize impacts to the species, and general best management practices.
- No pets or firearms would be allowed on the construction site.
- To avoid unnecessary disturbance, construction activities would use access roads where feasible, and travel off of access roads would be limited to the minimum necessary to complete construction activities.
- All trash would be disposed of in proper containers and removed from the work site at the end of each day or contained in a trash container with a secure lid.
- The area of disturbance to vegetation and soils would be limited to the minimum necessary for project completion.
- Vehicles operating on unpaved access roads would not exceed speeds of 15 miles per hour.
- A clean vehicle policy would be in place during construction to avoid introducing noxious weeds during construction. All equipment would be power washed to remove dirt and debris prior to entering the work site for the first time.
- If present to the extent feasible, avoid removal of deadfall and snags.

California Condor

- In the event a California condor enters the active construction areas of the Project, work would cease until the condor leaves the area on its own.

Sonoran Desert Tortoise

- A pre-construction survey would be conducted by a qualified biologist for desert tortoises immediately prior to construction, and a monitor should be on-site when construction takes place in desert tortoise habitat.
- A biological monitor* will be on-site when construction takes place in areas identified as desert tortoise habitat. The biological monitor will be responsible for assisting crews in compliance with protection measures and performing surveys in front of the crew as needed to locate and ensure desert tortoises and/or their burrows are avoided.
- In the event a desert tortoise needs to be moved from harm's way, the Sonoran Desert Tortoise Handling Guidelines would be followed.

- In the event that a desert tortoise needs to be moved from the Project alignment, the tortoise would be moved by a biological monitor* and placed at least 500 feet, but no more than 0.25 miles, from where it was found. The tortoise would be moved less than 48 hours in advance of disturbance to prevent the tortoise from returning to the area.
- Should it prove necessary to excavate a desert tortoise from its burrow to move it from harm's way, excavation shall be done by the biological monitor* using hand tools. All desert tortoises removed from their burrows shall be placed in an existing burrow of approximately the same size from the one from which it was removed. If an existing burrow is unavailable, the biological monitor shall construct a burrow of similar shape, size, depth, and orientation as the original burrow. The tortoise from the burrow would be moved to a safe location and placed in a natural or artificial burrow.
- If construction is to occur during the active periods for the desert tortoise (March 1 to April 30 and July 1 to October 15), workers will be trained to inspect underneath their equipment prior to moving it to ensure that no tortoises have moved under the equipment.
- If construction is to occur during the active periods for the desert tortoise (generally defined as March 1 to April 30 and July 1 to October 15) in desert tortoise habitat, open holes would be covered or filled at the end of each workday. If covering holes is not possible, an earthen or wooden ramp would be placed in the hole and would be sloped at no greater than a 2:1 slope to allow wildlife to escape. All open holes would be inspected daily prior to the commencement of work and all wildlife that is trapped in the hole would be removed by a biological monitor*.
- If construction is to occur during the active periods for the desert tortoise (generally defined as March 1 to April 30 and July 1 to October 15), vehicles traveling along the transmission line access road would be limited to a speed of 15 miles per hour or less.

Western Burrowing Owl

- A pre-construction survey for burrowing owls would be conducted throughout suitable habitat according to the Burrowing Owl Project Clearance Guidance for Landowners (AGFD 2009) protocol. If burrowing owls are discovered during surveys, then appropriate measures for minimizing impacts to owls would be employed as recommended in the protocol.
- If active burrows are found construction would try to avoid owls and only relocate them as necessary. All owl relocations would be done by a biologist permitted to do so. When appropriate, occupied burrows located more than 100 feet from project impacts would be avoided rather than

* The qualifications of all biological monitors will be reviewed and approved by the lead biologist at Western.

relocating the owls. The area of exclusion would be flagged off to ensure construction activities remain clear of owls.

Raptors: Peregrine Falcon, Ferruginous, and Swainson's Hawks

- A pre-construction survey for nesting raptors would be conducted throughout suitable habitat if construction occurs during the avian breeding season (March 1 to August 31).
- If active peregrine falcon, ferruginous or Swainson's hawk nests are observed during surveys then a spatial buffer of 0.5 miles, or a buffer established by a wildlife biologist based on observations of the bird's behavior, would be placed around the nest until a wildlife biologist determines that the young have fledged and are feeding on their own, or the nest is abandoned. If nests of other raptor species are found, they would have the appropriate spatial buffer applied, which is recommended in the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbance Report (USFWS 2002). There would be no construction activity within the spatial buffer, unless wildlife biologists monitoring construction activities observe that construction activities are not affecting the hawks.
- The design of the transmission line would be in compliance with current standards and practices that reduce the potential for raptor fatalities and injuries. The commonly referenced source of such practices is found within the *Suggested Practices for Avian Protection on Power Lines: State of the Art in 2006* manual (APLIC 2006).

Migratory Bird Treaty Act

- If an active nest is found during a pre-construction survey or during construction, Western's wildlife biologist would be consulted to determine if the nest would be avoided and establish an appropriate buffer around the nest.

Native Plants

- Vehicles and equipment would use existing access roads whenever possible, and would keep operations within approved work areas.
- Western would obtain any necessary permits from the Arizona Department of Agriculture for the destruction of plants protected under the Arizona Native Plant Law prior to construction.
- The BLM would be consulted regarding BLM guidelines for salvaging native vegetation.

2.3.3 Cultural Resources

- Should any previously unidentified, incorrectly identified, or new impacts to cultural resources be discovered including, but not limited to, archaeological deposits, human remains, or locations reportedly associated with Native American religious/traditional beliefs or practices, project-related activities located within 50 feet of the discovery would cease immediately and Western's Environmental Manager would be notified within 24 hours. An evaluation of the discovery by a qualified individual would be made to determine appropriate actions to preserve cultural and scientific values.

2.3.4 Visual Resources

- No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate limits of survey or construction activity.
- Construction operations would be conducted to prevent unnecessary destructing, scarring, or defacing of the natural surroundings to preserve the natural landscape to the extent practicable.

2.3.5 Air Quality

- All requirements of those entities having jurisdiction over air quality matters would be adhered to, and any permits needed for construction activities would be obtained. Open burning of construction trash would not be allowed.
- Western would use reasonably practicable methods and devices to control, prevent, and otherwise minimize atmospheric emissions, discharges, or air contaminants.
- Equipment and vehicles producing excessive emissions of exhaust gases due to poor engine adjustments, or other inefficient operating conditions, would not be operated until corrective repairs or adjustments were made.
- Overland access would include dust-control measures, such as the application of water as needed.
- Clearing and grading activities would cease during periods of high winds.

2.3.6 Water Resources

- Western would adhere to conditions of the Nationwide Permit 12 during construction to ensure impacts to waters of the U.S. are minimized.
- Western would ensure all construction activities minimize disturbance to vegetation, drainage channels, and wash banks. Once construction is completed in an area, channel banks would be

restored to their original topography. Where necessary, as determined on a case by case basis, the banks would be scarified to allow the existing seeds within the native soil to revegetate the bank.

- Construction methods shall be designed to minimize erosion and would include installation of cross drains, placement of water barriers adjacent to the road, and the application of best management practices.
- Overland access would occur at right angles to the washes to the extent practicable, temporary culverts would be installed where needed, and all construction activities would be conducted to minimize disturbance to vegetation and drainage channels, and to avoid impacts to water flow.
- Excavated material or other construction materials would not be stockpiled or deposited near or on wash banks or other water course perimeters where they can be washed away by high water or storm runoff, or can encroach, in any way, upon the watercourse.
- To the extent practical, new structures and overland access would be located out of floodplains.
- The above conditions would be incorporated into a Storm Water Pollution Prevention Plan (SWPPP) and imposed on all construction activities to limit sedimentation of surface waters. Western's standard construction specifications require the contractor to obtain any and all necessary federal and state permits required for storm water run-off, including an Arizona Pollutant Discharge Elimination System (AZPDES) permit.
- Construction methods shall be designed to minimize erosion and would include installation of cross drains, placement of water barriers adjacent to the road, and the application of best management practices.

2.3.7 Geology, Minerals, and Soils

- In construction areas where ground disturbance is substantial, or where re-contouring is required, surface restoration would occur as required by land management agencies. Methods of restoration would include returning impacted areas back to their natural contour, installing cross drains for erosion control, placing water bars in the road, and filling ditches.
- All soil excavated for structure foundations would be backfilled and tamped around the foundations, with topsoil returned to a surface position. Excavated soil would be used to provide positive drainage around the structure foundations. Excavated soil excess to these needs would be removed from the site and appropriately disposed.
- Geological hazards would be evaluated during final design specification for each structure location and road construction area. Options would include avoidance of a poor site by selection of one with stable conditions, or correction of the condition.

- Except where necessary for the safe installation of the new structures, vehicles would be confined to existing roads within the ROW to minimize disturbances to the soil protective mechanisms (i.e., the algal crusts, desert pavement, and vegetation). Operators would limit equipment and vehicles to 15 miles per hour.
- No construction would occur where or when the soil is too wet to adequately support construction equipment.
- If grading operations associated with setting a structure have altered the original ground topography, crews would reshape the ground surface to approximate the original topography.
- If construction crews find paleontological resources during construction activities, Western would stop work and notify the appropriate BLM official to facilitate the recovery and curation of vertebrate fossils. The procedure is to immediately notify BLM with the location and nature of the findings, stop all activities within a 50-foot radius of the discovery, protect uncovered fossils from damage, and resume work within that radius only upon receiving BLM's approval.

2.3.8 Noise

- All engine-powered equipment would have mufflers installed according to the manufacturer's specifications, and would comply with applicable equipment noise standards.
- Construction crews would locate stationary construction equipment as far from nearby noise sensitive properties as possible.
- Idling equipment would be shut off when possible.
- Construction operations would be rescheduled to avoid periods of noise annoyance, as determined through consultation with the BLM or other agencies.

2.3.9 Transportation and Utilities

- Any work that impacts Arizona Department of Transportation (ADOT) or other transportation ROWs would be coordinated and conducted in accordance with the appropriate departments.
- Local residents would be informed of any temporary road closures.

2.3.10 Health and Safety

- During construction, standard health and safety practices would be conducted in accordance with the Occupational Safety and Health Administration's policies and procedures.

- Workers would conform with safety requirements for maintaining the flow of public traffic and would conduct construction operations to offer the least possible obstruction and inconvenience to public transportation.
- For identified locations, structures and/or shield wire would be marked with highly visible devices where required by governmental agencies (for example, the Federal Aviation Administration [FAA]).

2.3.11 Hazardous Materials and Solid Waste

- Western, or Western's construction contractor, would prepare a Spill Prevention Notification and Cleanup Plan prior to initiation of construction activities, to ensure that accidental spills would be appropriately contained and remediated, and that appropriate agencies are notified.
- No debris would be deposited in the ROW or temporary use permit areas.
- In the event of a spill, workers would immediately cease work and begin spill clean-up operations, and notify appropriate agencies.
- If excess concrete and wash water cannot be returned with each concrete truck for disposal at the concrete plant, contractor would install an on-site concrete washout area, and would inform all concrete equipment operators that they are required to use the designated area for washing and rinsing trucks and equipment.
- All construction waste, including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials, would be removed to a disposal facility authorized to accept such materials. Totally enclosed containment would be provided for all trash.
- All equipment would be properly maintained to avoid fluid leaks.
- Servicing and refueling of equipment would not be conducted within 500 feet of a wash.
- Hazardous materials, fuels, and lubricants would not be drained onto the ground or into washes or drainage areas.
- All fuel or hazardous waste leaks, spills, or releases would be immediately reported to Western and the BLM if occurring on BLM-managed lands.
- Whenever practicable, treated wood poles and crossarms removed during the project would be recycled or transferred to the public for some uses.
- Treated wood poles and croassarms transferred to a recycler, landfill, or the public would be accompanied by a written consumer information sheet on treated wood as provided by Western.
- Treated wood product scrap or poles and crossarms that cannot be donated or reused would be properly disposed in a landfill that accepts treated wood and has signed Western's consumer information sheet receipt.

2.4 ALTERNATIVES

2.4.1 No Action Alternative

The No Action Alternative would call for no new construction. The No Action Alternative is considered in all Western EAs, and provides a baseline against which impacts of the other analyzed alternatives can be compared, and also demonstrates the consequences of not meeting the need for the action. Similar to Western's policy, the No Action Alternative is considered in all BLM EAs. The No Action Alternative provides the BLM with information for its consideration about whether to accept or deny Western's request for ROW authorization under FLPMA.

Under the No Action Alternative, Western would not reconstruct the Davis–Kingman Tap 69-kV Transmission Line and BLM would not issue a ROW authorized under FLPMA to Western. Western would continue to maintain and operate the Davis–Kingman Tap 69-kV Transmission Line as it currently exists, and would replace failing parts as needed, and emergency repairs are likely. Western would eventually need to replace the majority of structures on the line. Safety of maintenance workers and the public would be impacted with aging structures in place long past their serviceable life expectancy of 50 years (reached in the 1990s). Implementing this alternative would preclude most short-term environmental impacts associated with construction of the new line. However, the No Action Alternative would not meet Western's Purpose and Need for the Project.

2.4.2 Alternatives Considered but Eliminated from Further Evaluation

No other alternative to the Proposed Action would feasibly or economically meet Western's Purpose and Need to provide reliable electrical service to its customers. Therefore, no other alternatives beyond the No Action Alternative were evaluated for this Project.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 INTRODUCTION

The Affected Environment and Environmental Consequences described in this section are limited to the land and resources directly and indirectly impacted by the proposed removal of the existing transmission line structures and the construction of the rebuilt transmission line. This section describes the existing conditions and the potential impacts to the natural, human, and cultural environment within the Project area as a result of the Proposed Action and the No Action Alternative. Resources analyzed in the EA include:

- Land Use
- Cultural Resources
- Air Quality
- Geology, Mineral Resources, and Soils
- Transportation and Utilities
- Public Health and Safety
- Energy Policy
- Biological Resources
- Visual Resources
- Water Resources
- Noise
- Socioeconomic Resources
- Hazardous Materials and Solid Waste
- Intentional Destructive Acts

3.1.1 Resources

Because a portion of the Proposed Action is located on public lands managed by the BLM Kingman Field Office, an analysis of BLM critical elements of the human environment is included. These critical elements fall into three categories:

- Uses or resources that are not present and thus are not affected by the Proposed Action.
- Uses or resources that are present, but not affected by the Proposed Action.
- Uses or resources that are present and are potentially affected by the Proposed Action.

Table 3-1 provides a correlation between these categories and the BLM's list of critical elements. Although some BLM critical elements are not present within the Project study area, they are still discussed in this EA.

TABLE 3-1 CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT			
Critical Elements	**Not Present**	**Present and Not Affected**	**Present and Potentially Affected**
Air Quality			✓
Areas of Critical Environmental Concern		✓	
Cultural and Historic		✓	
Environmental Justice	✓		
Prime and Unique Farmland	✓		
Floodplains			✓
Native American Religious Concerns			✓
Invasive and Non-native Species		✓	
Standards for Rangeland Health	✓		
Threatened and Endangered Species	✓		
Socioeconomics		✓	
Hazardous or Solid Waste		✓	
Water Quality (surface/ground)			✓
Wetland or Riparian Zones	✓		
Wild and Scenic Rivers	✓		
Wilderness		✓	

Impacts to resources can be characterized as direct impacts, indirect impacts, short-term impacts, long-term impacts, and permanent impacts. Direct impacts as defined by 40 CFR §1508.8 are caused by the action and occur at the same time and place as project construction activities. Indirect impacts are associated with a project and occur later in time or farther removed in distance, but they are still reasonably foreseeable. Short-term impacts are temporary and episodic; the duration is limited to construction and ancillary activities. Long-term impacts occur beyond the duration of short-term impacts but are recoverable. Permanent impacts occur when a resource is not recoverable.

3.1.2 Resources Considered but not Further Evaluated

The following were not considered for further evaluation because they are not present in the Project area or no measurable impacts would occur.

Law Enforcement

The Proposed Action would not increase law enforcement activities or require additional personnel to patrol resource areas during transmission line upgrades or after improvements are complete; therefore, no measurable effect on law enforcement would occur.

Travel Management

Travel management considers the use of public access, natural resources, and regulatory needs to ensure coordination for road and trail system planning, and on the ground management. Travel management was not further evaluated as the Proposed Action would not create additional roads that would be open to public use. Therefore, no measurable effect on travel management is expected.

Farmlands, Grazing, and Rangelands

Designation of prime or unique farmland is made by the U.S. Department of Agriculture (USDA). Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, and other agricultural crops. Unique farmland is land other than prime farmland that is used for the production of specific high value food and fiber crops. There are no designated prime or unique farmlands within the Project area.

On BLM-managed lands, the Project area crosses areas that are available for grazing through allotments administered through the Kingman Field Office. There are no farmlands within or adjacent to the Project area. Therefore, no measurable effect on farmlands and grazing areas is expected.

Mineral Resources

The western half of the Project occurs within an area designated as having high mineral potential (BLM 1993). No active mineral resource mines occur along the transmission line; however, there are several areas crossed by the alignment that show evidence of previous mining efforts. The Proposed Action would not impact mineral resources since no mining operations or known mineral resources of value occur within the Project area.

Navigable Waterways

Navigable waters are waterways that are, were, or may be used in interstate or foreign commerce, and include waters that are subject to the ebb and flow of the ocean tide. The U.S. Army Corps of Engineers designates navigable waterways as Traditional Navigable Waters. The nearest designated Traditional Navigable Water is the Colorado River. The transmission line does not cross the Colorado River. No other navigable waters occur in the Project area. The Proposed Action would not impact navigable waterways. Impacts of discharge of dredged or fill material into Waters of the U.S. are addressed in Section 3.7.1.4.

3.2 LAND USE AND OWNERSHIP

3.2.1 Affected Environment

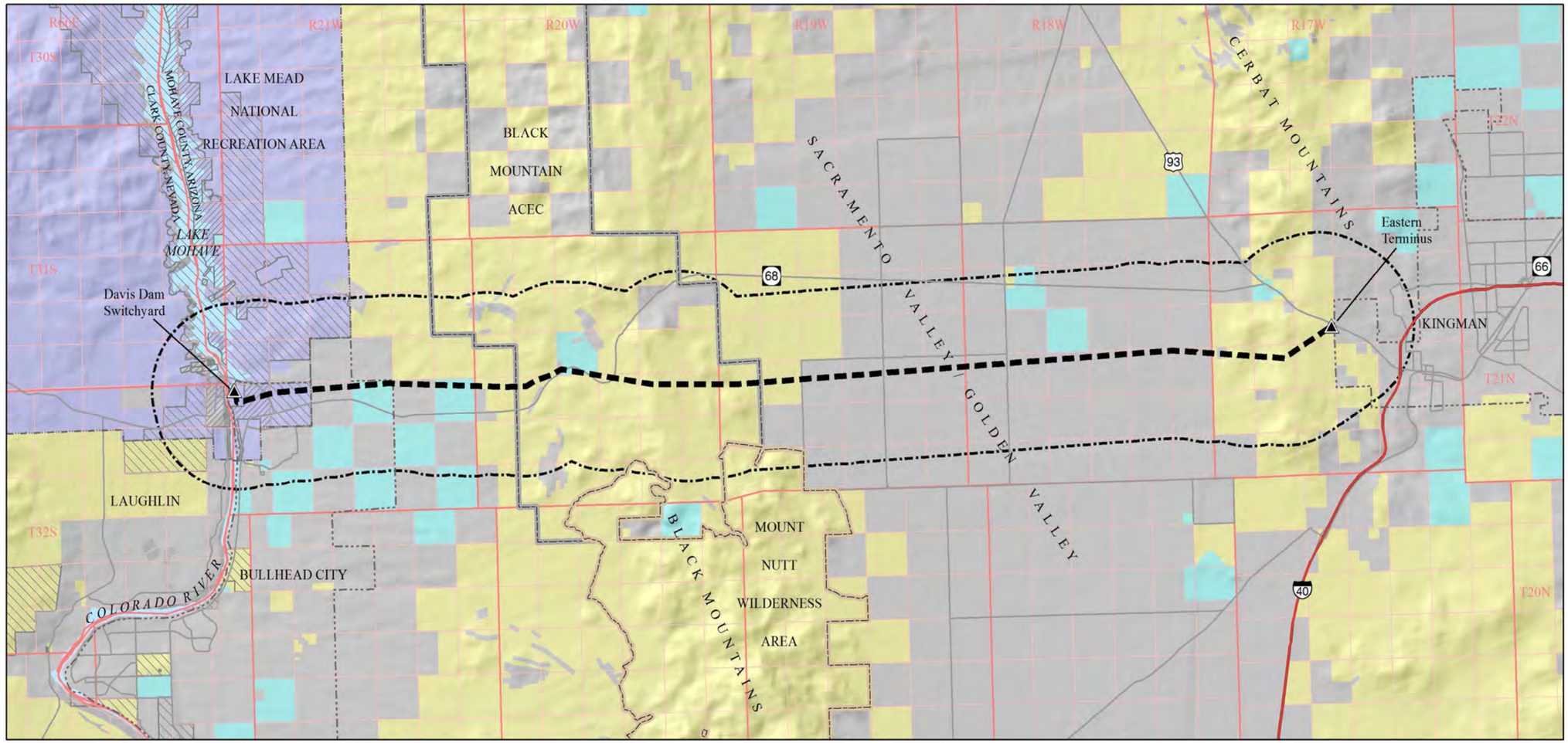
As part of the land use study, jurisdictional agencies' general plans and management plans were reviewed for lands within two miles of the Project area, and a site survey was conducted along most of the alignment, where accessible from SR 68 and city or county roads. From review of these plans, as well as contacts with the respective jurisdictional agencies, existing developments were identified.

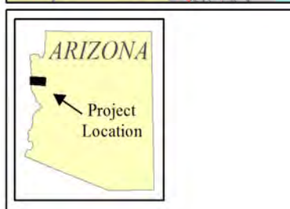
3.2.1.1 Land Ownership and Management

The existing transmission line ROW is located on privately owned lands, public lands managed by the BLM, Reclamation withdrawn and fee lands on the NPS Lake Mead NRA, and state lands administered by ASLD (Figure 3-1). Of the 27.31 miles of existing transmission line ROW, 12.35 miles cross private land, 10.05 cross BLM land, 1.46 miles cross NPS land (of which 1.01 miles Reclamation Withdrawn Lands managed by NPS), 0.64 mile crosses Reclamation Fee Land, and 2.81 miles cross ASLD land.

3.2.1.2 Existing Land Use

For existing land use, the study focused on a one-mile buffer around Project area. The transmission line alignment traverses in and out of developed and undeveloped land. Generally, the more developed areas correspond to private lands within the Sacramento/Golden Valley area and residential developments immediately east of Bullhead City (Figure 3-2). The developed areas consist of a range of moderately dense to dispersed, large-acre, rural residential lots that are subdivided by a grid network of dirt roads, and a few, more modern residential developments containing smaller lots. The undeveloped areas correspond with BLM, state, and some private lands. The undeveloped areas consist mainly of mountainous areas, grazing allotments, and ranching areas. A majority of the private land is vacant (i.e., undeveloped). Several residential areas of varying density are located near the Project area.





Legend

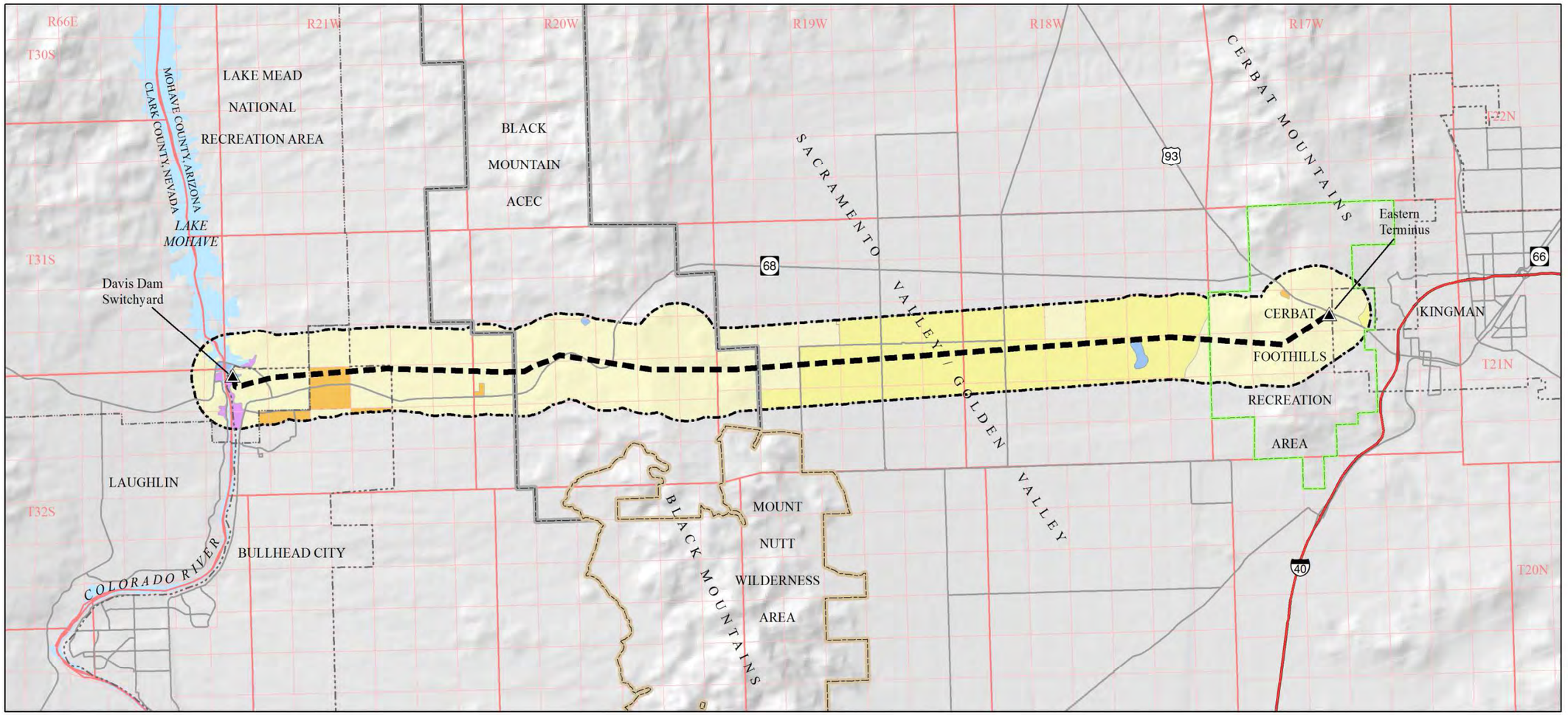
- Transmission Line Alignment
- Terminus Point
- Interstate Highway
- Highway or Road
- Study Area Boundary
- Lake Mead National Recreation Area Boundary
- Mount Nutt Wilderness Area Boundary
- Black Mountain ACEC
- City Boundary
- Bureau of Land Management
- National Park Service
- Private
- State
- Bureau of Reclamation Fee Lands
- Bureau of Reclamation Withdrawn Lands

0 1 2 3 4 Miles

Figure 3-1
Land Ownership and Jurisdiction

Davis-Kingman Tap
69-kV Transmission Line Rebuild Project
Mohave County, AZ

Western Area Power Administration



Legend

- Transmission Line Alignment
- Terminus Point
- Interstate Highway
- Highway or Road
- Study Area Boundary
- Lake Mead National Recreation Area Boundary
- Mount Nutt Wilderness Area Boundary
- Black Mountain ACEC
- City Boundary
- Commercial
- Industrial
- Public
- Residential
- Rural Residential
- Undeveloped

0 1 2 3 4 Miles

Figure 3-2
Existing Land Use and Recreation

Davis-Kingman Tap
69-kV Transmission Line Rebuild Project
Mohave County, AZ

Western Area Power Administration

Residential

This category incorporates all types of residential development including rural and low-density dwelling units, single-family dwelling units, recreational vehicle (RV) and mobile home parks, and developed subdivisions. Most residential development in the study area occurs near the more populated cities of Bullhead City and Kingman, and within the Golden Valley area. The cities consist of more dense, planned residential developments, and the Golden Valley area consists mainly of dispersed individual dwellings.

Industrial

There are several small industrial inclusions along the edges of the Project's study area, mostly occurring in the eastern half of the Project area, north of the transmission facility. There are also dispersed industrial sites within the Project area, including gravel pits, quarries, and other mining activity. No active mining areas are directly crossed by the transmission facility.

Commercial

Commercial land uses include a variety of stores, restaurants, truck stops, service stations and automobile repair facilities, motels, and other related service-oriented businesses. Permanent commercial land uses within the Project area are limited to the primary transportation corridors, including US 93 and SR 68. Most commercial sites within the Project area occur along SR 68 near or within Bullhead City, and in the eastern portion of the Project area, north of the transmission facility, on both sides of SR 68.

Public/Quasi-Public

The public and quasi-public use category includes government owned facilities and other land uses generally associated with public use. These areas are located mainly in the Lake Mead NRA, within the Bullhead City limit, and consist of camping and recreational opportunities.

Undeveloped

Undeveloped lands correspond with BLM, state, and some private lands. These lands remain natural and occur in the western half of the Project area between Bullhead City to, and including, the Black Mountains; and immediately west of Kingman in the Cerbat Mountains.

3.2.1.3 Recreation, Wilderness, and Preservation Areas

Lake Mead National Recreation Area

The Lake Mead NRA is administered by the NPS and encompasses Lake Mead and Lake Mohave within approximately 1.5 million acres located in Arizona and Nevada (refer to Figure 1-1). The westernmost two miles of the transmission line, including the Davis Dam Switchyard, fall within the boundary of the Lake Mead NRA. This recreation area is open year-round and provides a wide variety of outdoor recreational opportunities including boating, swimming, fishing, camping, hiking, and photography (NPS 2011a).

Katherine Landing Campground is a NPS campground located along the east bank of the Colorado River, 1.5 miles north of the Davis Dam Switchyard. This campground is part of the Lake Mead NRA and is open year-round (NPS 2011b). It offers recreational activities including tent and RV camping, boating, fishing, swimming, hiking, and picnicking (Public Lands Information Center 2011). Other, smaller campgrounds and related recreational facilities are dispersed along both sides of the Colorado River west of the Davis Dam Switchyard, near the western end of the Project area.

Bureau of Land Management

BLM lands managed under the Kingman RMP have several different objectives based upon various resource categories consistent with multiple uses such as recreation, grazing, wildlife habitat, and a wildlife corridor.

The Mount Nutt Wilderness Area is located within the Black Mountains, approximately 12 miles east of Bullhead City and two miles south of the transmission line. This wilderness area encompasses 27,660 acres of the central and highest portion of the Black Mountains. Typical recreational activities include hiking, primitive camping, hunting, photography, wildlife watching, rock scrambling, and horseback riding (BLM 2011). No mechanized or motorized off-road travel is permitted beyond most trail heads. No other wilderness areas are located within the Project vicinity.

The Project area crosses the Cerbat Foothills Recreation Area (CFRA) near the Project's eastern terminus. The CFRA is a mixture of federal, state, county, city and private lands. A management plan for the area was approved in 1995 by the City of Kingman and the BLM (City of Kingman 2011). Recreational activities in the CFRA include hiking, jogging, mountain biking, horseback riding, and wildlife watching. No other recreational facilities are planned within the Project area.

Areas of Critical Environmental Concern (ACEC) are areas that the BLM designates for special management to protect important natural, cultural, and scenic resources, or to identify natural hazards. The 218,056-acre Black Mountain ACEC was established by the 1993 Kingman RMP to better protect area resources by balancing competing uses (BLM 1996). The transmission line crosses approximately six miles of the Black Mountain ACEC. Current management direction applicable to the Proposed Action is to mitigate impacts resulting from rights-of-way and to include specific mitigation measures in the environmental analysis for the Project.

Arizona State Land Department

The ASLD manages State Trust lands and resources to enhance their value and optimize economic return for the Trust beneficiaries, consistent with sound stewardship, conservation, and business management principles to support socioeconomic goals for citizens here today and for generations to come. State Trust lands that the Project area crosses are currently undeveloped. Uses that could occur on these lands would include dispersed recreation such as hiking and hunting.

3.2.1.4 Zoning

The Mohave County General Plan indicates most county land within the Project area as having future land use designations of suburban and rural development area, with some urban designations in the western half of the Project area near Bullhead City.

Zoning maps for Bullhead City and Kingman were reviewed for lands within the Project area. Within Bullhead City, the transmission facility crosses lands zoned for public lands, including parks, public open space, government owned buildings, facilities, land, and schools and school grounds; and, single family limited residential, including single family detached dwellings, churches, residential care homes, fire and police stations, public schools and temporary mining operations (City of Bullhead City 2002, 2006). Within Kingman, the transmission facility crosses land zoned for recreational/open space use, which include publicly or privately held property, undeveloped or developed for active or passive recreation or resource conservation (City of Kingman 2010a, 2010b).

3.2.1.5 Future Land Use

Based on review of plans from BLM, Mohave County, Kingman and Bullhead City, land uses near the Project area would remain essentially the same, with the exception of a planned increase in residential and urban development near Kingman and Bullhead City. The majority of the Project area would continue as

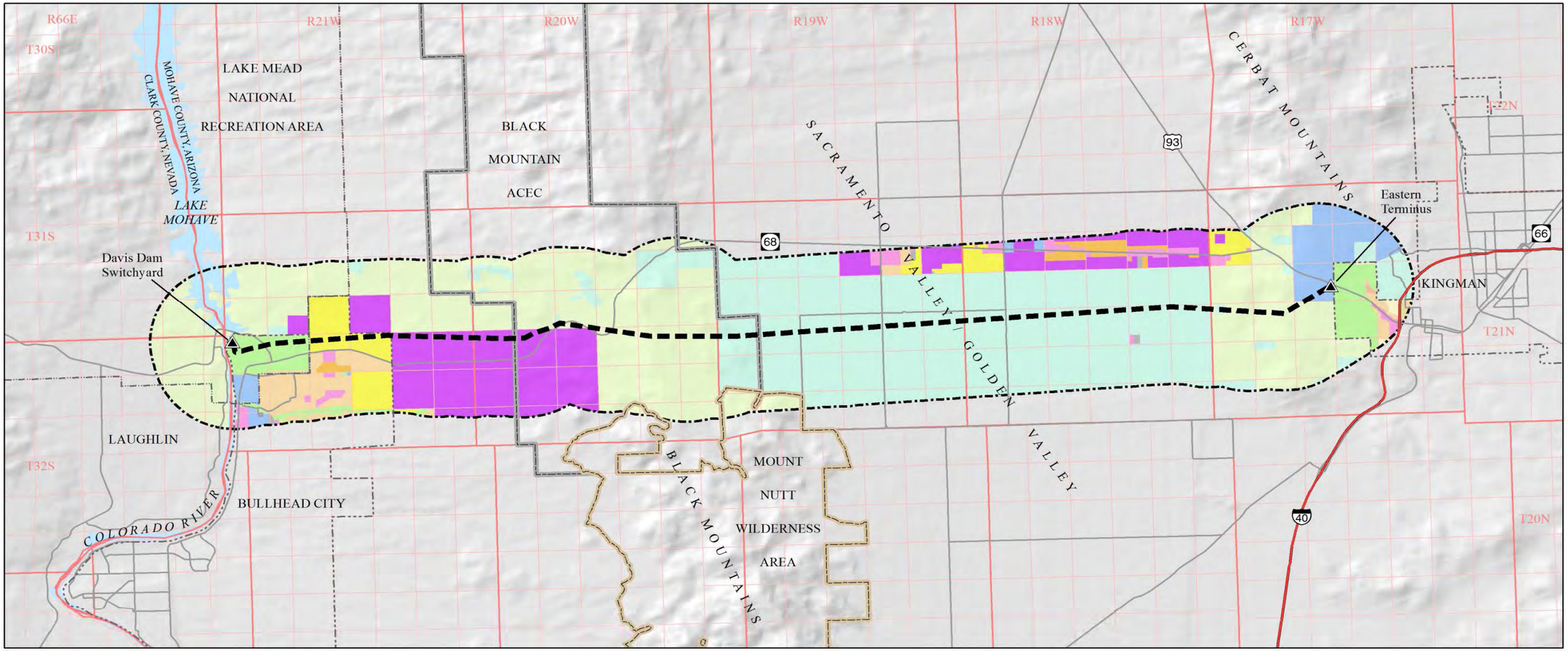
undeveloped or as rural development areas, with large areas of pristine or undisturbed lands, and areas of dispersed residences (Figure 3-3).

3.2.2 Environmental Consequences

3.2.2.1 Standards of Significance

The assessment of potential impacts on land jurisdiction and land use focused on existing, planned, and future land uses within the Project area. Impacts were assessed based on whether the Project would result in substantial changes to land use, be incompatible with uses on adjacent properties, or be in conflict with applicable land use plans. Land use impacts would be considered significant if project implementation would result in any of the following:

- Physical division of an established residential or mixed-use community
- Conflict with applicable land use plans, policies, goals, or regulations of an agency with jurisdiction over the Project (including recreational or wilderness land management)
- Conversion of prime or unique farmlands to non-agricultural uses
- Project-related changes that alter or otherwise physically affect federal or state established, designated, or planned recreation or wilderness areas or activities
- Project-related changes that affect duration, quantity, and quality of impact to recreational or wilderness resources
- Substantial and sustained degradation of vehicular circulation in the Project area
- Conflicts with existing utility ROW
- Nuisance impacts attributable to incompatible land uses
- Prior land uses could not be restored to pre-construction use activities (for areas disturbed and not containing permanent structures)



Legend

- Transmission Line Alignment
- Terminus Point
- Interstate Highway
- Highway or Road
- Study Area Boundary
- Lake Mead National Recreation Area Boundary
- Mount Nutt Wilderness Area Boundary
- Black Mountain ACEC
- City Boundary
- Commercial
- Rural Density Residential
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Open Space
- Public/Quasi Public
- Rural Development Area
- Light Industrial
- Mixed Use
- Urban
- Undefined

0 1 2 3 4 Miles

Figure 3-3
Planned Land Use

Davis-Kingman Tap
69-kV Transmission Line Rebuild Project
Mohave County, AZ

Western Area Power Administration

3.2.2.2 Project Impacts

Proposed Action Alternative

As part of the Proposed Action, Western would obtain authorization under FLPMA from BLM for an additional 25-foot ROW width for a distance of 4,000 feet, and for new access roads. Although the Project is not located in a formally identified utility corridor that is identified in the Kingman RMP, the Project is replacing an existing line that was constructed and permitted on public lands managed by the BLM (and Reclamation) and has been in continuous use since 1947. Due to the purpose and location of the line and the customers it serves, there is no practicable alternative that would relocate the line to an alignment within one of the utility corridors identified within the Kingman RMP. The Proposed Action and a new ROW authorization under FLPMA from BLM would not conflict with an existing utility ROW.

The transmission line would be constructed within the same 100-foot-wide ROW, except for the additional requested ROW, and the majority of existing access roads would be used to construct the line. Operation of the Proposed Action would result in a reduction of maintenance activities in the foreseeable future when compared to the No Action Alternative. Construction and operation of the Proposed Action and the new ROW authorization under FLPMA from BLM would not result in changes to the existing landowners or land uses and would not conflict with or impede the implementation of any land use plans near the Project. Furthermore, because there would be no change in land use, there would be no nuisance impacts attributable to incompatible land uses.

During construction there may be some temporary disruption to the two recreation areas where they are immediately adjacent to the construction areas to ensure public safety. However, there is a large expanse of dispersed recreational opportunities surrounding the Project area. There would be no changes in recreational opportunities upon completion of the Proposed Action. Construction and operation of the Proposed Action and the new ROW authorization under FLPMA from BLM would not increase the demand for recreation and would not conflict with, physically alter, or decrease accessibility to established or planned recreational areas.

No construction activities would occur within the designated Wilderness Area. Access would occur along existing roads including SR 68. During construction there would be more truck traffic along these roadways; however, it would not impede access to the Wilderness Area. No restrictions along any of these access roads are anticipated. Therefore, no effect to Wilderness Areas would occur.

While construction activities would take place within the Black Mountain ACEC, the Project would not conflict with allowed uses within the ACEC; therefore, no impacts to the ACEC are expected.

No Action Alternative

Under the No Action Alternative, there would be no additional ROW acquisition, and land ownership and management would remain the same. No new construction activities would take place along the line and maintenance and line inspection activities would continue on the existing transmission line. The transmission line would require increased routine and emergency maintenance, including replacement of individual structures, as the line continues to age. The No Action Alternative could continue to have periodic impacts on existing land uses, including seasonal recreation, during routine maintenance and operation activities of the existing transmission line.

3.3 LOGICAL RESOURCES

Information regarding the biological resources occurring within the Project area was gathered by reviewing existing databases and literature prior to conducting biological surveys of the study area. The U.S. Fish and Wildlife Service (USFWS) Arizona Ecological Services website provided a list of endangered, threatened, proposed, and candidate species for Mohave County. The Arizona Game and Fish Department's (AGFD) Online Environmental Tool for the Project alignment was also queried for the Project area and provided species information as well as designated critical habitat location information. After completing background research, two Transcon wildlife biologists performed a mixed pedestrian and vehicular survey of the Project area, including all access roads, on June 29 through July 2, 2010 and on July 20 and 21, 2010. In areas where a vehicular survey was conducted, the alignment was driven slowly and biologists stopped frequently to observe any potential biological resources which could be present along the alignment.

Vegetation and wildlife habitat in the Project area were documented. Vegetation was identified, plant and animal sign and sightings recorded, photo documentation was completed, and a Biological Report was prepared that summarized the findings (Collins 2011a). USGS 7.5 minute quadrangle maps and a sub-meter Trimble© global positioning system (GPS) unit were used for orientation and habitat documentation.

3.3.1 Affected Environment

3.3.1.1 Vegetation

The Project occurs primarily within the Mohave desertscrub vegetative community; however, a portion of the Project area travels through Great Basin Conifer Woodland (Brown 1994). The Mohave desertscrub vegetative community is an open shrubby community often dominated by creosotebush (*Larrea tridentata*). Vegetation typical of the Mohave desertscrub community includes creosotebush, all-scale (*Atriplex polycarpa*), brittlebush (*Encelia farinosa*), desert holly (*Atriplex hymenelytra*), and white burrobush (*Hymenoclea*) (Brown 1994). It should be noted that while the majority of the Project is classified as Mohave desertscrub and is dominated by creosotebush, the vegetation composition and density along the alignment within this community is highly variable, with portions consisting of scattered yucca (*Yucca* spp.), mesquite (*Prosopis* spp.), ocotillo (*Fouquieria splendens*), and cholla (*Cylindropuntia* spp.).

Great Basin Conifer Woodland habitat is generally found along the central portion of the alignment between structures 10-2 and 14-1, as it passes through the Black Mountains. In this area, habitat consists of a transitional zone between Mohave desertscrub and Great Basin Conifer Woodland, rather than traditional Great Basin Conifer Woodland habitat. Numerous scattered junipers (*Juniperus* spp.) were observed, however there were still high concentrations of Mohave desertscrub plants. Unlike traditional Great Basin Conifer Woodland habitat, no pinyons (*Pinus* spp.) were found in this portion of the alignment. Habitat in this community tends to be rocky, and trees are typically widely spaced (Brown 1994).

Species observed during field review of the Project area are listed in Table C-1, Appendix C.

3.3.1.2 Wildlife

Wildlife in the Project area is typical of Mohave desertscrub and Great Basin Conifer Woodland communities of Northwest Arizona. Species in these communities include the whiptail lizard (*Cnemidophorus* spp.), Mojave rattlesnake (*Crotalus scutulatus*), mourning dove (*Zenaida macroura*), coyote (*Canis latrans*), kangaroo rat (*Dipodomys* spp.), and black-tailed jackrabbit (*Lepus californicus*). Desert bighorn sheep are also known to occur within Project vicinity in the Black Mountains. Wildlife species observed during field visits are listed in Table C-2, Appendix C.

3.3.1.3 Threatened or Endangered Species

Species protected under the Federal Endangered Species Act (ESA) of 1973 that may occur in the Project area were identified using information from federal and state resource agencies (Collins 2011a, Appendices C and D). ESA-listed species, as used here, are those listed by the USFWS as threatened, endangered, or are proposed or candidates for listing. Species were evaluated for their likelihood to occur within the study area based on habitat requirements and known distribution. The majority of the ESA-listed species were evaluated and eliminated from further review based on one or more of the following criteria:

- The species' known geographic range does not extend within the Project area.
- The Project area does not contain necessary conditions known to support the species.
- Project implementation would not remove or adversely affect habitat of the species.

Table C-3, Appendix C contains an evaluation of species listed under the ESA that may occur in Mohave County.

Based on this analysis, one species protected under the ESA, the California condor, was determined to have potential to occur within the Project area. The current status, natural history, distribution and abundance of the California condor and the potential impacts that may occur as a result of this Project, are discussed in detail below.

California Condor

Status

The California condor historically inhabited most of the western United States. Currently, populations primarily exist in California and Arizona with some overlap into southern Utah. In 1996 an experimental population began in Arizona with the reintroduction of California condors at the Vermillion Cliffs (north of Marble Canyon in northeastern Arizona near Page). The reintroduction was carried out under a special provision of the ESA which allows for the designation of a "nonessential experimental" population. This provision allows for relaxed protections for an endangered species in a designated area (often referred to as the 10[j] area) in order to provide more flexibility for management of the reintroduced species. The Arizona non-essential population designated 10(j) area is bounded by Interstate-40 on the south, US 191 on the east, Interstate-70 on the north, and Interstate-15 to US 93 on the west. Within this area, condors are considered a proposed species under the ESA. Outside of this 10(j) area, the species receives full protection under the ESA.

Natural History, Distribution, Abundance and Habitat

The California condor is North America's largest flying land bird, measuring up to 47 inches tall and having a wingspan over eight feet. The lifespan of a California condor in the wild is typically between 50 to 60 years. In Arizona, the birds roost on rocky outcroppings and in tall trees in the Grand Canyon area, at elevations of 2,000 to 6,500 feet. The California condor does not migrate but it can travel up to 100 miles a day scavenging for food. Reproduction does not occur until six to eight years of life, after which eggs are laid every other year. Mating takes place in late fall and early winter. They nest in rock formations such as caves, crevices, overhung ledges, and pockets. The condor is a scavenger that feeds on the carcasses of large wild and domestic animals (AGFD 2004).

As of August 2009, a total of 181 condors had been released into the wild, and five have been wild-hatched. Forty-four released birds and one wild-hatched condor have died in Northern Arizona. Reintroduction efforts have been hampered by predation, lead poisonings, condor-human interactions, and shootings (Southwest Condor Review Team 2007).

The Peregrine Fund (TPF) monitors the day to day operations of the reintroduction program. TPF monitors the condor population using GPS tags affixed to condor wings. Data collected from the GPS tags indicate that the condor primary area of use is the north rim, south rim, and river corridor of the Grand Canyon, Kaibab Plateau, and Kolob region of southern Utah (Southwest Condor Review Team 2007, USFWS 2009).

3.3.1.4 Special Status Species

BLM Sensitive Species

In addition to species listed on the ESA, the BLM maintains a list of sensitive species within Mohave County. The BLM list of sensitive species includes species that are believed to have declining population numbers. The BLM intends to prevent the listing of these species under the ESA. These species are managed by the BLM but have no legal protection. These species and a summary of their habitat and the likelihood of the species to be affected by the Project are provided in Table C-4, Appendix C.

The majority of the sensitive species were evaluated and eliminated from further review based on the following criteria:

- The species' known geographic range does not extend within the Project area
- The Project area does not contain necessary conditions known to support the species

- Project implementation would not remove or modify habitat of the species

After review of the BLM sensitive species for Mohave County, it was determined that ten BLM sensitive species have the potential to occur within the Project area. These ten species include two BLM-sensitive reptiles: Sonoran desert tortoise (*Gopherus agassizii*) and Banded Gila monster (*Heloderma suspectum cinctum*); four BLM-sensitive birds: western burrowing owl (*Athene cunicularia hypugaea*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), and American peregrine falcon (*Falco peregrinus anatum*); and four BLM-sensitive bats: pale Townsend's big-eared bat (*Corynorhinus townsendii pallescens*), spotted bat (*Euderma maculatum*), greater western bonneted bat (*Eumops perotis californicus*), and California leaf-nosed bat (*Macrotus californicus*).

Sonoran Desert Tortoise

The Sonoran desert tortoise is a wildlife species of concern in Arizona and is also listed as BLM sensitive. Sonoran desert tortoises are identified as the desert tortoise population occurring south and east of the Colorado River. The population is distinct from the ESA-listed Mojave desert tortoise population located north and west of the Colorado River. Recent research suggests however that there may be similarities between the Sonoran and Mohave populations of desert tortoise in the Black Mountains ecosystem (BLM 1996). Collection of desert tortoises is prohibited in Arizona (Arizona Game and Fish Commission Order 43). An Arizona Interagency Desert Tortoise Team (AIDTT) was developed to preserve desert tortoise populations and habitat in Arizona. The AIDTT has designated three management categories for desert tortoise habitat. Category I habitat is designated to "maintain stable, viable populations and protect existing tortoise habitat values and increase populations where possible." Category II habitat is designated to "maintain stable, viable populations, and halt further declines in tortoise habitat values." Category III habitat is designated to "limit tortoise habitat and population declines to the extent possible by mitigating impacts" (AIDTT 1996).

The Sonoran desert tortoise is generally found on rocky slopes and bajadas of the Arizona upland and lower Colorado subdivisions. The tortoise is most often associated with the palo verde-mixed cacti association (Barrett 1990). An important component of tortoise habitat is the presence of shelter sites. Tortoises occupy shelter sites located below boulders, rock outcrops, and cavities in caliche soils of wash banks during inactive periods. Sonoran desert tortoises most often excavate burrows underneath boulders or rock outcrops (AIDTT 1996). Shelter sites also are used to escape extreme heat during active periods. Shelter sites are rarely found in shallow soils.

Sonoran desert tortoises are generally surface-active in spring months (March to April) and again during the monsoon (July to early October), but may be surface-active anytime of the year. They are generally inactive in the winter and mid-summer months, residing in their burrows.

Banded Gila Monster

The banded Gila monster is listed as a BLM species of concern. It is one of only two venomous lizards known in the world. There are two forms of Gila monsters, banded and reticulate. Banded Gila monsters are found primarily in northwestern and western Arizona, with a few isolated populations in Utah, Nevada, and California; however they are sometimes found outside this geographic range (AGFD 2002b, Brennan and Holycross 2006). They are found primarily in rocky foothills, bajadas, and canyons in the Sonoran Desert and extreme western edge of the Mohave Desert (AGFD 2002b). They have also been observed among sandy plains and desert grasslands (AGFD 2002b).

The Gila monster is diurnal; however it spends most of its time underground in burrows. It feeds on small mammals, lizards, and bird/reptile eggs, and is most active from March through June (AGFD 2002b). Mating occurs in early summer, with eggs being laid in July to August, and hatching the following May (AGFD 2002b).

Western Burrowing Owl

The western burrowing owl is listed as a BLM species of concern and is protected by the Migratory Bird Treaty Act. It is a small, ground-dwelling owl often occurring in colonies. It inhabits open areas such as grasslands, edges of agricultural fields, sparse desertscrub, golf courses, cemeteries, airports, and vacant lots. The presence of burrows is a habitat requirement because the owls nest in burrows. They are dependent upon other species to construct burrows. In Arizona, burrowing owls are often found in areas that support prairie dog (*Cynomys gunnisoni*) and round-tailed ground squirrel (*Spermophilus tereticaudus*) populations (DeVos 1998, Brown 2001). These burrowing mammals usually occupy open environments, construct burrows, and maintain vegetation at a short height, all of which suit the burrowing owl (DeVos 1998). The breeding period in Arizona ranges from late March to June (AGFD 2001).

Burrowing owl diets may include numerous prey items including rodents, small birds, frogs, invertebrates, and carrion. In Arizona, predominant prey items discovered in pellets from burrowing owls were scorpions, beetles, locusts, and small rodents (Haug et al., 1993). Additionally, Estabrook and Mannan (1998) found signs of mourning doves in the diet of burrowing owls in an urban setting.

Ferruginous Hawk

The ferruginous hawk is listed as a BLM species of concern and is protected by the Migratory Bird Treaty Act. In Arizona, it can be found in a variety of open habitats including grasslands, semidesert grassland, desertscrub, and along woodland fringes. It typically breeds in the northern half of Arizona, on the Colorado Plateau, although it may be found throughout the state. As of 1996 the species has not been documented in the Black Mountains, however suitable habitat likely exists (BLM 1996). Ferruginous hawks construct nests on a variety of substrates, including the ground, cliffs, trees, utility structures, farm buildings, haystacks, or rocky outcrops. Ferruginous hawks are sit-and-wait predators, and typically forage in open habitats, preferably with scattered trees or other perches. They consume mainly rabbits and a variety of rodents, although birds, snakes, and insects may be taken as well (AGFD 2001a). Mating in Arizona begins as early as March, and eggs are generally laid in late April to early May (AGFD 2001a).

Swainson's Hawk

The Swainson's hawk is listed as a BLM species of concern and is protected by the Migratory Bird Treaty Act. In Arizona this species occupies grassland, semidesert grassland, savanna grassland, and open desertscrub habitats. Swainson's hawks require large open grasslands with suitable nest trees and abundant prey. Foraging occurs among open grasslands, small open woodlands, and areas with sparse vegetation (AGFD 2001b). They forage primarily on small mammals, reptiles and birds (AGFD 2001b). Swainson's hawks nest in large mature trees generally within riparian areas but may use solitary trees in open areas. The breeding period in Arizona ranges from mid April to late July (AGFD 2001b).

American Peregrine Falcon

The American peregrine falcon is listed as a BLM species of concern and is additionally protected by the Migratory Bird Treaty Act. The species can be found throughout Arizona in areas with large cliffs, and sufficient water and prey, such as the Mogollon Rim, the Grand Canyon, and the Colorado Plateau (AGFD 2002). Potential nesting habitat for the species is also present within the Black Mountains (BLM 1996). Prey consists of primarily birds, which they attack in mid air, but they sometimes feed on bats as well (AGFD 2002). Mating occurs between February and March, with eggs typically being laid in April; however, they can be laid from mid-March to mid-May (AGFD 2002). Juveniles typically hatch sometime in early May and fledge in late June (AGFD 2002).

Bats

Four BLM sensitive species of bat, the pale Townsend's big-eared bat, spotted bat, greater western bonneted bat, and California leaf-nosed bat, may occur within the Project area. With the exception of the spotted bat, all of these species have been documented in the Black Mountains (BLM 1996). They all roost or hibernate in caves, mines and/or rock crevices and are found primarily in desertscrub communities.

The pale Townsend's big-eared bat (PTBEB) is found throughout Arizona. Summer roosts for this species include caves and mines during the day and abandoned buildings at night. During the winter PTBEB hibernate in caves, mines, and lava tubes primarily in mountainous/upland areas near the Grand Canyon area to southeastern Arizona (AGFD 2003). PTBEB feed primarily on small moths (AGFD 2003).

The greater western bonneted bat (GWBB), also known as the greater western mastiff bat, is a year round resident throughout most of Arizona. It roosts primarily in rocky canyons and cliffs with abundant crevices (AGFD 2002a). It is unknown whether GWBB hibernate during the winter, but there is some evidence suggesting that they enter a state of torpor during the day and arouse in the evening to forage (AGFD 2002a). GWBBs feed on a variety of insects including moths, dragonflies, and crickets, but they seem to prefer insects in the Hymenoptera family (i.e., bees, wasps, ants, and sawflies) (AGFD 2002a).

The spotted bat has a scattered distribution in Arizona, but there appears to be a substantial population in the Fort Pierce Wash area (AGFD 2003a). This species roosts in cracks and crevices in cliff faces which are typically near a source of water (AGFD 2003a). The primary food source for this species appears to be moths (AGFD 2003a).

In Arizona, the California leaf nosed bat (CLNB) is found primarily south of the Mogollon Plateau (AGFD 2001c). This species is active year round (i.e., it does not hibernate) and is not known to migrate. CLNBs prefer large roost sites such as caves and mines, with open ceilings and lots of flying space. The winter and summer range of the CLNB is essentially the same, however in the winter this species is not known to roost in northwestern Mohave County (AGFD 2001c). CLNBs feed primarily on large flying insects such as moths and grasshoppers (AGFD 2001c).

Special Interest Species

Desert Bighorn Sheep

Desert bighorn sheep (*Ovis candensis nelsoni*) are a big game species of special interest. They are a subspecies of bighorn sheep that occur in desert regions of the southwestern United States and northern Mexico. The largest contiguous desert bighorn sheep population in the world occurs in Black Mountains, which the project alignment passes through (AGFD 2007). This herd from the Black Mountains serves as the primary source population for desert bighorn sheep transplants in the southwestern U.S. (AGFD 2007). The species is extremely sensitive to human disturbance; interspecific and intraspecific competition for food, water, and space; and communicable diseases including chronic sinusitis, scabies, Epizootic Hemorrhagic Disease, Bluetonge, and Parainfluenza 3 (AGFD 2007, BML 1993). They typically inhabit sparsely vegetated, open areas in steep rocky terrain, however they also use flatter bajadas in the spring when annual forage growth occurs first (BLM 1993, AGFD 2007). The open habitat that sheep occupy allows for early detection of predators, and adequate time to reach safe terrain (AGFD 2007). Throughout most of the year males and females often live in separate groups and occupy different habitats (AGFD 2007). Females generally select areas near steep and rugged escape terrain (i.e., greater than 60 percent slope), and males are generally found in relatively less rugged habitat at somewhat lower elevations (AGFD 2007). Desert bighorn sheep are primarily diurnal (AGFD 2007).

Bald and Golden Eagles

The Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668c) provides protection for bald and golden eagles. This protection extends to eagle nests and their eggs. It prohibits anyone without a permit issued by the Secretary of the Interior from "taking" bald eagles, including their parts, nests, or eggs, and also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, and if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

Bald eagles are found throughout Arizona in riparian areas with large trees or cliffs, and abundant prey. Most of the bald eagle breeding areas occur in central Arizona in Sonoran Riparian Scrubland and Sonoran Interior Strands at elevations between 329 and 1,341 meters (McCarty and Jacobson 2010). No suitable bald eagle nesting or foraging habitat is found within the project area, and no bald eagles were observed during biological investigations. The closest documented bald eagle nest is on Burro Creek over 50 miles southeast of the Project and was unoccupied in 2010 (McCarty and Jabcobson 2010).

Golden eagles are found throughout Arizona in a variety of habitats from low desert areas to high mountain terrain with fairly open areas for foraging. They typically nest on cliffs in mountains and canyons, but have also been known to nest in trees in areas with rolling hills and open foraging grounds (McCarty 2007). No golden eagles were observed during field reviews, however suitable nesting and foraging habitat for golden eagles is present within the project area.

Species Protected Under the Migratory Bird Treaty Act

With the exception of domestic pigeons, house sparrows, and European starlings, all birds in the Project area that are listed in 50 CFR 10.13 are protected under the Migratory Bird Treaty Act. The Migratory Bird Treaty Act states it is unlawful to take, kill, or possess migratory birds or any parts of migratory birds that are listed in 50 CFR 10.13.

Several bird species, listed in Table C-2 in Appendix C, were observed in the Project area during biological investigations. A mourning dove nest with two eggs was discovered along the alignment between structures 14-5 and 14-6. No additional nests were observed.

Black Mountain Area of Critical Environmental Concern

Areas of Critical Environmental Concern are "areas within public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values; fish and wildlife resources; or other natural systems or processes or to protect life and safety from natural hazards" (43 CFR 1601.0-5). The Black Mountain ACEC, which comprises 218, 056 acres, was established by the BLM in 1993 to "better protect the diverse resources within its boundaries by balancing competing uses" (BLM 1996).

In 1996, the BLM developed the Black Mountain Ecosystem Management Plan and Environmental Assessment "in response to long-standing resource use conflicts and management controversies, especially regarding livestock, wildlife, and wild burros" (BLM 1996). The plan was developed "to facilitate multiple-use management, while ensuring the sustained health of the land" within the Black Mountain ACEC (BLM 1996). It "provides management direction for all uses of the public lands and, as such, precludes the need to develop additional activity plans" (BLM 1996). The plan is based on the ecosystem management concept which involves integration of ecological, social, and economic principles "in a manner that safeguards the long-term sustainability, natural diversity, and productivity of the landscape," allows for better management of the biological and physical systems with the Black

Mountain ecosystem (BLM 1996). It serves as the primary document for managing all public lands within the Black Mountain ecosystem (BLM 1996). Key features of the plan include, but are not limited to:

- Establishment of a healthy functioning ecosystem and long-term viability for all species in the ecosystem.
- Identification of vegetation objectives to ensure ecosystem health.
- Development of utilization limits for key plant species.
- Establishment of initial stocking rates for ungulates which would promote proper functioning and sustainability of the ecosystem.

Arizona Wildlife Linkages

Wildlife linkages are portions of habitat blocks (i.e., areas of land that contain important wildlife habitat and can reasonably be expected to remain wild for at least 50 years) that are critical to wildlife movement (Arizona Wildlife Linkages Workgroup [AWLW] 2006). The Arizona Wildlife Linkages Workgroup has established 152 potential wildlife linkages. The Project runs east/west across approximately five miles of the Mount Perkins-Warm Springs Wildlife Linkage. This linkage is located along State Route 68, and was likely established as a linkage to promote wildlife movement across State Route 68. The eastern terminus of the Project is in the Hualapai Mountains- Cerbat Mountains Wildlife Linkage. This linkage is located at the southern edge of the Cerbat Mountains and the western edge of Kingman. Approximately 0.7 miles of the Project alignment are within this linkage.

3.3.1.5 Arizona Native Protected Plants

The Arizona Department of Agriculture (ADA) oversees the protection of various Arizona native plants as classified under the Arizona Native Plant Law (ARS 3-904). During field reviews of the Project area, protected native plants were identified. A list of protected plants identified and the category of protection required is presented in Table 3-2. No Highly Safeguarded plants (no collection allowed) are known to exist or were observed within the Project area.

TABLE 3-2 ARIZONA NATIVE PROTECTED PLANTS OBSERVED IN THE PROJECT AREA	
Species	**Protection**
Cholla	Salvage Restricted
Yucca	Salvage Restricted
Banana yucca	Salvage Restricted
Barrel cacti	Salvage Restricted
Prickly pear	Salvage Restricted
Beavertail cacti	Salvage Restricted
Echinocactus	Salvage Restricted
Mesquite	Salvage Assessed, Harvest Restricted
Salvage Restricted – Collection by permit only; **Harvest Restricted** – Permits required to remove plant by-products (fuelwood); **Salvage Assessed** – Plants have an appreciable value if salvaged; permits required for plant removal and salvage.	

3.3.1.6 Invasive and Non-native Species

Noxious and invasive weeds are non-indigenous species that may be harmful, spread rapidly and/or out-compete native species. As used here, a noxious weed is an invasive species of a plant that the ADA has listed on the "Arizona Noxious Weed List." An invasive weed is a non-indigenous species, or "non-native," species but is not included on the Arizona Noxious Weed List. Weeds belonging to these categories were given special attention during the field review. No noxious weeds were observed. Several invasive species including tamarisk, black mustard, and bull thistle were observed within the Project area. Black mustard was found throughout the Project area, while bull thistle was observed along the side of the access road that goes to a communications facility between structures 10-4 and 10-5, and along the access road roughly between structure 10-4 and structure 11-4. Tamarisk was only found in the drainage between structure 0-2 and structure 0-3.

3.3.2 Environmental Consequences

3.3.2.1 Standards of Significance

Biological impacts would be considered significant if project implementation would result in any of the following:

- Loss to any population of wildlife that would jeopardize the continued existence of that population.
- Loss to any population that would result in the species being listed or proposed for listing as endangered or threatened.

- Interference with nesting or breeding periods of any species that results in a loss of viability or a trend toward ESA listing.
- Reduction in the range of occurrence of any wildlife species.
- Modification to habitat used by special status species for resting, nesting, feeding, or escape cover.
- Local loss of wildlife habitat (as compared to total available resources within the area).
- Interference with nesting or breeding periods of any migratory bird species.
- Reduction the range of occurrence of any migratory bird species.
- Substantial interference with the movement of any native resident or migratory fish or wildlife species for more than one reproductive season.
- Native fish or wildlife population to drop below self-sustaining levels.
- Introduction or increase in the spread of noxious weeds.
- Adverse and substantial effects to important riparian areas, wetlands, or other wildlife habitats.

3.3.2.2 Project Impacts

Proposed Action Alternative

Direct impacts on vegetation and wildlife species would result from constructing, operating, and maintaining the proposed Project. Direct impacts may include loss or disturbance of plants and wildlife or habitat from blading, crushing, or other project activities. Increased road traffic could disrupt foraging and nesting/mating behaviors and wildlife would be susceptible to being killed or injured by vehicles. Resource Protection Measures (RPM), such as limiting off-road traffic and reducing vehicle speeds to 15 miles per hour or less on access roads, would be employed. Existing access roads would be rebladed and/or bulldozed and may be widened to a width of 15 to 20 feet to accommodate construction equipment. In some cases existing roads will need to be extended to reach the new pole sites. After construction, roads would be reclaimed to a width of 12 feet. Construction of new access roads and potential widening of existing access roads would result in a permanent loss of habitat where new roads are constructed and a temporary but long-term loss where roads are widened. Disturbed areas will be reseeded according to land management agency regulations and permit guidelines, and the surrounding vegetation would remain intact and would continue to support the growth of native vegetation.

Indirect impacts to biological resources may result from additional ground disturbance and vandalism associated with increased public access.

Short-term impacts on wildlife are defined as impacts that do not persist beyond one or two reproductive cycles. Long-term impacts are defined as impacts that persist for more than ten years.

Analysis of the Project's potential to impact biological resources has been broken down into the following sections; impacts to threatened or endangered species, impacts to special status species (i.e., BLM sensitive species, special interest species, migratory birds, and Arizona native protected plants) and impacts resulting from invasive and non-native species.

Impacts to Threatened or Endangered Species

California Condor

One ESA-listed species, the California condor, may occur within the Project area. The Project area is outside of the experimental population's designated range (the 10[j] area); therefore, the condor is treated as a threatened species rather than a proposed species. While the condor is a skilled flier and covers large areas, it is unlikely to be encountered in the Project area. The condor primarily uses the north and south rims of the Grand Canyon, the river corridor of the Grand Canyon, the Kaibab Plateau, and the Kolob region of southern Utah (USFWS 2009, Southwest California Condor Recovery Team 2007). Condors are not known to frequent the Project area. No roosting habitat is present, however foraging opportunities are available. It is unlikely that a condor would be observed in the Project area, but sometimes condors are attracted by human activity. In the event a condor enters the active construction areas of the Project, activities would cease until the condor leaves on its own.

The transmission line could pose a risk to the species due to electrocution, but this would not be a new hazard as the transmission line already exists. However, the large wingspan of the condor is not considered in the design requirements of transmission lines within this manual, and the wings could span from one conductor to the other, resulting in electrocution. While the transmission line poses a risk of electrocution, to date no electrocutions have occurred along the existing transmission line. Due to the infrequent use of the area by condors, and the lack of impacts from the existing transmission line, it is believed that the potential for future electrocutions is negligible. No impacts to the California condor are anticipated.

Impacts to Special Status Species

BLM Sensitive Species

Ten BLM sensitive species (Sonoran desert tortoise, Banded Gila monster, western burrowing owl, ferruginous hawk, Swainson's hawk, American peregrine falcon, pale Townsend's big-eared bat, spotted

bat, greater western bonneted bat, and California leaf-nosed bat) have the potential to occur within the Project area. Potential impacts to these species are discussed below. Bat species are discussed as a group to prevent redundancy, since potential impacts to bat species are similar.

Sonoran Desert Tortoise

The AIDTT has designated three management categories for desert tortoise habitat. Category I habitat is designated to "maintain stable, viable populations and protect existing tortoise habitat values and increase populations where possible." Category II habitat is designated to "maintain stable, viable populations, and halt further declines in tortoise habitat values." Category III habitat is designated to "limit tortoise habitat and population declines to the extent possible by mitigating impacts" (AIDTT 1996).

Category III desert tortoise habitat exists throughout most of the Project area. Approximately 13 miles of the transmission line and access roads are located within Category III habitat. No Category I or II habitat is present in the Project area. Quadrangle maps depicting desert tortoise habitat can be found in Appendix D. These quadrangle maps depict the currently defined desert tortoise habitat categories. In the Sacramento/Golden Valley, Sonoran desert tortoises may act more like the Mojave population which constructs burrows in the banks of incised drainages, therefore there is potential for desert tortoises to occur outside of the mapped areas. Although no surveys were conducted specifically for the desert tortoise, no tortoises or signs thereof (e.g., burrows, scat, old shells) were observed during the field visit.

Potential impacts could result from direct strikes by equipment and construction vehicles, crushing of burrows or shelters, and increased access opportunities for illegal collection due to access road improvements. Additionally, the temporary widening of some of the existing access roads and construction of new access roads have the potential to fragment habitat. Habitat loss would result from the Project, as the result of improvements made to existing access roads, the construction of new access roads, and structure being placed in previously undisturbed locations. After construction, roads would be reclaimed to a width of 12 feet. Resource protection measures listed in section 2.3.2 and BLM mitigation measures listed in section 2.3.12 have been incorporated to reduce potential impacts to desert tortoise. By implementing resource protection measures, BLM mitigation measures, and following Sonoran Desert Tortoise Guidelines (Appendix E), potential impacts from the Proposed Action would result in temporary, minor effects to Sonoran desert tortoise. These impacts are not expected to reduce the long-term population viability of the species, or result in a trend towards listing of the species.

Banded Gila Monster

Banded Gila monsters have been documented within the project vicinity (AGFD 2006), thus there is potential for the species to occur within the Project area. Impacts would be similar to those discussed for the desert tortoise. To minimize potential impacts a biological monitor would search for the species during pre-construction desert tortoise surveys. Furthermore, a biological monitor, who will be on-site during construction activities in designated desert tortoise habitat, will also watch for Gila monsters. If Gila monsters are identified and in harm's way they will be moved out of the active construction area.

Western Burrowing Owl

Quadrangle maps depicting the general area of suitable burrowing owl habitat can be found in Appendix D. This area generally corresponds to the Sacramento/Golden Valley. No burrowing owls or suitable burrows were observed during the field review of the Project area; however, burrowing owls are known to occur within the Sacramento/Golden Valley. The highest quality habitat was generally found from structure 17-6 to structure 19-1, from structure 19-4 to structure 20-1, and from structure 21-2 to 22-1; however, in general the alignment from structure 14-1 to structure 23-7 (i.e., the Sacramento/Golden Valley area of the Project area) could potentially serve as burrowing owl habitat.

Project activities may increase potential for bird strikes and/or mortality resulting from construction traffic and earthmoving activities, entrapment within burrows (partial burrow collapse), and modification to feeding or reproductive behavior due to elevated disturbance levels (e.g., human presence, elevated noise, ground vibration levels). These impacts would generally be limited to the period of construction and would have the most impact if they occurred during the burrowing owl breeding season. Additionally, the temporary widening of some of the existing access roads and construction of new access roads would result in loss of burrowing owl habitat. Habitat loss would be minimal as roads would be reclaimed to a width of 12 feet. To minimize impacts to this species it is recommended that a pre-construction survey following established AGFD Burrowing Owl Project Clearance Guidance (Appendix F) be performed in areas of suitable habitat. If owls are found in harm's way they could be relocated to suitable off-site locations. Performing a pre-construction survey would ensure that no significant impacts to western burrowing owls would occur from the Proposed Action. If a pre-construction survey for burrowing owls is not performed, potential impacts from Project activities could result in a minor adverse effect.

Ferruginous Hawk

Impacts to ferruginous hawks could occur from the disruption of feeding habits during Project activities, or disturbance to nesting birds, which could lead to failed nesting attempts. Construction of new access

roads and temporary widening of some of the existing access roads would result in a loss of foraging habitat, however this loss would be minimal as roads will be reclaimed to a width of 12 feet. No ferruginous hawk or other raptor nests were observed during field reviews of the Project area, however suitable foraging habitat is present generally from structure 14-1 east to structure 23-7 (i.e., the Sacramento/Golden Valley area of the Project alignment). Additionally, the transmission line structures could provide suitable nesting habitat.

To minimize impacts, a pre-construction bird breeding survey would be conducted if construction occurs during the avian breeding season (March 1 through August 31). If nesting raptors are found, a spatial buffer of 0.5 miles, or a buffer established by a wildlife biologist based on observations of the hawk's behavior, would be placed around the nest to minimize impacts to breeding birds until the young have fledged and are foraging on their own, or the nest is no longer active. With the incorporation of these measures, no significant impacts to the ferruginous hawk are anticipated.

Swainson's Hawk

As previously stated for ferruginous hawks, impacts to Swainson's hawks could also occur from the disruption of feeding habits during Project activities. No Swainson's hawks were observed during the reconnaissance field visit, and suitable nesting habitat was not observed within the Project area. Suitable foraging habitat is present in the Project area generally between structure 14-1 and structure 23-7.

Potential impacts, and RPMs to protect the Swainson's hawks would be similar to those described for ferruginous hawks above. With the incorporation of these measures, no significant impacts to the Swainson's hawk are anticipated.

American Peregrine Falcon

Portions of the Project area, especially in the Black Mountains near structure 10-2 to structure 10-4, contain suitable peregrine falcon nesting habitat. During field review of the Project area between these structures an adult peregrine was observed calling and flying in the cliffs north of this segment of the alignment. A nest could not be located, but there is potential that a nest exists.

Potential impacts, and RPMs to protect the American peregrine falcon would be similar to those described for ferruginous hawks above. With the incorporation of these measures, no significant impacts to the American peregrine falcon are anticipated.

Bats

Suitable roosting habitat can be found within the mountainous areas of the Project, generally from structure 0-1 west to structure 5-7, and from structure 24-4 west to structure 27-3, and within abandoned mines found between structures 7-4 and 8-2, which are depicted on maps in Appendix D. In addition to roosting habitat, portions of the Project alignment may also be used as foraging habitat since bats are known to forage long distances (zero to six miles) from roosts.

No impacts to roost sites are anticipated to occur from Project activities. However, several abandoned mines are located within approximately 200 feet of the alignment, and bats could potentially be disturbed by noise from construction activities while roosting. Mines were not entered and investigated for use of bats. Several of these mines are vertical shafts and are not accessible to untrained, unequipped field crews. Because impacts to roost sites are not expected, and only minimal foraging habitat would be disturbed, no significant impacts to bats would result from the Proposed Action.

Impacts to Special Interest Species

Desert Bighorn Sheep

The Black Mountains support the largest contiguous population of desert bighorn sheep in the world. Because the habitat is contiguous, bighorn sheep movement can occur daily, seasonally, and/or annually, therefore the species is likely to occur within the Project area at some point during construction. The alignment crosses through habitat that has been classified as medium value habitat for bighorn sheep in the U.S. Department of Interior, BLM, 1993 Kingman Resource Area Proposed Resource Management Plan and Final EIS. No lambing grounds are located within the Project area. The closest lambing grounds are approximately five miles to the north (BLM 1993).

Bald and Golden Eagles

No eagles were observed during field reviews. No suitable bald eagle nesting or foraging habitat is found within the Project area, and there are no known bald eagle nests within ten miles of the Project. As previously mentioned in Chapter 3.3.1.4, the closest documented bald eagle nest is over 50 miles southeast of the Project and was unoccupied in 2010 (McCarty and Jabcobson 2010). Construction of the Project would result in a temporary increased human activity and increased noise levels. Given the distance of the nest from the Project, impacts to nesting eagles are not expected to occur.

Suitable nesting and foraging habitat for golden eagles is present within the Project area.

Migratory Birds

Construction activities occurring during the breeding season (March 1 to August 31) could impact migratory birds through direct or indirect take resulting from nest destruction or abandonment. To minimize impacts to migratory birds during the bird breeding season a pre-construction survey to identify active bird nests would be conducted. If breeding birds are identified, species-specific spatial buffers would be employed to avoid disturbing nesting birds. With the implementation of these measures, no significant impacts to migratory birds would occur as a result of the Project.

Black Mountain Area of Critical Environmental Concern

Impacts to the ACEC will be limited, as the project involves replacement of an existing transmission line. Construction of new access roads and temporary widening of some of the existing access roads would result in habitat loss, as new roads would only be extended from existing access roads to new tower structures. Any existing roads widening during the Project to accommodate equipment would be reclaimed to a width of 12 feet. The primary impact that could affect the ACEC would be an increase in use of access roads along the transmission line by the public resulting from improving the conditions of the access roads. Off highway vehicles of these roads could increase human activity in the Black Mountains and could even result in illegal collection of native plants and animals of the Black Mountains.

Arizona Wildlife Linkages

Portions of the Project alignment fall within two of Arizona's Wildlife linkages. The Project runs east/west across approximately five miles of the Mount Perkins-Warm Springs Wildlife Linkage, and the eastern terminus of the Project extends approximately 0.7 miles into the western edge of the Hualapai Mountains- Cerbat Mountains Wildlife Linkage. Impacts to the linkages will be limited because the project involves replacement of an existing transmission line. New roads will be constructed to allow access to new tower structures, and existing roads may be widened to up to 20 feet in width. Widened roads will be reclaimed to 12 feet.

Arizona Native Protected Plants

Eight plant species (cholla, yucca, banana yucca, barrel cactus, prickly pear, beavertail cactus, echinocactus, and mesquite) were observed within the Project area. All eight species are classified as Salvage Restricted, meaning that permits are required for collection and sale. In addition mesquite is also classified as Harvest Restricted, meaning that permits are required to remove plant by-products (i.e., fuel wood). The majority of the ROW is clear of vegetation, however construction of new access roads and potential widening of existing access roads would result in a loss of vegetation. In addition, plants in

temporary use areas will be subjected to trampling and short-term material storage. Disturbed areas will be reseeded according to land management agency regulations and permit guidelines, and the surrounding vegetation would remain intact, and would continue to support the growth of native vegetation. After construction, roads would be reclaimed to a width of 12 feet. All required permits would be obtained and vehicles would travel on roads whenever possible in order to minimize potential impacts. Additionally the BLM would be consulted regarding BLM guidelines for salvaging native vegetation. As a result significant impacts to Arizona native protected plants would not occur as a result of the Project.

Impacts Resulting From Non-native and Invasive Species

Construction activities could result in the introduction or spread of non-native and invasive species. The proliferation of introduced noxious weeds can alter vegetation composition. Resource protection measures outlined in section 2.3.2, such as pre-construction surveys and washing equipment to prevent the spread of noxious weeds, have been designed to reduce potential impacts. With the implementation of these measures impacts of the Project would have negligible effect, and would not result in uncontrolled expansion of noxious weeds.

No Action Alternative

Under the No Action Alternative Western would continue to use the existing Davis–Kingman Tap 69-kV Transmission Line rather than rebuilding the line. While no impacts will occur initially under this alternative, the line is nearing the end of its design life, and repairs are inevitable. Impacts from repairs to the line under the no action alternative would be similar to impacts from the Proposed Action Alternative, however it is possible that if emergency repairs were required (due to failure of individual line components as result of their use well beyond the service life span) there may not be time to conduct pre-construction surveys for special status species or to incorporate resource protection measures, which could result in greater impacts to biological resources than under the Proposed Action Alternative.

3.4 CULTURAL RESOURCES

3.4.1 Affected Environment

Cultural resources are places usually categorized as sites, objects, buildings, structures, or districts that are of archeological, ethnohistorical, historical, architectural, cultural, or scientific importance. Some federal laws and statutes protect such resources, while others require impacts to such resources to be considered during planning. The following discussion summarizes the cultural resources survey report prepared for the Project by Transcon Environmental (Vaughn and Peters 2010).

3.4.1.1 Archaeological Resources

An intensive survey was conducted for Western's Davis–Kingman Tap 69-kV Transmission Line Rebuild project to identify cultural resources within and adjacent to the transmission line alignment and existing access roads. The survey area for cultural resources is larger than the Project area and includes a 200-foot-wide corridor centered on the transmission line alignment, a 100-foot- wide corridor along the existing access roads, and a 300 foot area around the turning structures.

A review was undertaken to determine the extent of prior survey in and near the study area and to identify previously recorded cultural resources. Records were reviewed though the Arizona State Museum's (ASM) on-line AZSITE database; BLM, Kingman Field Office; Arizona State Historic Preservation Office (SHPO); Nevada SHPO; Reclamation, Lower Colorado Regional Office; Lake Mead NRA; and through historic General Land Office (GLO) maps and land patent records at the BLM Arizona State Office.

Fieldwork was an intensive pedestrian survey that consisted of four archaeologists walking parallel transects spaced no more than 15 meters apart. Representatives from the Fort Mohave Indian Tribe and the Hualapai Tribe also participated in different segments of the survey. Archaeological sites were defined according to criteria established by ASM (Fish 1994). A site contains the physical remains of past human activity that is at least 50 years old and consists of at least one of the following:

- 30 or more artifacts of a single type within an area 15 meters in diameter, except when all artifacts appear to have originated from a single source
- 20 or more artifacts of two or more types within an area 15 meters in diameter
- One or more features in temporal association with any number of artifacts
- Two or more temporally associated features without any artifacts

Sites may also be recorded at the discretion of the archaeologist even if they do not meet the minimum requirements. Artifacts or features that do not meet any of these criteria are considered isolated occurrences (IOs). IOs are recorded and described, but they do not qualify as sites. According to Arizona SHPO, historical properties are not to be given ASM site numbers and Historic Property Inventory Forms should not be filled out for historic road segments as the form is intended for buildings and not appropriate for linear features (pers. comm. D. Jacobs and B. Collins, August 3, 2010). The BLM, Kingman Field Office also expressed it had no desire to label historical properties with specific numbers (pers. comm. T. Watkins, August 3, 2010).

The review of established site files revealed that 58 cultural resource studies that had been conducted within one mile of the Project area. Thirty-one of these previous surveys cover small portions of the transmission line survey area. Surveys recently conducted as part of the Davis Dam Switchyard rebuild at the western end of the Project area employed acceptable methods and were adequately documented; consequently, the western seven-tenths of a mile of the Project area were eliminated from area surveyed (Vaughn and Peters 2011).

As a result of these and less formal efforts, 87 previously recorded cultural resources were identified within one mile of the Project area, including access roads. Table 3-3 summarizes the ten previously recorded sites that cross the Project area and the newly recorded cultural resources. The four sites identified in the Project area include three historic mining sites and one historic waste pile. None of the sites were used long-term nor do they have signs of occupation. Due to the temporary nature of the sites, it is unlikely that any unmarked human burials are present. Two sites that were identified in the previous research have been determined eligible with SHPO concurrence including AZ F:14:236(ASM) a previously recorded site in the western seven-tenths of the Project area and AZ F:16:24(ASM). As the western seven-tenths of the Project area has already been rebuilt, there will be no impact to site AZ F:14:236(ASM) as a result of the current undertaking. AZ F:16:24(ASM) was not relocated during the survey and it is possible that it was destroyed during recent construction along Highway 93.

TABLE 3-3
CULTURAL RESOURCE IDENTIFIED IN THE PROJECT AREA

Cultural Resource	Description	Eligibility	Land Jurisdiction[1]	Treatment
AZ F:14:236(ASM)	Prehistoric trail, rock features and artifact scatter	Eligible Criterion D (SHPO)	LMNRA/BOR	Previous survey/ not resurveyed
AZ F:16:24(ASM)	Multicomponent site	Eligible Criterion D (SHPO)	BLM	Previous survey/ not relocated
AZ F:16:36(ASM)	Historic road segment and trash scatter	Not eligible (SHPO)	ASLD, BLM, PVT	Previous survey/ not relocated
AZ F:16:37(ASM)	Hardy Toll Road/ Kingman–Mineral Park Road	Not eligible (SHPO)	ASLD, BLM, PVD	Previous survey/ not relocated
AZ F:15:118(ASM)	Historic waste pile	Not eligible (Trasncon)	BLM	Survey
AZ F:15:119(ASM)	Historic mine site	Not eligible (Transcon)	BLM	Survey
AZ F:15:120(ASM)	Historic mine site	Not eligible (Transcon)	BLM, PVT	Survey

TABLE 3-3 CULTURAL RESOURCE IDENTIFIED IN THE PROJECT AREA				
Cultural Resource	**Description**	**Eligibility**	**Land Jurisdiction[1]**	**Treatment**
AZ F:15:121(ASM)	Historic mine site	Not eligible (Transcon)	BLM	Survey
26CK6922H	Telephone line	Unknown	LMNRA/BOR	Previous survey/ not relocated
26CK6822I	Historic landscape (previously destroyed)	Unknown	LMNRA/BOR	Previous survey/ not relocated
Historic Structure1	Historic road	Not eligible (Transcon)	BLM	Survey
Historic Structure 2	Historic road	Not eligible (Transcon)	ASLD	Survey
Historic Structure 3	Historic road	Not eligible (Transcon)	BLM	Survey
Historic Structure 4	Historic road	Not eligible (Transcon)	PVT	Survey
Historic Structure 5	Historic railroad	Not eligible (Transcon)	PVT	Survey
Historic Structure 6	Two historic buildings	Not eligible (Transcon)	BLM	Survey
Historic Structure 7	Historic road	Not eligible (Transcon)	BLM	Survey
Historic Structure 8/ Davis–Kingman Tap Transmission Line	Historic transmission line	Not eligible (Transcon)	ASLD, BLM, LMNRA/BOR, PVT, Western	Previous survey/ relocated
Davis–Needles Transmission Line	Historic transmission line	Not eligible (recorder)	LMNRA/BOR	Previous survey/ not resurveyed
Davis–Parker Transmission Line	Historic transmission line	Not eligible (recorder)	LMNRA/BOR	Previous survey/ not resurveyed
Davis–Prescott Transmission Line	Historic transmission line	Not eligible (recorder)	LMNRA/BOR	Previous survey/ not resurveyed
IOs 1–124	Miscellaneous IOs	Not eligible (Transcon)	ASLD, BLM, LMNRA/BOR, PVT, Western	Survey

[1] ASLD=Arizona State Land Department, BLM=Bureau of Land Management, Kingman Field Office, BOR=Bureau of Reclamation, LMNRA=Lake Mead National Recreation Area, PVT=Private

The intensive pedestrian survey covered approximately 832.16 acres of BLM land; Reclamation fee and withdrawn lands across NPS, Lake Mead NRA; state land; and private lands. Four archaeological sites and eight historic structures were identified and recorded during the survey. The four archaeological sites include three Euro-American historic mining sites and a historic waste pile. The eight historic structures include five roads that appear on the 1910 and 1919 GLO maps; the alignment of the Utah to Arizona

Railroad, which also appears on the 1910 GLO map; historic buildings that have likely been relocated to their current position; and the current Davis–Kingman Tap Transmission Line. None of the sites or historic structures are recommended eligible for listing on the NRHP.

One hundred and twenty-four isolated occurrences (IOs) were identified as a result of the pedestrian survey. Only two of the IOs were prehistoric, both consisting of a single flaked stone. Historic IOs included 71 incidences of miscellaneous artifacts, most of which were cans, 23 rock piles, 13 mining pits or adits, 5 rock rings, 4 rock cairns, 1 historic petroglyph, 1 corral, 1 utility pole stump, 3 old fence post stumps, and 1 steel water tank and trough. Lastly, one incidence of modern trash was also recorded as an IO and later voided.

3.4.1.2 Native American Religious Concerns

Western contacted tribes regarding the Proposed Action to determine their concern for specific places of traditional cultural importance. A list of tribes Western has consulted is provided in Chapter 4, Agencies and Tribes Consulted. Western consulted with the tribes to identify natural and cultural resources that may be important to the tribes, such as traditional cultural properties (TCPs) that may be potentially impacted by the Project. Places of traditional importance to Native Americans may be either natural or cultural features and may include such things as natural rock outcrops, archaeological sites, springs, trails, view sheds or landscapes. Consultation with Indian tribes is on-going and to date, they have identified general landscape-level concerns, but have not pointed out concerns about specific project impacts. If and when specific concerns are identified by tribal government representatives, Western would treat them as discovery situations.

3.4.2 Environmental Consequences

3.4.2.1 Standards of Significance

A project undertaking affects a cultural resource if it alters any characteristic that qualifies it for NRHP inclusion. Impacts on cultural resources are considered significant if project implementation would result in any of the following:

- Damage to, or loss of a site of archaeological, Tribal, or historical value that is listed, or eligible for listing, on the NRHP
- Adverse impact to NRHP-eligible properties that cannot be satisfactorily mitigated as determined through consultation with the SHPO and other interested parties

- Loss or degradation of a TCP or sacred site, or if the property or site is made inaccessible for future use
- Disturbance to any human remains, including those interred outside formal cemeteries
- Unmitigated adverse effect to a TCP determined to be NRHP-eligible or identified as important to tribes

3.4.2.2 Project Impacts

Proposed Action Alternative

During the survey of approximately 832.16 acres of land associated with the Proposed Action, 4 archaeological sites, 8 historic structures, and 124 IOs were identified. All of the sites, historic structures, and IOs are recommended as ineligible for listing on the NRHP. Western is currently undergoing consultation with the SHPO, however, it likely that Western will determine that no historic properties would be affected by the proposed action because Register-eligible resources are not present in the Project footprint and that no further preservation treatment would be needed.

No Action Alternative

No historic properties would be affected under the No Action Alternative as Western, in consultation with SHPO, is anticipated to determine that no Register-eligible properties are present within the Project area. No further preservation treatment would be needed under the No Action Alternative.

3.5 VISUAL RESOURCES

3.5.1 Affected Environment

The study area for visual resources is bounded on the west by the Colorado River, on the east by the Cerbat foothills, and by a three-mile buffer established on the north and south sides of the existing transmission line. This study area was established to cover areas of concern that have been expressed through coordination with the BLM, scoping comments, and other agency and public input.

Laws, Regulations, and Guidelines

The study area contains federally managed lands and facilities as well as private land. The private land is sparsely populated and has no regulated method for managing visual resources. However, it is reasonable to assume that visual sensitivities are consistent with established aesthetic settings and uses. Inspection of

the Project area revealed that management objectives established for BLM lands would be consistent with uses on adjacent private lands.

The analysis for visual resources was based on the methods outlined in the Visual Resource Management (VRM) system used by the BLM. The proposed transmission line is partially located on BLM land and was evaluated using BLM's VRM system, and is expected to be consistent with the established VRM objectives and the Kingman RMP. Although the VRM System applies only to BLM managed lands, this method for analysis and evaluation was used to characterize impacts for the entire Project.

Visual resources were identified through research of existing documents including the Mohave County General Plan (Mohave County 2005) and BLM Kingman Field Office Resource Management Plan (BLM 1993). Further, information was gathered through inspection of aerial photographs, geographic information system (GIS) analysis, and a site survey.

As part of the evaluation, Key Observation Points (KOPs) were established. The KOPs are points from which visual evaluations are performed and represent meaningful viewing locations. KOPs were determined to represent areas sensitive to viewers within the study areas. (Figure 3-4)

A visual resource inventory was performed and VRM classes were identified for public lands under jurisdiction of the BLM Kingman Field Office in 1993 (BLM 1993). Some privately owned lands, though not managed by the BLM, were also inventoried so that overall management goals would be consistent across the geographic area.

VRM classes and their objectives are:

- **Class I Objective:** To preserve the existing character of the landscape; the level of change to the characteristic landscape should be very low and must not attract attention
- **Class II Objective:** To retain the existing character of the landscape; the level of change to the characteristic landscape should be low
- **Class III Objective:** To partially retain the existing character of the landscape; the level of change to the characteristic landscape should be moderate
- **Class IV Objective:** To provide for management activities that require major modification of the existing character of the landscape; the level of change to the characteristic landscape can be high

The Project crosses BLM's VRM Class II, III, and IV areas. Other portions of the Project cross the Lake Mead NRA, private land and State Trust Land. The Project also traverses within 1.5 miles of the northern border of the Mount Nutt Wilderness Area, a VRM Class I area (Figure 3-4), and crosses the Cerbat Foothills Recreation Area. Previous ROWs were granted approximately 60 years ago for these locations (see Chapter 1). The ROW currently granted is owned and maintained by Western.

Environmental Setting

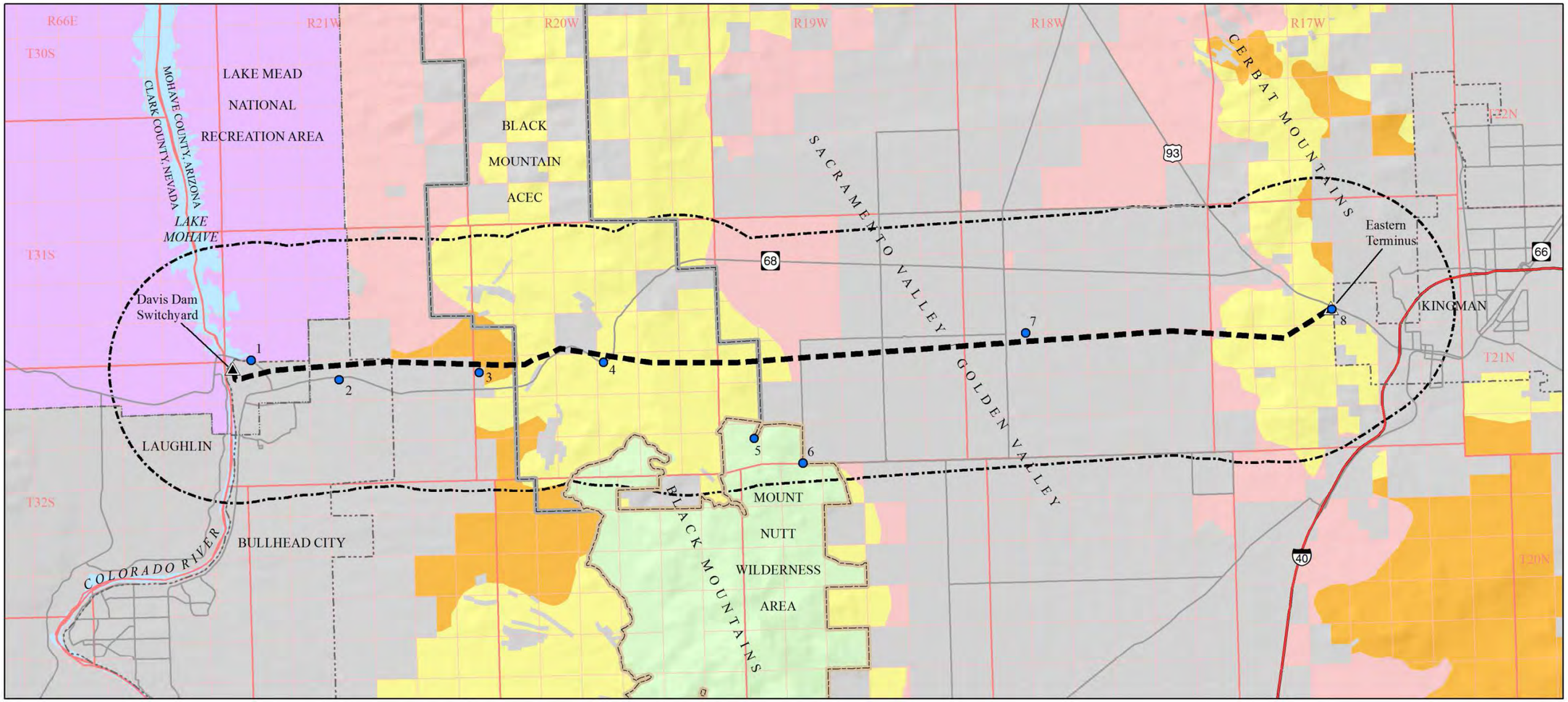
The Project area landscape is dominated by two rugged mountain ranges. The Cerbat Mountains form the eastern edge of Sacramento/Golden Valley with the Black Mountains forming the western edge. Vegetation across the intervening valley consists of sparse, low growing grasses and shrubs. The more rugged mountain ranges are densely covered with juniper, hackberry, and oak. More than one-third of the Project crosses the flat Sacramento/Golden Valley with the other two-thirds crossing the Cerbat foothills, the Black Mountains and parts of Bullhead City (Photographs 3-1, 3-2 and 3-3).

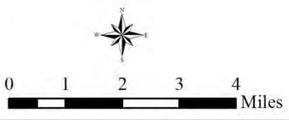
3.5.2 Environmental Consequences

3.5.2.1 Standards of Significance

Impacts to visual resources would be considered significant if project implementation would result in:

- The project being located in an area previously designated and managed by the BLM with a Visual Quality Objective Class I rating.
- Dominant visual change in color, form, or texture of the landscape seen from one or more KOPs, any developed motorized or non-motorized access points, residences or business locations.
- Substantial damage to scenic resources, including, but not limited to landmarks, trees, rock outcroppings, and historic buildings, or other special features within a locally designated parkway, historic, or scenic byway, or in an area managed by a government agency as a scenic area.
- Substantial effect on a scenic vista.
- Substantial effect on a sensitive view by introducing a negative visual element (such as creating light or reflecting glare.).





Legend

- Transmission Line Alignment
- Terminus Point
- Interstate Highway
- Highway or Road
- Study Area Boundary
- Lake Mead National Recreation Area Boundary
- Mount Nutt Wilderness Area Boundary
- Black Mountain ACEC
- City Boundary

VRM Classes

- 1
- 2
- 3
- 4

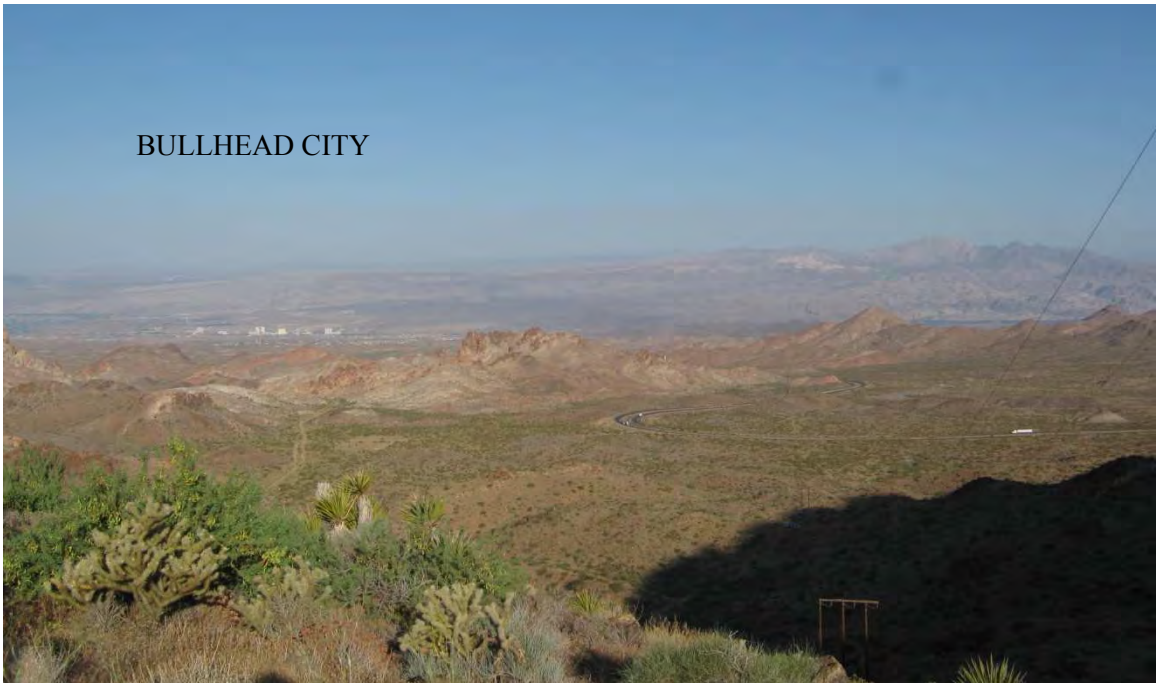
- Lake Mead National Recreation Area
- City, State, or Private Lands
- Key Observation Point

Figure 3-4
Visual Resource Management Classes

Davis-Kingman Tap
69-kV Transmission Line Rebuild Project
Mohave County, AZ

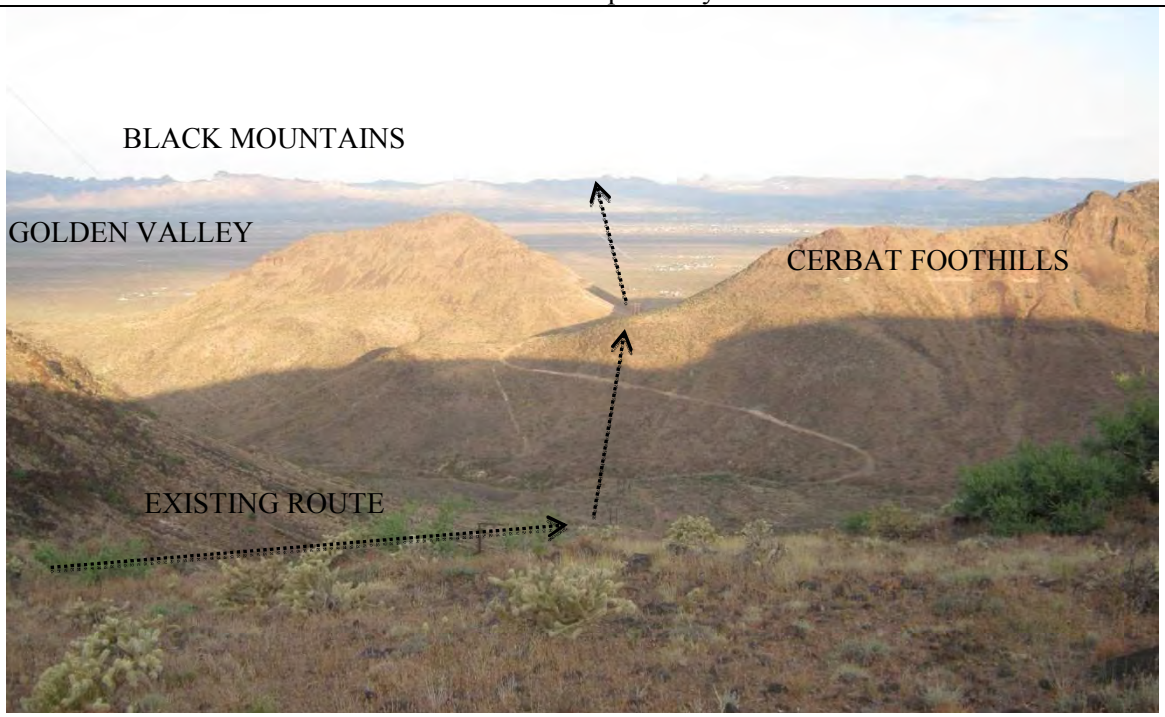
Western Area Power Administration

PHOTOGRAPH 3-1
View west from the Black Mountains toward Bullhead City and the Colorado River.



PHOTOGRAPH 3-2
View west from a typical location in Sacramento/Golden Valley.

PHOTOGRAPH 3-3
View west from the Cerbat Foothills across Sacramento/Golden Valley toward the Black Mountains. The transmission line route is depicted by black dotted lines.



3.5.2.2 Project Impacts

Proposed Action Alternative

The visual appearance of the existing transmission line varies across the topography, but generally blends with the landforms and background. The upgrading of the structures to monopoles would not pose obvious changes, if any, in the visual setting to the existing landscape. The new structures would draw little attention and would be visible primarily to viewers within foreground- middleground distance zones (up to 5 miles). The new monopole structures would be similar to the existing structures in terms of color and line, and would therefore have a minor adverse effect on the visual resources of the area. Some disturbance to vegetation during construction activities would occur. The effects to the immediate area would be minor or negligible and would be consistent with the management goals of the area.

Elements of the proposed Project would be visible to travelers, residents, and recreationists. KOPs were selected, as described in the Affected Environment section, to represent the most critical of these viewpoints. Although these locations are not under BLM jurisdiction, the Visual Resource Contrast Rating system used by the BLM was also used to evaluate the expected visual change in the existing

setting from each of the potentially affected KOPs. All KOPs are located within the foreground-middleground distance zone. No other KOPs were selected further than this viewing distance due to the minimal impacts that the proposed Project would impose at distances greater than three miles. Visual Contrast Rating Worksheets were prepared for each KOP and the analysis is summarized in the following paragraphs for each KOP. A summary of the Contrast Ratings is found at the conclusion of the KOP section (Table 3-4).

TABLE 3-4
CONTRAST RATING* FOR KEY OBSERVATION POINTS

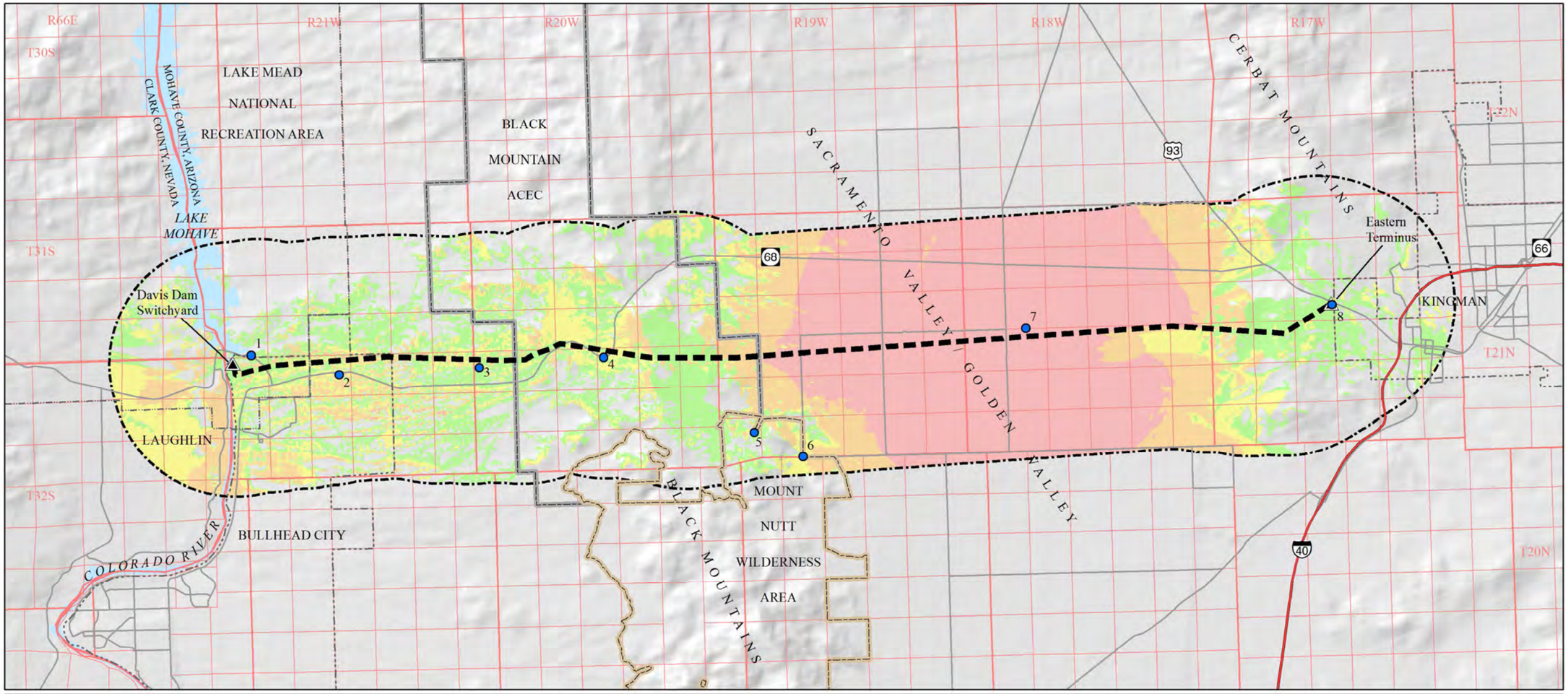
KOP #	Form			Line			Color			Texture		
	Land/Water	Vegetation	Structures	Land/Water	Vegetation	Structures	Land/Water	Vegetation	Structures	Land/Water	Vegetation	Structures
KOP 1	4	4	4	4	4	4	4	4	4	4	4	4
KOP 2	4	3	3	4	4	3	4	4	3	4	4	4
KOP 3	4	4	3	4	4	4	4	4	4	4	4	4
KOP 4	3	4	3	4	3	3	4	3	4	4	4	3
KOP 5	4	4	4	4	4	4	4	4	4	4	4	4
KOP 6	4	4	4	4	4	4	4	4	4	4	4	4
KOP 7	3	3	3	3	3	3	3	3	3	3	3	3
KOP 8	4	4	3	4	4	3	4	4	4	4	4	4

* Degree of contrast: 1=Strong; 2=Moderate; 3=Weak; and 4=None

Layout of Table 3-4 is based on the BLM Visual Contrast Rating System

As part of the visual resource evaluation, a viewshed analysis was performed using GIS technology and a 10-meter digital elevation model (DEM) to determine the extent of potential impacts to visual resources from the transmission line.(Figure 3-5).

Photographic simulations were created for each KOP and are included in Appendix G. KOPs 1, 5, and 6 are located at distances that limit visibility of the Project and therefore no simulations were created as subsequent upgrades of the Project would not have significant impacts on the viewshed from these locations.



Legend

- Transmission Line Alignment
- Terminus Point
- Interstate Highway
- Highway or Road
- Study Area Boundary
- Lake Mead National Recreation Area Boundary
- Mount Nutt Wilderness Area Boundary
- Black Mountain ACEC
- City Boundary

Quantity of Structures Visible

- 1 - 10
- 11 - 20
- 21 - 40
- Greater than 40
- Key Observation Point

0 1 2 3 4 Miles

Figure 3-5
Viewshed Analysis

Davis-Kingman Tap
69-kV Transmission Line Rebuild Project
Mohave County, AZ

Western Area Power Administration

KOP 1

This KOP is located at a primary intersection where Lake Mohave visitors have a view of the Project area. Viewers at this location can see several transmission lines, distribution lines, and a large substation. Viewers also can see Lake Mohave, and the Black Mountains. Viewers driving through this location would have brief views of the Project from this location (perhaps as long as several minutes due to traffic on holiday weekends). Contrast would be low to weak for this viewing area. The existing objects in the landscape would help the Project to blend into the landscape (Appendix G).

KOP 2

This KOP is located in a primarily residential community. Depending on their exact location, residents within this community may have views of the Black Mountains, the Colorado River, and nearby residential development. An existing 230 kV transmission line is also visible from many homes in this community. The Project is located approximately a quarter mile north of this community. A new residential subdivision has been started between this community and the Project area. The eventual completion of this subdivision would limit views even more from this KOP. The Project would pose no significant impact effect to the viewshed in this area (Appendix G).

KOP 3

This KOP location is along Katherine Mine Road at the western edge of a planned residential development and is located next to a BLM Class III area. Views of the rugged hills to the north and west conceal parts of some of the existing structures. The construction of the Project would not introduce drastic changes to the views from this community. The topography and vegetation would continue to screen elements of the Project; therefore, no significant impacts would be attributed to the Project from this KOP (Appendix G).

KOP 4

This KOP is located at the turnoff for the Old Kingman Highway, or the eastern access road to the Secret Pass off-highway vehicle (OHV) trail. This area is a BLM Class II area. There are two different viewer types at this location- the OHV trail users, and the SR 68 drivers. The OHV trail is a scenic trail that many tourists come to drive. The Secret Pass trail has two main entrances. The westernmost entrance is located approximately 2.5 miles west of this KOP location. The trail is mostly driven as a loop and therefore most drivers on the Secret Pass Trail will arrive at this KOP location. The OHV users would have a more prolonged view of the Project as they proceed from the heart of the Secret Pass trail north toward SR 68. Motorists on SR 68 are traveling at speeds of 65 miles per hour. The drive along this

portion of SR 68 is very steep and winding. Drivers do not parallel the transmission line, but bisect it as they loop back and forth under the line. Impacts to both user types are estimated to be less than significant. The upgraded structures would not create substantial changes in forms, lines, or colors at this KOP (Appendix G).

KOP 5

This KOP is at an established access point within the Mount Nutt Wilderness area. This area, designated as a Class I or Wilderness area, has little tolerance for change. The Project is located more than 1.5 miles to the north. Distance, topography and vegetation conceal the existing project from viewers in its current state. The new Project elements, though taller and slightly different in shape and color, are estimated to be non-apparent from this location, much like the existing transmission line. A photograph has been included to illustrate how the elements of the existing line are non-evident (Appendix G).

KOP 6

This KOP is at the Cave Spring trailhead, a primary access point to the Mount Nutt Wilderness area. As mentioned under the KOP 5 paragraph above, this is a VRM Class I area that has little tolerance for change. The Project is located approximately three miles to the north of the trailhead. Much like KOP 5 distance, topography and vegetation also conceal the existing transmission lines from viewers at this location. The new Project elements, though taller, and slightly different in shape and color are estimated to be non-apparent from this location. A photograph has been included to illustrate how the elements of the existing line are non-evident (Appendix G).

KOP 7

This KOP is located in the center of Golden Valley, near a more densely populated residential neighborhood. The majority of the Sacramento Valley is privately owned, and subject to the Mohave County goals in regards to visual resources, except in a few locations that the BLM manages as Class IV areas. This KOP represents typical views that residents would have of the Project within the valley. The Project, located less than 0.25 mile south of this location, would have low impacts to the visual setting in the valley and would create little contrast in terms of scale in this location. The additional height of the new poles would project further into the skyline, slightly increasing the contrast (Appendix G).

KOP 8

This KOP is located at the Monolith Gardens Trailhead, within a BLM Class II area. Users of the area are hikers, horseback riders, and mountain bikers. Views of the Project would be partially screened by

topography and vegetation. The impacts are estimated to be low from this location. The new structures would increase the amount of contrast in form and line (Appendix G).

The Project would have low to no significant impacts on the visual resources of the area. The proposed transmission line would be similar in visual character to the existing facility, and would not impose substantial changes in the visual settings of the area.

No Action Alternative

Continued maintenance and repair of the line would not change the aesthetic qualities of the landscape. The wood structures would be maintained or replaced as needed, and any conflicting vegetation would continue to require removal in the future for the operation of the line. The No Action Alternative would not result in substantial dominant changes in the landscape and would conform to BLM visual quality objectives.

3.6 AIR QUALITY

3.6.1 Affected Environment

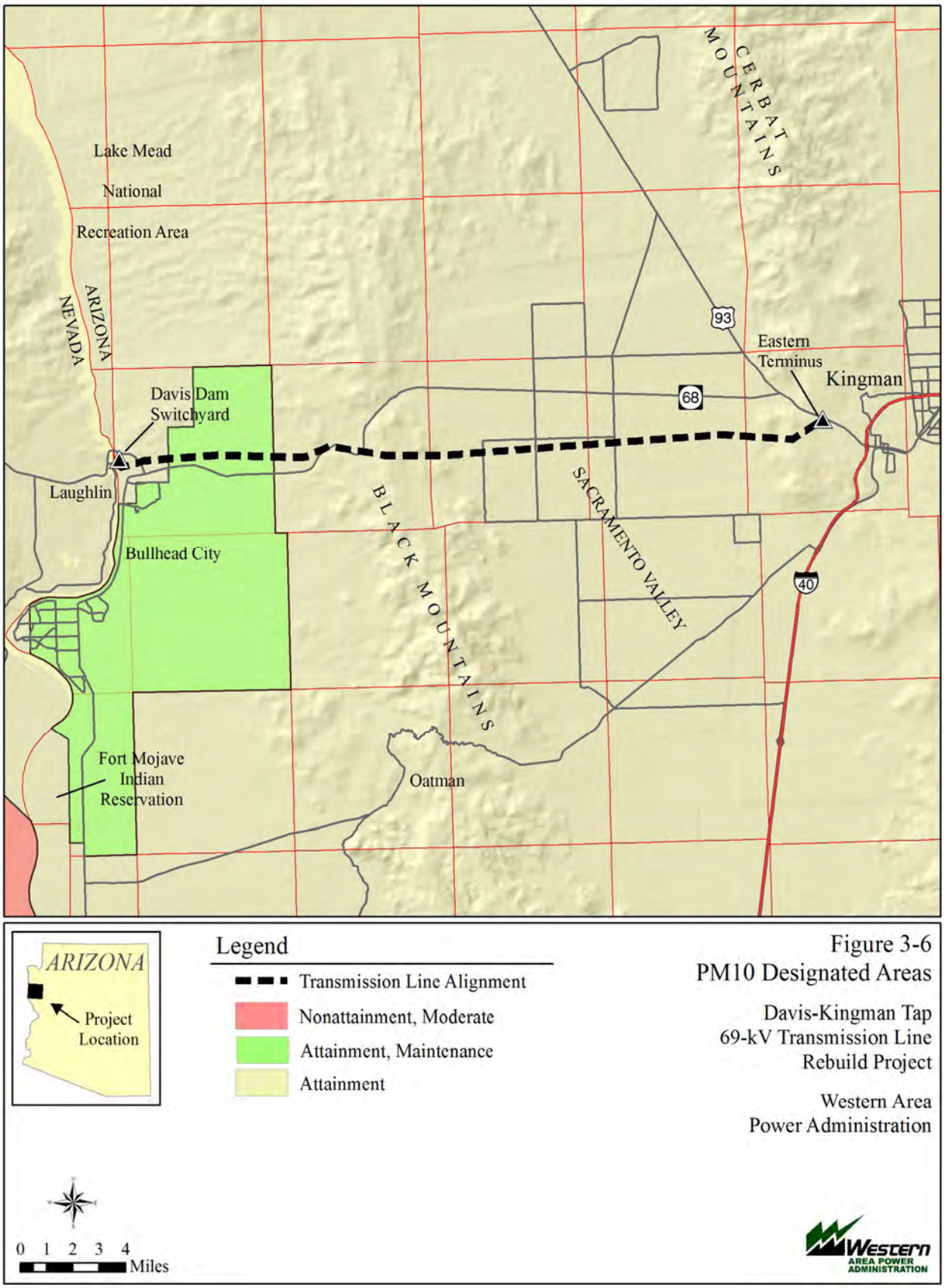
Air quality is determined by the concentration of various pollutants in the atmosphere. The type and amount of pollutants emitted in the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions are all important air quality factors.

The U.S. Environmental Protection Agency (EPA) Office of Air Quality Planning and Standards (OAQPS) has established National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) for six pollutants considered harmful to public health and the environment. These criteria pollutants include; sulfur dioxide, carbon monoxide (CO), ozone, lead, particulate matter less than ten microns in aerodynamic diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and nitrogen dioxide (NO_2). NAAQS places limits on acceptable ambient concentrations of these pollutants. EPA is authorized to designate areas exceeding the NAAQS limits as "non-attainment areas" and classify them according to their degree of severity (e.g., primary, moderate, or serious).

Based on the concentration of "criteria" pollutants, areas of Arizona are designated as one of the following:

- Non-attainment - areas in which ambient pollutant concentration exceed federal or state standards;
- Attainment - areas meeting federal or state standards; or,
- Unclassifiable - areas where no information is available to determine if standards are met.

The Arizona Department of Environmental Quality (ADEQ) regulates Mohave County at the state level. Areas having a non-attainment designation require a State Implementation Plan. The closest ADEQ air quality monitoring station is located on the rooftop of the U.S. Post Office Building, northeast of SR 95 and 7th Street in Bullhead City. All portions of Mohave County, including Kingman and the Davis Dam area, are listed as being in attainment for federal and state air quality standards with the exception of PM_{10}. The Bullhead City PM_{10} Maintenance-attainment Area encompasses approximately four miles of the Project area. The designation of Maintenance-attainment means that the area has met NAAQS but ongoing demonstration of compliance is required. Monitoring requirements for these areas are described in their associated State Implementation Plans (Figure 3-6).


Lake Mead
National
Recreation Area
NEVADA
ARIZONA
Davis Dam
Switchyard
Laughlin
Bullhead City
Fort Mojave
Indian
Reservation
Oatman
CERBAT
MOUNTAINS
BLACK MOUNTAINS
SACRAMENTO VALLEY
93
68
40
Eastern
Terminus
Kingman
ARIZONA
Project
Location
Legend
Transmission Line Alignment
Nonattainment, Moderate
Attainment, Maintenance
Attainment
0 1 2 3 4
Miles
Figure 3-6
PM10 Designated Areas
Davis-Kingman Tap
69-kV Transmission Line
Rebuild Project
Western Area
Power Administration
Western
AREA POWER
ADMINISTRATION

3.6.2 Environmental Consequences

3.6.2.1 Standards of Significance

Air quality impacts would be considered as having significant, adverse effects on air quality if project implementation would result in:

- Violation of ambient air quality or emissions standards applicable to the study area.
- Exposing sensitive receptors to detrimental pollution concentrations.
- Contributing to a collective or combined air quality effect of the Proposed Action and alternatives and foreseeable other projects that lead to violation of air quality standards, even if the individual effect of the project/activity is relatively minor compared with other sources.

3.6.2.2 Project Impacts

Proposed Action Alternative

The construction phase of the Proposed Action would disturb approximately 165 acres of land. Construction would include clearing and grading along access roads, and at the new pole locations. The demolition phase of the Proposed Action would affect approximately 31.5 acres of land and would include the removal and disposal of the existing transmission line.

Project activities that could affect air quality include use of construction vehicles and equipment, transportation to and from the site, construction/installation activities, and development or improvement of unpaved roads, dirt parking areas and related construction sites.

The primary sources of air pollution during project construction would include construction vehicles and equipment, which would produce short-term exhaust emissions including PM_{10}, $PM_{2.5}$, CO, NO_2, and volatile organic compounds; and construction activities, which would produce fugitive dust from disturbed soils including PM_{10} and $PM_{2.5}$. The principal sources of emissions during project operation would be attributed to the vehicles used by personnel traveling along the transmission line during maintenance or repair activities.

Because these emissions would be temporary and localized and the Proposed Action includes resource protection measures to abate dust emissions during construction, potential air quality impacts would not exceed federal and state air quality standards and would be minimal. No Clean Air Act (CAA) permit is required for this construction activity. Constructing, operating, and maintaining the transmission line would not alter the existing EPA designation of the region, and would not expose sensitive receptors to

detrimental air pollution. As a result, no significant impacts to air quality would occur from project implementation.

No Action Alternative

Under the No Action Alternative, the Davis–Kingman Tap 69-kV Transmission Line would not be reconstructed. Routine maintenance activities associated with the existing Davis–Kingman Tap 69-kV Transmission Line would continue and may actually increase in frequency as the transmission line ages. These activities would not be expected to substantially increase air emissions, and there would be no significant impacts to air quality.

3.7 WATER RESOURCES

3.7.1 Affected Environment

3.7.1.1 Surface Water

The Project area is within the Lower Colorado River Basin below Lake Mead (USGS HUC#150301), although it does not include the Colorado River itself. The transmission line alignment crosses only one major tributary, the Sacramento Wash, which is ephemeral and drains south and west to the Colorado River. Thirteen Mile Wash, a tributary of Sacramento Wash, is also within the alignment. There are no springs in the Project area (ADWR 2009). There are no surface water quality impairments within the Project area; however, the Colorado River between Hoover Dam and Lake Mohave is listed as an ADEQ 303(d) impaired water due to measured exceedances in selenium (ADEQ 2008).

3.7.1.2 Groundwater

There are two groundwater basins, the Lake Mohave and the Sacramento/Golden Valley, within the Project area's hydrographic basin. Lake Mohave Basin is a long, narrow basin adjacent to the Colorado River. Groundwater conditions are influenced by the river, and by Lake Mohave above Parker Dam that is the primary source of aquifer recharge. Groundwater quality is generally good. There are no underground leaking storage tanks, voluntary remediation sites, or springs or wells with water quality exceedances reported within the Lake Mohave project area (ADWR 2009). Groundwater conditions in the Sacramento/Golden Valley basin are influenced by inflow from mountain fronts and ephemeral washes and outflow to wells that serve the Golden Valley and City of Kingman areas. There are no water quality issues reported at wells within the Sacramento/Golden Valley project area (ADWR 2009).

3.7.1.3 Floodplains

Numerous agencies regulate activities within floodways and floodplains. Federal agencies are required to avoid siting development in floodplains, if practicable, and to develop measures to mitigate impacts that are unavoidable (Office of the President 1977). The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) with the assistance of the Arizona Department of Water Resources (ADWR) and Mohave County in Arizona. Flood hazard areas are divided into zones, with Zone A coinciding with the 100-year floodplain. The Corps regulates physical work that would impact the function or water quality in a drainage or wetland connected to waters of the United States (described in detail in Section 3.7.1.4). ADEQ assists the Corps with its Nationwide Permit program by issuing water quality certification based on project compatibility with Arizona's water quality plans and management programs (Corps 2010).

Floodways in the Project area are characterized by low-gradient, alluvial, ephemeral, braided channel forms. Flashy, episodic storm events deposit and erode sediment to create multiple compound channels. Flood cycles and discharges are highly variable season to season and year to year (Corps 2008). The portion of the transmission line alignment located in Sacramento/Golden Valley crosses many washes that form the headwaters of Sacramento Wash. Ten of these have flood hazard zones within a delineated (Zone A) 100-year floodplain (FEMA 2010). Wetlands and riparian areas do not occur along channels crossed by the transmission line alignment (USFWS 2009).

3.7.1.4 Waters of the United States

The Corps regulates utility construction and maintenance activities that would impact waters of the United States in compliance with the Clean Water Act (CWA) Section 404. The Corps is responsible for determining the jurisdictional status of drainages and other areas, based on information provided to it by the utilities, and issuing permits through its Nationwide Permit program. ADEQ reviews permits for compliance with CWA Section 401 as part of the Corps' permitting program in Arizona. Based on a project's anticipated effect on water quality, ADEQ may grant, deny, or place conditions on the resulting water quality certification. An assessment of impacts to potential jurisdictional waters of the United States was completed in October 2010. Field work identified 50 potential jurisdictional waters within the Project area that would be impacted by construction activities (Collins 2011b). All identified waters are ephemeral washes; they are dry most of the year and convey water only during rainfall events.

3.7.2 Environmental Consequences

3.7.2.1 Standards of Significance

Impacts to water resources would be considered significant if one or more of the following criteria are met:

- Project activities modify the floodway or substantially alter the floodplain, diverting floodwaters to areas previously outside the 100-year floodplain.
- Surface water is contaminated by storm water runoff from flash floods to levels above federal and state water quality standards.
- Project activities substantially alter the area's existing drainage pattern.
- Increase in scouring during a flood event would result in structural or property damage.
- Surface water quality impacts occur that would violate Section 401 of the CWA or other applicable surface water regulations, including state-established standards for designated uses.
- Surface water quality degradation occurs which causes a long-term loss of human use or use by aquatic wildlife and plants.
- Unmitigated temporary or long-term loss of wetland habitat (direct impact).
- Indirect loss of wetlands or riparian areas, caused by degradation of water quality, diversion of water sources or erosion, and sedimentation resulting from altered drainage patterns.
- Substantial degradation or depletion of groundwater resources.
- Groundwater quality degradation that causes groundwater quality to exceed state or federal standards.

3.7.2.2 Project Impacts

Proposed Action Alternative

The analysis of impacts to water resources focused on the Project's potential to decrease the functionality of floodplains, floodways, and drainages. Resource protection measures for water resources connected with the Proposed Action alternative are detailed in Section 2.3. They incorporate Western's Standard 13, Environmental Quality Protection (Appendix B). In general, Western's construction contractor is to ensure that surface and groundwater are protected from pollution caused by construction activities, and to comply with applicable regulations and requirements. Streams and washes are not to be obstructed or impaired unless the appropriate federal, state, and local permits have been obtained (Western 2009b). The Proposed Action Alternative would not affect wetlands or riparian areas because these resources do not occur within the Project area. The Project would have no effect on groundwater supply, because water required for dust control and/or equipment operation would come from off-site sources. To protect

groundwater quality from construction-related leaks and spills, Western or its construction contractor would prepare a Spill Prevention Notification and Cleanup Plan prior to initiation of construction activities. The contractor would also prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) in compliance with Arizona Pollutant Discharge Elimination System (AZPDES). Impacts to floodways, floodplains, drainages, and surface water quality are discussed below.

Floodways and Floodplains

The Proposed Action Alternative could impact approximately 16,000 linear feet of designated flood hazard (Zone A) area in the Sacramento/Golden Valley. The existing transmission line alignment located in Sacramento/Golden Valley crosses ten washes with a delineated (Zone A) flood hazard zone (FEMA 2010). In order to minimize adverse effects on these floodplains, conductors would span the washes and structures would be located outside designated flood hazard zones. In the event that locating a structure within a designated floodplain were unavoidable, Western would obtain the necessary Floodplain Use Permits from Mohave County Flood Control District in compliance with the County's Flood Control Ordinance and FEMA requirements. These requirements include incorporating measures to protect adjoining properties from adverse impact and preventing the water surface elevation of the base flood from a cumulative increase of more than one foot.

Existing Drainage

The Proposed Action Alternative would impact up to 50 washes as a result of improving access roads, removing existing pole structures, and installing new structures. One tower structure would be removed and replaced that is potentially within a jurisdictional water of the U.S. The majority of impacts would result from grading existing access roads. Narrow washes would require blading (instead of culverts) in order to accommodate construction traffic; washes wider than four feet would not require blading. Once construction is completed in the area, channel banks would be restored to their original topography and scarified, if necessary, to allow the existing seed bank to revegetate the bank. All of the washes impacted would qualify for the Corps' Nationwide Permit 12 or 14 because less than 0.5 acre of each wash would be disturbed. Disturbance would be less than 0.1 acre, the threshold for notifying the Corps, for all but two washes. These two washes would involve disturbance of between 0.1 - 0.5 acre each, and Western would comply with the terms of its Nationwide Permit.

Surface Water Quality

Resource protection measures implemented with the Proposed Action Alternative would ensure no adverse effect on regional surface water quality. Western requires its construction contractor to control

runoff from excavated areas and piles of excavated material, construction material or wastes (including truck washing and concrete wastes), and chemical products such as oil, grease, solvents, fuels, pesticides, and pole treatment compounds. Excavated soil, discarded pole structures, and construction materials shall not be stockpiled or deposited near washes or other areas where sediment-laden or contaminated runoff could impact the environment (Western 2009b). To comply with these standards, the construction contractor would submit a Spill Prevention Notification and Cleanup Plan to Western, and to EPA if necessary, prior to the initiation of construction activities. The Proposed Action Alternative would disturb more than one acre of land, so the contractor would also submit a Notice of Intent to qualify for a Construction General Permit under Arizona's Pollutant Discharge Elimination System (AZPDES) program. The contractor would prepare and implement a SWPPP although ADEQ would not necessarily review the plan since the Project area drains to a reach of the Colorado River that meets its water quality standards.

No Action Alternative

Under the No Action Alternative, Western would continue to maintain and operate the Davis–Kingman Tap 69-kV Transmission Line as it currently exists, and would replace failing parts as needed. Emergency repairs are likely and Western would eventually replace the majority of structures on the line because their serviceable lifespan of 50 years was reached in the 1990s. Under this scenario, the impacts on water resources would be similar to the Proposed Action Alternative albeit spread over many years rather than within the proposed nine-month construction schedule. Repair to the transmission line conductors or structures would involve localized ground disturbance from heavy equipment operating in drainages, floodways, and floodplains. In addition, the pressure to react to the need for emergency repairs and incremental replacement of structures might not allow protection measures to be planned or implemented. It is possible that impacts for floodways, floodplains, drainages, and water quality would be greater under the No Action Alternative than for the Proposed Action Alternative due to the emergency and incremental approach to necessary repairs.

3.8 GEOLOGY, MINERAL RESOURCES, AND SOILS

3.8.1 Affected Environment

The Project area is in the northwestern portion of Arizona's Basin and Range physiographic province that is characterized by northwest-southeast trending mountain ranges separated by broad alluvial valleys (ADWR 2009). Topography along the transmission line climbs from approximately 650 feet at the Colorado River to 3,800 feet in the Black Mountains and is underlain primarily by volcanic rocks from

the Tertiary period in the earth's formation (Reynolds 1997). East of the Black Mountains, the geology in the Sacramento/Golden Valley is young alluvium from the Holocene to latest Pleistocene period. The elevation is approximately 2,700 feet and rises to 3,900 feet in the Cerbat Mountains where the geology is volcanic rock from the Tertiary period.

The possibility for paleontological resources exists in the Sacramento/Golden Valley since the valley floor and mountain slopes are covered by alluvial materials from the Pleistocene period (Hendricks 1985; Reynolds 1997). Land ownership in the Sacramento/Golden Valley is private and not subject to the requirements of federal agencies to manage public land to protect the scientific values of paleontological resources under the Paleontological Resources Preservation Act. Geologic units within BLM jurisdiction have low potential for housing the fossils of plants and animals that lived before humans spread into the region.

Historically, gold was found in the area to the north of the transmission line. There are three inactive mines adjacent to the alignment in the Black Mountains. These mines may have been a source for zeolites, a mineral used as a commercial absorbent and catalyst (AGS 2009).

The closest quaternary fault to the transmission line is the Detrital Valley fault more than 40 miles away (USGS 2006). The probability that an earthquake would occur in the next 50 years with a magnitude of ≥ 5.0 is 12–15 percent. Based on historic seismic activity in the area, there is a 2 percent probability that a future earthquake would generate peak ground acceleration greater than 12 percent of gravity in 50 years (USGS 2008). The data indicate that there is a low seismic risk and low probability of an earthquake occurring in the Project area.

Table 3-5 lists the four soils associations found along the transmission line alignment. Low-elevation soils formed in a hot, arid, and continental climate where mean annual air temperature ranges from 58–75 degrees Fahrenheit. The mean annual precipitation varies between 2–10 inches and falls as summer thunderstorms or mild winter storms. The frost-free period varies between 240–350 days in the Davis Dam area and 180–220 days in the Sacramento/Golden Valley.

TABLE 3-5 SOILS ASSOCIATIONS			
Association	**NRCS Map Unit**	**Percent Coverage**	**Location**
Rillito-Gunsight-Denure-Chuckawalla	S288	36%	Davis area
Cacique-Bucklebar-Alko	S309	41%	Sacramento/Golden Valley
Tumarion-Rock Outcrop-Lehmans-House Mountain-Akela	S314	10%	Black Mountains
Rock Outcrop-Lajitas-Delthorny-Anklam	S317	11%	Kingman area
Source: USDA Natural Resources Conservation Service (NRCS) 2003			

In the Davis area, Rillito, Gunsight, Denure, and Chuckawalla soils are found in a repeating pattern along the Project alignment. They are very deep, somewhat excessively drained soils that formed in alluvium and occur on stream or fan terraces. Slopes range from 0–15 percent with Gunsight soils found on steep slopes up to 60 percent. Calcium carbonate is found in each soil series, in small to large masses, or coatings on gravel and pedons that are weakly cemented. The chemical reaction ranges from neutral to very strongly alkaline. Soil salinity can be extremely high with electrical conductivity ranging up to 50 ds/m (deci Siemens per meter) in some pedons. The surface of Chuckawalla soils has a strongly expressed desert pavement of gravel that is contiguous. The upper side of the gravel have a well-developed dark desert varnish produced by the presence of manganese and iron oxide. Desert pavement protects the ground surface from soil loss from wind and water (NRCS 2010).

The Project alignment in the Sacramento/Golden Valley encounters Cacique, Bucklebar, and Alko soils that are well drained loams formed in alluvium located on fan terraces at slopes of 1-15 percent. Cacique and Alko soils have high and very high runoff rates, respectively. Cacique soils overlay a restrictive layer at a depth of 20–40 inches while the duripan under Alko soils is at 5–20 inches. Both soils erode easily (NRCS 2005).

Over the Black Mountains, the soils association is among Tumarion, Lehmans, House Mountain and Akela soils series intermixed with bedrock outcroppings. These rangeland soils are erodible, with bedrock 4–20 inches below the surface. They formed in alluvium from volcanic (basaltic) rock and are found on mesas, plateaus, pediments and hills possessing slopes of up to 70 percent. They are well drained, with Tumarion soils producing medium to very high runoff (NRCS 2010).

In the Kingman area, bedrock outcrop is associated with Lajitas, Delthorny, and Anklam soils series along the Project alignment. These loams are very shallow and shallow, with bedrock or an extremely hard restrictive layer occurring at 4–20 inches below the surface. Soil parent material varies from residuum,

colluvium, and alluvium derived from volcanic and conglomerate rock to alluvium derived from metamorphic and igneous rock. Hill slopes range from 3–50 percent (NRCS 2010).

USFWS National Wetland Inventory data were reviewed to confirm that hydric soils are unlikely to occur along the transmission line alignment (USFWS 2009a).

3.8.2 Environmental Consequences

3.8.2.1 Standards of Significance

Impacts to geology and soils would be considered significant if project implementation would result in:

- Increase in the probability or magnitude of mass geological movement (e.g., slope failures, slumps, and rockfalls).
- Geologic hazards (e.g., ground subsidence) which would create a danger to human health and the environment.
- Extensive disturbance to soil resources resulting in severe erosion or contamination.
- Soil loss including loss of hydric soils or accelerated erosion due to disturbance that results in the formation of rills and/or gullies, or that results in sediment deposition in down gradient lands or water bodies to the extent that existing uses cannot be maintained.
- Structures to fail or create hazards to adjacent property due to slope instability or adverse soil conditions (such as compressible, expansive, or corrosive soils).
- Increase in soil compaction so current use or revegetative growth would be significantly altered.
- Direct or indirect destruction or disturbance of a unique paleontological resource site (i.e., fossils or assemblages of fossils that are unusual, rare, or uncommon and those that add to an existing body of knowledge).

3.8.2.2 Project Impacts

Proposed Action Alternative

The analysis of geology and soils resources focused on the Project's potential to increase soil loss or geologic hazards. Extensive soil disturbance, soil contamination, or slope disturbance would create a measurable impact. However, soils that are susceptible to erosion based on slope, vegetated cover, climate, or inherent properties can be managed to minimize impacts. Geologic features that are fragile can also be managed during construction to reduce the adverse effects of geologic movement such as a rock slide, hillside slump, or mass wasting. Avoidance measures include relocating structures to a site with stable conditions or using specialized engineering designs to minimize impacts. Resource protection

measures for geologic and soils resources connected with the Proposed Action Alternative are detailed in Section 2.3. Additional measures would incorporate Western's Standard 13, Environmental Quality Protection (Appendix B; Western 2009b). In general, soil and landscape features are to be preserved. Construction areas are to be regraded as required so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that would facilitate natural revegetation, provide proper drainage, and prevent erosion.

Removing structures along the existing transmission line alignment would cause only minor effects on soils resources because the alignment is already disturbed. Likewise, existing roads used to access existing or proposed new right-of-way are previously disturbed; their use would produce only minor additional erosion. However, installing new structures and new overland access would create new soil disturbance along the transmission line. In general, soils along the transmission line alignment are not susceptible to movement from wind or water. They are coarse-grained, sandy, gravelly, or cobbly; intermixed with rock outcrops; shallow or very shallow over bedrock or a restrictive layer; and sparsely covered with vegetation. These coarse-grained soils are somewhat to very limited in handling excavations because of shallow bedrock, cut banks that cave in, or presence of slope. Drainage varies from well-drained to somewhat excessively drained, such that impacts associated with compaction, reduced water infiltration, reduced water-holding capacity, and increased surface runoff should not be a problem for most soils.

Resource protection measures would reduce soil loss for all project soils and be especially helpful in protecting two soils series. One of the Davis area soils, the Chuckawalla series, has a desert pavement that serves to protect the soil surface and should be left undisturbed to the greatest extent possible. Chuckawalla is a minor component of the Rillito-Gunsight-Denure-Chuckawalla association; its protection via salvaging and reapplication could affect approximately 10–20 sites. This is consistent with the standard procedure of removing topsoil before general excavation occurs and restoring it to the surface layer during restoration. In the Sacramento/Golden Valley where the Cacique-Bucklebar-Alko soils association produces erosion and high to very high run-off under existing conditions, standard protection measures would control sediment transport by runoff during construction. At completion, pads not needed for normal maintenance would be returned to their original contour and drainage pattern. Overall, the Proposed Action Alternative would not have a significant effect on the long-term condition of the soils resource through appropriate application of protective measures during the construction phase.

The effects of the Project on geologic resources such as bedrock and hill slopes would be minor, mostly from grading pads and drilling holes for new transmission structures. Disturbed areas would be stabilized for safety purposes and to protect soils and geology. The structures themselves would be engineered to withstand relatively low gravity force and low frequency of earthquakes that characterize the regional seismic hazard. Structures are not likely to fail due to soils compression or expansion, but concrete foundations would have to be treated because most project soils are highly corrosive of untreated concrete. Construction or maintenance activities would be expected to create only minor additional exposure to geologic hazards.

Effects to paleontological resources could result from construction activities in the Sacramento/Golden Valley due to the presence of Pleistocene period soils. Activities associated with structure installation and construction of new overland access would take place within the previously disturbed alignment. Heavy equipment or blasting used to excavate new foundation holes could expose previously buried fossil resources on private land. Western's procedure for handling any discoveries during construction is for the construction contractor to immediately notify the agency with the location and nature of the findings; stop all activities within a 200-foot radius of the discovery; protect uncovered fossils from damage; and resume work within that radius only upon receiving Western's approval (Western 2009b). To summarize, the potential to unearth fossils is low except in the Sacramento/Golden Valley where the potential is unknown or moderate. A protective procedure is in place in the event a discovery is made during construction.

No Action Alternative

Under the No-Action Alternative, no new transmission line would be constructed, but routine maintenance activities on the existing Davis–Kingman Tap 69-kV Transmission Line would continue and might increase as the transmission line ages. Western would eventually replace the majority of structures on the line because their serviceable lifespan of 50 years was reached in the 1990s. Under this scenario, the impacts on soils and geologic resources would be similar to the Proposed Action Alternative albeit spread over many years rather than within the proposed construction schedule. Repair to the transmission line conductors or structures would involve localized ground disturbance from heavy equipment and incremental increases in soil erosion or geologic movement. In addition, the pressure to react to the need for emergency repairs and incremental replacement of structures might not allow protection measures to be planned or implemented. It is possible that soil or geology would be as adversely affected under the No Action Alternative as for the Proposed Action Alternative due to the emergency and incremental

approach to necessary repairs. However, paleontological resources would experience no additional adverse effect under the No Action Alternative.

3.9 NOISE

3.9.1 Affected Environment

Noise is defined as unwanted sound. Sound travels in waves from a specific source and exerts a sound pressure level (referred to as sound level), which is measured in decibels (dB). Zero dB corresponds roughly to the threshold of average human hearing and 120 to 140 dB corresponds to the threshold of pain. Human response to noise is subjective and can vary greatly from person to person. Factors that can influence individual response include intensity, frequency, and time pattern of the noise; the amount of background noise present prior to the intruding noise; and the nature of work or human activity that is exposed to the noise. The effects of noise include interference with concentration, communication, and sleep. At high levels, noise can cause hearing damage.

Environmental noise is usually measured in A-weighted decibels (dBA). Environmental noise typically varies over time, and different types of noise descriptors are used to account for this variability. The noise descriptor most commonly used to establish noise exposure guidelines for specific land uses is based on a weighted 24-hour noise level (commonly referred to as DNL or L_{dn}). The noise level experienced at a particular site or area depends on the distance between the source and a specific receptor (humans, wildlife, or sensitive places), presence or absence of noise barriers and other shielding features, and the amount of noise reduction provided by the intervening terrain. Some land uses are considered more sensitive to noise levels than others due to the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved.

Baseline ambient noise levels were estimated using the relationship between population density and noise levels. Although a greater part of the existing line can be found in rugged uninhabited areas approximately 10 miles of the line goes through the rural residential area of Sacramento/Golden Valley. Typical noise levels for various population densities are provided in Table 3-6. These relationships are presented because ambient noise monitoring was not conducted as part of this analysis.

TABLE 3-6. TYPICAL AVERAGE DAY-NIGHT SOUND LEVELS FOR VARIOUS POPULATION DENSITIES*		
Description	**Population Density (people/square mile)**	**L_{dn} (dBA)**
Rural (undeveloped)	20	35
Rural (partially developed)	60	40
Quiet Suburban	200	45
Normal Suburban	600	50
Urban	2,000	55
Noisy Urban	6,000	60
Very Noisy Urban	20,000	65
* For areas where there is no well-defined noise sources other than transportation noise. Source: National Academy of Sciences (NAS) 1977		

The population density within Sacramento/Golden Valley is estimated to be 200 people per square mile, which would result in typical ambient noise levels of 45 dBA. The population throughout the rest of the Project area is below 20 people per square mile, with associated ambient noise levels of 35 dBA or below. In some areas along the Project alignments, noise levels would also be affected by vehicle traffic along SR 68 and occasional aircraft overflights near Bullhead City Airport.

3.9.2 Environmental Consequences

3.9.2.1 Standards of Significance

Noise impacts from project activities would be considered significant if project implementation would result in any of the following:

- Exposure of persons to, or generation of, noise levels in excess of standards established in the local noise ordinance, or applicable standards of regulatory agencies
- Exposure of persons to, or generation of, excessive ground-borne vibration or ground-borne noise levels where they live, work or recreate
- A substantial permanent increase in ambient noise levels in the study area vicinity above levels exiting without the study area
- Expose sensitive receptors such as residences, hospitals or schools, wildlife or areas of ecological concern, to harmful noise levels

3.9.2.2 Project Impacts

Proposed Action Alternative

For all action alternatives, some level of noise would result from transmission line construction, operation, and maintenance. During construction, noise would be generated by equipment and vehicles including cranes, trucks, and tractor graders. Table 3-7 shows typical construction equipment noise levels.

TABLE 3-7.
TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS

Equipment Type	Noise Level at 50 Feet
Backhoe	85 dB
Front-end Loader	85 dB
Concrete Truck/Mixer	85 dB
Crane (mobile or stationary)	85 dB
Water Truck	81 dB
Tractor Grader	80 dB
Flat-bed Truck	84 dB
Source: EPA 1971; http://www.nonoise.org/resource/construc/bigdig.htm	

Noise generated during transmission line maintenance activities would include vehicles travelling along access roads and the proposed permanent ROW for structure and line inspection and equipment and crews conducting maintenance or repairs.

In determining noise impact, the important factor is how close the activity is to people and wildlife detecting the sound. The location of the existing transmission line crosses rural open space and rural residential areas. Noise from construction and subsequent maintenance activities would likely be audible to rural residences. The nearest residence is approximately 50 feet from the existing transmission line and can be found on Cibola Road, between Redwall and Diabase Drive. Most other residences in the Sacramento/Golden Valley area are well over 100 feet away.

Noise generated from these activities would also be temporary, audible at a specific location for no more than a few days. Transportation noise generated from Highway 68 would likely have a greater effect on local residents than the installation, operation, maintenance, or replacement of a 69-kV transmission line. Western would conduct construction activities only in the daytime, when receptors typically expect similar activities to occur. To further minimize potential noise impacts to nearby receptors, Western or their construction contractor would comply with the RPMs associated with vehicle mufflers and engine

idling procedures. Furthermore, the Proposed Action is not expected to conflict with the local noise standards or ordinances. As a result, the Proposed Action would not cause long-term noise impacts.

No Action Alternative

Under the No Action Alternative, no new transmission lines would be constructed. Routine maintenance and line inspection activities associated with the existing Davis–Kingman Tap 69-kV Transmission Line would continue and may actually increase in frequency as the transmission line ages. There would be periodic noise from inspection aircraft and vehicles, and also from repair equipment and vehicles. This noise would occur infrequently and would be short-term.

3.10 TRANSPORTATION AND UTILITIES

3.10.1 Affected Environment

State Route 68 and US 93 are the primary transportation corridors currently serving the vicinity of the Project. SR 68 extends from Davis Dam east to Kingman and parallels the Davis–Kingman Tap 69-kV Transmission Line. The transmission line crosses above SR 68 at three points approximately 8 miles east of Davis Dam. SR 68 intersects US 93 near the line's eastern terminus, where US 93 then traverses northwest from the Kingman area. Other major roads in the study area include Davis Dam Road extending from Davis Dam southeast to Highway 68; Red Wall Drive and Bolsa Drive, which parallel the line through the Golden Valley area; and, Estrella Road and Colorado Road which run perpendicular to the transmission line in Sacramento/Golden Valley and intersect SR 68 north of the Project area.
There are five airports within approximately 10 miles of the Project alignment. The nearest airports include Laughlin/Bullhead International located south of Davis Dam; Willow Springs Ranch located north of the corridor; Mohave County General Hospital Airfield, Kingman Airfield and Kingman Airport, all located northeast of Kingman (Toll Free Airline 2010).

The Davis–Kingman Tap 69-kV Transmission Line is one of approximately five transmission lines that converge at the Davis Dam Switchyard. The Davis–Kingman line runs parallel to, and within a half-mile of, Western's Davis–Prescott 230-kV Transmission Line for approximately seven miles east from the Davis Dam. The two transmission lines then diverge as they continue east. There are likely numerous telecommunication lines and other small utilities in the vicinity of the Project, but these were not inventoried. No other utilities were identified within the Project area.

3.10.2 Environmental Consequences

3.10.2.1 Standards of Significance

Impacts on transportation and utilities would be significant if project implementation would result in any of the following:

- Conflict with applicable plans or policies establishing measures of effectiveness for the performance of the circulation system with regard to all modes of transportation
- Conflict with an applicable congestion management program for designated roads or highways
- Changes in traffic patterns, creating a hazard for motorists or pedestrians
- Project construction, operation, and maintenance activities impairing implementation of, or physically interfering with, an adopted emergency response plan or emergency evacuation plan
- Major increase in traffic volume on the regional transportation system
- Project facilities being determined an "Obstruction" for aviation traffic as defined by 1993 FAA Regulations (Objects Affecting Navigable Airspace – Part 77, Subpart C)
- Change in air traffic patterns, including an increase in traffic levels or a change in location that results in substantial safety risk
- Increase demands on the regional utility system
- Incompatible use between utilities within the utility corridor

3.10.2.2 Project Impacts

Proposed Action Alternative

Short-term traffic and transportation impacts would occur during construction of the new transmission line at major road and highway crossings. Western's Resource Protection Measures to maintain the flow of public traffic would ensure alternate access for the general public, and would result in no long-term access impacts and minimal safety concerns as a result of constructing the Project.

Impacts to surrounding airports and associated flight paths would not be expected from construction of the Project. Western's RPMs to inform airstrip operators of the Project would further reduce potential impacts. As a result, safety impacts to ground and air transportation from implementation of any of the action alternatives would be negligible.

No Action Alternative

Under the No Action Alternative, maintenance and line inspection activities would continue on the existing Davis–Kingman Tap 69-kV Transmission Line. No new construction activities would take place along the line and no increase in traffic volume would occur. In addition, the No Action Alternative would not affect any local or regional emergency response plan or evacuation plan. Therefore, no impacts would be expected.

3.11 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

3.11.1 Affected Environment

Information regarding the social and economic conditions of the local towns and communities adjacent to the transmission line was collected. Local towns and communities include Bullhead City, Kingman, and Golden Valley (unincorporated), Arizona and Laughlin, Nevada (unincorporated). Information was also gathered for Mohave County, as well as for the State of Arizona. Year 2000 data for these areas has been included to provide a reference for comparing local data to that of the surrounding and larger population.

3.11.1.1 Population/Demographics

According to information gathered from the Arizona Department of Commerce (2009, 2009a, and 2010), Kingman's population was 28,823 in 2008, which has more than doubled from 13,208 in 1990. Between 2000 and 2008, Kingman, Bullhead City, Mohave County, and the State of Arizona experienced changes in growth rates of between 22 percent and 44 percent. Table 3-8 displays the populations of the State of Arizona, Mohave County, Kingman, Golden Valley, Bullhead City, and Laughlin within the Project area.

Population characteristics for the various racial and ethnic categories for Kingman, Golden Valley, Bullhead City, Laughlin, Mohave County, and the State of Arizona are presented in Table 3-9. According to the 2000 census data, 94 percent of the Golden Valley community's population is white.

TABLE 3-8.
POPULATION BY AREA

Area	Population			Population Change	
	1990	2000	2008	Difference 2000-2008	Percent Change 2000-2008
State of Arizona	3,665,228	5,130,632	6,629,455	1,498,823	29%
Mohave County	93,497	155,032	205,862	50,830	33%
City of Kingman, AZ	13,208	20,069	28,823	8,754	44%
Golden Valley, AZ	N/A	4,515	N/A	--	--
City of Bullhead City, AZ	21, 951	33,769	41,187	7,418	22%
Laughlin, NV	N/A	7,076	N/A	--	--

Source: Arizona Department of Commerce (2009, 2009a, and 2010), US Census Bureau

TABLE 3-9.
ETHNIC COMPOSITION BY AREA

Race	Kingman, AZ		Golden Valley, AZ		Bullhead City, AZ		Laughlin, NV		Mohave County		State of Arizona	
	Persons	% of Total	Persons	% of Total	Persons	% of Total	Persons	% of Total	Persons	% of Total	Persons	% of Total
TOTAL POPULATION	20,069	100.0	4,515	100.0	33,769	100.0	7,076	100.0	155,032	100.0	5,130,632	100.0
White	18,051	89.9	4,244	94.0	28,896	85.6	6,302	89.1	139,616	90.1	3,873,611	75.5
Black or African American	111	0.6	23	0.5	340	1.0	199	2.8	833	0.5	158,873	3.1
American Indian and Alaska Native	398	2.0	43	1.0	452	1.3	44	0.6	3,733	2.4	255,879	5.0
Asian	288	1.4	33	0.7	339	1.0	162	2.3	1,186	0.8	92,236	1.8
Native Hawaiian and Other Pacific Islander	28	0.1	7	0.2	25	0.1	13	0.2	168	0.1	6,733	0.1
Other Race	685	3.4	82	1.8	2,787	8.3	194	2.7	6,200	4.0	596,774	11.6
Two or More Races	508	2.5	83	1.8	930	2.8	162	2.3	3,296	2.1	146,526	2.9
Hispanic or Latino (of any race)	1,856	9.2	363	8.0	6,807	20.2	747	10.6	17,182	11.1	1,295,617	25.3

Source: U.S. Census Bureau 2000
Note: Persons of Hispanic or Latino heritage can be of any race.

3.11.1.2 Economy/Employment

The local economy within the Project area falls within Mohave County, generally between the cities of Laughlin and Golden Valley. The top areas of employment in this part of the County are associated with trade, transportation, and utilities, government, education and health services, and leisure and hospitality positions. The economies in the Bullhead City, Laughlin, and Kingman areas are strongly based on

tourism, due to their proximity to the Colorado River; Lakes Mead, Mohave, and Havasu; Las Vegas, the Grand Canyon; and legalized gambling in the state of Nevada and on nearby tribal lands. Businesses include hotels/motels, casinos, restaurants, supermarkets, real estate sales, gas stations, and other retailers. Kingman also serves as a regional trade, service, and distribution center for the Western states, with manufacturing/distribution and transportation as leading industries.

The arts, entertainment, recreation, accommodation, and food services industry accounts for 48.2 percent of Bullhead City's employed civilian population, while retail trade accounts for another 12.4 percent and educational, health and social services for 10.7 percent. In Laughlin, the arts, entertainment, recreation, accommodation, and food services industry accounts for 69.3 percent of the employed civilian population; retail trade for 7.0 percent; and transportation, warehousing, and utilities for 5.6 percent. In Golden Valley, the arts, entertainment, recreation, accommodation, and food services industry accounts for 27.6 percent of the employed civilian population; educational, health and social services for 17.2 percent; and retail trade for 14.1 percent. In Kingman, educational, health and social services account for 21.5 percent of the labor force; retail trade for 13.2 percent; and manufacturing for 12.2 percent. Mohave County overall has 24.8 percent of its employed civilian population in the entertainment, recreation, accommodation, and food services industry; 15.0 percent of the labor force employed in educational, health and social services; and 13.8 percent of its employed civilian population in retail trade.

Of Kingman's population aged sixteen and older, 8,771 persons (57.1 percent) are currently in the labor force. By comparison, Golden Valley has 1,883 persons (50.2 percent) in the labor force, Bullhead City has 15, 313 persons (56.5 percent) in the labor force, Laughlin has 3,568 persons (62.8 percent) in the labor force, and Mohave County has 65,081 persons (52.8 percent) in the labor force. The unemployment rate in Kingman, according to data obtained from the U.S. Census Bureau, is currently 3.5 percent, compared to Golden Valley with a 7.1 percent unemployment rate. This disparity may be due to a lack of viable employment within Golden Valley. Conversely, Laughlin has an unemployment rate of only 1.8 percent, most likely due to an availability of employment supported by resorts and casinos. Bullhead City and Mohave County both have an unemployment rate of 3.7 percent.

3.11.1.3 Environmental Justice

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," issued by the White House in February 1994, ensures that any adverse human health and environmental effect of an agency's actions that may disproportionately impact minority and low-income populations (including Native American groups) are identified and addressed. Existing

regulation such as NEPA provides the context and opportunity for federal agencies to identify, address, and consider potentially detrimental impacts of potential federal action.

Environmental Justice aims to ensure the fair treatment and meaningful involvement of all people with respect to developing, implementing, and enforcing environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic or socioeconomic group, should bear a disproportionate share of potentially adverse human health and environmental effects of a federal agency action, operation, or program. Meaningful involvement implies that potentially affected populations have the opportunity to participate in the decision process and their concerns are considered in the agency's decision.

As depicted in Table 3-9, the Project area has a low percentage of minorities, including Native Americans. Median income in Golden Valley and Bullhead City are lower than Mohave County; however, Kingman and Laughlin have a higher median income than the County. This may be attributable to higher wages in the manufacturing and transportation industries making up a large portion of Kingman's local economy, and in Laughlin, higher wages overall. Approximately one half of the Project alternative is located within the Golden Valley community located northwest of Kingman. However, the transmission line is already in existence and no portions of the Project cross lands that are associated solely with any minority or low-income populations.

3.11.2 Environmental Consequences

3.11.2.1 Standards of Significance

Factors considered in determining whether the Proposed Action would have significant adverse socioeconomic impacts include the extent or degree to which its implementation would:

- Induce growth or concentrations of population that exceed official local or regional population projections or that conflict with population projections
- Cause a major and regionally significant reduction in employment or income
- Induce substantial growth in an area, either directly or indirectly
- Displace existing housing, especially affordable housing
- Disrupt or divide the physical arrangement of an established community
- Cause a decrease in local or regional employment
- Cause a substantial decrease in property values
- Cause a disproportionate share of the adverse effects to minority and low-income populations

Socioeconomic impacts can be adverse or beneficial, and short- or long-term. The primary socioeconomic issues associated with transmission line projects are: (1) construction-period impacts within area communities, (2) social and economic impacts along the selected route, (3) fiscal effects within local jurisdictions, (4) growth-inducing impacts resulting from the Project, and (5) impacts to low-income and minority populations.

3.11.2.2 Project Impacts

Proposed Action Alternative

Implementation of the Proposed Action alternative could beneficially affect the Project area's socioeconomic conditions. Some beneficial socioeconomic impacts would result from construction worker spending, and to a lesser extent, maintenance worker spending. Because construction workers would not likely live permanently in or near the Project area, most of the construction workforce would be temporarily housed in the Kingman/Golden Valley or the Bullhead City/Laughlin areas and a portion of their income and expenses would be spent locally, generating income for local businesses.

Implementation of the Proposed Action is not expected to result in growth-inducing impacts. The Project would not remove existing obstacles to growth, nor would it inhibit growth. The Project alternative is located on public land managed by the BLM and on private land within Golden Valley.

Negative impacts from new workers in the area can depend on the adequacy of existing facilities, such as housing or public services. Implementing the action alternative would not include housing construction or the development of facilities. The demand for short-term temporary housing to accommodate employees working on the Project would contribute to the respective local economies, but would not result in long-term growth inducement. Because the construction workforce would be small (about a maximum of 30), with no permanent migration to the area, negative effects are not expected for such public services as law enforcement or fire protection. In sum, no significant impacts to socioeconomic resources would result from construction, operation, and maintenance of the action alternative.

Environmental Justice

Environmental justice has been addressed in accordance with Executive Order 12898 and effects on minorities and Native Americans were considered. The action alternative is located in primarily undeveloped desert areas on land administered by the BLM and on private land in the community of Golden Valley. While several permanent residents exist in the immediate vicinity of the Project, the

transmission line already is in existence and no disproportionate impacts on minorities and low-income populations are expected as a result of the Project.

Disproportionate impacts to Native American groups from implementation of the action alternative would be unlikely. However, Western is conducting tribal consultation efforts for the Project activities to determine specific Native American resources and concerns (refer to Chapter 4, Agencies and Tribes Consulted). Concerns identified during this process would be taken into consideration and potential disproportionate impacts to Native Americans would be reassessed and taken into consideration in Western's decision making process.

No Action Alternative

If the proposed facilities were not developed, inspection activities and routine and emergency maintenance to repair or replace equipment on the existing Davis–Kingman Tap 69-kV Transmission Line would continue and may increase in frequency as the Project facilities continue to age. The No Action Alternative would therefore not cause any of the new construction and operation related impacts discussed for the action alternative. Since local businesses and public service providers would be unaffected by this alternative, no significant socioeconomic impacts would occur. In addition, because the existing transmission line facilities would remain in place, the No Action Alternative would not result in a disproportionate impact on low-income and minority populations.

3.12 PUBLIC HEALTH AND SAFETY

3.12.1 Affected Environment

3.12.1.1 Emergency Infrastructure

The Project area is served by the Arizona Department of Public Safety, the Kingman Police Department, and the Mohave County Sheriff's Office. Residents in the Project area also receive fire protection services from the Bullhead City Fire Department, the Golden Valley Fire Department, and the Kingman Fire Department. There are medical centers located in Bullhead City, Laughlin, Golden Valley, and Kingman. Emergency transport services to medical facilities include ambulance, as well as an air transport via helicopter to the Western Regional Medical Center in Bullhead City.

3.12.1.2 Public and Worker Safety

As a result of various land use encroachment within the existing transmission line ROW in the vicinity of Golden Valley, electrical hazards exist to residents, employees, and others within the ROW. Hazards

could include vegetation or equipment fires, electrical burns, or electrocutions to humans or animals. These electrical hazards could occur anywhere near energized conductors or facilities, although they are primarily a concern for construction and maintenance workers.

3.12.1.3 Electric and Magnetic Fields

Electric and magnetic fields (EMF) surround every electrical device, including electrical appliances and power lines. Voltage and current are required to transmit electrical power over transmission lines. EMF results from the voltage on and the amount of current over the transmission line conductors that may cause effects some distance away from the line. Voltage, measured in volts (or kilovolts, kV) and representing the potential for an electrical charge to do work, is the source of electric fields. Current, measured in amperes and a flow of electrical charge, is the source of magnetic fields. Fields drop rapidly as the distance increases from the source. The electrical effects of transmission lines are characterized as "field effects." Field effects are induced current and voltage in conducting objects near the line, spark discharge shocks, steady-state current shocks, field perception at ground level, and the magnetic field.

Exposure

It is not known if any EMF levels are unsafe. Some non-governmental organizations have set advisory limits as a precautionary measure, based on the knowledge that high field levels (more than 1000 times the EMF found in typical environments) may induce currents in cells or nerve stimulation. The International Commission on Non-Ionizing Radiation Protection has established a continuous, magnetic field exposure limit of 0.833 Gauss (833 mG [milliGauss]) and a continuous electric field exposure limit of 4.2 kilovolts per meter (kV/m) for members of the general public. The American Council of Governmental Industrial Hygienists publishes Threshold Limit Values (TLVs) for various physical agents. The TLV for occupational exposure to 60 Hertz (Hz) magnetic fields has been set as 10 G (Gauss [10,000 mG]) and 25 kV for electric fields.

Typical Field Levels

The earth's fields are static, or 0 Hz frequency. The earth's magnetic field is about 500 mG. The earth's electric field is about 100 Volts per meter (V/m), but thunderstorms can temporarily increase the field in a given location to several thousand V/m.

In the home, in addition to the earth's natural fields, there are power frequency fields (60 Hz). All electric appliances produce EMFs having a frequency of 60 Hz. The fields are greatest closest to the surface of the cord and appliance and drop rapidly in just a short distance. The average household background 60

Hz magnetic field is about 1 to 2 mG (Table 3-10). The average background 60 Hz electric field is 1 to 20 V/m.

All overhead electric transmission lines produce fields. The fields are usually the highest directly under the lines and fall rapidly with distance to the sides of the line. Actual field strengths would vary depending on the height of the conductors from the point of measurement (Table 3-11).

Electric fields from power lines are relatively stable because voltage does not change. Magnetic fields fluctuate greatly as current changes in response to changing load. The magnetic fields above were calculated for 321 power lines for 1990 mean loads.

Research Results

In the past 30 years, scientists have studied the relationship, if any, of EMF to human, plant and animal health. While mostly inconclusive, some of this work has hinted as to possible health risks. Scientific research continues on a wide range of questions relating to EMF exposure.

TABLE 3-10.
TYPICAL 60 HZ MAGNETIC FIELD LEVELS
FROM SOME COMMON HOME APPLIANCES

Common Home Appliance	Magnetic Field Six Inches from Appliance (mG)	Magnetic Field Two Feet Away (mG)
Electric Shaver	100	-
Vacuum Cleaner	300	10
Electric Oven	9	-
Dishwasher	20	4
Microwave Oven	200	10
Hair Dryer	300	-
Computer	14	2
Fluorescent Lights	40	2
Fax Machine	6	-
Copy Machine	90	7
Garbage Disposal	80	2

Source: California Department of Health Services 2002

TABLE 3-11. TYPICAL 60 HZ ELECTRIC AND MAGNETIC FIELD LEVELS FROM OVERHEAD POWER LINES					
Line Voltage	**Centerline**	**Approximate Edge of ROW**	**100 Feet**	**200 Feet**	**300 Feet**
115-kV Transmission Line:					
Electric Field kV/m	1.0	0.5	0.07	0.01	0.003
Magnetic Field mG	30	6.5	1.7	0.4	0.2
230-kV Transmission Line:					
Electric Field kV/m	2.0	1.5	0.3	0.05	0.01
Magnetic Field mG	57.5	19.5	7.1	1.8	0.8
500-kV Transmission Line:					
Electric Field kV/m	7.0	3.0	1.0	0.3	0.1
Magnetic Field mG	86.7	29.4	12.6	3.2	1.4
Note: Data for 69-kV Transmission Lines Not Available Source: *National Institute of Environmental Health Sciences and National Institutes of Health 2002*					

3.12.2 Environmental Consequences

3.12.2.1 Standards of Significance

Impacts related to public health and safety concerns would be considered significant if project implementation would result in any of the following:

- Hazardous emissions near an existing or proposed sensitive land use, including schools or hospitals
- Serious injuries to workers, visitors to the area, or area land users
- Creation of worker health hazard(s) beyond limits set by health and safety regulatory agencies or that endangers human life and/or property
- Project construction, operation, and maintenance activities impairing implementation of, or physically interfering with, an adopted emergency response plan or emergency evacuation plan
- Substantial interference and disruption of emergency communications and electronic health/safety devices that results in substandard performance
- Exhibited health effects from substantial increases in the EMFs in the project area
- Changes in traffic patterns, creating a hazard for motorists or pedestrians
- Project facilities being determined an "Obstruction" for aviation traffic as defined by FAA Regulations (Objects Affecting Navigable Airspace – Part 77, Subpart C)

3.12.2.2 Project Impacts

Proposed Action Alternative

Evaluation of public safety and health issues was limited to the Project ROW and focused on emergency infrastructure, public and worker safety in the immediate vicinity of the transmission line, and EMF effects.

Emergency Infrastructure

Project implementation would not result in impacts to police, fire or ambulance services. The majority of construction activities would occur in undeveloped and rural areas and would not hinder or alter emergency service access. Construction activities for the crossing of SR 68 and several other local roads would require road closure for a short period of time. Western's RPMs to maintain the flow of public traffic would ensure alternate access for these services. As a result, no significant impacts to emergency infrastructure would occur.

Public and Worker Safety

Due to the rural nature of the Proposed Action alternative, potential impacts to public health and safety would be minimal. During construction, standard health and safety practices would be conducted in accordance with the Occupational Health and Safety Administration's policies and procedures and Western's Power System Safety Manual, which would reduce worker safety risks to less than significant levels. Project implementation would not affect any local or regional emergency response plan or evacuation plan. Therefore, no significant impacts to public or worker safety would be anticipated.

Transportation

Short-term traffic and transportation impacts would occur during construction of the transmission line at major road and highway crossings. Western's RPMs to maintain the flow of public traffic would ensure alternate access for the general public, and would result in no long-term access impacts and minimal safety concerns as a result of constructing the Project.

The replacement of existing structures and installation of new structures along the transmission line is not likely to affect flight paths to and from the nearest airports, including Laughlin/Bullhead International Airport located approximately two miles south of the transmission line, the Western Arizona Regional Medical Center Heliport located approximately six miles south of the Project area in Bullhead City, the Sun Valley Airport located approximately 10 miles south of the Project, or the Willow Spring Ranch Airport located about six miles north of the transmission line in Golden Valley. The Kingman Airport is

located approximately 15 miles east of the Project. While the airports are regulated by the FAA, none of the airports are subject to Federal Regulation 49 CFR Part 77 (Part 77) establishing standards and notification requirements for objects affecting navigable airspace since none of the airports fall within the parameters of what constitutes an obstruction to navigation under Part 77. Safety concerns to the private airstrips would also be very minimal because the airstrips are all located six miles or more from the transmission line. As a result, safety impacts to ground and air transportation from implementation of the Project would not be significant.

Electric and Magnetic Fields

The possibility of adverse health effects from EMF exposure has increased public concern about living near high-voltage transmission lines in recent years. The available scientific evidence has not established that such fields pose a significant health hazard to exposed humans. However, the same scientific evidence does not prove there is no hazard. Therefore, in light of the present uncertainty, Western's policy is to design and construct transmission lines that reduce the fields to the maximum extent feasible. While considerable uncertainty exists about the EMF/health effects issue, the following facts have been established from evaluating the results and trends of EMF-related research:

- Any exposure-related health risks to the exposed individual would be small
- The most biologically important types of exposures have not been established
- Most health concerns have been related to magnetic fields
- Most people have higher exposures at home or in the workplace than from transmission lines
- The measures employed for field reduction can affect line safety, reliability, efficiency, and maintainability depending upon the type and extent of such measures

No federal regulations have established environmental limits on the field strengths from power lines. Some states have set limits on fields from newly constructed lines, but these limits are not based on factual health data. Most of Western's existing transmission lines meet these limits.

Electric Field

Electric fields are produced by voltage. Voltage is the pressure behind the flow of electricity. It can be compared to the pressure of water in a hose. Voltage creates electric fields around any electric device that is plugged in, even if it is not operating. For instance, plugging a lamp or hair dryer into a wall socket applies voltage to the cord, surrounding it with an electric field. Electric fields are strongest closest to the source, and with higher voltages. Walls, roofs, trees, and vegetation weaken or shield electric fields.

Electrical fields could cause voltage induction and the creation of currents in long conducting objects, such as fences and pipelines near the proposed transmission line.

Standard grounding practices minimize a transmission line's magnetic induction effects. Non-electric fences, such as those made of barbed wire directly attached to steel posts, would be adequately grounded and would not collect an electric charge. It is recommended that other types of wire fences be constructed using a least one steel post every 150 to 200 feet to ground the fence. If the induced voltage is sufficiently high on an ungrounded object, a spark discharge shock would occur as contact is made with the ground. At the operating voltage of 69-kV, and with standard design practices, shock discharge and nuisance shocks would be unlikely.

Steady-state currents are those that flow after a person has contacted an ungrounded object, providing a path for the induced current to flow to ground. Design requirements that reduce or eliminate induced current and voltages would help eliminate steady-state current shocks. When the electric field under a transmission line is sufficiently high, persons standing under or near the line may perceive the raising of hair on an upraised hand. At the operating voltage of 69-kV, electric fields from the proposed line should not be perceptible and would not result in significant impacts.

Magnetic Field

Magnetic fields are produced by current, which is the flow of electricity. Current can be compared with the volume of water flowing in a hose when the nozzle is open. Current must be flowing before magnetic fields can be produced. For example, turning on an electric appliance causes magnetic fields to surround the cord and appliance. Magnetic fields are strongest closest to the source, and increase with higher current flow. Unlike electric fields, magnetic fields are not affected by walls or trees, and primarily depend on distance from and strength of the source. Magnetic fields are commonly measured in milliGauss (mG) and in microTeslas (uT). A 60-hertz magnetic field would be created in the space surrounding the proposed transmission line conductor by the flow of current. The maximum magnetic fields at ground level near the transmission line would be similar to the fields developed from common household appliances (refer to Table 3-10). The levels of magnetic fields vary with the amount of current and distance from the source. There are no established limits for magnetic fields.

For a 230-kV transmission line, magnetic fields at the edge of the ROW (50 feet from centerline) at maximum line capacity are calculated at 6.5 mG, and at a distance of 200 feet from the centerline, the maximum fields would be less than 2 mG. For the proposed 69-kV transmission line, these magnetic

field strengths would be expected to be less. Exposures to fields from the proposed line are not likely to affect biological systems, because of the low levels of magnetic fields from the proposed line.

Due to the rural nature and low population density in the Project area, few if any individuals would experience long-term exposure to EMF. The electric field produced by construction of the Proposed Action would remain approximately the same as that of the existing transmission line, which is lower than those typically found within a home or in a workplace. Additionally, no sensitive land uses such as schools, hospitals, or emergency communications systems are near the transmission facility. No significant adverse impact is anticipated from construction of the Proposed Action.

No Action Alternative

Under the No Action Alternative, maintenance and line inspection activities would continue on the existing Davis–Kingman Tap 69-kV Transmission Line. Electric and magnetic fields would be unchanged from existing conditions. During transmission line repair activities, standard health and safety practices would continue to be conducted in accordance with the Occupational Health and Safety Administration's policies and procedures and Western's Power System Safety Manual. In addition, the No Action Alternative would not affect any local or regional emergency response plan or evacuation plan. Therefore, no significant health and safety impacts would be anticipated.

3.13 HAZARDOUS MATERIALS AND SOLID WASTE

3.13.1 Affected Environment

Hazardous materials anticipated to be used during Project construction are small volumes of petroleum hydrocarbons and their derivatives (e.g., fuels, oils, lubricants, and solvents) required to operate Project installation and construction equipment. These materials are those routinely associated with the operation and maintenance of construction equipment or other support vehicles, including gasoline, diesel fuels, and hydraulic fluids. No storage of hazardous materials would be necessary at the Project locations. The Project would not require use of hazardous materials beyond typical fluids and fuels used to operate equipment and vehicles.

Other potential hazards related to constructing and operating Project facilities include the possible existence of sites containing fuels, chemicals, or other toxic or hazardous substances, and the use of, or accidents involving, hazardous materials during construction activities. Due to the natural and rural

character of the Project area, the presence of storage, handling, and disposal of hazardous substances in the Project area is not expected.

Research was performed using online resources including the EPA and ADEQ websites. Additionally, a "windshield" survey was performed for most of the alignment. Superfund is the commonly used name for the Comprehensive Environmental Response, Contamination and Liability Act (CERCLA). The Comprehensive Environmental Response, Contamination, and Liability Information System (CERCLIS) database did not list any Superfund sites within the Project area (EPA 2011). No National Priorities List sites were identified along the Project alignment or within Mohave County (EPA 2010). No hazardous waste sites, including Water Quality Assurance Revolving Fund (WQARF) registry sites or leaking underground storage tanks (LUSTs), were identified within the Project area (ADEQ 2010, 2010a).

3.13.2 Environmental Consequences

3.13.2.1 Standards of Significance

Hazardous materials and solid waste impacts would be considered significant if project implementation would result in:

- Creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or solid waste.
- The proposed construction activities would include handling of hazardous materials, substances, or waste within one-quarter mile of sensitive land uses, including schools and residences.
- EMF avoidance practices not being conducted in the design and operation of the transmission line.
- Spills or releases of hazardous materials, hazardous substances, or oil at or above reportable quantities within the project area that would pose a threat to public health and the environment in the project area.
- Impairing implementation of or physically interfering with an adopted emergency hazardous materials spills response plan or emergency evacuation plan.

3.13.2.2 Project Impacts

Proposed Action Alternative

Project construction or demolition activities would not generate any hazardous emissions. No hazardous emissions or acutely hazardous materials, substances, or waste would be handled near sensitive land uses, such as residences. The Project would not require long-term storage, treatment, disposal, or transport of hazardous materials. The construction contractor would remove solid waste generated by the Project,

including the removed wood H-frame structures, from the Project area and transport it to an appropriate facility for disposal. Western's RPMs require the contractor to complete and have a Spill Prevention Notification and Cleanup Plan on file with Western. Western requires that crews handle regulated materials under federal, state, and local laws and leave no regulated material on site. For these reasons, and the implementation of the RPMs associated with the project description, no significant hazardous materials and solid waste impacts would be expected.

No Action Alternative

Inspection and maintenance activities associated with the existing transmission line would not generate any hazardous emissions, and no hazardous emissions or acutely hazardous materials, substances, or waste would be handled near sensitive land uses, such as residences. In addition, the No Action Alternative would not require long-term storage, treatment, disposal, or transport of hazardous materials. As a result, no significant hazardous materials and solid waste impacts would be expected.

3.14 ENERGY POLICY

3.14.1 Affected Environment

Executive Order 13212 (May 22, 2001) articulates the US energy policy as:

> *The increased production and transmission of energy in a safe and environmentally sound manner is essential to the well-being of the American people. In general, it is the policy of this Administration that executive departments and agencies (agencies) shall take appropriate actions, to the extent consistent with applicable law, to expedite projects that would increase the production, transmission, or conservation of energy…agencies shall expedite their review of permits or take other actions as necessary to accelerate the completion of such projects, while maintaining safety, public health, and environmental protections.*

3.14.2 Environmental Consequences

3.14.2.1 Standards of Significance

Impacts related to energy policy concerns would be considered significant if project implementation would result in:

- A substantial, inefficient use of energy
- The project infrastructure posing a threat to public safety

- The project including serious risks to the environment

3.14.2.2 Project Impacts

Proposed Action

The Proposed Action would replace a 60-year-old transmission line. The new transmission line would be constructed of new materials that would improve the efficiency, reliability and safety of transmitting energy generated at Davis Dam to Western's customers. The upgraded line would reduce maintenance frequency, reduce the potential hazards from broken poles and downed power lines, reduce climbing hazards due to cracked and rotted structures, and reduce safety hazards from wood crossarm failure. New porcelain insulators would be used. Construction of the Project would be designed to be in compliance with federal, state and local laws and would adhere to the resource protection measures described in Section 2.3 and Western's Construction Standards 13 (Appendix B). The Project as proposed adheres to Executive Order 13212. The Proposed Action would improve the efficient use of energy and would not pose a threat to public safety or serious risks to the environment.

No Action Alternatives

Under the No Action Alternative, the Davis–Kingman Tap 69-kV Transmission Line would continue to function with its current structures and conductor. Over time, the transmission line would require more frequent maintenance, and suffer more frequent interruptions due to failures. The existing transmission line is within an area of rugged terrain and limited access, which minimizes the public exposure to the transmission line. However, since the existing conductor is not protected with a ground wire and the structures are wood, there would be more risk from lightning damage and subsequent fire ignition. Other than its continuing obsolescence and reduced efficiency compared to modern facilities, there would be no measurable change from the existing condition. The No Action Alternative would pose some threat to public safety and risks to the environment.

3.15 INTENTIONAL DESTRUCTIVE ACTS

3.15.1 Affected Environment

Power transmission lines, like other elements of the U.S. energy infrastructure, could potentially be the target of vandals, terrorist attacks, or sabotage. The U.S. Court of Appeals for the Ninth Circuit decided that NEPA documents issued by the DOE should explicitly address the potential environmental consequences of intentional destructive acts such as vandalism, sabotage, or terrorism (DOE 2006). This section addresses this issue and identifies potential "reasonably foreseeable" accidents, disasters, and

intentional destructive acts that could occur to the Proposed Action and the No Action Alternative and their potential consequences.

The analysis includes the transmission line emerging from the Davis Dam switchyard to the eastern transmission line terminus west of Kingman. Accidents, disasters, and intentional destructive acts perpetrated on either the Davis Dam or the power plant and substation are outside the scope of this analysis. Since neither the possibility nor the probability of an attack is truly known, the risk of terrorism or sabotage and any consequent environmental impact cannot be reliably estimated.

3.15.2 Environmental Consequences

Impacts related to Intentional Destructive Acts concerns would be considered significant if project implementation would result in:

- Actions that makes the transmission facility susceptible to destructive actions by vandals, sabotage, or terrorist attacks
- Infrastructure becoming more susceptible to intentional destructive acts
- Reduction in ability to protect and repair infrastructure
- An increased interdependency and potential failure of multiple facilities, should an intentional destructive act be perpetrated

Proposed Action

Neither the existing Davis–Kingman Tap 69-kV Transmission Line nor the Proposed Action includes any components that, individually or in combination, would likely cause serious environmental impacts. Possible intentional destructive acts could vary from ordinary vandalism, such as people using firearms to shoot insulators, to a pre-meditated attempt to destroy one or more transmission structures with explosives, or an intentionally set wildfire intended to damage the transmission line infrastructure or to disrupt service to electrical customers rather than to cause any environmental contamination. The structures and conductors or insulators, which are more sensitive to damage and would cause more disruption, would be the most likely target rather than the roads. Environmental impacts from attacks to the transmission line are most likely to cause local effects resulting from damage caused by the destruction of the facility as well as efforts to mitigate the impact by repair and reconstruction of damaged infrastructure. Larger scale regional impacts could result, for example, from wildfire should the act result in a secondary effect, such as a wildfire ignition during particularly dry periods.

Intentional destructive acts committed on the Davis–Kingman Tap 69-kV Transmission Line would potentially interrupt service to the power grid. However, the redundant nature of the power grid would prevent service interruptions. Interrupted electrical service by itself would not likely have any effects to the environment.

Environmental effects realized would depend on the method of attack used. Direct attacks to the structures with explosives would likely create only temporary, minor noise, air, and soil impacts due to the collapse of a structure. Should live conductors ignite a wildfire before current is interrupted, the amount of air, soil, water and other environmental damage would be dependent upon the quantity and size of the vegetation at the point of the attack and its condition (dryness) at the time, as well as the response time of the appropriate agency suppression crews. The existing wooden structures would be replaced with structures made of steel and concrete and the low, sparse, widely spaced vegetation in most of the Project area creates low fuel levels; therefore, damage from arson would likely be low. Due to the ruggedness, remoteness, and inaccessibility to much of the transmission line, the potential for intentional destructive acts is low.

No Action Alternative

Under the No Action Alternative, the Davis–Kingman Tap 69-kV Transmission Line would continue to function with its current structures and conductors. The potential for intentional destructive acts and environmental impacts would be similar to those described for the Proposed Action. However, the existing Davis–Kingman Tap 69-kV Transmission Line, which uses wooden structures, is inherently not as strong or heat resistant as the proposed steel and concrete structures and, therefore, is more susceptible to intentional destructive acts. Compounding the issue of materials, the age of the transmission line and weathering and mechanical damage consequent to the years since its construction have further weakened the structural integrity of the line compared to the condition, which would be anticipated of a similar transmission line constructed with steel and concrete components.

3.16 CUMULATIVE IMPACTS

Cumulative impacts are those additive or interactive effects that would occur due to the Proposed Action's incremental impact when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such actions. While there are cumulative impacts to all affected resources, CEQ guidelines limit cumulative impacts analysis to

"important issues of national, regional, or local significance" (CEQ 1997). Therefore, not all issues identified for direct and indirect impact assessment are analyzed for cumulative impacts.

A project could have a significant cumulative impact if a change in the environment resulted from the incremental impact of the Project when added to other closely related past, present, and probable future projects. Cumulative impacts can result from individually minor, but collectively significant, projects taking place over a period of time.

In order to determine the cumulative effects in the Project area, a review was completed of known past, present, and reasonably foreseeable future proposed projects in the vicinity of the Project area and an analysis made of their short- and long-term incremental effects on the local environment. Methods to identify other past, present, and future actions included contact and coordination with land management agencies, including the BLM, USBR, LMNRA, ADOT, ASLD, Mohave County, and the Cities of Bullhead City and Kingman, Arizona, and Laughlin, Nevada.

The Proposed Action, which is limited to activities needed to replace the transmission line structures, insulators, and conductor, includes only minor new impacts; the primary impacts occurred during the original construction. The replacement of structures, hardware, and conductor would include small disturbed areas at each structure location and pulling and/or tensioning station as well as reopening roads accessing the structures.

While the expected lifespan of the rebuilt transmission line is 50 years, the existing infrastructure, which was constructed with less durable materials, has surpassed 60 years. The more durable materials would be expected to require less maintenance and, consequently, less use of the access roads. Except for those roads where continuing use for maintenance purposes are anticipated, the construction impacts would not be readily noticeable after approximately two years. Therefore, most of the impacts are considered temporary and short-term.

3.16.1 Past Actions

One project has been completed in the recent past. BLM conducted improvements to an eight-mile section of the Monolith Garden Trail, located in the Cerbat Foothills Recreation Area. These were completed in May 2010 as part of the American Reinvestment and Recovery Act of 2009 (Stimulus) Trails Project. Work included trimming brush and tread work, installing a 20-foot section of trail ramp,

rerouting 200 feet of trail, reclaiming two miles of illegal motor vehicle ruts, reclaiming one-half mile of vehicle routes, and removing plants at the Coyote Pass Trailhead to improve access for trailers.

3.16.2 Present Actions

Reclamation, in partnership with Clark County, Nevada, is constructing a new recreational development on the Nevada side of the Colorado River in Laughlin. This new development, the Laughlin Regional Greenway Heritage Trail, is a system of pedestrian and equestrian trails, trailheads, day-use areas, cultural and natural resource protection areas, interpretive sites, and transportation improvements to facilitate non-motorized access.

3.16.3 Reasonably Foreseeable Future Actions

Ongoing projects anticipated to continue or projects currently anticipated to begin within the next 5 years include:

- The BLM is developing a new trail system within the Cerbat Foothills Recreation Area, west of the existing trail system. The trail system traverses underneath the Davis–Kingman Transmission Facility at two locations. Trail development and construction would likely be complete prior to construction of the Project and would not interfere with the transmission line.
- Western is in the planning stages for the Davis Stage 06 Project, which includes the expansion of the two 230-kV switchyards at the Davis Dam. All work would take place within the existing switchyard fenceline.
- Western is in the planning stages for the Davis–Nora McDowell 69-kV Transmission Line Project. This would consist of rebuilding of the old BIA transmission line that travels southwest from the Davis Dam Switchyard for approximately eight miles, crossing the Colorado River, and terminating in California at the newly constructed Nora McDowell substation. The project is tentatively scheduled to begin in the first quarter of 2012.
- ADOT is currently conducting a realignment study of SR 95 east of the Colorado River from I-40 to SR 68. The goal of the study is to define a new access-controlled highway route along SR 95 that will connect to I-40, improve safety, and make travel between the area communities easier. The exact location of the proposed SR 95 and SR 68 intersection has not been determined.
- ADOT is proposing to remove and replace the existing pavement on US93 between I-40 and Ranch Road in the So-Hi area. The work would be confined to the existing roadway and would not affect the Project. The project is expected to begin in May 2011 and be completed by November 2011.

- ADOT is conducting a second phase study to evaluate a system interchange at the I-40/US93 junction, planned to begin spring 2011. The study includes preparation of a Design Concept Report and Environmental Analysis and will take approximately two years to complete. There is no scheduled time for construction, and it is likely to be ten years before funding is available.
- Mohave County has approved Zoning Use Permit (ZUP) for a 190-foot multi-use radio tower for the KYET 1180 AM radio site, to be located in Golden Valley, adjacent to US 93. The site plan for the tower is currently in review.
- Mohave County has approved the site plan for a 40-foot tower at the VPWC water tank site located at 3493 Kirkland in Golden Valley. This location is west of US 93 and north of SR 68.
- Mohave County has approved the site plan for a 20-foot unmanned communication tower in Golden Valley. The tower would be located in Golden Valley, just north of SR 68.
- UNS Electric, Inc. (UNSE; Unisource Energy Services) is involved in a planned redesign of their 69-kV transmission lines near the Project's eastern terminus, including possible removal of their transmission line on the south side of Highway 93 in the Cerbat Foothills Recreation Area. UNSE indicated they have a number of crossings in Golden Valley that would need consideration during the Project's construction, but did not provide details of any required action.

3.16.4 Cumulative Impacts Analysis

This section analyzes whether the Proposed Action, when combined with other past, present, or reasonably foreseeable future projects in the area, would result in either short-term or long-term environmental impacts. Short-term impacts are related primarily to Project construction, while long-term impacts are related primarily to maintenance and operation of the completed Project. This section analyzes the same resources that were evaluated in detail for the Proposed Action (Section 2.1).

Land Use and Ownership

Cumulative effects to land use and ownership from the Proposed Action in addition to past, present, and reasonably foreseeable future actions are not anticipated. Implementation of the Project would not require a change in land use or ownership. Previous projects have not required a change in land ownership or land use as they occurred on lands owned or managed by the sponsoring agency. Past identified projects have been completed in manners consistent with management plans, and future projects may require a change in land use or ownership and would be consistent with existing land management plans. Therefore, it is not anticipated that any incremental effects from the Proposed Action

combined with other past, present, or reasonably foreseeable future projects would result in a significant cumulative impacts to land use and ownership.

Biological Resources

The cumulative effects analysis area for biological resources is a 0.5 mile buffer around the Project alignment. Impacts resulting from future construction of the KYET radio tower could overlap and act cumulatively with the impacts of the proposed Project. The timeframe of this project is currently undetermined. This project is likely to have insignificant impacts to biological resources. The cumulative effects of construction of the KYET radio tower in combination with the proposed Project would result in negligible habitat loss and potential for increased noise if the projects occurred simultaneously.

The future realignment of SR 95 would impact vegetation and wildlife. This project is in the development phase. Depending upon the location and design selected for the realignment, impacts to wildlife could vary from moderate to high. The proposed Project is of a limited scale and intensity, and the construction phases are not likely to overlap. Once completed the Project would have negligible to low impacts on wildlife. Thus, impacts from the State Route realignment project would not act cumulatively with impacts from the proposed Project.

The proposed Project in combination with other past, present, and future actions will result in negligible cumulative effects for the same reasons discussed above. Resource Protection Measures have been designed for the proposed Project so as to reduce the potential for cumulative effects.

Cultural Resources

Cumulative effects to cultural resources from the Proposed Action in addition to past, present, and reasonably foreseeable future actions are not anticipated. The cultural survey conducted for the Project recommends that all of the sites, historic structures, and isolated occurrences are ineligible for listing on the NRHP, and the majority of them have minimal historic value. Past projects would have been conducted in accordance with federal and state laws and would not have resulted in impacts to cultural resources. Activities associated with the implementation of the Proposed Action would not, by themselves, result in adverse effects to cultural resources provided the mitigation measures are followed. Therefore, it is not anticipated that any incremental effects from the Proposed Action combined with other

past, present, or reasonably foreseeable future projects would result in significant cumulative impact to cultural resources.

Visual Resources

Cumulative effects to visual resources from the Proposed Action in addition to past, present, and reasonably foreseeable future actions are not anticipated. Construction and operation of the Proposed Action would result in minor impacts to visual resources. Elements of the Project—forms, lines and colors—are similar to those of the existing transmission line. Previous projects have not substantially impacted the visual character or quality of the area. Future projects may make create more prominent man-made features in the landscape such as communications towers or roadways that are more visually evident in the landscape; however, these impacts would be minor and would not substantially impact the visual quality or character of the area. The Project is located mostly in VRM Classes III and IV areas, which allow moderate to high levels of change to the landscape character.

Future developments in the Project area would primarily occur within the developed portions of the area and near the transportation corridors. Therefore, it is not anticipated that any incremental effects from the Proposed Action combined with identified past, present, or reasonably foreseeable future projects would result in a significant cumulative impact for visual resources.

Air Quality

Cumulative effects to air quality from the Proposed Action in addition to past, present, and reasonably foreseeable future actions are not anticipated. Construction and operation of the Proposed Action would not result in any appreciable contribution to air quality emissions or potentially significant impacts. Temporary air emissions would occur as a result of operating construction vehicles and equipment and from dust produced during construction activities. There would be no long-term air emissions associated with operation of the Project. Therefore, it is not anticipated that any incremental effects from the Proposed Action combined with other past, present, or reasonably foreseeable future actions would result in significant cumulative impacts to air quality.

Water Resources

Cumulative effects to water resources from the Proposed Action in addition to past, present, and reasonably foreseeable future actions are not anticipated. Past, current, or future projects that could generate substantial impacts to water resources would be authorized or conducted by a public entity and

would be analyzed for each individual project. Additionally, new projects would follow state and federal requirements for protection of floodplains and water quality, and project disturbances of one acre or more would require an AZPDES permit with a sufficient SWPPP to ensure the protection of water resources in the greater vicinity. Since there is already an existing transmission line, Project related impacts would only occur during the construction period. Therefore, it is not anticipated that any incremental effects from the Proposed Action combined with other past, present, or reasonably foreseeable future actions would result in significant cumulative impacts to water resources.

Geology, Mineral Resources, and Soils

Cumulative effects to geology, mineral resources, and soils from the Proposed Action in addition to past, present, and reasonably foreseeable future actions are not anticipated. Construction and operation of the Proposed Action would not result in impacts to geology and only short-term impacts to soils. Erosion of disturbed soils could occur from any project with ground-disturbing activity; however substantial cumulative effects such as chronic, broad-scale soil erosion are not anticipated because projects with disturbances of one acre or more require an AZPDES permit and a project-specific SWPPP, which would include the mitigation of impacts for individual projects. Additionally, since current or proposed land development in the Project area is relatively minor and spread out over a long timeframe, it is not anticipated that any incremental effects from the Proposed Action combined with other past, present, or reasonably foreseeable future actions would result in significant cumulative impacts to these resources.

Noise

Cumulative effects to noise from the Proposed Action in addition to past, present, and reasonably foreseeable future actions are not anticipated. Due to the rural nature of the Project area, construction and operation of the proposed Project would result in minor, short-term impacts. Temporary noise may affect recreationists, nearby dispersed residents, and residents located in the Cerbat Foothills and Golden Valley during construction of the transmission line, but would be short-term in nature. However, there are no other known projects in this area that either currently generate substantial noise or would generate substantial noise in the future. The remainder of the Project is located primarily in undeveloped or rural areas with no nearby receptors to noise. The majority of identified future projects would mainly occur in unpopulated areas and could generate short-term impacts. Therefore, it is not anticipated that any incremental effects from the Proposed Action combined with other past, present, or reasonably foreseeable future projects would result in significant cumulative impact for noise.

Transportation and Utilities

Cumulative effects to transportation and utilities from the Proposed Action in addition to past, present, and reasonably foreseeable future actions are not anticipated. Construction and operation of the Proposed Action would not result in any potentially significant transportation or traffic impacts. Except for the major road crossings such as SR 68, construction would take place in undeveloped or rural areas where no traffic congestion presently exists. Construction phases of any project could cause some traffic congestion. However, even if other projects were constructed simultaneously and near the Project, the incremental contribution of project-related construction vehicles using the same roadways for site access would not constitute a considerable contribution to cumulative transportation or traffic impacts. The identified utility projects by Western would occur at different locations and timeframes than the Proposed Action. Therefore, it is not anticipated that any incremental effects from the Proposed Action combined with other past, present, or reasonably foreseeable future actions would result in significant cumulative impact to transportation and utilities.

Socioeconomics and Environmental Justice

Cumulative effects to socioeconomics and environmental justice concerns from the Proposed Action in addition to past, present, and reasonably foreseeable future actions are not anticipated. The Proposed Action is not expected to result in growth-inducing impacts. Past, present and foreseeable future actions identified typically include construction-related projects, which would result in minor impacts to local businesses from the construction workforce's needs for temporary housing and spending at local food and retail establishments. The Project would not remove existing obstacles to growth, nor would it inhibit growth, and it is not anticipated that any incremental effects from the Proposed Action combined with other past, present, or reasonably foreseeable future actions would result in significant cumulative impact to socioeconomics or environmental justice.

Public Health and Safety

Cumulative effects to public health and safety from the Proposed Action in addition to past, present, and reasonably foreseeable future actions are not anticipated. Effects of the Proposed Action as well as past, present, or reasonably foreseeable future projects would not contribute to an incremental effect to public health and safety, as Western would comply with OSHA and agency regulations. The design and electrical standards of transmission lines would minimize long- and short-term exposure to electrical and electromagnetic effects. Additionally, Project activities would not, by themselves, result in serious injuries to visitors to the area or interfere with emergency response capabilities or resources.

Although public recreation access to the Davis–Kingman Tap 69-kV Transmission Line is not specifically restricted, it is more difficult to reach than other local areas due to its remoteness and rugged desert mountain terrain. Therefore, it is not anticipated that any incremental effects from the Proposed Action combined with other past, present, or reasonably foreseeable future projects would result in significant cumulative impact for public health and safety.

Solid Wastes and Hazardous Materials

Cumulative effects to solid wastes and hazardous materials from the Proposed Action in addition to past, present, and reasonably foreseeable future actions are not anticipated. According to a review of ADEQ and EPA databases, past projects have not resulted in any spills or contamination of the Project area. All projects, whether past, present, or reasonably foreseeable future projects, that may involve solid waste or the use of hazardous materials would require the transportation, storage, and disposal of solid wastes and hazardous wastes be done in accordance with federal and state laws. There are no known hazardous materials sites within the Project area; therefore, future projects would not impact any contaminated sites or prevent implementation of any cleanup activities. Therefore, it is not anticipated that any incremental effects from the Proposed Action combined with other past, present, or reasonably foreseeable future projects would result in a significant cumulative impact for solid waste or hazardous materials.

Energy Policy

Cumulative effects to energy policy concerns from the Proposed Action in addition to past, present, and reasonably foreseeable future actions are not anticipated. The Proposed Action would upgrade an obsolete transmission line, with a more durable transmission line requiring less maintenance and would improve the efficiency of providing power to customers. The result is a substantial improvement of energy efficiency that should continue for the projected life of the new facility. Therefore, it is not anticipated that any incremental effects from the Proposed Action combined with other past, present, or reasonably foreseeable future projects would result in significant cumulative impact for energy policy.

Intentional Destructive Acts

Cumulative effects to Intentional Destructive Acts concerns from the Proposed Action in addition to past, present, and reasonably foreseeable future actions are not anticipated. Past, present, and reasonably foreseeable future projects identified, such as road improvements, new trails or communication towers, are not of the nature to attract such acts. The existing Davis–Kingman Tap 69-kV Transmission Line in

its current configuration is not likely to be considered a lucrative target for Intentional Destructive Acts. The reconstruction of the entire transmission line from Davis Dam to Kingman would strengthen the infrastructure, making it even less susceptible for targeting.

Similarly, an increase in ordinary vandalism from increased recreation traffic is not anticipated because not much increase in traffic would be expected due to the rural nature of the area and remoteness of the transmission line. Therefore, it is not anticipated that any incremental effects from the Proposed Action combined with other past, present, or reasonably foreseeable future projects would result in significant cumulative impact for Intentional Destructive Acts.

4.0 AGENCIES, TRIBES, AND ORGANIZATIONS CONSULTED

The following is a list of agencies contacted for this Proposed Action:

FEDERAL

U.S. Army Corps of Engineers, Los Angeles District
Bureau of Indian Affairs
Bureau of Land Management, Kingman Field Office
Bureau of Reclamation, Lower Colorado Dams Office and Power Management Office
Federal Highway Administration, U.S. Department of Transportation
Federal Emergency Management Agency
National Park Service
U.S. Department of Homeland Security
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. Geological Survey Arizona Water Science Center
Western Area Power Administration

TRIBAL

Chemehuevi Reservation
Cocopah Tribe
Colorado River Indian Tribes
Fort Mojave Indian Tribe
Fort Yuma-Quechan Tribe
Hopi Tribe
Hualapai Tribe
Yavapai-Prescott Indian Tribe

STATE

Arizona Corporation Commission
Arizona Department of Environmental Quality
Arizona Department of Public Safety
Arizona Department of Real Estate
Arizona Department of Transportation, Kingman District
Arizona Department of Water Resources
Arizona Game and Fish Department
Arizona State Capital (various representatives)
Arizona State Historic Preservation Office
Arizona State Land Department
Office of the Governor

COUNTY

Mohave County, Arizona (various departments)

CITY

City of Kingman
City of Bullhead City
Kingman Airport Authority
Northern Arizona Consolidated Fire District #1

ORGANIZATIONS

Arizona Antelope Foundation
Arizona Mule Deer Foundation
Arizona Riparian Council
Arizona Wildlife Foundation
Audubon Arizona

ORGANIZATIONS

(continued)

Arizona Desert Bighorn Sheep Society
Bullhead 4 Wheelers, Inc.
Center for Biological Diversity
Cerbat Ridge Runners
Defenders of Wildlife
International Society for Protection of Mustangs and Burros
Kingman Area Chamber of Commerce
Mohave Sportsmans Club
National Wildlife Federation
Natural Resources Defense Council
Nature Conservancy
Northwest Arizona Watershed Council
Northern Arizona Watershed Council
Sierra Club, Grand Canyon Chapter
Sonoran Institute
The Wilderness Society
Walapai 4-Wheelers
Western Resource Advocates
Western Watershed Projects

See Appendix A for the scoping mailing list, example project scoping letters and various agency response letters, public notice of availability newspaper advertisements, landowner notice letter and Newsletter #1.

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Bureau of Reclamation

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Roy Baker	GIS Mapping
Mike McClellan	Visual Resources, Air Quality
Alfonso Ruiz	Noise Resources, Land Use Mapping
Susan Morrison	Socioeconomic Resources, Health & Safety, Cumulative Impacts
Myriah Moore	Administrative Record, Public Outreach

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APPENDIX A

SCOPING PROCESS

CONTENTS:

Agency and Tribal Scoping List
Example Scoping Letters
Agency and Tribal Responses
Newspaper Advertisement
Landowner Notice Letter
Newsletter #1

Linda Taunt, Deputy Director
ADEQ Water Quality Division
1110 W. Washington St.
Phoenix, AZ 85007

LeRoy Brady, Manager
ADOT, Roadway Engineering Group, Roadside Develop. Sec.
1611 W. Jackson St., Mail Drop EM03
Phoenix, AZ 85007-3212

Anthony Martinez, Permits Supervisor
Arizona Department of Transportation, Kingman District
3660 E. Highway 66
Kingman, AZ 86401-3453

Patrick Cunningham, Acting Director
Arizona Department of Environmental Quality
1110 W. Washington St.
Phoenix, AZ 85006

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Arizona Department of Real Estate
2910 N. 44th St., Suite 100
Phoenix, AZ 85018

Herb Guenther, Director
Arizona Department of Water Resources
3550 N. Central Ave
Phoenix, AZ 85012

Ginger Ritter, Project Evaluation Specialist
Arizona Game and Fish Department
5000 Carefree Highway
Phoenix, AZ 85086

Larry Voyles, Director
Arizona Game and Fish Department
5000 W. Carefree Highway
Phoenix, AZ 85086

Kris Randall
Arizona Riparian Council
P.O. Box 873211
Tempe, AZ 85287-3211

Michael Anable
Policy Advisor, Natural Resources, Agriculture and Environment
Office of the Governor
1700 W. Washington St.
Phoenix, AZ 85007

Michael Kondelis, District Engineer
ADOT Kingman District
3660 E. Andy Devine
Kingman, AZ 86401

Janice Alward, Chief Counsel
Arizona Corporation Commission
1200 W. Washington
Phoenix, AZ 85007-2996

Arizona Department of Environmental Quality Northern Reg. Ofc.
1801 W. Route 66, Suite 117
Flagstaff, AZ 86001

Douglas W. Dunham
Manager of the Office of Assured and Adequate Water Supply
Arizona Department of Water Resources
500 North Third St.
Phoenix, AZ 85004-3903

Robert Psey, Regional Supervisor
Arizona Game and Fish Department
5325 North Stockton Hill Rd.
Kingman, AZ 86401

Janice Stroud, Habitat Specialist
Arizona Game and Fish Department
5326 N. Stockton Hill Rd.
Kingman, AZ 86409

Trevor Buhr, Habitat Specialist
Region III AZ Game and Fish Dept
5325 North Stockton Hill Rd.
Kingman, AZ 86409

Jan Brewer, Governor
Arizona State Capital
1700 Washington St.
Phoenix, AZ 85007

Office of U.S. Congressman Ed Pastor
411 N. Central Ave., Suite 150
Phoenix, AZ 85005

Honorable Trent Franks, Congressman
Arizona's 2nd Congressional District
2435 Rayburn House Office Building
Washington, DC 20515

Office of U.S. Senator John McCain
5353 N. 16th St., Suite 105
Phoenix, AZ 85016

James Garrison, State Historic Preservation Officer
AZ State Historic Preservation Office
Arizona State Parks 1300 W. Washington St.
Phoenix, AZ 85007

Robert Halliday, Director
AZ Dept. of Public Safety
2102 E. Encanto Blvd.
Phoenix, AZ 85009-2847

Jamie Hogue, Deputy Commissioner
Arizona State Land Department
1616 W. Adams St.
Phoenix, AZ 85007

Maria Baier, State Land Commissioner
AZ State Land Dept.
1616 W. Adams St.
Phoenix, AZ 85007

Nick Holt
Mohave County
3675 E. Andy Devine Ave.
Kingman, AZ 86401

Reuben Ojeda, ROW Manager
AZ State Land Dept.
1616 W. Adams St.
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Ron Walker
Mohave County
3675 E. Andy Devine Ave.
Kingman, AZ 86401

Mathew Smith, Mohave County Attorney
Mohave County
315 N. 4th St.
Kingman, AZ 86401

Gary Watkins, County Supervisor
Mohave County Board of Supervisors
P.O. Box 7000
Kingman, AZ 86402

Mike Hendrix
Mohave County
3675 E. Andy Devine Ave.
Kingman, AZ 86401

Christine Ballard, Acting Director
Mohave County Development Services Department
3675 E. Andy Devine Ave.
Kingman, AZ 86401

Robin Grumbles, Director
Mohave County Cooperative Extension
101 E. Beale St., Suite A
Kingman, AZ 86401-5808

Tom Sockwell, Supervisor
Mohave County District 2
1130 Hancock Road
Bullhead City, AZ 86442

Kevin Davidson, Mohave County Development Services Dept.
3675 E. Andy Devine Ave.
Kingman, AZ 86402-7000

Michael File, Superintendant
Mohave County School District
P.O. Box 7000
Kingman, AZ 86401

Steven P. Lotoski, Director
Mohave County Public Works
3675 E. Andy Devine Ave.
Kingman, AZ 86401

Carlos Tejada, Director
Mohave Electric Cooperative
P.O. Box 1045
Bullhead City, AZ 86430

Scott Florence, District Manager
BLM, Arizona Strip District
345 East Riverside Dr.
St. George, UT 84790-6714

Ruben Sanchez, Field Manager
BLM, Kingman Field Office
2755 Mission Blvd.
Kingman, AZ 86401-5308

Ken Rice, Area Manager
Bureau of Reclamation Lower Colorado Dams Office
P.O. Box 60400
Boulder City, NV 89005

Dave Arend, Office Director
Bureau of Reclamation, Power Management Office
P.O. Box 61470
Boulder City, NV 89006

Federal Highway Administration, U.S. Dept. of Transportation
1200 New Jersey Ave. SE
Washington, DC 20590

Nancy Ward, Region Administrator
FEMA, Region IX, Homeland Security
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

Environmental Compliance Officer, FEMA Region IX
Homeland Security
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

William K. Dickinson, Superintendant
National Park Service
601 Nevada Way
Boulder City, NV 89005

Michael Boyles
National Park Service
601 Nevada Way
Boulder City, NV 89005

Brenda Smith, U.S. Department of the Interior Fish and Wildlife Svc.
323 N. Leroux St., Suite 201
Flagstaff, AZ 86001

Steve Spangle, U.S. Fish and Wildlife Service
2321 W. Royal Palm Rd., Suite 103
Phoenix, AZ 85021-4915

Laura Sanchez, Energy Solutions Policy Fellow
Natural Resources Defense Council
P.O. Box 287
Albuquerque, NM 87103

William H. Miller Sr., Project Manager
U.S. Army Corp of Engineers
3636 N. Central Ave., Suite 900
Phoenix, AZ 85012-1977

Amy Heuslin, U.S. Dept. of the Interior Bureau of Indian Affairs
400 N. 5th St., Suite 12-2
Phoenix, AZ 85004

Jeanne Geselbracht, U.S. Environmental Protection Agency
75 Hawthorne St.
San Francisco, CA 94105

Col. Thomas H. Magness, District Commander
USACE Los Angeles District
915 Wilshire Blvd., Suite 980
Los Angeles, CA 90017

John Holt, Environmental Manager
Western Area Power Administration
P.O. Box 6457
Phoenix, AZ 85005-6457

John Steward, Operations Support Specialist
Western Area Power Administration
P.O. Box 6457
Phoenix, AZ 85005-6457

Margot Truini, U.S. Geological Survey Arizona Water Science
2255 N. Gemini Dr.
Flagstaff, AZ 86001

Bullhead City Branch Library
1170 Hancock Rd.
Bullhead City, AZ 86442

Kingman Public Library
1971 E. Jagerson Ave.
Kingman, AZ 86409

Mohave Valley Campus Library
3400 Highway 95
Bullhead City, AZ 86442

Laughlin Public Library
2840 Needles Highway
Laughlin, NV 89029

Jack Hakim, Mayor
City of Bullhead City
2355 Trane Road
Bullhead City, AZ 86442

Honorable John Salem, Mayor
City of Kingman
310 N. Fourth St.
Kingman, AZ 86401

Jack Kramer, City Manager
City of Kingman
310 N. Fourth St.
Kingman, AZ 86401

Tom Duranceau, Planning Manager
City of Kingman
310 N. Fourth St.
Kingman, AZ 86401

Robert Riley
Kingman Airport Authority
70000 Flightline Dr.
Kingman, AZ 86401

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Kingman Area Chamber of Commerce
120 W. Andy Devine
Kingman, AZ 86402-11150

Pat Moore, Fire Chief
Northern Arizona Consolidated Fire District #1
2470 Butler Ave.
Kingman, AZ 86409

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Sonoran Institute
4835 E. Cactus Rd., Suite 270
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Unisource Energy Services
2498 Airway Ave.
Kingman, AZ 86402-3099

Darel Fruhwirth, Director
Kingman Parks & Recreation Dept
3333 N. Harrison Road
Kingman, AZ 86409

Davis-Kingman Tap 69-kV Transmission Line Rebuild Project
Tribal Mailing List

Mr. Charles F. Wood
Chairman
Chemehuevi Indian Tribe
P.O. Box 1976
Havasu Lake, CA 92363

Director
NAGPRA Committee
Chemehuevi Indian Tribe
P.O. Box 1976
Havasu Lake, CA 92363

Ms. Sherry Cordova
Chairwoman
Cocopah Tribe
County 15th & Avenue G
Somerton, AZ 85350

Ms. Jill McCormick
Manager
Cultural Resources Cocopah Tribe
County 15th & Avenue G
Somerton., AZ 85350

Mr. Eldred Enas
Chairman
Colorado River Indian Tribe
26600 Mohave Road, Route 1 Box 23-B
Parker, AZ 85344

Museum Director
Attn: Ms. Amelia Flores
Colorado River Indian Tribes
1007 Arizona Avenue
Parker, AZ 85344

Mr. Timothy Williams
Chairman
Fort Mojave Indian Tribe
500 Merriman Avenue
Needles, CA 92363

Ms. Linda Otero
Director of Aha Makav Cultural Society
Fort Mojave Indian Tribe
10225 South Harbor Avenue, Unit 7
Mohave Valley, AZ 86440

Mr. Leroy Ned Shingoitewa
Chairman
The Hopi Tribe
123 Main Street
Kykotsmovi, AZ 86039

Mr. Leigh Kuwanwisiwma
Director of Cultural Preservation
The Hopi Tribe
123 Main Street
Kykotsmovi, AZ 86039

Mr. Wilfred Whatoname Sr.
Chairperson
Hualapai Tribe
941 Hualapai Way
Peach Springs, AZ 86434

Ms. Loretta Jackson-Kelly
Tribal Historic Preservation Officer
Hualapai Tribe
878 West Route 66
Peach Springs, AZ 86434

Department of Energy
Western Area Power Administration
Desert Southwest Customer Service Region
P.O. Box 6457
Phoenix, AZ 85005-6457

AUG 19 2010

Linda Taunt
Deputy Director
ADEQ Water Quality Division
1110 W. Washington Street
Phoenix, Arizona 85007

SUBJECT: Public Scoping for the Davis-Kingman Tap 69-kV Transmission Line Rebuild Project, Mohave County, Arizona

Dear Ms. Taunt:

Western Area Power Administration (Western), a power-marketing agency within the U.S. Department of Energy, is proposing to rebuild the Davis-Kingman Tap 69-kV transmission line. The purpose of this letter is to inform you of this proposed project, provide notice that Western will prepare an environmental assessment (EA) for the proposed project, and seek your input regarding the proposed project.

Western owns, operates, and maintains the existing Davis-Kingman Tap 69-kV Transmission Line. The transmission line would be rebuilt in the same alignment as the existing line; existing wood H-frame structures and conductors would be removed and new hybrid concrete and galvanized steel H-frame structures, conductors, and overhead ground wire would be installed. The majority of the transmission line alignment is located on land administered by the Bureau of Land Management, Kingman Field Office (BLM) and private lands; the line also crosses lands administered by the National Park Service, Bureau of Reclamation (Reclamation), and Arizona State Land Department. Additional information about this proposed project and a map are provided in the enclosed project newsletter.

Western, as project proponent, is the lead Federal agency responsible for compliance with the National Environmental Policy Act (NEPA). The BLM and Reclamation are cooperating agencies. Additionally, Western will be lead agency for the Endangered Species Act, Section 7 consultation requirements (if required) with the U.S. Fish and Wildlife Service and the National Historic Preservation Act, Section 106 consultations with the Arizona State Historic Preservation Office. Western will also take the lead in tribal consultation.

Western seeks your input regarding the proposed project. We would like to know of any issues, concerns, and suggestions you may have regarding the proposed project. Your comments will help define issues and alternative for consideration during the environmental review process. To ensure consideration as we develop the EA, Western should receive your comments by September 22, 2010.

Comments can be provided by mail, e-mail, fax, or telephone via the contact information below:

Western Area Power Administration
ATTN: John Holt
P.O. Box 6457
Phoenix, AZ 85006
holt@wapa.gov
602-605-2592 (phone)
602-605-2630 (fax)

Western expects to distribute the draft EA in early 2011, followed by a comment period. Please let us know if you would like to receive a copy of the EA for review and comment.

We look forward to hearing from you.

Sincerely,

John R. Holt
Environmental Manager

Enclosure

cc:
Mr. Ruben Sanchez
Field Manager
Bureau of Land Management
Kingman Field Office
2755 Mission Boulevard
Kingman, AZ 85401
(w/copy of encl.)

Mr. Andy Whitefield
Environmental Protection Specialist
Bureau of Land Management
Kingman Field Office
2755 Mission Boulevard
Kingman, AZ 85401
(w/copy of enclosure)

Ms. Lorri Gray-Lee
Regional Director
Bureau of Reclamation
Lower Colorado Region Office
500 Fir Street
Boulder City, NV 89005-2403
(w/copy of encl.)

Ms. Faye Streier
Natural Resource Specialist
Bureau of Reclamation
Lower Colorado Region Office
500 Fir Street
Boulder City, NV 89005-2403
(w/copy of enclosure)

bcc:
George Miller
Project Manager
Transcon Environmental
3740 East Southern Avenue, Suite 218
Mesa, AZ 85206

L. Almer, A7000.1, Lakewood, CO

G0400 (Holt)
G5640 (Ladewig)

Environmental file copy (G0400)

FILE: 5440.04 DAVIS-KINGMAN TAP 69-KV TRANSMISSION LINE

A7000.1:L.Almer:mpa:x7234:8/12/2010:Public Scoping for Davis-Kingman.doc

Department of Energy
Western Area Power Administration
Desert Southwest Customer Service Region
P.O. Box 6457
Phoenix, AZ 85005-6457

MAR 25 2011

Mr. Ruben Sanchez, Field Manager
Bureau of Land Management
Kingman Field Office
2755 Mission Boulevard
Kingman, AZ 85401

SUBJECT: Additional Project Scoping for the Davis-Kingman Tap 69-kV Transmission Line Rebuild Project Environmental Assessment

Dear Mr. Sanchez:

In August of 2009 you received a scoping letter regarding Western Area Power Administration's (Western) intent to prepare an environmental assessment for rebuilding the Davis-Kingman Tap 69-kV transmission line. The purpose of this letter is to inform you of recent changes in the design of the proposed project and seek your input regarding the change.

Western owns, operates, and maintains the existing Davis-Kingman Tap 69-kV Transmission Line. As indicated in the August 2009 scoping letter, the transmission line would be rebuilt in the same alignment as the existing line, and the existing wood H-frame structures and conductors would be removed. Western is now requesting the use of "weathered" monopole structures in lieu of the hybrid concrete and galvanized steel H-frame structures discussed in the August 2009 scoping letter. These monopole structures would be weathering steel (eventually turning a natural shade of brown), and include conductors, and overhead ground wire. The majority of the transmission line alignment is located on land administered by the Bureau of Land Management, Kingman Field Office (BLM) and private lands; the line also crosses lands administered by the National Park Service, Bureau of Reclamation (Reclamation), and Arizona State Land Department.

Western, as project proponent, is the lead Federal agency responsible for compliance with the National Environmental Policy Act (NEPA). The BLM and Reclamation are cooperating agencies. Additionally, Western is the lead agency for consultation requirements with the U.S. Fish and Wildlife Service and the National Historic Preservation Act, Section 106 consultations with the Arizona State Historic Preservation Office. Western has been the lead in tribal consultation.

Western seeks your input regarding the new weathered monopole structure alternative. We would like to know of any issues, concerns, and suggestions you may have regarding this change to the proposed project. Your comments will help define issues and alternative for consideration during the environmental review process. To ensure consideration as we develop the EA, Western should receive your comments by April 22, 2011.

Comments can be provided by mail, e-mail, fax, or telephone via the contact information below:

Western Area Power Administration
ATTN: John Holt
P.O. Box 6457
Phoenix, AZ 85006
holt@wapa.gov
602-605-2592 (phone)
602-605-2630 (fax)

Western expects to distribute the draft EA in July 2011, followed by a comment period. Please let us know if you would like to receive a copy of the EA for review and comment.

We look forward to hearing from you.

Sincerely,

John R. Holt
Environmental Manager

Enclosure

Cc:
(w/copy of encl.)

Mr. Ruben Sanchez
Field Manager
Bureau of Land Management
Kingman Field Office
2755 Mission Boulevard
Kingman, AZ 85401

Mr. Andy Whitefield
Environmental Protection Specialist
Bureau of Land Management
Kingman Field Office
2755 Mission Boulevard
Kingman, AZ 85401

Ms. Lorri Gray-Lee
Regional Director
Bureau of Reclamation
Lower Colorado Region Office
500 Fir Street
Boulder City, NV 89005-2403

Ms. Faye Streier
Natural Resource Specialist
Bureau of Reclamation
Lower Colorado Region Office
500 Fir Street
Boulder City, NV 89005-2403

United States Department of the Interior

BUREAU OF RECLAMATION
Lower Colorado Regional Office
P.O. Box 61470
Boulder City, NV 89006-1470

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:

LC-2623
ENV-6.00

APR 15 2009

Mr. John R. Holt
Environmental Manager
Western Area Power Administration
Desert Southwest Customer Service Region
P. O. Box 6457
Phoenix, Arizona 85005-6457

Subject: Invitation to Become a Cooperating Agency in the Environmental Assessment (EA) Process for the Davis-Kingman Tap 69-kV Transmission Line Rebuild Project, Your Letter of April 8, 2009; Parker-Davis Project

Dear Mr. Holt:

Thank you for your letter to Regional Director Gary-Lee regarding the subject. The Regional Director asked me to respond to your letter.

Your letter outlined the proposed Transmission Line Rebuild Project from Davis Dam to run approximately 27.3 miles to just west of Kingman, Arizona, at Mohave Electric Corporation's Kingman Tap. Reclamation accepts your invitation to become a cooperating agency for this project. We look forward to working with you to expedite the project and to reduce duplication among National Environmental Policy Act and other permitting requirements.

If you have questions, please contact Mr. Gerald Hickman, Environmental Protection Specialist, at 702-293-8346 or ghickman@usbr.gov.

Sincerely,

for William J. Liebhauser, Director
Resources Management Office

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Kingman Field Office
2755 Mission Blvd.
Kingman, Arizona 86401
www.blm.gov/az/

TAKE PRIDE IN AMERICA

AUG 18 2009

In Reply Refer To:
2800 (AZ-310)
AZPHX 83786

Mr. John Holt
Environmental Manager
Western Area Power Administration
Post Office Box 6457
Phoenix, Arizona 85005-6457

Dear Mr. Holt:

I am writing to you to accept your invitation for the Bureau of Land Management (BLM) to be a cooperating agency in the environmental analysis process for the Davis-Kingman Tap 69 kV Transmission Line Rebuild Project. Our goal is to assist in Western's environmental analysis so that a document can be produced that meets both our agencies' requirements under the National Environmental Policy Act. The BLM will intend to execute its own decision based on the analysis since it will be a function of the BLM to decide the activities allowed on public lands under its jurisdiction. The BLM also has resource expertise that will be a benefit to this effort.

In discussing the proposal and the field work to be performed by Western and its environmental contractors with Alison Jarrett, Western's Environmental Planner for this project, the BLM does not at this time anticipate any further data requests for environmental parameters other than a desert tortoise survey of the areas to be impacted and, should construction activities coincide with migratory bird nesting activities, which is generally March through October in that area, a survey for migratory bird nesting activities. If necessary, such a survey would need to be conducted for all areas on public lands associated with construction activities, as well as 150 feet either side of the area of activity. If nesting activity is observed the goal would be to lessen the activity to avoid disrupting nesting and fledging of the birds. The BLM would need to be furnished the survey information and results.

In conclusion, we look forward to working with Western on this project and if you have any questions regarding this please contact Andy Whitefield at (928) 718-3746.

Sincerely,

Jackie Neckels
Assistant Field Manager
Non-Renewable Resources

cc: Alison Jarrett, Environmental Planner, DOE-WAPA
Chris Lyles, Program Manager, DOI-WAPA
Tasha May, Public Utilities Specialist, DOE-WAPA
Carla Christelli, Realty Specialist, DOE-WAPA

U.S. Department of Transportation
Federal Highway Administration

ARIZONA DIVISION

4000 North Central Avenue,
Suite 1500
Phoenix, Arizona 85012-3500
602-379-3646
602-382-8998
http://www.fhwa.dot.gov/azdiv/index.htm

September 9, 2010

In Reply Refer To:
CCS 100824-002-2004
HOP-AZ

Mr. John R. Holt, Environmental Manager
Western Area Power Administration
U.S. Department of Energy
P.O. Box 6457
Phoenix, Arizona 85005

Dear Mr. Holt:

We have received your letter dated August 19, 2010, regarding the Davis-Kingman Tap 69-kV Transmission Line Rebuild Project in Mohave County, Arizona. We appreciate the opportunity to comment on the proposed project.

The proposed project is near popular destinations that experience high volumes of traffic every weekend on State Route (SR) 68 and US 93. When planning the construction activities for the proposed transmission line, please take the operation of the surrounding transportation facilities into consideration; especially during periods of high volume, such as holidays and weekends on SR 68 and US 93.

Additionally, the Arizona Department of Transportation (ADOT) is currently conducting a realignment study of SR 95 east of the Colorado River from Interstate 40 (I-40) to SR 68. Although the study is ongoing, and the exact location of the proposed SR 95 and SR 68 intersection has not been determined, it is in the vicinity where the proposed transmission line rebuild appears to be north of SR 68, per the graphic provided, thus may not be in conflict with the proposed SR 95 realignment.

If you have any further questions, please do not hesitate to contact me at 602.382.8975, or manuel.sanchez@dot.gov.

Sincerely,

Manuel E. Sánchez
Area Engineer

RECOVERY.GOV

From: <Michael_J_Boyles@nps.gov>
To: "Alison Jarrett" <JARRETT@wapa.gov>
CC: "John Holt" <HOLT@wapa.gov>
Date: 4/9/2009 9:42 AM
Subject: Davis-Kingman Rebuild

Alison / John:

We received your letter regarding the Davis-Kingman Tap 69-kV Transmission Line Rebuild Project. A portion of this line runs through Lake Mead National Recreation Area. Although we don't wish to be a formal cooperating agency, we would appreciate a chance to review the draft documents to be sure that our concerns are addressed. Typical concerns are related to T&E species, archaeological resources, weed prevention, and minimized construction limits. Also, we will want to provide on-site monitoring during construction on the Lake Mead portion of the project.

Thank you for contacting us.

Michael Boyles
Environmental Compliance Specialist
Lake Mead National Recreation Area
601 Nevada Way
Boulder City, NV 89005

From: <Michael_J_Boyles@nps.gov>
To: <holt@wapa.gov>
Date: 8/30/2010 3:07 PM
Subject: Scoping Comments, Davis-Kingman Tap 69 kV Line

Dear Mr. Holt,

Thank you for the opportunity to provide input into the environmental assessment for the proposed rebuild of the Davis-Kingman tap 69 kV transmission line. A portion of this line crosses National Park Service Land within Lake Mead National Recreation Area, and we offer the following comments:

Lake Mead National Recreation Area is a unit of the National Park Service, an agency whose mission, as defined in the Organic Act of 1916, is "to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such a manner as will leave them unimpaired for the enjoyment of future generations." We are thus interested in minimizing the impacts of the proposed project to the maximum extent possible.

NPS will not authorize the construction of new access routes. Existing roads must be used, and work areas around individual structures must be clearly delineated and as small as possible. Staging areas must be located outside the Park.

Prior to beginning work in the Park, all construction equipment, including undercarriages, must be pressure-washed to remove foreign soil and vegetative matter. This will prevent the introduction and spread of non-native plant species within the park.

Prior to beginning work in the Park, all project personnel must receive a short on-site orientation from a NPS employee. The orientation will review NPS rules and any park-specific mitigation measures. In addition, the NPS employee will inspect all equipment to ensure it has been adequately cleaned.

NPS would like to review consultation documents related to Section 7 of the Endangered Species Act and Section 106 of the National Historic Preservation Act.

The NPS is concerned about increasing visual impacts within and adjacent to the Park. We encourage new structures that are no taller than the existing poles. In addition, since steel is being proposed to replace the wooden poles, it should be treated to reduce light reflection and glare.

Upon completion of construction, restoration may be necessary to facilitate soil and vegetation recovery in temporary work areas (i.e. any areas in which equipment left a designated roadway).

In addition, we would like to receive a copy of the draft EA for review. Please submit the document, when available, to the address below.

Sincerely,

Michael Boyles
Environmental Compliance Specialist
Lake Mead National Recreation Area
601 Nevada Way
Boulder City, NV 89005

(702) 293-8978

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
TUCSON PROJECT OFFICE
5205 E. COMANCHE STREET
TUCSON, ARIZONA 85707

REPLY TO
ATTENTION OF:
Office of the Chief
Regulatory Division

April 20, 2009

Mr. John R. Holt
Environmental Manager
Western Area Power Administration
Desert Southwest Customer Service Region
PO Box 6457
Phoenix, Arizona 85005

File Number: SPL-2009-00279-MB

Dear Mr. Holt:

I am responding to the your letter to Colonel Thomas H. Magness dated March 31, 2009 regarding the Davis-Kingman Tap 69-kV Transmission Line Rebuild Project, between Davis Dam and Kingman, Mohave County, Arizona.

We appreciate your invitation to be a cooperating agency during the NEPA process for this proposed project. There was not enough information in your letter for us to determine if the proposed project would require an individual Section 404 permit or a Nationwide Permit (NWP). However, assuming waters of the U.S. will be spanned to the maximum extent possible by the line, it is possible the project may be authorized under a NWP. If this is the case, a programmatic NEPA document has already been prepared for our NWP program and we would not need to be a cooperating agency on a NEPA document. However, we would very much appreciate it if Western would act as the lead Federal agency on behalf of the Corps for any possible Section 7 of the Endangered Species Act or Section 106 of the National Historic Preservation Act consultations. Therefore, we respectfully request that you notify the U.S. Fish and Wildlife Service (FWS) and the Arizona State Historic Preservation Office that you are consulting with them on our behalf and further request that you copy us on any correspondence to these agencies. If no consultation with the FWS is required due to a "no effect" determination, please provide me with a copy of your determination.

If you have any questions or if we may provide any assistance during the consultation processes, please contact me directly at (520) 584-1684 or Marjorie.e.blaine@usace.army.mil. Please reference file number SPL-2009-00279-MB in any future correspondence.

Sincerely,

Marjorie E. Blaine
Senior Project Manager/Biologist
Arizona Branch, Regulatory Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

SEP 21 2010

John Holt
Western Area Power Administration
Desert Southwest Region
PO Box 6457
615 S. 43rd Avenue
Phoenix, Arizona 85009

Dear Mr. Holt:

The Environmental Protection Agency (EPA) has a received a letter dated August 19, 2010 from the Department of Energy (DOE) Western Area Power Administration (Western) to prepare an environmental assessment (EA) for the Davis-Kingman Tap 69-kV Transmission Line Rebuild Project. Our review is pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

EPA has no formal comments on this letter at this time. Please send two copies of the Draft EA to this office at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please call me at (415) 947-4257.

Sincerely,

Anne Ardillo

Anne Ardillo
Environmental Review Office
Communities and Ecosystems Division

United States Department of the Interior

U.S. Fish and Wildlife Service
Arizona Ecological Services Office
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 242-0210 Fax: (602) 242-2513

In Reply refer to:
AESO/SE
22410-2010-TA-0569

September 13, 2010

Mr. John Holt
Western Area Power Administration
P.O. Box 6457
Phoenix, Arizona 85009

Dear Mr. Holt:

Thank you for the opportunity to review and provide comments on the proposed Davis-Kingman Tap 69-kV Transmission Line Rebuild project during the initial planning phase. Western Area Power Administration (Western) proposes to rebuild the existing 69-kV transmission line that was originally constructed in 1950. You requested that we provide you with any available information regarding wildlife movements, habitat issues, or seasonal concerns along the proposed action site and its immediate vicinity. Through this letter, we offer you technical assistance in evaluating potential impacts on our Nation's trust wildlife and habitat resources from your proposed transmission line rebuild in order to avoid or minimize such impacts.

The majority of the transmission line alignment is located on land administered by the Bureau of Land Management, Kingman Field Office, and private lands; the line also crosses lands administered by the National Park Service (Lake Mead National Recreation Area), Bureau of Reclamation, and Arizona State Land Department. The proposed project is being constructed on the same alignment as the existing line. Western is proposing to remove the existing wood-pole, H-frame structures and conductors and install new hybrid concrete and galvanized steel H-frame structures, new conductors, and two overhead ground wires. In some instances, three-pole galvanized steel structures will be used instead of H-frame structures. In other instances, monopole steel structures will be used. Ground disturbance may result from grading areas for structure removal and placement, constructing new roads, improving existing roads, and from installing structures, conductors, and overhead ground wires. Construction activities and new access along the transmission line will be conducted within permanent right-of-way and temporary-use permit areas.

The Fish and Wildlife Service (FWS) holds certain resources in trust for the American people, including migratory birds, inter-jurisdictional fishes, federally-listed threatened and endangered species, and units of the National Wildlife Refuge System. The FWS administers natural resource protection laws germane to transmission lines. These statutes include the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.), the Bald and Golden Eagle Protection Act

(BGEPA) (16 U.S.C. 668-668d), the Endangered Species Act (ESA) (16 U.S.C. 1531 et. seq.), the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57), and the National Environmental Policy Act (NEPA) (Pub. L. 91-190, 42 U.S.C. 4321-4347, January 1, 1970, et. seq.).

Migratory Birds and Eagles

The FWS is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species (e.g., waterfowl, shorebirds, birds of prey, songbirds) that spend all or part of their lives in the United States. The MBTA prohibits the taking, killing, possession, and transportation (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted by regulations. Currently, the list of federally protected migratory birds includes 1007 species (50 CFR Part 10.13). The MBTA has no provision for allowing unauthorized take of migratory birds that may be killed or injured by otherwise lawful activities.

The BGEPA does provide for very limited issuance of permits that authorize take of eagles when such take is associated with otherwise lawful activities, cannot practicably be avoided, and is compatible with the goal of stable or increasing eagle breeding populations. This law also affords eagles additional protections beyond those provided by the MBTA, in particular, by making it unlawful to "disturb" eagles.

We recommend that you work with us while developing the project plan and that you develop an avian protection plan (APP) to reduce the operational and avian risks that may result from avian interactions with electric transmission facilities. Recommended protective measures that can be implemented during construction and operation of facilities and equipment can be found in the *Suggested Practices for Raptor Protection on Power Lines and Mitigating Bird Collisions with Power Lines*, available from the Avian Power Line Interaction Committee (APLIC) (http://aplic.org) and Edison Electric Institue (EEI) (http://eei.org) websites. Our guidelines for developing an APP are available at http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/BirdHazards.html.

Desert Tortoise (Sonoran Population)

The proposed project site also contains habitat for the Sonoran population of the desert tortoise (*Gopherus agassizii*). Although this species is not federally protected, our office has been petitioned to list the Sonoran population of the desert tortoise under the ESA, and we are in the process of completing a 12-month status review to determine whether or not listing is warranted. The proposed action has the potential to affect the tortoise through habitat disturbance or loss associated with road construction and transmission line development. These activities also have the potential to crush burrows and tortoises that might be in those burrows. Disturbing native soils increases the likelihood of non-native plants being established, which can lead to unnatural fire cycles in the desert Southwest. Additionally, increased predation from ravens can be expected as they are well documented to associate with human activities (Boarman *et al.* 1995, Boarman 2003, Kristan and Boarman 2003). We recommend you use ant-perching devices on towers to reduce the perching habitat for ravens as well as maintaining sanitary conditions for all work areas at all times. Waste materials at those sites should be contained in a manner that will

avoid attracting predators of desert tortoises. Waste materials should be disposed of 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. Additionally, all reasonable effort should also be taken to reduce or eliminate water sources associated with project activities that might attract ravens and other predators.

We appreciate your coordination with us on this matter. In keeping with our trust responsibility to American Indian Tribes, for proposed actions that may affect Indian lands, Tribal trust resources, or Tribal rights, we encourage you to invite the affected Tribe(s) and Bureau of Indian Affairs to participate in the comment process and, by copy of this letter, are notifying the Chemehuevi, Hualapai, Hopi, Fort Mohave Indian, and the Colorado River Indian Tribes. We also encourage you to coordinate the review of this project with the Arizona Game and Fish Department.

Should you require further assistance or if you have any questions, please contact Brian J. Wooldridge (x105) or Brenda Smith (x101) of our Flagstaff Suboffice at (928) 226-0614.

Sincerely,

Brenda Smith

for Steven L. Spangle
Field Supervisor

ccs: (electronic)
Regional Supervisor, Arizona Game and Fish Department, Kingman, AZ
Chief Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ
Wildlife Biologist, Division of Migratory Birds, Ecological Services, Fish and Wildlife Services, Regional Office, Albuquerque, NM
Jeff Servoss, Fish and Wildlife Service, Phoenix, AZ

ccs: (hard copy)
Environmental Specialist, Environmental Services, Western Regional Office, Bureau of Indian Affairs, Phoenix, AZ
Cultural Compliance Technician, Museum, Colorado River Indian Tribes, Parker, AZ
Director, Aha Makav Cultural Society Fort Mohave Indian Tribe, Needles, CA
Director, Hopi Cultural Preservation Office, Kykotsmovi, AZ
Director, Chemehuevi Cultural Resources Center, Havasu Lake, CA
Program Manager, Tribal Historic Preservation Office, Hualapai Tribe, Peach Springs, AZ

W:\Brian Wooldridge\WAPA Davis-Kingman 69-kV Line Comments 09082010ver2.docx: jkey

Literature Cited

Boarman, W.I., R. J. Camp, M. Hagan, W. Deal. 1995. Raven abundance at anthropogenic resources in the western Mojave Desert, California. Report to Edwards Air Force Base, CA. National Biological Service, Riverside, CA.

Boarman, W.I. 2003. Managing a subsidized predator population: reducing common raven predation on desert tortoises. Environmental Management 32(2): 205-217.

Kristan, III, W. B., and Boarman, W.I. 2003. The spatial distribution of risk of desert tortoise (*Gopherus agassizii*) predation by common ravens (*Corvus corax*). Ecology 84(9): 2432-2443.

ARIZONA DEPARTMENT
OF
ENVIRONMENTAL QUALITY

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Janice K. Brewer
Governor

Benjamin H. Grumbles
Director

September 9, 2010

Mr. John R. Holt, Environmental Manager
U.S. Department of Energy
Western Area Power Administration
Desert Southwest Region
P.O. Box 6457
Phoenix, AZ 85009

Re: Mohave County: Davis-Kingman Tap 69-kV Transmission Line Rebuild Project

Dear Mr. Holt :

The Air Quality Division has reviewed your scoping letter, dated August 19, 2010, regarding the Davis-Kingman Tap 69-kV Transmission Line Rebuild Project. The project is located in the Bullhead City 10-micron particulate matter (PM10) maintenance area and the Kingman attainment area for PM10. There is a possibility, during the proposed rebuild project, that prevailing winds may transport particulate matter and affect the maintenance nd attainment areas status. Therefore, we provide the following information for consideration:

REDUCE DISTURBANCE of PARTICULATE MATTER during CONSTRUCTION

This action, plan or activity may temporarily increase ambient particulate matter (dust) levels. Particulate matter 10 microns in size and smaller can penetrate the lungs of human beings and animals and is subject to a National Ambient Air Quality Standard (NAAQS) to protect public health and welfare. Particulate matter 2.5 microns in size and smaller is difficult for lungs to expel and has been linked to increases in death rates; heart attacks by disturbing heart rhythms and increasing plaque and clotting; respiratory infections; asthma attacks and cardiopulmonary obstructive disease (COPD) aggravation. It is also subject to a NAAQS.

The following measures are recommended to reduce disturbance of particulate matter, including emissions caused by strong winds as well as machinery and trucks tracking soil off the construction site:

I. Site Preparation and Construction
   A. Minimize land disturbance;
   B. Suppress dust on traveled paths which are not paved through wetting, use of watering trucks, chemical dust suppressants, or other reasonable precautions to prevent dust entering ambient air
   C. Cover trucks when hauling soil;
   D. Minimize soil track-out by washing or cleaning truck wheels before leaving construction site;
   E. Stabilize the surface of soil piles; and
   F. Create windbreaks

II. Site Restoration
   A. Revegetate any disturbed land not used;
   B. Remove unused material; and
   C. Remove soil piles via covered trucks.

The following rules applicable to reducing dust during construction, demolition and earth moving activities are enclosed:

- ☒ Arizona Administrative Code R18-2-604 through -607
- ☒ Arizona Administrative Code R18-2-804

Should you have further questions, please contact me at (602) 771-2375 or David Biddle, of the Planning Section Staff, at (602) 771-2376.

Sincerely,

Diane L. Arnst, Manager
Air Quality Planning Section

Enclosures

Cc: Bret H. Parke, EV Administrative Counsel
David A. Biddle, Environmental Program Specialist
File No. 244053

ARTICLE 8. EMISSIONS FROM MOBILE SOURCES (NEW AND EXISTING)

R18-2-801. Classification of Mobile Sources

A. This Article is applicable to mobile sources which either move while emitting air contaminants or are frequently moved during the course of their utilization but are not classified as motor vehicles, agricultural vehicles, or agricultural equipment used in normal farm operations.

B. Unless otherwise specified, no mobile source shall emit smoke or dust the opacity of which exceeds 40%.

Historical Note

Adopted effective February 26, 1988 (Supp. 88-1). Amended effective September 26, 1990 (Supp. 90-3). Amended effective February 3, 1993 (Supp. 93-1). Former Section R18-2-801 renumbered to Section R18-2-901, new Section R18-2-801 renumbered from R18-2-601 effective November 15, 1993 (Supp. 93-4).

R18-2-802. Off-road Machinery

A. No person shall cause, allow or permit to be emitted into the atmosphere from any off-road machinery, smoke for any period greater than 10 consecutive seconds, the opacity of which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.

B. Off-road machinery shall include trucks, graders, scrapers, rollers, locomotives and other construction and mining machinery not normally driven on a completed public roadway.

Historical Note

Adopted effective February 26, 1988 (Supp. 88-1). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-802 renumbered to Section R18-2-902, new Section R18-2-802 renumbered from R18-2-602 effective November 15, 1993 (Supp. 93-4).

R18-2-803. Heater-planer Units

No person shall cause, allow or permit to be emitted into the atmosphere from any heater-planer operated for the purpose of reconstructing asphalt pavements smoke the opacity of which exceeds 20%. However three minutes' upset time in any one hour shall not constitute a violation of this Section.

Historical Note

Adopted effective February 26, 1988 (Supp. 88-1). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-803 renumbered to Section R18-2-903, new Section R18-2-803 renumbered from R18-2-603 effective November 15, 1993 (Supp. 93-4).

R18-2-804. Roadway and Site Cleaning Machinery

A. No person shall cause, allow or permit to be emitted into the atmosphere from any roadway and site cleaning machinery smoke or dust for any period greater than 10 consecutive seconds, the opacity of which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.

B. In addition to complying with subsection (A), no person shall cause, allow or permit the cleaning of any site, roadway, or alley without taking reasonable precautions to prevent particulate matter from becoming airborne. Reasonable precautions may include applying dust suppressants. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or by other means.

Historical Note

Adopted effective February 26, 1988 (Supp. 88-1). Amended effective September 26, 1990 (Supp. 90-3). Amended effective February 3, 1993 (Supp. 93-1). Former Section R18-2-804 renumbered to Section R18-2-904, new Section R18-2-804 renumbered from R18-2-604 effective November 15, 1993 (Supp. 93-4).

R18-2-805. Asphalt or Tar Kettles

A. No person shall cause, allow or permit to be emitted into the atmosphere from any asphalt or tar kettle smoke for any period greater than 10 consecutive seconds, the opacity of which exceeds 40%.

B. In addition to complying with subsection (A), no person shall cause, allow or permit the operation of an asphalt or tar kettle without minimizing air contaminant emissions by utilizing all of the following control measures:

1. The control of temperature recommended by the asphalt or tar manufacturer;
2. The operation of the kettle with lid closed except when charging;
3. The pumping of asphalt from the kettle or the drawing of asphalt through cocks with no dipping;
4. The dipping of tar in an approved manner;
5. The maintaining of the kettle in clean, properly adjusted, and good operating condition;
6. The firing of the kettle with liquid petroleum gas or other fuels acceptable to the Director.

Historical Note

Adopted effective February 26, 1988 (Supp. 88-1). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-805 renumbered to Section R18-2-905, new Section R18-2-805 renumbered from R18-2-605 effective November 15, 1993 (Supp. 93-4).

R18-2-605. Roadways and Streets

A. No person shall cause, suffer, allow or permit the use, repair, construction or reconstruction of a roadway or alley without taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne. Dust and other particulates shall be kept to a minimum by employing temporary paving, dust suppressants, wetting down, detouring or by other reasonable means.

B. No person shall cause, suffer, allow or permit transportation of materials likely to give rise to airborne dust without taking reasonable precautions, such as wetting, applying dust suppressants, or covering the load, to prevent particulate matter from becoming airborne. Earth or other material that is deposited by trucking or earth moving equipment shall be removed from paved streets by the person responsible for such deposits.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-605 renumbered without change as Section R18-2-605 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-605 renumbered to R18-2-805, new Section R18-2-605 renumbered from R18-2-405 effective November 15, 1993 (Supp. 93-4).

R18-2-606. Material Handling

No person shall cause, suffer, allow or permit crushing, screening, handling, transporting or conveying of materials or other operations likely to result in significant amounts of airborne dust without taking reasonable precautions, such as the use of spray bars, wetting agents, dust suppressants, covering the load, and hoods to prevent excessive amounts of particulate matter from becoming airborne.

Historical Note

Section R18-2-606 renumbered from R18-2-406 effective November 15, 1993 (Supp. 93-4).

R18-2-607. Storage Piles

A. No person shall cause, suffer, allow, or permit organic or inorganic dust producing material to be stacked, piled, or otherwise stored without taking reasonable precautions such as chemical stabilization, wetting, or covering to prevent excessive amounts of particulate matter from becoming airborne.

B. Stacking and reclaiming machinery utilized at storage piles shall be operated at all times with a minimum fall of material and in such manner, or with the use of spray bars and wetting agents, as to prevent excessive amounts of particulate matter from becoming airborne.

Historical Note

Section R18-2-607 renumbered from R18-2-407 effective November 15, 1993 (Supp. 93-4).

R18-2-608. Mineral Tailings

No person shall cause, suffer, allow, or permit construction of mineral tailing piles without taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne. Reasonable precautions shall mean wetting, chemical stabilization, revegetation or such other measures as are approved by the Director.

Historical Note

Section R18-2-608 renumbered from R18-2-408, new Section R18-2-408 adopted effective November 15, 1993 (Supp. 93-4).

R18-2-609. Agricultural Practices

A person shall not cause, suffer, allow, or permit the performance of agricultural practices outside the Phoenix and Yuma planning areas, as defined in 40 CFR 81.303, which is incorporated by reference in R18-2-210, including tilling of land and application of fertilizers without taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne.

Historical Note

Section R18-2-609 renumbered from R18-2-409 effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 6 A.A.R. 2009, effective May 12, 2000 (Supp. 00-2). Amended by final rulemaking at 11 A.A.R. 2210, effective July 18, 2005 (Supp. 05-2).

R18-2-610. Definitions for R18-2-611

The definitions in Article 1 of this Chapter and the following definitions apply to R18-2-611:

1. "Access restriction" means restricting or eliminating public access to noncropland with signs or physical obstruction.
2. "Aggregate cover" means gravel, concrete, recycled road base, caliche, or other similar material applied to noncropland.
3. "Artificial wind barrier" means a physical barrier to the wind.
4. "Best management practice" means a technique verified by scientific research, that on a case-by-case basis is practical, economically feasible, and effective in reducing PM_{10} emissions from a regulated agricultural activity.
5. "Chemical irrigation" means applying a fertilizer, pesticide, or other agricultural chemical to cropland through an irrigation system.
6. "Combining tractor operations" means performing two or more tillage, cultivation, planting, or harvesting operations with a single tractor or harvester pass.
7. "Commercial farm" means 10 or more contiguous acres of land used for agricultural purposes within the boundary of the Maricopa PM_{10} nonattainment area.
8. "Commercial farmer" means an individual, entity, or joint operation in general control of a commercial farm.
9. "Committee" means the Governor's Agricultural Best Management Practices Committee.
10. "Cover crop" means plants or a green manure crop grown for seasonal soil protection or soil improvement.
11. "Critical area planting" means using trees, shrubs, vines, grasses, or other vegetative cover on noncropland.
12. "Cropland" means land on a commercial farm that:
    a. Is within the time-frame of final harvest to plant emergence;
    b. Has been tilled in a prior year and is suitable for crop production, but is currently fallow; or
    c. Is a turn-row.

c. If the burning would occur at a solid waste facility in violation of 40 CFR 258.24 and the Director has not issued a variance under A.R.S. § 49-763.01.

E. Open outdoor fires of dangerous material. A fire set for the disposal of a dangerous material is allowed by the provisions of this Section, when the material is too dangerous to store and transport, and the Director has issued a permit for the fire. A permit issued under this subsection shall contain all provisions in subsection (D)(3) except for subsections (D)(3)(e) and (D)(3)(f). The Director shall permit fires for the disposal of dangerous materials only when no safe alternative method of disposal exists, and burning the materials does not result in the emission of hazardous or toxic substances either directly or as a product of combustion in amounts that will endanger health or safety.

F. Open outdoor fires of household waste. An open outdoor fire for the disposal of household waste is allowed by provisions of this Section when permitted in writing by the Director or a delegated authority. A permit issued under this subsection shall contain all provisions in subsection (D)(3) except for subsections (D)(3)(e) and (D)(3)(f). The permittee shall conduct open outdoor fires of household waste in an approved waste burner and shall either:

1. Burn household waste generated on-site on farms or ranches of 40 acres or more where no household waste collection or disposal service is available; or
2. Burn household waste generated on-site where no household waste collection and disposal service is available and where the nearest other dwelling unit is at least 500 feet away.

G. Permits issued by a delegated authority. The Director may delegate authority for the issuance of open burning permits to a county, city, town, air pollution control district, or fire district. A delegated authority may not issue a permit for its own open burning activity. The Director shall not delegate authority to issue permits to burn dangerous material under subsection (E). A county, city, town, air pollution control district, or fire district with delegated authority from the Director may assign that authority to one or more private fire protection service providers that perform fire protection services within the county, city, town, air pollution control district, or fire district. A private fire protection provider shall not directly or indirectly condition the issuance of open burning permits on the applicant being a customer. Permits issued under this subsection shall comply with the requirements in subsection (D)(3) and be in a format prescribed by the Director. Each delegated authority shall:

1. Maintain a copy of each permit issued for the previous five years available for inspection by the Director;
2. For each permit currently issued, have a means of contacting the person authorized by the permit to set an open fire if an order to extinguish open burning is issued; and
3. Annually submit to the Director by May 15 a record of daily burn activity, excluding household waste burn permits, on a form provided by the Director for the previous calendar year containing the information required in subsections (D)(3)(e) and (D)(3)(f).

H. The Director shall hold an annual public meeting for interested parties to review operations of the open outdoor fire program and discuss emission reduction techniques.

I. Nothing in this Section is intended to permit any practice that is a violation of any statute, ordinance, rule, or regulation.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Amended effective October 2, 1979 (Supp. 79-5). Correction, subsection (C) repealed effective October 2, 1979, not shown (Supp. 80-1). Former Section R9-3-602 renumbered without change as Section R18-2-602 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-602 renumbered to R18-2-802, new Section R18-2-602 renumbered from R18-2-401 effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 10 A.A.R. 388, effective March 16, 2004 (Supp. 04-1).

R18-2-603. Repealed

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-603 renumbered without change as Section R18-2-603 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-603 renumbered to R18-2-803, new Section R18-2-603 renumbered from R18-2-403 effective November 15, 1993 (Supp. 93-4). Repealed effective October 8, 1996 (Supp. 96-4).

R18-2-604. Open Areas, Dry Washes, or Riverbeds

A. No person shall cause, suffer, allow, or permit a building or its appurtenances, or a building or subdivision site, or a driveway, or a parking area, or a vacant lot or sales lot, or an urban or suburban open area to be constructed, used, altered, repaired, demolished, cleared, or leveled, or the earth to be moved or excavated, without taking reasonable precautions to limit excessive amounts of

From: "Wendy S. LeStarge" <LeStarge.Wendy@azdeq.gov>
To: <holt@wapa.gov>
CC: "Linda C. Taunt" <Taunt.Linda@azdeq.gov>
Date: 9/1/2010 3:32 PM
Subject: Davis-Kingman Tap 69-kV Transmission Line Rebuild
Attachments: WAPA Kingman line.pdf

Attached are comments submitted on behalf of Linda Taunt, Deputy Division Director of the Arizona Department of Environmental Quality, Water Quality Division.

Wendy LeStarge

Environmental Rules Specialist

Arizona Department of Environmental Quality

Water Quality Division

(602) 771-4836

ARIZONA DEPARTMENT
OF
ENVIRONMENTAL QUALITY

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Janice K. Brewer
Governor

Benjamin H. Grumbles
Director

September 1, 2010

Western Area Power Administration
Attn: John Holt
P.O. Box 6457
Phoenix, AZ 85006

SENT VIA E-MAIL: holt@wapa.gov

Re: Davis - Kingman Tap 69-kV Transmission Line Rebuild Project

Dear Mr. Holt:

We received the your August 19, 2010 on the Western Area Power Administration's intent to prepare an environmental assessment for the Davis - Kingman Tap 69-kV Transmission Line Rebuild project, located in Mohave County, Arizona. The Arizona Department of Environmental Quality, Water Quality Division (ADEQ) is responsible for ensuring the delivery of safe drinking water to customers of regulated public water systems under the Safe Drinking Water Act, permits for proposed discharges to surface waters of the United States under the federal Clean Water Act (CWA), permits under the State aquifer protection program, and water quality certifications of certain federal licenses and permits. Based on the information provided, ADEQ has the following comments related to water quality.

Construction General Permit: Stormwater discharges associated with activities, such as clearing, grading, or excavating, that disturb one acre or more must obtain permit coverage under the Arizona Pollutant Discharge Elimination System's Construction General Permit. As part of permit coverage, a Stormwater Pollution Prevention Plan (SWPPP) must be prepared and implemented before ground disturbance begins. The SWPPP must comply with ADEQ's Construction General Permit's SWPPP requirements, and must identify such elements as the project scope, anticipated acreage of land disturbance, and the best management practices that would be implemented to reduce soil erosion, and contain or minimize the pollutants that might be released to waters of the U.S. In addition to preparing the SWPPP, the project proponent must file for permit coverage. The Construction General Permit, SWPPP checklist, and associated forms are available on ADEQ's website at: http://www.azdeq.gov/environ/water/permits/stormwater.html#const. For questions, please contact Chris Henninger in our Stormwater and General Permits Unit at (602) 771-4508 or by e-mail at cph@azdeq.gov.

CWA 401 Water Quality Certification: If project activities will occur inside the Ordinary High Water Mark of any water of the U.S., then the U.S. Army Corps of Engineers may require a permit, either under the CWA section 404 or the Rivers and Harbors Act Section 10. If a 404 permit (or any other federal permit) is required for the project, a state-issued CWA section 401 certification of the permit may be required to ensure that the permitted activities will not result in a violation of Arizona's surface water quality standards. For questions, please contact Bob Scalamera at (602) 771-4502 or by e-mail at rs3@azdeq.gov. The CWA 401 application form can be downloaded from ADEQ's website at: http://www.azdeq.gov/function/forms/appswater.html#dredge.

We appreciate the opportunity to review and provide comments. If you need further information, please contact Wendy LeStarge of my staff at (602) 771-4836 or via e-mail at wl1@azdeq.gov, or myself at (602) 771-4416 or via e-mail at lc1@azdeq.gov.

Sincerely,

Linda Taunt, Deputy Director
Water Quality Division

From: "Janice Stroud" <JStroud@azgfd.gov>
To: <holt@wapa.gov>
CC: "Ginger Ritter" <GRitter@azgfd.gov>
Date: 9/1/2010 11:32 AM
Subject: Davis-Kingman Tap 69-Kv Transmission Line Rebuild

Dear Mr. Holt:

Thank you for providing the Arizona Game and Fish Department (the Department) notice that Western will be preparing an environmental assessment for the Davis-Kingman Tap 69-kV Transmission Line Rebuild Project. The Department would like to reiterate comments we provided to WAPA on April 23, 2009.

The Department understands the proposed project activities would involve the removal of wooden poles and installation of steel monopoles. The Department offers the following general comments, based on the information provided:

* All transmission lines must be designed to prevent or minimize risk of electrocution of raptors.

* Use existing roads to minimize habitat alterations. When construction is complete, restore/revegetate all areas not needed for operation and maintenance of the transmission line.

* Survey for gila monster, desert tortoise, and Western burrowing owl prior to project activities to ensure the species are not within the project area. Specific guidelines for desert tortoise and burrowing owls can be found at http://www.azgfd.gov/hgis/guidelines.aspx <http://www.azgfd.gov/hgis/guidelines.aspx> .

* Limit project activites during the lambing season (March-April) for the Arizona Desert Bighorn Sheep population in the Black Mountain area.

* Limit project activities during the breeding season for birds, generally May through late August, depending on species in the local area. Raptors breed in early February through May. Conduct avian surveys to determine bird species that may be utilizing the area and develop a plan to avoid disturbance during nesting season.

* Avoid removal of deadfall/snags since many wildlife species use snags for refuge.

* Avoid work near bridges with bats during maternity season, usually May through late August. If possible, complete work at night when the least amount of bats are roosting.

* Coordinate plant salvage efforts with the Arizona Department of Agriculture, in accordance with the Arizona Native Plant Law. In

addition, the applicable land management agencies should be consulted regarding guidelines for revegetation efforts.

* Contact the Army Corp. of Engineers for Best Management Practices and guidelines for minimizing and mitigating impacts to riparian areas.

The Department appreciates WAPA's keeping the Department updated on this project and look forward to continued coordination on future projects. If you have any questions regarding this letter, please contact me at (928) 692-7000 Ext 2350. General status information, county and watershed distribution lists and abstracts for some special status species are also available on our web site at http://www.azgfd.gov/hdms.

Janice Stroud

Habitat Specialist- Region III

Arizona Game and Fish Department

5325 N. Stockton Hill Road

Kingman, Arizona 86409

Off. (928) 692-7700, EXT 2350

Cell (928) 279-3132

Fax (928) 692-1523

jstroud@azgfd.gov

If you want to learn ways to get connected to the outdoors, visit, Get Outside Arizona <http://www.azgfd.gov/h_f/getoutside.shtml>

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
5000 W. CAREFREE HIGHWAY
PHOENIX, AZ 85086-5000
(602) 942-3000 • WWW.AZGFD.GOV

April 23, 2009

Mr. John R. Holt
DOE – WAPA
Desert Southwest Customer Service Region
PO Box 6457
Phoenix, AZ 85005

Re: Special Status Species Information for **Davis-Kingman Tap 69kV Transmission Line Rebuild Project.**

Dear Mr. Holt:

The Arizona Game and Fish Department (Department) has reviewed your request, dated March 31, 2009, regarding special status species information associated with the above-referenced project. The Department's Heritage Data Management System (HDMS) has been accessed and current records show that the special status species listed on the attachment have been documented as occurring in the project vicinity[1].

The Department understands the proposed project activities would involve the removal of wooden poles and installation of steel monopoles. The Department offers the following general comments, based on the information provided:

- All transmission lines must be designed to prevent or minimize risk of electrocution of raptors.
- Use existing roads to minimize habitat alterations. When construction is complete, restore/revegetate all areas not needed for operation and maintenance of the transmission line.
- Survey for Gila monster, desert tortoise, and Western burrowing owl prior to project activities to ensure the species are not within the project area. Specific guidelines for desert tortoise and burrowing owls can be found at http://www.azgfd.gov/hgis/guidelines.aspx.
- Limit project activities during the lambing season (March-April) for the Arizona Desert Bighorn Sheep population in the Black Mountain area.
- Limit project activities during the breeding season for birds, generally May through late August, depending on species in the local area. Raptors breed in early February through May. Conduct avian surveys to determine bird species that may be utilizing the area and develop a plan to avoid disturbance during nesting season.

[1] The Department's HDMS data are not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity.

- Avoid removal of deadfall/snags since many wildlife species use snags for refuge.
- Avoid work near bridges with bats during maternity season, usually May through late August. If possible, complete work at night when the least amount of bats are roosting.
- Coordinate plant salvage efforts with the Arizona Department of Agriculture, in accordance with the Arizona Native Plant Law. In addition, the applicable land management agencies should be consulted regarding guidelines for revegetation efforts.
- Contact the Army Corp. of Engineers for Best Management Practices and guidelines for minimizing and mitigating impacts to riparian areas.

The Department appreciates WAPA's initiative to coordinate early with the Department to allow us to include measures to ensure conservation of wildlife and its habitat. The Department looks forward to continued coordination on future projects. If you have any questions regarding this letter, please contact me at (602) 789-3606. General status information, county and watershed distribution lists and abstracts for some special status species are also available on our web site at http://www.azgfd.gov/hdms.

Sincerely,

Ginger Ritter
Project Evaluation Specialist

Attachment

cc: Laura Canaca, Project Evaluation Program Supervisor
Trevor Buhr, Habitat Program Manager, Region III
Ammon Wilhelm, Wildlife Biologist, BLM, Kingman Field Office
Brian Wooldridge, Fish and Wildlife Biologist, USFWS, Flagstaff Ecological Services Office

AGFD #M09-04212419

Special Status Species within 3 Miles of Davis-Kingman Tap 69kV Transmission Line

NAME	COMMON NAME	ESA	USFS	BLM	STATE
Athene cunicularia hypugaea	Western Burrowing Owl	SC		S	
Bat Colony					
CH for Gila elegans	Designated Critical Habitat for bonytail				
CH for Xyrauchen texanus	Designated Critical Habitat for razorback sucker				
Charina trivirgata gracia	Desert Rosy Boa	SC	S	S	
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC			
Eumops perotis californicus	Greater Western Bonneted Bat	SC			
Gopherus agassizii (Sonoran Population)	Sonoran Desert Tortoise	SC			WSC
Heloderma suspectum cinctum	Banded Gila Monster	SC		S	
Hualapai - Cerbat Linkage Design	Wildlife Corridor				
Idionycteris phyllotis	Allen's Big-eared Bat	SC		S	
Macrotus californicus	California Leaf-nosed Bat	SC			WSC
Mount Perkins - Warm Springs Linkage Design	Wildlife Corridor				
Myotis thysanodes	Fringed Myotis	SC		S	
Myotis yumanensis	Yuma Myotis	SC			
Xyrauchen texanus	Razorback Sucker	LE	S		WSC

AGFD #M09-04212419. Proposed Transmission Line.

Arizona Game and Fish Department, Heritage Data Management System, April 23, 2009.
Project Evaluation Program.

From: "Lillian Moodey" <LMoodey@land.az.gov>
To: <holt@wapa.gov>
Date: 9/14/2010 10:09 AM
Subject: Public Scoping for the Davis-Kingman Tap 69-kV Transmission Line Rebuild

John, I would appreciate it if you would please forward a copy of the EA to me for review and comment when it becomes available.
Thank you!
Lillian

Lillian M. Moodey, Manager
Planning and Engineering Section
Arizona State Land Department
1616 W. Adams
Phoenix, AZ 85007
(602) 542-2643
lmoodey@land.az.gov
www.land.state.az.us

MAY 20 2010

Mr. Charles F. Wood
Chairman
Chemehuevi Indian Tribe
P.O. Box 1976
Havasu Lake, CA 92363

SUBJECT: Status of Davis-Kingman Tap 69-kV Transmission Line Rebuild Project, Mohave County, Arizona

Dear Mr. Wood:

Western Area Power Administration (Western) sent you a letter dated April 30, 2009, informing you of Western's proposed plan to rebuild the Davis-Kingman Tap 69-kV Transmission Line and to initiate consultation with interested Tribes. The transmission line originates at Davis Dam Switchyard and proceeds east over the Black Mountains, through Golden Valley, and over the Cerbat Mountains. The project ends northwest of Kingman (approximately 0.5 mile east of Coyote Pass) at the existing structure approximately 750 feet southwest of U.S. Highway 93. The total project length is approximately 27.3 miles. The line would be rebuilt in the same alignment as the existing line; existing wood H-frame structures and conductors would be removed and new hybrid concrete and galvanized steel H-frame structures, conductors, and overhead ground wire would be installed. Since it has been more than one year from our original contact, I am sending this letter to update you on the status of the project with respect to cultural resources.

In response to our letter of April 30, 2009, Western received written responses from Hualapai Nation, The Hopi Tribe, Yavapai-Prescott Indian Tribe, and Quechan Indian Tribe. Western is continuing Tribal consultation for this proposed project. We expect cultural resource surveys will begin in July this year. Steve Tromly or Lynn Almer will contact you regarding your interest in a site visit or participation in the surveys. Questions or comments about the project may be addressed to Mr. Tromly or Ms. Almer.

Mr. Steve Tromly
Native American Liaison
U.S. Department of Energy
Western Area Power Administration
P.O. Box 281213
Lakewood, CO 80228-8213
(720) 962-7256 (phone)
(720) 962-7269 (fax)
tromly@wapa.gov

Ms. Lynn Almer
Environmental Planner
U.S. Department of Energy
Western Area Power Administration
P.O. Box 281213
Lakewood, CO 80228-8213
(720) 962-7324 (phone)
(720) 962-7199 (fax)
almer@wapa.gov

A list of other Tribes and individuals receiving this letter is enclosed. If you are aware of any other Tribes, individuals, or tribally-affiliated organizations that should be consulted regarding this project, please let us know.

We look forward to hearing from you.

Sincerely,

John R. Holt

John R. Holt
Environmental Manager

Enclosure

cc:

Mr. Ruben Sanchez
Field Manager
Bureau of Land Management
Kingman Field Office
2755 Mission Boulevard
Kingman, AZ 85401
(w/copy of encl.)

Mr. Andy Whitefield
Environmental Protection Specialist
Bureau of Land Management
Kingman Field Office
2755 Mission Boulevard
Kingman, AZ 85401
(w/copy of encl.)

Mr. Tim Watkins
Archaeologist
Bureau of Land Management
Kingman Field Office
2755 Mission Boulevard
Kingman, AZ 85401
(w/copy of encl.)

Ms. Lorri Gray-Lee
Regional Director
Bureau of Reclamation
Lower Colorado Region Office
500 Fir Street
Boulder City, NV 89005-2403
(w/copy of encl.)

Mr. Gerald Hickman
Environmental Protection Specialist
Bureau of Reclamation
Lower Colorado Region Office
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(w/copy of encl.)

Mr. Mark C. Slaughter
Archaeologist
Bureau of Reclamation
Lower Colorado Region Office
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(w/copy of encl.)

Mr. William K. Dickinson
Superintendent
National Park Service
Lake Mead National Recreation Area
601 Nevada Way
Boulder City, NV 89005
(w/copy of encl.)

Mr. Michael Boyles
Environmental Compliance Specialist
National Park Service
Lake Mead National Recreation Area
601 Nevada Way
Boulder City, NV 89005
(w/copy of encl.)

Mr. Steve Daron
Archaeologist
National Park Service
Lake Mead National Recreation Area
601 Nevada Way
Boulder City, NV 89005
(w/copy of encl.)

COL Thomas H. Magness
District Commander
U.S. Army Corps of Engineers
Los Angeles District
915 Wilshire Boulevard, Suite 980
Los Angeles, CA 90017
(w/copy of encl.)

Mr. William H. Miller
Project Manager
U.S. Army Corps of Engineers
AZ-NV Office, Regulatory Division
3636 N. Central Avenue, Suite 900
Phoenix, AZ 85012-1977
(w/copy of encl.)

David Jacobs
Arizona State Historic Preservation Office
Arizona State Parks
1300 W. Washington Street
Phoenix, AZ 85007
(w/copy of encl.)

bcc:
George Miller
Project Manager
Transcon Infrastructure Incorporated
3740 East Southern Avenue, Suite 218
Mesa, AZ 85206

L. Almer, A7000.1, Lakewood, CO
S. Tromly, A7400, Lakewood, CO

G0400 (Holt)
G5640 (Ladewig)

Environment file copy (G0400)

FILE: 5440.04 DAVIS-KINGMAN TAP 69-KV TRANSMISSION LINE

A7000.1:L.Almer:mpa:x7324:5/19/10:R:\Status of Davis-Kingman Letter.doc

Davis-Kingman Tap 69-kV Transmission Line Rebuild Project
Mailing List

Mr. Charles F. Wood
Chairman
Chemehuevi Indian Tribe
P.O. Box 1976
Havasu Lake, CA 92363

Chairperson
NAGPRA Committee
Chemehuevi Indian Tribe
P.O. Box 1976
Havasu Lake, CA 92363

Ms. Sherry Cordova
Chairwoman
Cocopah Tribe
County 15th & Avenue G
Somerton, AZ 85350

Ms. Jill McCormick
Manager
Cultural Resources Cocopah Tribe
County 15th & Avenue G
Somerton., AZ 85350

Mr. Eldred Enas
Chairman
Colorado River Indian Tribe
26600 Mohave Road, Route 1 Box 23-B
Parker, AZ 85344

Mr. Michael Tsosie
Museum Director
Colorado River Indian Tribes
26600 Mohave Road, Route 1 Box 23-B
Parker, AZ 85344

Mr. Timothy Williams
Chairman
Fort Mojave Indian Tribe
500 Merriman Avenue
Needles, CA 92363

Ms. Linda Otero
Director of Aha Makav Cultural Society
Fort Mojave Indian Tribe
10225 South Harbor Avenue, Unit 7
Mohave Valley, AZ 86440

Mr. Leroy Ned Shingoitewa
Chairman
The Hopi Tribe
123 Main Street
Kykotsmovi, AZ 86039

Mr. Leigh Kuwanwisiwma
Director of Cultural Preservation
The Hopi Tribe
123 Main Street
Kykotsmovi, AZ 86039

Mr. Wilfred Whatoname Sr.
Chairperson
Hualapai Tribe
941 Hualapai Way
Peach Springs, AZ 86434

Ms. Loretta Jackson-Kelly
Tribal Historic Preservation Officer
Hualapai Tribe
878 West Route 66
Peach Springs, AZ 86434

Mr. Ernest Jones Sr.
President
Yavapai-Prescott Indian Tribe
530 East Merritt Street
Prescott, AZ 86301-2038

Ms. Linda Ogo
Director of Cultural Resource Program
Yavapai-Prescott Indian Tribe
530 East Merritt Street
Prescott, AZ 86301-2038

THE COCOPAH INDIAN TRIBE
Cultural Resource Department
County 15th & Avenue G
Somerton, Arizona 85350
Telephone (928) 627-2102
Fax (928) 627-3173

CCR-035-09-003

August 27, 2010

Mr. John Holt
U.S. Department of Energy
Western Area Power Administration
P.O. Box 6457
Phoenix, AZ 85006

RE: Public Scoping for the Davis-Kingman Tap 69-kV Transmission Line Rebuild Project, Mohave County, Arizona

Dear Mr. Holt:

The Cultural Resources Department of the Cocopah Indian Tribe appreciates your consultation efforts on this project. We are pleased that you contacted the Cocopah on this cultural resource issue for the purpose of solicitation of our input and to address our concerns on this matter. However, at this time we wish to make no comments on the development of the project. We defer the decision making process on the cultural resources to the most local tribe(s) and support their determinations on these issues. However, we would like to continue to be kept informed on the situation and be a part of the consultation process in the future.

If you have any questions or need additional information please feel free to contact the cultural resource department. We will be happy to assist you with any future concerns or questions.

Sincerely,

H. Jill McCormick

Cultural Resource Manager

HUALAPAI NATION

Department of Cultural Resources
P.O. Box 310
Peach Springs, AZ 86434
(928) 769-2223/2234 fax: 769-2235

May 18, 2009

E-MAIL TRANSMITTAL

Ms. Alison Jarrett
Environmental Planner
U.S. Department of Energy
Western Area Power Administration
P.O. Box 6457
Phoenix, AZ 85005-6457

Dear Ms Jarrett,

Thank you for your letter of April 30, 2009 requesting consultation with the Hualapai Tribe concerning the Davis-Kingman Tap 69-kV Transmission Line Rebuild Project in Mohave County, Arizona. We would like to discuss with Western the possibility of conducting an ethnohistoric study of Hualapai associations with the transmission line corridor and surrounding environs. The entire length of the project area has historically been part of traditional Hualapai territory or has held significance in Hualapai History. It was home to several Hualapai lineages and bands. Springs in the Black Mountains and Kingman area are particularly important places, and were central to general occupation of the surrounding areas. Travel routes and interaction with the Mojave and other neighboring tribes are also significant themes, as is the period of conflict with the U.S. Army during the middle to late 19th Century. The transmission line corridor passes through areas that are directly relevant to each of these themes. Please let us know if such a study is feasible.

For your consideration in the future, the Hualapai Tribe Department of Cultural Resources would also like to be apprised of upcoming inventory projects that lie within Hualapai ancestral territory, and would like to be considered as a prospective contracting organization. We believe we can provide a more holistic approach to these inventories by considering tribal perspectives on archaeological sites, cultural landscapes, and TCPs earlier in the Section 106 process than normally occurs, while meeting or exceeding professional standards and guidelines in completing the work.

In response to your query about our participation in the Davis-Kingman Tap archaeological inventory, our staff is currently preoccupied in the near term, but if you could provide us with specific dates for fieldwork, perhaps we could be involved for part of the inventory. We would be particularly interested in those sections of transmission line that traverse the Black Mountains east of Davis Dam and the Cerbat Mountains north of Kingman.

Again, thank you for contacting us. If you have any questions or comments, please feel free to contact me at (928) 769-2223 or Peter Bungart at (928) 213-0984.

Sincerely,

Loretta Jackson-Kelly

Loretta Jackson-Kelly
Director/Tribal Historic Preservation Officer

Cc: Steve Tromly, Native American Liason
Peter Bungart, Hualapai Consultant, Circa Cultural Consulting

THE HOPI TRIBE

LeRoy N. Shingoitewa
CHAIRMAN

Herman G. Honanie
VICE-CHAIRMAN

August 30, 2010

John R. Holt, Environmental Manager
Department of Energy, Western Area Power Administration
P.O. Box 6457
Phoenix, Arizona 85005-6457

Dear Mr. Holt,

This letter is in response to your correspondence dated August 19, 2010, regarding the Davis-Kingman Tap 69-kV Transmission Line Rebuild Project. Because the Hopi Tribe claims cultural affiliation to prehistoric cultural groups in Arizona, and the Hopi Cultural Preservation Office supports the identification and avoidance of prehistoric archaeological sites and we consider the prehistoric archaeological sites of our ancestors to be Traditional Cultural Properties. Therefore, we appreciate Western Area Power Administration's continuing solicitation of our input and your efforts to address our concerns.

The Hopi Cultural Preservation Office previously received your correspondences on this project dated July 29, 2010, to the State Historic Preservation Office regarding geotechnical borings, May 20, 2010, regarding a status report, and April 30, 2009, regarding initiating consultation. We have also received the July 2010 Background Research Summary Report. We responded to your April 30, 2009, letter and hereby reiterate that we are interested in consulting on any proposal that has the potential to adversely affect National Register eligible prehistoric sites in Arizona.

To assist us in determining if it may adversely affect cultural resources significant to the Hopi Tribe, if prehistoric sites are identified that may be adversely affected by project activities, please provide us with copies of the cultural resources survey of the area of potential effect and any proposed treatment plans for review and comment. If you have any questions or need additional information, please contact Terry Morgart at the Hopi Cultural Preservation Office at 928-734-3619 or tmorgart@hopi.nsn.us. Thank you for your consideration.

Respectfully,

Leigh J. Kuwanwisiwma, Director
Hopi Cultural Preservation Office

xc: Arizona State Historic Preservation Office

THE HOPI TRIBE

CHAIRMAN

VICE-CHAIRMAN

DSW REGIONAL OFFICE
OFFICIAL FILE COPY

Date	Initial	Code
	MAY 2009	
5/15/09		Goooodve

May 8, 2009

Darrick Moe, Regional Manager
Attention: Allison Jarrett, Environmental Planner
Department of Energy, Western Area Power Administration, Desert Southwest Region
P.O. Box 6457
Phoenix, Arizona 85005-6457

Re: Davis-Kingman Tap 69kV Transmission Line Rebuild Project

Dear Mr. Moe,

Thank you for your correspondence dated April 30, 2009, regarding the 27.3 mile Davis-Kingman Tap 69kV Transmission Line Rebuild Project in Mohave County, Arizona. Because the Hopi Tribe claims ancestral and cultural affiliation to prehistoric cultural groups in Arizona we appreciate Western's continuing solicitation of our input and your efforts to address our concerns.

The Hopi Cultural Preservation Office supports the identification and avoidance of prehistoric archaeological sites and Traditional Cultural Properties, and we consider the archaeological sites of our ancestors to be Traditional Cultural Properties. Therefore, we look forward to receiving a copy of the cultural resources survey of the area of potential effect for review and comment. If prehistoric cultural resources are identified that will be adversely affected by project activities, we will also request consultation on any proposed treatment plans.

If you have any questions or need additional information, please contact Terry Morgart at the Hopi Cultural Preservation Office. Thank you again for your consideration.

Respectfully,

Leigh J. Kuwanwisiwma, Director
Hopi Cultural Preservation Office

xc: Arizona State Historic Preservation Office

P.O. BOX 123 KYKOTSMOVI, AZ 86039 (928) 734-3000

QUECHAN INDIAN TRIBE
Ft. Yuma Indian Reservation

P.O. Box 1899
Yuma, Arizona 85366-1899
Phone (760) 572-0213
Fax (760) 572-2102

May 4, 2009

Department of Energy
Western Area Power Administration
Mr. Steve Tromly
PO Box 281213
Lakewood, CO 80228-8213

Dear Mr. Tromly,

Thank you for notifying us of the proposed Davis-Kingman Tap 69-kV Transmission Line Rebuild Project, Mohave County, Arizona.

We have reviewed the area in which the project is to take place and have determined that there is no potential for impacts to cultural resources affiliated with the Tribe.

Again, we thank you for your notification. If you need any further information or have any questions, please contact me at (760) 572-2423.

Sincerely,

Bridget R. Nash-Chrabascz
Historic Preservation Officer

Department of Energy
Western Area Power Administration
Desert Southwest Customer Service Region
P.O. Box 6457
Phoenix, AZ 85005-6457

APR 30 2009

Mr. Greg Glassco
Director Cultural Resource Program
Yavapai-Prescott Indian Tribe
530 East Merritt Street
Prescott, AZ 86301-2038

SUBJECT: Davis-Kingman Tap 69-kV Transmission Line Rebuild Project, Mohave County, Arizona

Dear Mr. Glassco:

The Western Area Power Administration (Western), a power-marketing agency within the U.S. Department of Energy, is proposing to rebuild our Davis-Kingman Tap 69-kV Transmission Line. The rebuild involves the removal of the existing 69-kV wooden H-frame structures and conductors; and the installation of new 69-kV steel monopole structures, conductors and overhead ground wire. The line was constructed in 1947 and has been in service well beyond its projected service life. The customers' load on the line has increased considerably over the years and reliability has decreased due to natural aging, extreme weather exposure, vandalism, and lightning strikes. The transmission line is approximately 27.3 miles long and begins at Western's Davis 69-kV Switchyard located southeast of Davis Dam. The line runs east over the mountains through Golden Valley and terminates just southwest of Kingman, Arizona at Mohave Electric Corporation's Kingman Tap (enclosure).

As the lead Federal agency for this project, Western is initiating consultation with interested Tribes. Additionally, Western will be the lead agency for the National Environmental Policy Act (NEPA); the Endangered Species Act, Section 7 consultation requirements (if required) with the U.S. Fish and Wildlife Service; as well as the National Historic Preservation Act, Section 106 consultations with the Arizona State Historic Preservation Office and other interested parties. Western currently is reviewing this project under NEPA and anticipates we will be completing an Environmental Assessment (EA). Please let us know if you would like to receive a copy of the Draft EA for review and comment, when available.

As part of the EA, Western will begin the cultural resource survey of the project area within the next month, after which we will develop a cultural resource inventory report. Please let us know by June 1, 2009, if you would like to participate in the survey for cultural resources. Also, please let us know if you would like to receive a copy of the report for review and comment.

Western proposes to conduct geotechnical borings for the distribution line. This work may be conducted in advance of survey and the completion of the cultural resource inventory report. This preliminary action is needed to gather geological information for engineering design. Soil borings are usually conducted at the location of angle transmission line structures; along the transmission line corridor approximately every mile; or whenever there is significant topographic or geologic change. We expect that the bore holes will measure approximately 3-8 inches in diameter and be approximately 25 feet deep or shallower. Archaeological monitors would be present with geotechnical boring crews for all access and boring activities.

Cultural resources are among the various environmental resources being considered during the planning of this project. At this time, we would appreciate receiving any information that you would be willing to share with us on any unique, special, ethnographic, or archaeological resources or areas in or near the proposed project that are of interest to your Tribe. If you are aware of any other Tribes, individuals, or tribally-affiliated organizations that should be consulted regarding this project, please let us know. A listing of other Tribes and individuals receiving this letter is enclosed.

You may address any comments, regarding the project to either of the individuals below.

Mr. Steve Tromly
Native American Liaison
U.S. Department of Energy
Western Area Power Administration
P.O. Box 281213
Lakewood, CO 80228-8213
--or--
12155 West Alameda Parkway
Lakewood, CO 80228
(720) 962-7256 phone
(720) 962-7269 fax
tromly@wapa.gov

Ms. Alison Jarrett
Environmental Planner
U.S. Department of Energy
Western Area Power Administration
P.O. Box 6457
Phoenix, AZ 85005-6457
--or--
615 South 43rd Avenue
Phoenix, AZ 85009
(602) 605-2434 phone
(602) 605-2630 fax
jarrett@wapa.gov

We look forward to hearing from you.

Sincerely,

Darrick Moe
Regional Manager

Enclosures

cc:

Mr. Ruben Sanchez
Field Manager
Bureau of Land Management
Kingman Field Office
2755 Mission Boulevard
Kingman, AZ 85401
(w/cy of encls.)

Mr. Craig Johnson
Archaeologist
Bureau of Land Management
Kingman Field Office
2755 Mission Boulevard
Kingman, AZ 85401
(w/cy of encls.)

Mr. Gerald Hickman
Environmental Protection Specialist
Bureau of Reclamation
Lower Colorado Region Office
500 Fir Street
Boulder City, NV 89005-2403
(w/cy of encls.)

Mr. William K. Dickinson
Superintendent
National Park Service
Lake Mead National Recreation Area
601 Nevada Way
Boulder City, NV 89005
(w/cy of encls.)

Mr. Steve Daron
Archaeologist
National Park Service
Lake Mead National Recreation Area
601 Nevada Way
Boulder City, NV 89005
(w/cy of encls.)

Mr. Andy Whitefield
Environmental Protection Specialist
Bureau of Land Management
Kingman Field Office
2755 Mission Boulevard
Kingman, AZ 85401
(w/cy of encls.)

Ms. Lorri Gray-Lee
Regional Director
Bureau of Reclamation
Lower Colorado Region Office
500 Fir Street
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(w/cy of encls.)

Ms. Pat Hicks
Regional Archaeologist
Bureau of Reclamation
Lower Colorado Region Office
500 Fir Street
Boulder City, NV 89005-2403
(w/cy of encls.)

Mr. Michael Boyles
Environmental Compliance Specialist
National Park Service
Lake Mead National Recreation Area
601 Nevada Way
Boulder City, NV 89005
(w/cy of encls.)

COL Thomas H. Magness
District Commander
U.S. Army Corps of Engineers
Los Angeles District
915 Wilshire Boulevard, Suite 980
Los Angeles, CA 90017
(w/cy of encls.)

Ms. Marjorie E. Blaine
Senior Project Manager/Biologist
U.S. Army Corps of Engineers
Tucson Project Office
Regulatory Division
5205 East Comanche Street
Tucson, AZ 85707
(w/cy of encls.)

bcc:
Mr. George Miller
Project Manager
Transcon Infrastructure Incorporated
3740 East Southern Avenue, Suite #218
Mesa, AZ 85206

S. Tromly, A7400, Lakewood, CO

G0400 (Holt)
G0440 (Jarrett)
G5634 (McEndree)
G5635 (Lyles)
(w/cy of encls.)

FILE: 5440.04 DAVIS-KINGMAN TAP 69-KV TRANSMISSION LINE

From: "Sandy Bahr" <sandy.bahr@sierraclub.org>
To: <holt@wapa.gov>
Date: 9/23/2010 12:25 PM
Attachments: Davis-Kingman tap line comments (2).doc

Sandy Bahr

Chapter Director

Sierra Club - Grand Canyon Chapter

202 E. McDowell Rd, Suite 277

Phoenix, AZ 85004

Phone (602) 253-8633

Fax (602) 258-6533

sandy.bahr@sierraclub.org

arizona.sierraclub.org

We're on <http://www.facebook.com/#/group.php?gid=90620887409&ref=ts> Facebook.

Do something wikied! Check out our Canyon Echo wiki.

SIERRA CLUB
FOUNDED 1892

Grand Canyon Chapter • 202 E. McDowell Rd, Ste 277 • Phoenix, AZ 85004
Phone: (602) 253-8633 Fax: (602) 258-6533 Email: grand.canyon.chapter@sierraclub.org

September 22, 2010

John Holt
Western Area Power Administration, Desert Southwest Region
PO Box 6457, 615 S. 43rd Ave.
Phoenix, AZ 85009
Submitted via email to holt@wapa.gov

Dear Mr. Holt:

Thank you for the opportunity to provide scoping comments on the proposed Davis-Kingman Tap 69-kV Transmission Line. Please accept these comments on behalf of the Sierra Club's Grand Canyon Chapter and our 12,000 members in Arizona.

The Sierra Club's purpose is "to explore, enjoy, and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; and to educate and enlist humanity to protect and restore the quality of the natural and human environments." Our members have significant interest in areas this transmission line passes through as they use and enjoy the lands for hiking, wildlife viewing, and more.

The original transmission line was constructed in 1950. Much has changed in the last 60 years. Even though the rebuild will occur along the same alignment as the existing line, a full environmental review of all resources in the affected environment must be completed. Many of the areas through which this line passes are relatively undisturbed, yet this project has a high probability of affecting environmental resources in these areas.

When planning to rebuild the existing transmission line, the Western Area Power Administration must seek to avoid or minimize impacts to wildlife, wildlife habitat, soils, water resources, and other environmental characteristics. Ground disturbance from removing and installing new structures, as well as from constructing and improving roads, has the potential to significantly affect each of these. The different structures themselves may also affect some of these resources, such as wildlife flyways and the viewshed. We are also concerned about the spread of invasive plant species as a result of this project. The Environmental Assessment must address how spread of noxious weeds will be avoided, as well as how potential impacts to other resources will be avoided or mitigated.

We appreciate being involved in this process and for the opportunity to comment. Please keep us informed as the process moves forward and send a copy of the Environmental Assessment to our office when it is available for review.

Sincerely,

Sandy Bahr
Conservation Outreach Director
Sierra Club – Grand Canyon Chapter

Tiffany Sprague
Chapter Coordinator
Sierra Club – Grand Canyon Chapter

From: <MGibelyou@uesaz.com>
To: <holt@wapa.gov>
CC: <RCraven@UesAz.com>
Date: 9/22/2010 8:52 AM
Subject: David-Kingman 69kV line rebuild
Attachments: WAPA comment letter--Kingman-Davis line rebuild_092210.PDF

Mr. Holt, please find attached a comment letter regarding the proposed rebuild. The original is in the mail. If you have any questions regarding these comments please let me know. Thank you.

Michael L. Gibelyou, SR/WA
Right of Way Agent II
UNS Electric, Inc.
PO Box 3099
Kingman AZ 86402-3099
(928) 681-8923 office
(928) 681-8915 fax
(520) 545-1438 Right Fax

2498 Airway Avenue
P.O. Box 3099
Kingman, Arizona 86402-3099
928.681.8913

UniSourceEnergy
SERVICES

September 21, 2010

Mr. John Holt, Env. Manager
Western Area Power Administration
PO Box 6457
Phoenix AZ 85006

Dear Mr. Holt:

RE: Davis-Kingman Tap 69kV line Rebuild

Thank you for the opportunity to review and comment on this project. As you may know UNS Electric, Inc. [UNSE] receives 69kV service from this line in the Bullhead City area at our Warm Springs Substation and at the east terminus. UNSE needs to have continuous 69kV service at our Warm Springs Substation during this rebuild, to ensure service to our distribution customers. served from Warm Springs Substation.

In regards to the east terminus of this line. UNSE would like to see the terminus point moved to the northwest closer to the UNSE Coyote Breaker. UNSE has been involved in some planned redesign of our own 69kV lines near the east terminus and possible removal of our line on the south side of Highway 93 in the Cerbat Recreation area. If the east terminus moves to the northwest in the direction of our isolation breaker site we can plan our line removal a few spans closer to our breaker site. This will enhance the visual appearance of the Cerbat Recreation Area for travelers along Highway 93.

UNSE has a number of crossings in Golden Valley that need consideration during the rebuild. If you have any questions or need more information regarding these comments please call me at (928) 681-8923. My other contact information is on the enclosed business card.

Sincerely,

Michael L. Gibelyou, SR/WA
Right-of-Way Agent II

cc: Resal Craven, Engineering Manager

2498 Airway Avenue
P.O. Box 3099
Kingman, Arizona 86402-3099
928.681.8913

UniSourceEnergy
SERVICES

September 21, 2010

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Western Area Power Administration
PO Box 6457
Phoenix AZ 85006

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Sincerely,

Michael L. Gibelyou, SR/WA
Right-of-Way Agent II

cc: Resal Craven, Engineering Manager

We need your ideas!

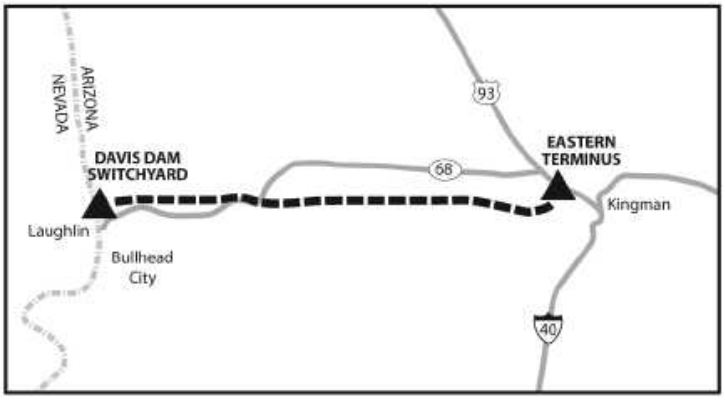
Western Area Power Administration is proposing to rebuild the Davis-Kingman Tap 69-kV transmission line from Davis Dam to northwest of Kingman, Ariz. Western is preparing an environmental assessment for the proposed project and needs your help in identifying any environmental issues or concerns.

Your comments will be most useful if received by Sept. 22, 2010.

For more information on the project, to submit comments or to receive a copy of the draft environmental assessment when completed in early 2011, contact:

John Holt
Western Area Power Administration
Desert Southwest Region
P.O. Box 6457
Phoenix, AZ 85009
E-mail: holt@wapa.gov
Fax: 602-605-2630

Western
AREA POWER
ADMINISTRATION



Department of Energy
Western Area Power Administration
Desert Southwest Customer Service Region
P.O. Box 6457
Phoenix, AZ 85005-6457

May 3, 2010

Chicago Title Inc. Tr 2055
3640 Hwy 95 Ste 140
Bullhead City, AZ 86442

Dear Landowner:

The Department of Energy, Western Area Power Administration (Western), owns and operates the Davis-Kingman Tap 69-kV Transmission Line which runs from Davis Dam to a location near Kingman, Arizona.

Western plans to rebuild this transmission line using the same alignment and the same Western-owned right-of-way. This project involves the removal of the existing wood pole H-frame structures and conductors along the alignment. Generally, new hybrid concrete, galvanized steel H-frame structures, and new conductors will be installed. The county records indicate that you own land which will be involved in the proposed construction activity (Assessor's Number 348-16-028).

During the next year, as part of developing this project, Western's personnel and contracted consultants will be periodically conducting field surveys within the designated right-of-way along the transmission line, as well as along access roads to the lines. Therefore, Western will require that access to the transmission lines and structures be unimpeded.

Western's contractor, Transcon, will conduct biological, cultural, and water resource surveys along the existing transmission line. These surveys are being conducted on Western's behalf, in order to establish a baseline and identify sensitive resources along the transmission line. These baselines will be used for evaluation, and will be incorporated into future maintenance and operation activities. Transcon is currently scheduled to commence the field surveys in May and June, and may continue throughout the summer.

Should you have any questions concerning Western's transmission line easement across your property, or the surveys, please contact either Bruce Ladewig, Project Manager, at (602) 605-2477, or myself at (602) 605-2580,

Sincerely,

Jessica Herndon
Realty Specialist

NEWSLETTER

Western AREA POWER ADMINISTRATION

DAVIS-KINGMAN TAP 69-KV TRANSMISSION LINE REBUILD PROJECT

Western Area Power Administration (Western), a power-marketing agency within the U.S. Department of Energy, is proposing to rebuild the Davis-Kingman Tap 69-kV Transmission Line. The transmission line was constructed in 1950 and has been in service well beyond its projected service life. The customers' load on the line has increased considerably over the years, and reliability of the line has decreased due to natural aging, extreme weather exposure, vandalism, and lightning strikes. The transmission line originates at Western's Davis Dam Switchyard and proceeds east over the Black Mountains, through Golden Valley, and over the Cerbat Mountains. The project ends northwest of Kingman (approximately 0.5 mile east of Coyote Pass) at an existing structure approximately 750 feet southwest of U.S. Highway 93 (see map on reverse page). In total, the transmission line extends for a distance of about 27.3 miles.

PROPOSED ACTION

The transmission line would be rebuilt on the same alignment as the existing line. Western is proposing to remove the existing wood-pole, H-frame structures and conductors and install new hybrid concrete and galvanized steel H-frame structures, new conductors, and two overhead ground wires. In some instances, three-pole galvanized steel structures would be used instead of H-frame structures. In other instances, monopole steel structures would be used. Ground disturbance may result from grading areas for structure removal and placement, constructing new roads, improving existing roads for vehicle and equipment access, and from installing structures, conductors, and overhead ground wires. Project construction activities and new access along the transmission line would be conducted within permanent right of way and temporary-use permit areas. The majority of the transmission line alignment is located on land administered by the Bureau of Land Management, Kingman Field Office, and private lands, although the line also crosses lands administered by the National Park Service (Lake Mead National Recreation Area), Bureau of Reclamation, and Arizona State Land Department.

WESTERN NEEDS YOUR HELP TO ADDRESS ENVIRONMENTAL IMPACTS

Western, as project proponent, is the lead Federal agency responsible for compliance with the National Environmental Policy Act (NEPA), and plans to prepare an environmental assessment (EA) for the proposed Davis-Kingman Tap 69-kV Transmission Line Rebuild Project. The Bureau of Land Management and the Bureau of Reclamation will be cooperating agencies. The EA will evaluate the Proposed Action and the No Action Alternative. While the No Action Alternative would require no new construction, maintenance and operation of the existing transmission line would continue.

Public involvement is an important and integral part of Western's NEPA process. During the initial phase of public involvement, or scoping, your comments will help us identify potential environmental issues, alternatives, and mitigation measures associated with the proposed project. Your comments will also help narrow the scope of issues so the analysis of environmental impacts can focus on areas of high interest and concern.

Comments will be most useful if received by **September 22, 2010**. Provide us your input by returning the response sheet or sending your comments to John Holt, Western Area Power Administration, Desert Southwest Region, P.O. Box 6457, 615 S. 43rd Avenue, Phoenix, Arizona 85009; e-mail: holt@wapa.gov, or fax (602) 605-2630.

Let us know if you would like to receive a copy of the draft EA for review. Western expects to distribute the draft EA in early 2011, followed by a comment period. The EA will be used to support Western's decision on whether or not an environmental impact statement will be required for the proposed project.

NEWSLETTER

Western AREA POWER ADMINISTRATION

DAVIS-KINGMAN TAP 69-KV TRANSMISSION LINE REBUILD PROJECT

We need your ideas by September 22, 2010

Your comments will help us define issues and alternatives for evaluation of the environmental impacts of the proposed project. If you have any issues, concerns or questions that you would like addressed in the Davis-Kingman Tap 69-kV Transmission Line Rebuild Project Environmental Assessment, please complete this response form and return it to us. Additional pages for comments may be added if the space provided is not sufficient. Please provide your comments by September 22, 2010.

To have your name added or removed from our mailing list for this project, please check the appropriate box at the bottom of this form. Also, please let us know if you would like to receive a copy of the draft Environmental Assessment when it becomes available.

Please return this response form, or your own written correspondence to:
John Holt
Western Area Power Administration, Desert Southwest Region
P.O. Box 6457, 615 S. 43rd Avenue
Phoenix, Arizona 85009
or fax them to John Holt at (602) 605-2630

Last Name: First Name:

Organization (if applicable) :

Mailing Address:

City, State, Zip:

E-mail Address (optional): Phone (optional):

Comments:

☐ Yes, add my name to the mailing list to recevie future information.

☐ No, please remove my name from your mailing list.

☐ Send me a copy of the draft Environmental Assessment when it becomes available for review.

United States Department of the Interior

BUREAU OF RECLAMATION
Lower Colorado Regional Office
P.O. Box 61470
Boulder City, NV 89006-1470

IN REPLY REFER TO:
LC-2620
ENV-6.00

APR 21 2011

Mr. John Holt
Western Area Power Administration
P.O. Box 6457
Phoenix, AZ 85006

Subject: Bureau of Reclamation Comments on March 25, 2011, Additional Project Scoping for the Davis-Kingman Tap 69-kV Transmission Line Rebuild Project Environmental Assessment (Project)

Dear Mr. Holt:

Thank you for the opportunity to review the design changes for the proposed rebuild of the Project. We understand from the letter that "weathered" monopole structures are now proposed rather than concrete and galvanized steel H-frame structures. Reclamation does not have any concerns with the proposed design change and would be agreeable to the use of weathered monopole structures on Reclamation land if the Project is approved. We have coordinated the review of the Project with our Lower Colorado Dams and Power Management Offices.

Please contact Ms. Faye Streier, National Environmental Policy Act Coordinator, Environmental Compliance Group at fstreier@usbr.gov or 702-293-8132, if you have questions regarding these comments.

Sincerely,

William J. Liebhauser, Chief
Resources Management Office

THE COCOPAH INDIAN TRIBE
Cultural Resource Department
14515 S Veterans Dr.
Somerton, Arizona 85350
Telephone (928) 627-4849
Fax (928) 627-3173

CCR-035-09-003

April 5, 2011

Western Area Power Administration
P.O. Box 6457
Phoenix, AZ 85006
Attn.: John Holt

RE: Additional Project scoping for the Davis-Kingman Tap 69-kV Transmission Line Rebuild Project Environmental Assessment

Dear: Mr. Holt

The Cocopah Indian Tribe appreciates your consultation efforts on this project. We are pleased that you contacted the Cocopah on this cultural resource issue for the purpose of solicitation of our input and to address our concerns on this matter. However, at this time we wish to make no comments on the development of the project.

If you have any questions or need additional information please feel free to contact the cultural resource department. We will be happy to assist you with any future concerns or questions.

Sincerely,

H. Jill McCormick, M.A.

Cultural Resource Manager

APPENDIX B

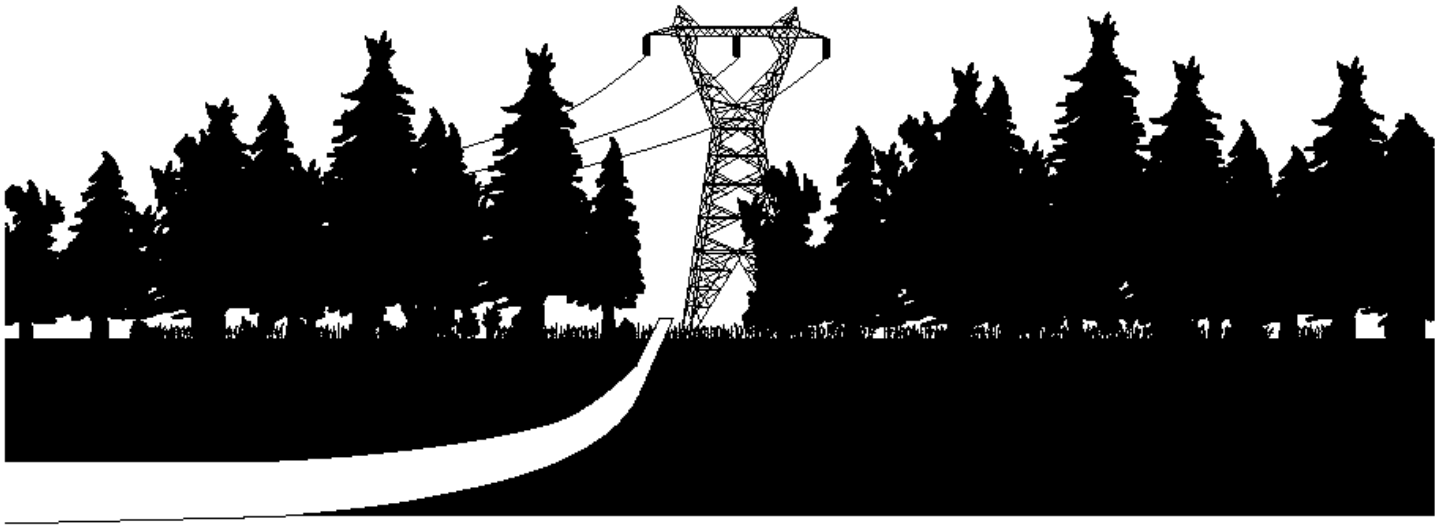
WESTERN'S CONSTRUCTION STANDARDS 13 ENVIRONMENTAL QUALITY PROTECTION; AND STANDARD MITIGATION MEASURES FOR CONSTRUCTION, OPERATION, AND MAINTENANCE OF TRANSMISSION LINES

Western
AREA POWER
ADMINISTRATION

CONSTRUCTION STANDARDS

STANDARD 13

ENVIRONMENTAL QUALITY PROTECTION



July 2009

SAFETY
A HABIT TO LIVE BY

STANDARD 13 - ENVIRONMENTAL QUALITY PROTECTION

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STANDARD 13 - ENVIRONMENTAL QUALITY PROTECTION

SECTION 13.1--CONTRACTOR FURNISHED DATA

1. RECYCLED MATERIALS QUANTITY REPORT: Submit quantities of recycled materials listed in Section 13.6, "Recycled Materials Quantities", to the COR prior to submittal of final invoice.

2. RECOVERED AND BIOBASED MATERIAL PRODUCTS REPORT: Provide the COR the following information for purchases of items listed in Section 13.7, "Use of Recovered and Biobased Material Products".

   (1) Quantity and cost of listed items with recovered or biobased material content and quantity and cost of listed items without recovered or biobased material content prior to submittal of final invoice.

   (2) Written justification of listed items if recovered material or biobased material products are not available: 1) competitively within a reasonable time frame; 2) meeting reasonable performance standards as defined in the Standards or Project Specifications; or 3) at a reasonable price.

3. RECLAIMED REFRIGERANT RECEIPT: A receipt from the reclaimer stating that the refrigerant was reclaimed, the amount and type of refrigerant, and the date shall be submitted to the COR prior to submittal of final invoice in accordance with Section 13.8.5, “Refrigerants and Receipts”.

4. WASTE MATERIAL QUANTITY REPORT: Submit quantities of total project waste material disposal as listed below to the COR prior to submittal of final invoice in accordance with Section 13.8.8, “Waste Material Quantity Report”.

   (1) Unregulated Wastes (i.e., trash): Volume in cubic yards or weight in pounds.

   (2) Hazardous or Universal Wastes: Weight in pounds.

   (3) PCB Wastes: Weight in pounds.

   (4) Other regulated wastes (e.g., lead-based paint or asbestos): Weight in pounds (specify type of waste in report).

5. SPILL PREVENTION NOTIFICATION AND CLEANUP PLAN (Plan): Submit the Plan as described in Section 13.10.2, "Spill Prevention Notification and Cleanup Plan”, to the COR for review and comment 14 days prior to start of work. Review of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations.

6. TANKER OIL SPILL PREVENTION AND RESPONSE PLAN: Submit the Plan as described in Section 13.10.3, "Tanker Oil Spill Prevention and Response Plan”, to the COR for review and comment 14 days prior to start of work. Review of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations.

7. PESTICIDE USE PLAN: Submit a plan as described in Section 13.11.3, “Pesticide Use Plan”, to the COR for review and comment 14 days prior to the date of intended pesticide application. Review of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations. Within seven days after application, submit a written report in accordance with Standard 2 – Sitework, Section 2.1.1_5, “Soil-Applied Herbicide”.

8. TREATED WOOD UTILITY POLES AND CROSSARMS RECYCLING - CONSUMER INFORMATION SHEET RECEIPT: Submit treated wood utility poles and crossarms - consumer information sheet receipts to the COR prior to submittal of final invoice (see 13.12, "Treated Wood Utility Poles and Crossarms Recycling or Disposal").

9. PREVENTION OF AIR POLLUTION: Submit a copy of permits, if required, as described in 13.13, "Prevention of Air Pollution" to the COR 14 days prior to the start of work.

10. ASBESTOS LICENSES OR CERTIFICATIONS: Submit a copy of licenses, certifications, Demolition and Renovation Notifications and Permits for asbestos work as described in 13.14, "Handling and Management of Asbestos Containing Material" to the COR 14 days prior to work. Submit copies of certificates of disposal and/or receipts for waste to the COR prior to submittal of final invoice.

11. LEAD PAINT NOTICES: Submit a copy of lead paint notices with contractor and recipient signatures as described in 13.15, "Material with Lead-based Paint" to the COR prior to submittal of final invoice. Submit copies of certificates of disposal and/or receipts for waste to the COR prior to submittal of final invoice.

12. WATER POLLUTION PERMITS: Submit copies of any water pollution permits as described in 13.16, "Prevention of Water Pollution" to the COR 14 days prior to start of work.

13. PCB TEST REPORT: Submit a PCB test report as described in 13.17, "Testing, Draining, Removal, and Disposal of Oil-filled Electrical Equipment", prior to draining, removal, or disposal of oil or oil-filled equipment that is designated for disposal.

14. OIL AND OIL-FILLED ELECTRICAL EQUIPMENT RECEIPT: Obtain and submit a receipt for oil and oil-filled equipment transported and disposed, recycled, or reprocessed as described in 13.17, "Testing, Draining, Removal, and Disposal of Oil-filled Electrical Equipment", to the COR prior to submittal of final invoice.

15. OSHA PCB TRAINING RECORDS: Submit employee training documentation records to the COR 14 days prior to the start of work as described in 13.18.1.

16. CLEANUP WORK MANAGEMENT PLAN: Submit a Cleanup Work Management Plan as described in 13.18, "Removal of Oil-contaminated Material" to the COR for review and comment 14 days prior to the start of work. Review of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations.

17. POST CLEANUP REPORT: Submit a Post-Cleanup Report as described in 13.18, "Removal of Oil-contaminated Material" to the COR prior to submittal of final invoice.

SECTION 13.2--ENVIRONMENTAL REQUIREMENTS

Comply with Federal, State, and local environmental laws and regulations. The sections in this Standard further specify the requirements.

SECTION 13.3--LANDSCAPE PRESERVATION

1. GENERAL: Preserve landscape features in accordance with the contract clause titled "Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements."

2. CONSTRUCTION ROADS: Location, alignment, and grade of construction roads shall be subject to the COR's approval. When no longer required, surfaces of construction roads shall be scarified to

facilitate natural revegetation, provide for proper drainage, and prevent erosion. If re-vegetation is required, use seed mixtures as recommended by Natural Resources Conservation Service or other land managing agency as appropriate.

3. CONSTRUCTION FACILITIES: Shop, office, and yard areas shall be located and arranged in a manner to preserve trees and vegetation to the maximum practicable extent and prevent impact on sensitive riparian areas and flood plains. Storage and construction buildings, including concrete footings and slabs, shall be removed from the site prior to contract completion. The area shall be re-graded as required so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate natural revegetation, provide for proper drainage, and prevent erosion or transport of sediment and pollutants. If re-vegetation is required, use seed mixtures as recommended by Natural Resources Conservation Service or other land managing agency as appropriate.

SECTION 13.4--PRESERVATION OF CULTURAL AND PALEONTOLOGICAL RESOURCES

1. GENERAL: Do not remove or alter cultural artifacts or paleontological resources (fossils). Cultural artifacts may be of scientific or cultural importance and includes, but is not limited to bones, pottery, glass, projectile points (arrowheads), other stone or metal tools, historic buildings, and features. Paleontological resources can be of scientific importance and include mineralized animals and plants or trace fossils such as footprints. Both cultural and paleontological resources are protected by Federal Regulations during Federal construction projects. Contractor shall restrict all ground disturbing activities to areas that have been surveyed by Western for cultural or paleontological resources and as specified in accordance with Standard 1 – General Requirements, Sections 1.3.1 Rights-of-way and 1.3.2 Access to the Work and Haul Routes.

2. KNOWN CULTURAL OR PALEONTOLOGICAL SITES: Following issuance of notice to proceed, Western will provide drawings or maps showing sensitive areas located on or immediately adjacent to the transmission line right-of-way and/or facility. These areas shall be considered avoidance areas. Prior to any construction activity, the avoidance areas shall be marked on the ground in a manner approved by the COR. Instruct employees, subcontractors, and others that vehicular or equipment access to these areas is prohibited. If access is absolutely necessary, first obtain approval from the COR. Western will remove the markings during or following final cleanup. For some project work, Western will require an archaeological, paleontological or tribal monitor at or near cultural or paleontological site locations. The contractor, contractor's employees, and subcontractors shall work with the monitor to insure that sensitive areas are avoided. Where monitors are required, the monitor shall meet with the crew each morning to go over the day's work. The monitor will also conduct awareness training for all contractors prior to any work in the field. Untrained personnel shall not be allowed in the construction area. For sensitive areas requiring a monitor, the contractor may not access those areas without a monitor being present.

3. UNKNOWN CULTURAL OR PALEONTOLOGICAL SITES: On rare occasions cultural or paleontological sites may be discovered during excavation or other earth-moving activities.

   (1) Reporting: If evidence of a cultural or paleontological site is discovered, cease work in the area immediately and notify the COR of the location and nature of the findings. If a monitor is present, the monitor should also be notified. Stop all activities within a 200-foot radius of the discovery and do not proceed with work within that radius until directed to do so by the COR.

   (2) Care of Evidence: Protect the area. Do not remove, handle, alter, or damage artifacts or fossils uncovered during construction.

SECTION 13.5--NOXIOUS WEED CONTROL

Comply with Federal, State, and local noxious weed control regulations. Provide a "clean vehicle policy" while entering and leaving construction areas to prevent transport of noxious weed plants and/or seed. Transport only construction vehicles that are free of mud and vegetation debris to staging areas and the project right-of-way.

SECTION 13.6--RECYCLED MATERIALS QUANTITIES

1. GENERAL: Record quantities of material by category that is salvaged, recycled, reused, or reprocessed, including:

   (1) Transformers, Breakers: Weight without oil.

   (2) Aluminum Conductor – Steel Reinforced (ACSR): Weight in pounds or tons.

   (3) Steel: Weight in pounds or tons.

   (4) Aluminum: Weight in pounds or tons.

   (5) Copper: Weight in pounds or tons.

   (6) Other Metals: Weight in pounds or tons.

   (7) Oil: Gallons (separate by type - less than 2 ppm PCB, 2 to 50 ppm PCB, and 50 or greater ppm PCB).

   (8) Gravel, Asphalt, Or Concrete: Weight in pounds or tons.

   (9) Batteries: Weight in pounds.

   (10) Treated Wood Utility Poles and Crossarms: Weight in pounds.

   (11) Wood construction material: Weight in pounds.

   (12) Cardboard: Weight in pounds.

   (13) Porcelain Insulators: Weight in pounds.

2. RECYCLED MATERIAL QUANTITY REPORT: Submit quantities of recycled material by category to the COR prior to submittal of final invoice.

SECTION 13.7--USE OF RECOVERED MATERIAL AND BIOBASED MATERIAL PRODUCTS

1. RECOVERED MATERIAL PRODUCTS: If the products listed below or other products listed at http://www.epa.gov/epawaste/conserve/tools/cpg/products/index.htm are obtained as part of this project, purchase the items with the highest recovered material content possible unless recovered material products are not available: 1) competitively within a reasonable time frame; 2) meeting reasonable performance standards as defined in the Standards or Project Specifications; or 3) at a reasonable price.

   Construction Products:

   - Building Insulation Products

- Carpet
- Carpet cushion
- Cement and concrete containing coal fly ash, ground granulated blast furnace slag, cenospheres, or silica fume
- Consolidated and reprocessed latex paint
- Floor Tiles
- Flowable fill
- Laminated Paperboard
- Modular threshold ramps
- Nonpressure pipe
- Patio Blocks
- Railroad grade crossing surfaces
- Roofing materials
- Shower and restroom dividers/partitions
- Structural Fiberboard

2. BIOBASED MATERIAL PRODUCTS: If the products listed at http://www.biobased.oce.usda.gov are obtained as part of this project, purchase the items with the highest biobased content possible and no less than the percent indicated for each product unless biobased material products are not available: 1) competitively within a reasonable time frame, 2) meeting reasonable performance standards as defined in the Standards or Project Specifications, or 3) at a reasonable price.
   NOTE: Western exempts purchase of bio-based transformers rated above 1 MVA until May 13, 2011 for performance reasons.

3. RECOVERED MATERIAL AND BIOBASED MATERIAL PRODUCTS REPORT: Provide the COR the following information for purchases of those items listed above:

   Quantity and cost of listed items with recovered or biobased material content and quantity and cost of listed items without recovered or biobased material content prior to submittal of final invoice.

   Written justification of listed items if recovered material or biobased material products are not available: 1) competitively within a reasonable time frame; 2) meeting reasonable performance standards as defined in the Standards or Project Specifications; or 3) at a reasonable price.

SECTION 13.8--DISPOSAL OF WASTE MATERIAL

1. GENERAL: Dispose or recycle waste material in accordance with applicable Federal, State and local regulations and ordinances. In addition to the requirements of the Contract Clause “Cleaning Up”, remove all waste material from the construction site. No waste shall be left on Western property, right-of-way, or easement. Burning or burying of waste material is not permitted.

2. HAZARDOUS, UNIVERSAL, AND NON-HAZARDOUS WASTES: Manage hazardous, universal, and non-hazardous wastes in accordance with State and Federal regulations.

3. USED OIL: Used oil generated from the Contractor activities shall be managed in accordance with used oil regulations.

4. RECYCLABLE MATERIAL: Reduce wastes, including excess Western material, by recycling, reusing, or reprocessing. Examples of recycling, reusing, or reprocessing includes, but is not limited to, reprocessing of solvents; recycling cardboard; and salvaging scrap metals.

5. REFRIGERANTS AND RECEIPTS: Refrigerants from air conditioners, water coolers, refrigerators, ice machines and vehicles shall be reclaimed with certified equipment operated by certified technicians if the item is to be disposed. Refrigerants shall be reclaimed and not vented to the

atmosphere. A receipt from the reclaimer stating that the refrigerant was reclaimed, the amount and type of refrigerant, and the date shall be submitted to the COR prior to submittal of final invoice.

6. HALONS: Equipment containing halons that must be tested, maintained, serviced, repaired, or disposed must be handled according to EPA requirements and by technicians trained according to those requirements.

7. SULFUR HEXAFLUORIDE (SF6): SF6 shall be reclaimed and not vented to the atmosphere.

8. WASTE MATERIAL QUANTITY REPORT: Submit quantities of total project waste material disposal as listed below to the COR prior to submittal of final invoice.

   (1) Unregulated Wastes (i.e., trash): Volume in cubic yards or weight in pounds.

   (2) Hazardous or Universal Wastes: Weight in pounds.

   (3) PCB Wastes: Weight in pounds.

   (4) Other regulated wastes (e.g., lead-based paint or asbestos): Weight in pounds (specify type of waste in report).

SECTION 13.9--CONTRACTOR'S LIABILITY FOR REGULATED MATERIAL INCIDENTS

1. GENERAL: The Contractor is solely liable for all expenses related to spills, mishandling, or incidents of regulated material attributable to his actions or the actions of his subcontractors. This includes all response, investigation, cleanup, disposal, permitting, reporting, and requirements from applicable environmental regulation agencies.

2. SUPERVISION: The actions of the Contractor employees, agents, and subcontractors shall be properly managed at all times on Western property or while transporting Western's (or previously owned by Western) regulated material and equipment.

SECTION 13.10--POLLUTANT SPILL PREVENTION, NOTIFICATION, AND CLEANUP

1. GENERAL: Provide measures to prevent spills of pollutants and respond appropriately if a spill occurs. A pollutant includes any hazardous or non-hazardous substance that when spilled, will contaminate soil, surface water, or ground water. This includes any solvent, fuel, oil, paint, pesticide, engine coolants, and similar substances.

2. SPILL PREVENTION NOTIFICATION AND CLEANUP PLAN (Plan): Provide the Plan to the COR for review and comment 14 days prior to start of work. Review of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations. Include the following in the Plan:

   (1) Spill Prevention measures. Describe the work practices or precautions that will be used at the job site to prevent spills. These may include engineered or manufactured techniques such as installation of berms around fuel and oil tanks; Storage of fuels, paints, and other substances in spill proof containers; and management techniques such as requiring workers to handle material in certain ways.

   (2) Notification. Most States and the Environmental Protection Agency require by regulation, that anyone who spills certain types of pollutants in certain quantities notify them of the spill within a specific time period. Some of these agencies require written follow up reports and cleanup

reports. Include in the Plan, the types of spills for which notification would be made, the agencies notified, the information the agency requires during the notification, and the telephone numbers for notification.

(3) Employee Awareness Training. Describe employee awareness training procedures that will be implemented to ensure personnel are knowledgeable about the contents of the Plan and the need for notification.

(4) Commitment of Manpower, Equipment and Material. Identify the arrangements made to respond to spills, including the commitment of manpower, equipment and material.

(5) If applicable, address all requirements of 40CFR112 pertaining to Spill Prevention, Control and Countermeasures Plans.

3. TANKER OIL SPILL PREVENTION AND RESPONSE PLAN: Provide a Tanker Oil Spill Prevention and Response Plan as required by the Department of Transportation if oil tankers with volume of 3,500 gallons or more are used as part of the project. Submit the Tanker Oil Spill Prevention and Response Plan to the COR for review and comment 14 days prior to start of work. Review of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations.

SECTION 13.11--PESTICIDES

1. GENERAL: The term “pesticide” includes herbicides, insecticides, rodenticides and fungicides. Pesticides shall only be used in accordance with their labeling and applied by appropriately certified applicators.

2. ENVIRONMENTAL PROTECTION AGENCY REGISTRATION: Use EPA registered pesticides that are approved for the intended use.

3. PESTICIDE USE PLAN: Provide a pesticide use plan that contains: 1) a description of the pesticide to be used, 2) where it is to be applied, 3) the application rate, 4) a copy of the label, and 5) a copy of required applicator certifications. Submit the pesticide use plan to the COR for review and comment 14 days prior to the date of intended application. Review of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations. Within seven days after application, submit a written final report to the COR, including the pesticide applicators report, in accordance with Standard 2 – Sitework, Section 2.1.1_5. “Soil-Applied Herbicide, (4) Final Report”.

SECTION 13.12--TREATED WOOD UTILITY POLES AND CROSSARMS RECYCLING OR DISPOSAL

Whenever practicable, treated wood utility poles and crossarms removed during the project shall be recycled or transferred to the public for some uses. Treated wood utility poles and crossarms transferred to a recycler, landfill, or the public shall be accompanied by a written consumer information sheet for treated wood as provided by Western. Obtain a receipt, part of the consumer information sheet, from the recipient indicating that they have received, read, and understand the consumer information sheet. Treated wood products transferred to right-of-way landowners shall be moved off the right-of-way. Treated wood product scrap, poles, and crossarms that cannot be donated or reused shall be properly disposed in a landfill that accepts treated wood and has signed Western’s consumer information sheet receipt. Submit treated wood utility poles and crossarms consumer information receipts to the COR prior to submittal of final invoice.

STANDARD 13 - ENVIRONMENTAL QUALITY PROTECTION

SECTION 13.13--PREVENTION OF AIR POLLUTION

1. GENERAL: Ensure that construction activities and the operation of equipment are undertaken to reduce the emission of air pollutants. Submit a copy of permits for construction activities, if required (e.g., "non-attainment" areas, state implementation plans, or Class I air-sheds), from Federal, State, or local agencies to the COR 14 days prior to the start of work.

2. MACHINERY AIR EMISSIONS: The Contractor and subcontractor machinery shall have, and shall use the air emissions control devices required by Federal, State or Local Regulation or ordinance.

3. DUST ABATEMENT: Dust shall be controlled. Oil shall not be used as a dust suppressant. Dust suppressants shall be approved by the COR prior to use.

SECTION 13.14--HANDLING AND MANAGEMENT OF ASBESTOS CONTAINING MATERIAL

1. GENERAL: Obtain the appropriate Federal, State, Tribal or local licenses or certifications prior to disturbing any regulated asbestos-containing material. If a building or portion of a building will be demolished or renovated, obtain an Asbestos Notice of and Permit for Demolition and Renovation from the State or Tribal Department of Environmental Quality, Division of Air Quality (or equivalent). The building(s) shall be inspected by a State-Certified or Tribal accepted Asbestos Building Inspector. The inspector shall certify the presence and condition of asbestos, or non-presence of asbestos, on site as directed on the State or Tribal Demolition and Renovation Notice/Permit. The inspections shall be performed and notifications shall be submitted whether asbestos is present or not. Submit a copy of licenses, certifications, Demolition and Renovation Notifications and Permits for asbestos work to the COR 14 days prior to work. Ensure: 1) worker and public safety requirements are fully implemented and 2) proper handling, transportation, and disposal of asbestos containing material.

2. TRANSPORTATION OF ASBESTOS WASTE: Comply with Department of Transportation, Environmental Protection Agency, and State and Local requirements when transporting asbestos wastes.

3. CERTIFICATES OF DISPOSAL AND RECEIPTS: Obtain certificates of disposal for waste if the waste is a hazardous waste or receipts if the waste is a non-hazardous waste. Submit copies to the COR prior to submittal of final invoice.

SECTION 13.15--MATERIAL WITH LEAD-BASED PAINT

1. GENERAL: Comply with all applicable Federal, State and local regulations concerning work with lead-based paint, disposal of material painted with lead-based paint, and management of these materials. OSHA and General Industry Standards apply to worker safety and right-to-know issues. Federal EPA and State agencies regulate waste disposal and air quality issues.

2. TRANSFER OF PROPERTY: If lead-based paint containing equipment or material is to be given away or sold for reuse, scrap, or reclaiming, the contractor shall provide a written notice to the recipient of the material stating that the material contains lead-based paint and the Hazardous Waste regulations may apply to the waste or the paint in some circumstances. The new owner must also be notified that they may be responsible for compliance with OSHA requirements if the material is to be cut, sanded, abraded, or stripped of paint. Submit a copy of lead paint notices with contractor and recipient signatures to the COR prior to submittal of final invoice.

3. CERTIFICATES OF DISPOSAL AND RECEIPTS: Obtain certificates of disposal for waste if the waste is a hazardous waste or receipts if the waste is a non-hazardous waste. Submit copies to the COR prior to submittal of final invoice.

SECTION 13.16--PREVENTION OF WATER POLLUTION

1. GENERAL: Ensure that surface and ground water is protected from pollution caused by construction activities and comply with applicable regulations and requirements. Ensure that streams, waterways and other courses are not obstructed or impaired unless the appropriate Federal, State or local permits have been obtained.

2. PERMITS: Ensure that:

   (1) A National Pollutant Discharge Elimination System (NPDES) permit is obtained from the US Environmental Protection Agency or State as appropriate if the disturbed construction area equals 1 acre or more. Disturbed areas include staging, parking, fueling, stockpiling, and any other construction related activities. Refer to www.epa.gov/npdes/stormwater for directions and forms.

   (2) A dewatering permit is obtained from the appropriate agency if required for construction dewatering activities.

   (3) Copies of permits and plans, approved by the appropriate regulating agencies, are submitted to the COR 14 days prior to start of work.

3. EXCAVATED MATERIAL AND OTHER CONTAMINANT SOURCES: Control runoff from excavated areas and piles of excavated material, construction material or wastes (to include truck washing and concrete wastes), and chemical products such as oil, grease, solvents, fuels, pesticides, and pole treatment compounds. Excavated material or other construction material shall not be stockpiled or deposited near or on streambanks, lake shorelines, ditches, irrigation canals, or other areas where run-off could impact the environment.

4. MANAGEMENT OF WASTE CONCRETE OR WASHING OF CONCRETE TRUCKS: Do not permit the washing of concrete trucks or disposal of excess concrete in any ditch, canal, stream, or other surface water. Concrete wastes shall be disposed in accordance with all Federal, State, and local regulations. Concrete wastes shall not be disposed of on any Western property, right-of-way, or easement; or on any streets, roads, or property without the owner's consent.

5. STREAM CROSSINGS: Crossing of any stream or other waterway shall be done in compliance with Federal, State, and local regulations. Crossing of some waterways may be prohibited by landowners, Federal or State agencies or require permits.

SECTION 13.17--TESTING, DRAINING, REMOVAL, AND DISPOSAL OF OIL-FILLED ELECTRICAL EQUIPMENT

1. SAMPLING AND TESTING OF INSULATING OIL FOR PCB CONTENT: Sample and analyze the oil of electrical equipment (which includes storage tanks) for PCB's. Use analytical methods approved by EPA and applicable State regulations. Decontaminate sampling equipment according to documented good laboratory practices (these can be contractor developed or EPA standards). Use only laboratories approved by Western. The COR will furnish a list of approved laboratories.

2. PCB TEST REPORT: Provide PCB test reports that contain the information below for disposing of oil-filled electrical equipment. Submit the PCB test report prior to draining, removal, or disposal of oil or oil-filled equipment that is designated for disposal.

   - Name and address of the laboratory
   - Description of the electrical equipment (e.g. transformer, breaker)

- Serial number for the electrical equipment.
- Date sampled
- Date tested
- PCB contents in parts per million (ppm)
- Unique identification number of container into which the oil was drained (i.e., number of drum, tank, tanker, etc.)

3. OIL CONTAINING PCB: Comply with the Federal regulations pertaining to PCBs found at Title 40, Part 761 of the U.S. Code of Federal Regulations (40 CFR 761).

4. REMOVAL AND DISPOSAL OF INSULATING OIL AND OIL-FILLED ELECTRICAL EQUIPMENT: Once the PCB content of the oil has been identified from laboratory results, the oil shall be transported and disposed, recycled, or reprocessed according to 40 CFR 761 (if applicable), Resource Conservation and Recovery Act (RCRA) "used oil", and other applicable regulations. Used oil may be transported only by EPA-registered used oil transporters. The oil must be stored in containers that are labeled "Used Oil." Use only transporters and disposal sites approved by Western.

5. OIL AND OIL-FILLED ELECTRICAL EQUIPMENT RECEIPT: Obtain and submit a receipt for oil and oil-filled equipment transported and disposed, recycled, or reprocessed to the COR prior to submittal of final invoice.

SECTION 13.18--REMOVAL OF OIL-CONTAMINATED MATERIAL

1. GENERAL: Removing oil-contaminated material includes excavating, stockpiling, testing, transporting, cleaning, and disposing of these material. Personnel working with PCBs shall be trained in accordance with OSHA requirements. Submit employee training documentation records to the COR 14 days prior to the start of work.

2. CLEANUP WORK MANAGEMENT PLAN: Provide a Cleanup Work Management Plan that has been approved by applicable Federal, State, or Local environmental regulation agencies. Submit the plan to the COR for review and comment 14 days prior to the start of work. Review of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations. The plan shall address on-site excavation of contaminated soil and debris and include the following:

   - Identification of contaminants and areas to be excavated
   - Method of excavation
   - Level of personnel/subcontractor training
   - Safety and health provisions
   - Sampling requirements including quality control, laboratory to be used
   - Management of excavated soils and debris
   - Disposal methods, including transportation to disposal

3. EXCAVATION AND CLEANUP: Comply with the requirements of Title 40, Part 761 of the U.S. Code of Federal Regulations (40 CFR 761).

4. TEMPORARY STOCKPILING: Excavated material, stockpiled on site during construction, shall be stored on heavy plastic and covered to prevent wind and rain erosion at a location designated by the COR.

5. SAMPLING AND TESTING: Sample contaminated debris and areas of excavation to ensure that contamination is removed. Use personnel with experience in sampling and, in particular, with

experience in PCB cleanup if PCBs are involved. Use analytical methods approved by EPA and applicable State regulations.

6. TRANSPORTATION AND DISPOSAL OF CONTAMINATED MATERIAL: The Contractor shall be responsible and liable for the proper loading, transportation, and disposal of contaminated material according to Federal, State, and local requirements. Use only transporters and disposal sites approved by Western.

7. POST CLEANUP REPORT: Provide a Post-Cleanup Report that describes the cleanup of contaminated soils and debris. Submit the report to the COR prior to submittal of final invoice. The report shall contain the following information:

   - Site map showing the areas cleaned
   - Description of the operations involved in excavating, storing, sampling, and testing, and disposal
   - Sampling and analysis results including 1) Name and address of the laboratory, 2) sample locations, 3) sample dates, 4) analysis dates, 5) contents of contaminant (e.g. PCB or total petroleum hydrocarbons) in parts per million (ppm)
   - Certification by the Contractor that the cleanup requirements were met
   - Copies of any manifests, bills of lading, and disposal certificates
   - Copies of correspondence with regulatory agencies that support completion of the cleanup

SECTION 13.19—CONSERVATION OF NATURAL RESOURCES

1. GENERAL: Federal law prohibits the “take” of endangered, threatened, proposed or candidate wildlife and plants, and destruction or adverse modification of designated Critical Habitat. Federal law also prohibits the “take” of birds protected by the Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act. “Take” means to pursue, hunt, shoot, wound, kill, trap, capture or collect a protected animal or any part thereof, or attempt to do any of those things without a permit from U.S. Fish and Wildlife Service. The Contractor will take precautions to avoid harming other wildlife species. Contractor shall restrict all ground disturbing activities to areas that have been surveyed by Western for natural resources and as specified in accordance with Standard 1 – General Requirements, Sections 1.3.1 Rights-of-way and 1.3.2 Access to the Work and Haul Routes.

2. KNOWN OCCURRENCE OF PROTECTED SPECIES OR HABITAT: Following issuance of the notice to proceed, and prior to the start of construction, Western will provide training to all contractor and subcontractor personnel and others involved in the construction activity if there is a known occurrence of protected species or habitat in the construction area. Untrained personnel shall not be allowed in the construction area. Western will provide drawings or maps showing sensitive areas located on or immediately adjacent to the transmission line right-of-way and/or facility. These sensitive areas shall be considered avoidance areas. Prior to any construction activity, the avoidance areas shall be marked on the ground by Western. If access is absolutely necessary, the contractor shall first obtain written permission from the COR, noting that a Western and/or other Federal or state government or tribal agency biologist may be required to accompany personnel and equipment. Ground markings shall be maintained through the duration of the contract. Western will remove the markings during or following final inspection of the project.

3. UNKNOWN OCCURRENCE OF PROTECTED SPECIES OR HABITAT: If evidence of a protected species is found in the project area, the contractor shall immediately notify the COR and provide the location and nature of the findings. The contractor shall stop all activity within 200 feet of the protected species or habitat and not proceed until directed to do so by the COR.

Western's Standard Mitigation Measures for Construction, Operation, and Maintenance of Transmission Lines

Mitigation

Measure

1. The contractor shall limit the movement of its crews and equipment to the right-of-way (ROW), including access routes. The contractor shall limit movement on the ROW so as to minimize damage to grazing land, crops, or property, and shall avoid marring the land.

2. When weather and ground conditions permit, the contractor shall obliterate all contractor-caused deep ruts that are hazardous to farming operations and to movement of equipment. Such ruts shall be leveled, filled, and graded or otherwise eliminated in an approved manner. In hay meadows, alfalfa fields, pastures and cultivated productive lands, ruts, scars, and compacted soils shall have the soil loosened and leveled by scarifying, harrowing, discing, or other approved methods. Damage to ditches, tile drains, terraces, roads, and other features of the land shall be corrected. Before final acceptance of the work in these agricultural areas, all ruts shall be obliterated, and all trails and areas that are hard-packed as a result of contractor operations shall be loosened, leveled, and reseeded. The land and facilities shall be restores as nearly as practicable to their original conditions.

3. Water bars or small terraces shall be constructed across all ROW and access roads on hillsides to prevent water erosion and to facilitate natural re-vegetation.

4. The contractor shall comply with all Federal, State, and local environmental laws, orders, and regulations. Prior to construction, all supervisory construction personnel and heavy equipment operators will be instructed on the protection of cultural and ecological resources.

5. The contractor shall exercise care to preserve the natural landscape and shall conduct its construction operations so as to prevent and unnecessary destruction, scarring, or defacing of the natural surroundings in the vicinity of the work. Except where clearing is required for permanent works, approved construction roads, or excavation operations, all trees, native shrubbery, and vegetation shall be preserved and shall be protected from damage by the contractor's construction operations and equipment. The edges of clearings and cuts through tree, shrubbery, or other vegetation shall be irregularly shaped to soften the undesirable visual impact of straight lines. Where such clearing occurs in the Lake Mead National Recreation Area, the contractor shall consult with the on-site Park Representative.

6. On completion of the work, all work areas except access roads shall be scarified or left in a condition which will facilitate natural re-vegetation, provide for proper drainage, and prevent erosion. All destruction, scarring, damage, or defacing of the landscape resulting from the contractor's operations shall be repaired by the contractor.

7. Construction staging area shall be located and arranged in a manner to preserve trees and vegetation to the maximum practicable extent. On abandonment, all storage and construction buildings, including concrete footings and slabs, and all construction materials and debris shall be removed from the site. The area shall be regarded as required so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate natural re-vegetation, provide for proper drainage, and prevent erosion.

8. Borrow pits shall be excavated so that water will not collect and stand therein. Before being abandoned, the sides of the borrow pits shall be brought to stable slopes, with slope intersections shaped to carry the

natural contour of adjacent undisturbed terrain into the pit or borrow area giving a natural appearance. Waste piles shall be shaped to provide a natural appearance.

9. Construction activities shall be performed by methods that will prevent entrance, or accidental spillage, of solid matter contaminants, debris, any other objectionable pollutants and wastes into streams, flowing or dry watercourses, lakes, and underground water sources. Such pollutants and waste includes, but are not restricted to refuse, garbage, cement, concrete, sanitary waste, industrial waste, radioactive substances, oil and other petroleum products, aggregate processing tailing, mineral salts, and thermal pollution.

10. Dewatering work for structure foundations or earthwork operation adjacent to, or encroaching on , streams or watercourses, shall be conducted in a manner to prevent muddy water and eroded materials from entering the streams or watercourses by construction of intercepting ditches, bypass channels, barriers, settling ponds, or by other approved means.

11. Excavated material or other construction materials shall not be stockpiled or deposited near or on stream banks, lake shorelines, or other watercourses perimeters where they can be wasted away by high water or storm runoff or can in any way encroach upon the actual watercourses itself.

12. Waste waters from concrete batching, or other construction operations shall not enter streams, watercourses, or other surface waters without the use of such turbidity control methods as settling ponds, gravel-filter entrapment dikes, approved flocculating processes that are not harmful to fish, recirculation systems for washing of aggregates, or other approved methods. Any such waste waters discharged into surface waters shall be essentially free of settle-able material. For the purpose of these specifications, settle-able material as defined as that material which will settle from the water by gravity during a 1-hour quiescent detention period.

13. The contractor shall utilize such practicable methods and devices as are reasonably available to control, present, and otherwise minimize atmospheric emissions or discharges of air contaminants.

14. The emission of dust into the atmosphere will not be permitted during the manufacture, handling, and storage of concrete aggregate, and the contractor shall use such methods and equipment as necessary for the collection and disposal, or prevention, of dust during these operations. The contractor's methods of storing and handling cement and pozzolans shall also include means of eliminating atmospheric discharges of dust.

15. Equipment and vehicles that show excessive emissions of exhaust gases due to poor engine adjustments, or other inefficient operating conditions, shall not be operated until repairs or adjustments are made.

16. The contractor shall prevent any nuisance to persons or damage to crops, cultivated fields, and dwellings from dust originating from his operations. Oil and other petroleum derivatives shall not be used for dust control. Speed limits shall be enforced, based on road conditions, to reduce dust problems.

17. To avoid nuisance conditions due to construction noise, all internal combustion engines used in connection with construction activity shall be fitted with an approved muffler and spark arrester.

18. Burning or burying waste materials on the ROW or at the construction site will be permitted if allowed by local regulations. The contractor shall remove all other waste materials from the construction area. All materials resulting from the contractor's clearing operations shall be removed from the ROW.

19. The contractor shall make all necessary provisions in conformance with safety requirements for maintaining the flow of public traffic and shall conduct its construction operations to offer the least possible obstruction and inconvenience to public traffic.

20. Western will apply necessary mitigation to eliminate problems of induced currents and voltages onto conductive objects sharing a ROW, to the mutual satisfaction to the parties involved.

21. Structures will be carefully located to avoid sensitive vegetative conditions, including wetlands, where practical.

22. ROW will be located to avoid sensitive vegetation conditions including wetlands where practical, or, if they are linear to cross them at the least sensitive feasible point.

23. Removal of vegetation will be minimized to avoid creating a swath along the ROW.

24. Topsoil will be removed, stockpiled, and respread at all heavily disturbed areas not needed for maintenance access.

25. All disturbed areas not needed for maintenance access will be reseeded using mixes approved by the landowner or land management agency.

26. Erosion control measures will be implemented on disturbed areas, including areas that must be used for maintenance operations (access ways and area around structures).

27. The minimum area will be used for access ways (12 feet to 15 feet wide, except where roadless construction is used).

28. Structures will be located and designed to conform with the terrain. Leveling and benching of the structure sites will be the minimum necessary to allow structure assembl7 and erection.

29. ROW will be located to utilize the least steep terrain and, therefore, to disturb the smallest area feasible.

30. Careful structure location will ensure spanning of narrow flood prone areas.

31. Structures will not be sited on any potentially active faults.

32. Structure sites and other disturbed areas will be located at least 300 feet, where practical, from rivers, streams (including ephemeral streams), ponds, lakes, and reservoirs.

33. New access ways will be located at least 300 feet, where practical, from rivers, ponds, lakes, and reservoirs.

34. At crossings of perennial streams by new access ways, culverts of adequate size to accommodate the estimated peak floe of the stream will be installed. Construction areas will minimize disturbance of the stream banks and beds during construction. The mitigation measures listed for soil/vegetation resources will be performed on areas disturbed during culvert construction.

35. If the banks of ephemeral stream crossings are sufficiently high and steep that breaking them down or a crossing would cause excessive disturbance, culverts will be installed using the same measures as for culverts on perennial streams.

36. Blasting will not be allowed.

37. Power line structures will be located, where practical, to span small occurrences of sensitive land uses, such as cultivated areas. Where practicable, construction access ways will be located to avoid sensitive conditions.

38. ROW will be purchased at fair market value and payment will be made of full value for crop damages or other property damage during construction or maintenance.

39. The power line will be designed to minimize noise and other effects from energized conductors.

40. The precise location of all structure sites, ROW, and other disturbed areas will be determined in cooperation with landowners or land management agencies.

41. Crossing of operating railroads by construction vehicles or equipment in a manner that would cause delays to railroad operations will be avoided. Construction will be coordinated with railroad operators. Conductors and overhead wire string operations would use guard structures to eliminate delays.

42. Before construction, Western will perform a Class III (100 percent of surface) cultural survey on all areas to be disturbed, including structure sites and new access ways. These surveys will be coordinated with the appropriate land owner or land management agency. A product of the survey will be a Cultural Resources Report recording findings and suggesting mitigation measures. These findings will be reviewed with the State Historic Preservation Offices and other appropriate agencies, and specific mitigation measures necessary for each site or resource will be determined. Mitigation may include careful relocation of access ways, structure sites, and other disturbed areas to avoid cultural sites that should not be disturbed, or data recovery.

43. The contractor will be informed of the need to cease work in the location if cultural resource items are discovered.

44. Construction activities will be monitored or sites flagged to prevent inadvertent destruction of any cultural resource for which the agreed mitigation was avoidance.

45. Construction crews will be monitored to the extent possible to prevent vandalism or unauthorized removal or disturbance of cultural artifacts or materials from sites where the agreed mitigation was avoidance.

46. Should any cultural resources that were not discovered during the Class III Survey be encountered during construction, ground disturbance activities at that location will be suspended until the provisions of the National Historic Preservation Act and enabling legislation have been carried out.

47. Construction activities will be monitored or significant locations flagged to prevent inadvertent destruction of any paleontological resource for which the agreed mitigation was avoidance.

48. Clearing for the access road will be limited to only those trees necessary to permit the passage of equipment.

49. The access road will follow the lay of the land rather than a straight line along the ROW where steep features would result in a higher disturbance.

APPENDIX C

OBSERVED SPECIES TABLES

TABLE C-1. VEGETATION OBSERVED WITHIN THE PROJECT AREA	
Scientific Name	**Common Name**
Acacia greggii	Cat-claw acacia
Allionia incarnata	Trailing four-o-clock
Ambrosia confertiflora	Slim leaf bursage
Ambrosia deltoidea	Triangle leaf bursage
Ambrosia dumosa	White bursage
Amsinckia spp.	Fiddleneck
Atriplex polycarpa	Desert saltbush
Baccharis sarothroides	Desert broom
Baileya multiradiata	Desert marigold
Brassica nigra	Black mustard
Brickellia floribunda	Brickellia
Bromus spp.	Brome
Canotia holacantha	Crucifixion thorn
Cassia covesii	Desert senna
Cirsium vulgare	Bull thistle
Cucurbita digitata	Fingerleaf gourd
Echinocactus spp.	Echinocactus
Encelia farinose	Brittlebush
Ephedra viridis	Mormon tea
Ericameria cooperi	Cooper's goldenbush
Ericameria laricifolia	Turpentine bush
Erigonium spp.	Buckwheat
Eriogonum deflexum	Skeleton weed
Eriogonum inflatum	Desert trumpet
Ferocactus spp.	Barrel cactus
Fouguieria splendens	Ocotillo
Funastrum cynanchoides	Climbing milkweed
Hyptis emoryi	Desert lavender
Isocoma heterophylla	Jimmyweed
Juniperus osteosperma	Utah juniper
Krameria grayi	White ratany
Larrea tridentata	Creosotebush
Marah gilensis	Wild cucumber
Opuntia basilaris	Beavertail cactus
Opuntia spp.	Cholla
Opuntia spp.	Prickly pear
Phoradendron californicum	Desert mistletoe
Prosopis spp.	Mesquite
Psilostrophe spp.	Paperflower
Quercus turbinella	Shrub live oak
Rhus trilobata	Squawbush
Salazaria mexicana	Bladder sage
Salvia columbariae	Chia
Tamarix spp.	Tamarisk
Yucca baccata	Banana yucca
Yucca spp.	Yucca
Ziziphus obtusifolia	Grey thorn

TABLE C-2. WILDLIFE OBSERVED WITHIN THE PROJECT AREA	
Scientific Name	**Common Name**
Amphispiza bilineata	Black-throated sparrow
Aspidoscelis spp.	Whiptail lizard
Brachinum cyanochroaticus	Bombardier beetle
Buteo jamaicensis	Red-tailed hawk
Callipepla gambelii	Gambel's quail
Callisaurus draconoides	Zebra tailed lizard
Cathartes aura	Turkey vulture
Corvus corax	Common raven
Dipsosaurus dorsalis	Desert iguana
Falco peregrinus	Peregrine falcon
Falco sparverius	American kestrel
Geococcyx californianus	Road runner
Lepus californicus	Black-tailed jackrabbit
Melanerpes spp.	Woodpecker
Mimus polyglottos	Northern mockingbird
Phainopepla nitens	Phainopepla
Sceloporus magister	Desert spiny lizard
Spermophilus tereticaudus	Round tail ground squirrel
Sylvilagus audubonii	Desert cottontail
Uta stansburiana	Common-side blotched lizard
Zenaida macroura	Mourning dove

TABLE C-3. HABITAT SUITABILITY ASSESSMENT FOR ESA-LISTED SPECIES WITHIN MOHAVE COUNTY			
Species	**Status**	**Suitable Habitat**	**Rationale of Habitat Assessment**
AMPHIBIANS			
Relict leopard frog *Rana onca*	C	No	The relict leopard frog occurs within the Virgin River drainage. It occupies perennial streams, springs, and spring fed wetlands. Suitable aquatic habitat is not present within the Project area. Additionally, the Project area is over 100 miles south of the nearest known locality of the species.
BIRDS			
Yellow-billed cuckoo *Coccyzus americanus*	C	No	This species is found mainly in streamside cottonwood-willow galleries, salt cedar and to a lesser extent larger mesquite bosques. Dense understory vegetation appears to be an important habitat component. It is found in southern, central, and extreme northeastern Arizona. The riparian habitat known to support this species is not found in the Project area.
Southwestern willow flycatcher *Empidonax traillii extimus*	E	No	This species occurs and breeds at elevations less than 8,500 feet in dense riparian habitats composed of cottonwood, willow, box elder, Russian olive, buttonbrush, arrowweed and tamarisk communities along rivers and streams. The species constructs nests in dense thickets. An important habitat component is the presence of water during mid-summer months. The riparian habitat known to support this species is not found in the Project area.
California condor *Gymnogyps californianus*	E	Yes	This species is found in high desert canyonlands and plateaus at various elevations. Condors typically roost and nest in steep terrain harboring rock outcrops, cliffs as well as caves. Open grasslands and savannahs are important as foraging habitat. See analysis in section 3.3.1.3 of this EA.
Bald eagle *Haliaeetus leucocephalus*	T	No	The bald eagle inhabits areas with large trees or cliffs near water (reservoirs, rivers and streams) associated with abundant prey. It is found at various elevations. This species occurs throughout Arizona primarily as a winter resident or migrant. Nest locations are generally concentrated along perennial rivers such as the Agua Fria, Bill Williams, Gila, Salt, San Pedro, Verde, etc. and associated reservoirs. The western end of the Project alignment is approximately 0.2 mile east of the Colorado River; however, there are no known bald eagle nests within the vicinity of this reach of the river. In addition, no suitable nesting habitat is found within the Project area.
Yuma clapper rail *Rallus longirostris yumanensis*	E	No	This species breeds in freshwater marshes and inhabits brackish water marshes and side waters, preferring tall dense cattail and bulrush marshes. The species requires a wet substrate such as a mudflat, sandbar, or slough bottom. They are found along the Colorado River from Lake Mead to Mexico and also found in various wetlands and rivers in southwestern Arizona. The marsh habitat known to support this species is not found in the Project area.

TABLE C-3.
HABITAT SUITABILITY ASSESSMENT FOR ESA-LISTED SPECIES WITHIN MOHAVE COUNTY

Species	Status	Suitable Habitat	Rationale of Habitat Assessment
California least tern *Sterna antillarum browni*	E	No	Within Arizona, least tern habitats include lakes and rivers where small fish are abundant. They nest on bare or sparsely vegetated flat substrates along lake or river margins. They rarely are found breeding in Arizona, although migrants are more common. The lakes and rivers known to support this species are not found in the Project area.
Mexican spotted owl *Strix occidentalis lucida*	T	No	The Mexican spotted owl is found in dense multi-storied closed canopy forests with many snags and downed logs as well as canyons. This species is patchily distributed in forested subalpine and montane coniferous forest, statewide. It is found at elevations from 4,100 to 9,000 feet. Suitable forest and canyon habitat is not found within the Project area.
FISH			
Humpback chub *Gila cypha*	E	No	This species inhabits a variety of riverine habitats, especially canyon areas with fast currents, deep pools, and boulder habitat located below 4,000 feet in elevation. The aquatic habitat known to support this species is not found in the Project area.
Bonytail chub *Gila elegans*	E	No	The last natural populations of this fish species exist within Lake Mohave. The species has been introduced into Lake Havasu. Individuals may exist as far downriver as Parker Dam. This species occupies mainstream habitats of slow moving water (eddies, pools, side channels, and coves). Critical habitat is designated on the Colorado River from Hoover Dam to Davis Dam and from the northern boundary of the Havasu National Wildlife Refuge to Parker Dam. The aquatic habitat known to support the species is not present in the Project area.
Roundtail chub *Gila robusta*	C	No	This species is found in several larger rivers and tributaries in the Colorado River Basin. In Arizona, it can be found in the Salt, Bill Williams, Verde, Little Colorado, Aravaipa and Eagle Creek, and tributaries thereof. The aquatic habitats known to support this species are not found in the Project area.
Virgin River chub *Gila seminuda*	E	No	This species inhabits deep swift waters but not turbulent water. It resides over sand and gravel with boulders or other in-stream cover, located at elevations below 4,500 feet. It is currently found in the Moapa River and mainstream Virgin River. The aquatic habitats known to support this species are not found in the Project area.
Virgin spinedace *Lepidomeda mollispinis mollispinis*	CA	No	The Virgin spinedace inhabits small streams located at elevations below 4,500 feet. It prefers cool, clean tributaries and inflow areas at larger streams, and is generally not found in the mainstream of larger streams. It currently occurs in several tributaries of the Virgin River. The aquatic habitats known to support this species are not found in the Project area.
Woundfin *Plagopterus argentissimus*	E	No	The only native woundfin population exists in the Virgin River. Experimental non-essential populations have been designated and introduced into the Hassayampa River. The aquatic habitat known to support this species is not found in the Project area.

TABLE C-3.
HABITAT SUITABILITY ASSESSMENT FOR ESA-LISTED SPECIES WITHIN MOHAVE COUNTY

Species	Status	Suitable Habitat	Rationale of Habitat Assessment
Razorback sucker *Xyrauchen texanus*	E	No	This species is currently found in Lake Havasu, Lake Mead, and Lake Mohave. The species is found among large rivers and occupies slow backwaters of medium and large streams and river, flooded bottomlands, side channels, and reservoirs. This species may be found in a variety of habitats during the non-breeding season. The aquatic habitat known to support this species is not found in the Project area.
MAMMALS			
Hualapai Mexican vole *Microtus mexicanus hualapaiensis*	E	No	This species is typically found near water, in grass/forb habitats among ponderosa pines. It is also located in pinyon-juniper and pine oak associations with a variety of shrubs and grasses. It occurs at elevations ranging from 3,500 to 7,000 feet. Within Mohave County the species may occur in the Hualapai and Music Mountains, Grand Wash Cliffs, Wabayuma Peak Vicinity, and upper Blue Tank Wash drainage. The woodland habitats known to support this species are not found in the Project area.
PLANTS			
Holmgren (Paradox) milkvetch *Astragalus holmgreniorum*	E	No	This perennial herbaceous plant blooms in spring and is located on shallow, sparsely vegetated soils. It occurs under limestone ridges and along draws in gravelly clay hills at elevations ranging from 2,700 to 2,800 feet. It is often found on the edges of rivers. In Arizona, it is restricted to a few square kilometers on the Arizona/Utah border, near the Virgin River Gorge. The Project area is not within the known range of this species.
Jones cycladenia *Cycladenia humilis* var. *jonesii*	T	No	In Arizona, Jones cycladenia occurs within Woodbury Canyon and Potter Canyon, of the Glen Canyon National Recreation Area of Northern Arizona. The Project area is over 180 miles southwest of the Glen Canyon National Recreation Area and the species is not known to occur in the Project area.
Fickeisen Plains cactus *Pediocactus peeblesianus var. fickeiseniae*	C	No	This species is found in northern Arizona in Coconino, Mohave and Navajo counties. It grows at elevations ranging from 4,000 to 5,000 feet on shallow soils derived from exposed layers of Kaibab limestone. It occurs on canyon margins or well-drained hills of Navajoan Desert or Great Plains grassland. In Mohave County, it is found in Hurricane Valley and Main Street Valley, and near Clayhole Ridge and Sunshine Ridge. The Project area does not occur within the known range of this species. The closest known occurrence is in Hurricane Valley more than 90 miles northeast of the Project area.

TABLE C-3.
HABITAT SUITABILITY ASSESSMENT FOR ESA-LISTED SPECIES WITHIN MOHAVE COUNTY

Species	Status	Suitable Habitat	Rationale of Habitat Assessment
Siler pincushion cactus *Pediocactus sileri*	T	No	This species is found in desert scrub vegetation, in transitional areas between the Navajo Desert, Sagebrush Desert and Mohave Desert, at elevations ranging from 2,800 and 5,400 feet. It occurs on gypsiferous clay and sandy soils of the Moenkopi formation, on all aspects of the hills and on slopes varying from 0 to 80 degrees. It occurs in extreme northern Arizona from the Hurricane Cliffs to near Fredonia. Its range extends approximately 22 miles south from the Arizona/Utah border into Mohave County. The Project is not within the known range of this species, and the substrate known to support this species is not found within the Project area.
Arizona cliffrose *Purshia subintegra*	E	No	Four distinct populations of Arizona cliffrose occur in central Arizona near Bylas; Horseshoe Lake; Burro Creek; and Cottonwood in the Verde Valley. It grows in white limestone soils derived from tertiary lakebed deposits at elevations between 2,000 and 4,000 feet in the Tonto and Verde basins of central Arizona. The Project is not located near the known localities of the species. The closest location is near Cottonwood over 120 miles southeast of the Project area. Additionally there are no white limestone soils present within the Project area to support this species.
Gierisch mallow *Sphaeralcea gierischii*	C	No	This species is found on gypsiferous outcroppings of the Moenkopi and Kaibab formations. It is known from three locations in northern Arizona; Black Rock Gulch, the Black Knolls, and Pigeon Canyon. The substrate known to support this species is not found within the Project area, and the nearest known location of this species is in Black Rock Gulch over 120 miles northeast of the Project area.
REPTILES			
Desert tortoise (Mohave Population) *Gopherus agassizii*	T	No	The Mohave population of the desert tortoise occurs west and north of the Colorado River in the Mohave Desert. The Project is not located to the north or west of the Colorado River.

FWS categories: **Endangered (E)—**Taxa in danger of extinction throughout all or a significant portion of its range; **Threatened (T)/Proposed Threatened (PT)—**Taxa likely to become endangered within the foreseeable future throughout all or a significant portion of its range; **Candidate (C)—**Species for which the FWS has sufficient information on biological vulnerability and threats to support proposals to list as endangered or threatened. Candidate species, however, are not protected legally because proposed rules have not been issued. **Experimental (EX)—**Species considered to be experimental and non-essential in its designated use areas. **Conservation Agreement (CA)—**Species protected by a Conservation Agreement between FWS and other cooperating agency(ies) **Proposed delisted(PD)—**While still considered endangered or threatened, taxa is under consideration for reduced protection. (USFWS 2010).

Information in this table was gathered from various sources including USFWS Arizona Ecological Services (Mohave County Species List [2010]), Arizona Game and Fish Department (various unpublished abstracts compiled by the Heritage Data Management System [2009]), and NatureServe online encyclopedia of life (2009).

TABLE C-4. SUMMARY OF BLM SENSITIVE SPECIES FOR MOHAVE COUNTY		
Species	**Suitable Habitat Present/Species Affected by Project**	**Rationale of Habitat Assessment**
AMPHIBIANS		
Northern leopard frog *Rana pipiens*	No	This species inhabits springs, slow streams, marshes, bogs, ponds, canals, floodplains, reservoirs, and lakes. It is usually found in permanent water sources with rooted aquatic vegetation. In the summer it commonly inhabits wet meadows and fields. This species usually overwinters underwater. The aquatic habitat known to support this species is not found in the Project area.
Lowland leopard frog *Rana yavapaiensis*	No	This frog inhabits big rivers, streams, cattle tanks, agricultural canals and ditches, mine adits, and other aquatic systems from the Yuma Valley at near sea level to almost 6,000 feet, and from Sonoran desert scrub into pinyon-juniper woodland. Lowland leopard frogs do well in unregulated streams that are subject to periodic floods. The aquatic habitat known to support this species is not found in the Project area.
BIRDS		
Northern goshawk *Accipiter gentilis*	No	The northern goshawk can be found throughout Arizona. It breeds in high forested mountains and plateaus usually above 6,000 feet. The Project area does not occur at the high elevations or within the forested habitat preferred by this species.
Clark's grebe *Aechmorphorus clarkii*	No	This species can be found along the Colorado River, but is more common along lakes and marshes and to a lesser extent the riverine stretches. It nests among tall plants growing along the edge of waters within large areas of open water. The aquatic habitats known to support this species are not found within the Project area.
Western burrowing owl *Athene cunicularia hypugaea*	Yes	The burrowing owl is known from many habitat types, and is mainly limited by the openness of the habitat, preferring low vegetation or widely spaced vegetation. See analysis in section 3.3.1.4 of this EA.
Ferruginous hawk *Buteo regalis*	Yes	This hawk is found in open areas, primarily prairies. It nests on the ground, in tall trees or willows, along streams or on steep slopes, in junipers, on cliff ledges, river-cut banks, and hillsides. This species generally avoids areas of intensive agriculture or human activity. See analysis in section 3.3.1.4 of this EA.

TABLE C-4. SUMMARY OF BLM SENSITIVE SPECIES FOR MOHAVE COUNTY		
Species	**Suitable Habitat Present/Species Affected by Project**	**Rationale of Habitat Assessment**
Swainson's hawk *Buteo swainsoni*	Yes	Swainson's hawks require large and open grasslands with abundant prey adjacent to suitable nesting sites. They forage mostly in native semi-desert grasslands or lightly grazed pastures, alfalfa and other hay crops, and certain grain and row croplands. They nest either in mature riparian forests, lone trees or oak groves, other trees in agricultural fields, and mature trees found along roads and washes. See analysis in section 3.3.1.4 of this EA.
Common black-hawk *Buteogallus anthracinus*	No	This hawk occurs in lowland forest, swamps and mangroves. It is found in both moist and arid habitats. It nests in woodlands near water and is often found amongst groups of cottonwoods. The riparian woodlands preferred by this species are not found in the Project area.
American peregrine falcon *Falco peregrinus anatum*	Yes	This species is associated with large high cliffs such as the Mogollon Rim, Grand Canyon, and the Colorado Plateau, where sufficient prey and water are available. It is found throughout Arizona. See analysis in section 3.3.1.4 of this EA.
Bald eagle (Winter population; Sonoran Desert population) *Haliaeetus leucocephalus*	No	This species prefers areas with large bodies of water and large trees for nesting. They nest in the upper canopy of towering mature trees with open branches or in large stick nests on cliffs near large rivers, lakes, bays, and coastlines. They feed primarily on fish. The aquatic areas known to support this species are not found in the Project area.
California black rail *Laterallus jamaicensis coturniculus*	No	This rail most commonly inhabits tidal emergent wetlands dominated by pickleweed, or brackish marshes supporting bulrushes in association with pickleweed. In freshwater, it is usually found in bulrushes, cattails, and saltgrass. It typically occurs in the high wetland zones near the upper limit of tidal flooding and breeds among high coastal marshes in California. Along the Colorado River, it prefers dense bulrush stands, shallow water and gently sloping shorelines. The marsh habitats known to support this species are not found in the Project area.
FISH		
Gila longfin dace *Agosia chrysogaster chrysogaster*	No	This species is primarily found in the Gila and Bill Williams river drainages, but has also been introduced into the Virgin River basin. The dace occupies a wide range of streams from low desert streams to high mountain streams. The aquatic habitat known to support this species is not found within the Project area.
Desert sucker *Catastomus clarki*	No	This species is found in flowing pools and rapids of the Gila River Basin and Bill Williams River tributaries. The aquatic habitat known to support this species is not found within the Project area.

TABLE C-4. SUMMARY OF BLM SENSITIVE SPECIES FOR MOHAVE COUNTY		
Species	**Suitable Habitat Present/Species Affected by Project**	**Rationale of Habitat Assessment**
Sonora sucker *Catostomus insignis*	No	This species is common in the Gila and Bill Williams River systems, and less common in the Salt River. It prefers deep, quiet pools. The aquatic habitat known to support this species is not found within the Project area.
Flannelmouth sucker *Catostomus latipinnis*	No	This species occurs within the Colorado River and its larger drainages. Generally, it occurs within large or moderately large rivers. The aquatic habitat known to support this species is not found in the Project area.
Roundtail chub *Gila robusta*	No	This species is found in warm streams and large tributaries of the Colorado River Basin. They generally prefer cobble-rubble, sand-cobble, or sand-gravel substrate. Large populations often occur in pools behind irrigation diversions. The aquatic habitat known to support this species is not found in the Project area.
Virgin spinedace *Lepidomeda mollispinis*	No	This species is restricted to the Virgin River drainage in northwestern Arizona, southeastern Nevada, and southwestern Utah. It is usually associated with clear, cool, relatively swift streams with pools, runs, and riffles. It usually spawns over gravel and sand substrates at the lower ends of pools. The aquatic habitat known to support this species is not found in the Project area.
Speckled dace *Rhinichthys osculus*	No	This fish is found in the running waters of shallow creeks, and small to medium rivers with riffles, runs and headwater pools. The aquatic habitat known to support this species is not found within the Project area.
INVERTEBRATES		
Grand Wash springsnail *Pyrgulopsis bacchus*	No	This snail is known from three springs (Grapevine, Whiskey and Tassi) in Grand Wash. No springs are located along or adjacent to the Project alignment nor are the known localities of the species within proximity of the Project area.
Kingman springsnail *Pyrgulopsis conica*	No	This snail is known from three springs (Burns, Dripping and Cool) in the Black Mountains. No springs are located along or adjacent to the Project alignment nor are the known localities of the species within proximity of the Project area.
Desert springsnail *Pyrgulopsis deserta*	No	This species is found within springs along the Virgin River in Utah and Arizona. No springs are located along or adjacent to the Project alignment nor are the known localities of the species within proximity of the Project area.
MAMMALS		
Pale Townsend's big-eared bat *Corynorhinus townsendii*	Yes	This bat species has summer day roosts sites that are located in caves and mines in a wide range of habitat types. Summer night roosts are often in buildings. Winter hibernation sites are within cold caves, lava tubes, and mines in upland habitats near the Grand Canyon and in southeastern Arizona. See analysis in section 3.3.1.4 of this EA.

TABLE C-4. SUMMARY OF BLM SENSITIVE SPECIES FOR MOHAVE COUNTY		
Species	**Suitable Habitat Present/Species Affected by Project**	**Rationale of Habitat Assessment**
Spotted bat *Euderma maculatum*	Yes	This species is found in various habitats ranging from deserts to forested mountains. They roost and hibernate in caves and rock crevices and are limited to relatively remote and undisturbed areas. This species is nocturnal and feeds primarily on insects. See analysis in section 3.3.1.4 of this EA.
Greater western bonneted bat *Eumops perotis californicus*	Yes	This bat occurs in arid and semi-arid regions often in rocky canyon habitats. It roosts in crevices and shallow caves on the sides of cliffs and rock walls, and occasionally buildings. Roosts are usually high above ground with an unobstructed approach. See analysis in section 3.3.1.4 of this EA.
Western red bat *Lasiurus blossevillii*	No	This bat species is found in riparian habitats dominated by cottonwoods, oaks, and sycamores. It is rarely found in desert habitats. Summer roosts are usually in tree foliage. This species tends to avoid roosting in caves and buildings during summer/winter. It has widely scattered locations in Arizona, but is known from only 15 specimens as of the mid-1980s. No bats have been recorded in Mohave County since 1902. The riparian habitats known to support this species are not found in the Project area.
California leaf-nosed bat *Macrotus californicus*	Yes	This bat species roosts in mines, caves, rock structures, and in some manmade structures. It prefers large ceilings along with open flying spaces within roosts. It forages on large flying insects, primarily moths. See analysis in section 3.3.1.4 of this EA.
PLANTS		
Beaver dam milk-vetch *Astragalus geyeri* var. *triquetrus*	No	This species is known from Sand Hollow Wash, Horse Thief Canyon and Beaver Dam Wash. It occurs in small pockets of wind-blown sand in washes in the creosote bush scrub series of vegetation. This species is not known to occur within the Project area. The nearest known location is in Horse Thief Canyon, approximately 60 miles north of the Project area.
Aquarius milk-vetch *Astragalus newberryi* var. *aquarii*	No	This plant is localized to Burro Creek in Mohave County. It grows within limey clay soils in desert scrub areas that do not contain creosotebush and paloverde. The Project is over 50 miles northeast of Burro Creek.
Diamond butte milk-vetch *Astragalus toanus* var. *scidulus*	No	This plant is known only from the base of the Twin Buttes and Diamond Butte in the Hurricane Valley. It grows in mixed desertshrub at the base of cliffs. Hurricane Valley is over 90 miles northeast of the Project area.

TABLE C-4. SUMMARY OF BLM SENSITIVE SPECIES FOR MOHAVE COUNTY		
Species	**Suitable Habitat Present/Species Affected by Project**	**Rationale of Habitat Assessment**
Silverleaf sunray *Enceliopsis argophylla*	No	In Arizona, this species is known from the Lake Mead Area, Grapevine Mesa, Hurricane Cliffs, south of Hoover Dam, Boulder Dam area, Gyp Hills and east of Littlefields. This species grows on dry slopes and washes in desert scrub communities. The Project is located outside of the known range of this species. The nearest known locations to the Project area are approximately 60 miles north in the Lake Mead/Hoover Dam area.
Sticky buckwheat *Erigonum viscidulum*	No	In Arizona, this species is known only from extreme northwestern Mohave County north of the Virgin River. It grows on low dunes, washes, and sandy areas. The Project is located outside of the known range of this species.
Flannel bush *Fremontodendron californicum*	No	This species prefers dry rocky growing conditions from 6,000-7,000 feet and prefers granite slopes of chaparral, oak and yellow pine woodland, and pinyon-juniper woodland. The habitat and elevations known to support this species are not found within the Project area.
September 11 stickleaf *Mentzelia memorabalis*	No	This species is known only from the Clayhole Wash Drainage between Colorado City and Mount Trumball. It grows on dry gypsum-clay outcrops. The Clayhole Wash Drainage is over 95 miles northeast of the Project area.
Siler pincushion cactus *Pediocactus sileri*	No	This species is found in desert scrub vegetation, in transitional areas between the Navajo Desert, Sagebrush Desert and Mohave Desert, at elevations ranging from 2,800 and 5,400 feet. It occurs on gypsiferous clay and sandy soils of the Moenkopi formation, on all aspects of the hills and on slopes varying from 0 to 80 degrees. It occurs in extreme northern Arizona from the Hurricane Cliffs to near Fredonia. Its range extends approximately 22 miles south from the Arizona/Utah border into Mohave County. The Project is not within the known range of this species, and the substrate known to support this species is not found within the Project area.
White-margined penstemon *Penstemon albomarginatus*	No	This species is known from the Dutch Flat and Sacramento Valley areas southeast of Yucca, Arizona. It grows in coarse sandy and silty soils in Mohave desert scrub communities. The Project is over 20 miles north of the known locality of this species within Mohave County.
Cerbat beardtongue *Penstemon bicolor* ssp. *roseus*	No	In Arizona, this species occurs on the southeastern edge of the Shivwits Plateau. More specifically, it is known from Parashaunt and Andrus canyons. It typically grows in gravelly Kaibab limestone in pinyon-juniper woodlands. The Project area is over 90 miles southwest of the Shivwits Plateau.
Mt. Trumbull beardtongue *Penstemon distans*	No	This plant is known only from the southeastern edge of the Shivwits Plateau. It grows on gravelly Kaibab limestone on cliff tops and to a lesser extent on north facing canyon slopes of the Supai formation. The Project area is over 90 miles southwest of the Shivwits Plateau.

TABLE C-4.
SUMMARY OF BLM SENSITIVE SPECIES FOR MOHAVE COUNTY

Species	Suitable Habitat Present/Species Affected by Project	Rationale of Habitat Assessment
Parish's phacelia *Phacelia parishii*	No	In Arizona, this species is known from the Hualapai Valley and Burro Creek. It grows on alkaline playas or knolls in the desert, on the edges of dry lakes. The Project area does not occur at Burro Creek or in the Hualapai Valley.
Mohave indigo bush *Psorothamnus arborescens* var. *pubescens*	No	This species is found in the Colorado River drainage of southern Utah and northern Arizona, within Marble Canyon and the eastern Grand Canyon. It grows in flats and washes ranging from 500 to 3,000 feet in elevation. It is often associated with creosote bush scrub. The Project is not located within Marble Canyon or the Grand Canyon.
Grand Canyon rose *Rosa stellata* ssp. *roseus*	No	This plant is known to occur on both rims of the Grand Canyon (mainly the north rim), Kanab Canyon and the junction of the Little Colorado River with Big Canyon. The species is found near canyon rims or on the edges of plateaus and occurs on red-limestone soils. The Project area is located outside the known range of this species.
Aravaipa woodfern *Thelypteris puberula var. sonorensis*	No	This plant requires moist riparian habitat. It is often found in canyons, on riverbanks and next to seepages. It always grows in the shade of boulders. The riparian habitat known to support this species is not found in the Project area.
REPTILES		
Desert rosy boa *Charina trivirgata gracia*	No	The desert rosy boa is found in rocky areas of desert mountainous areas. It prefers canyons with permanent or intermittent streams (AGFD 2003b). Given the boa's preference for mountainous areas with a permanent to semi-permanent source of water, it is unlikely that the species would occur within the Project area.
Sonoran desert tortoise *Gopherus agassizii*	Yes	This tortoise species occurs in rocky foothills. It uses large boulders and caliche caves formed in banks of incised washes as shelter sites. See analysis in section 3.3.1.4 of this EA.
Banded Gila monster *Heloderma suspectum cinctum*	Yes	This species is found among rocky foothills, bajadas, and canyons in the Sonoran Desert and extreme western edge of the Mohave Desert. See analysis in section 3.3.1.4 of this EA.

Note: Information in this table was gathered from various sources including Arizona Game and Fish Department (Special Status Species by County, Taxon, Scientific Name [2010], and various unpublished abstracts compiled by the Heritage Data Management System 2001 - 2004), and NatureServe online encyclopedia of life (2009).

APPENDIX D

BIOLOGICAL QUADRANGLE MAPS FOR OWL AND TORTOISE

Biological Resources
Davis-Kingman Tap
69-kV Transmission Line
Rebuild Project

Mohave County

Davis Dam Quadrangle

T32S R66E

T20N R21W

Legend

- Transmission Centerline
- Access Road

Desert Tortoise Habitat

- Category 1
- Category 2
- Category 3
- Abandoned Mine
- Migratory Bird Nest
- Potential Burrowing Owl Habitat/ Potential Swainson's and Ferruginous Hawk Foraging Habitat
- Potential Peregrine Falcon Nesting Habitat
- Wildlife Linkages

1 2 3 4 5 6 7

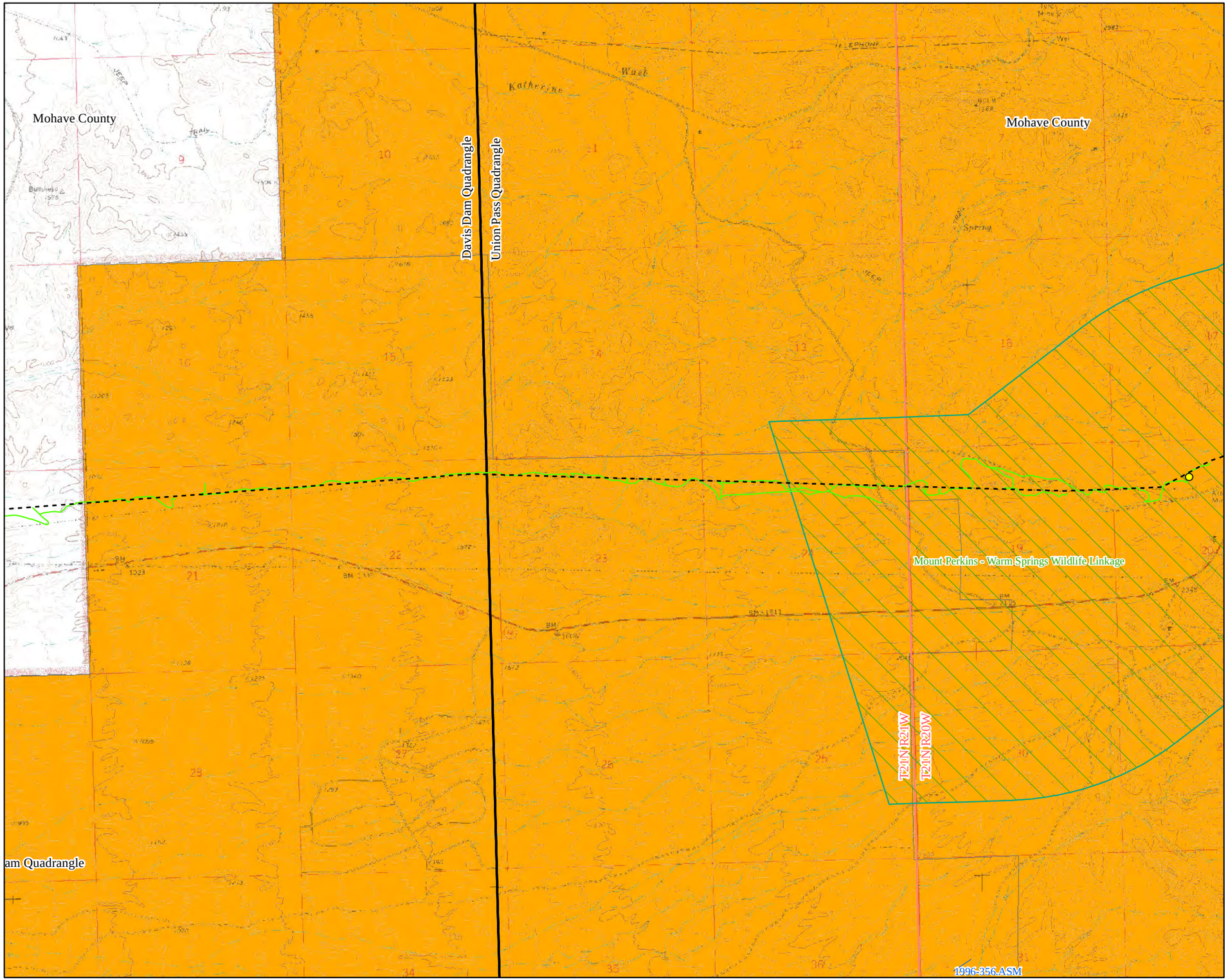
ARIZONA

Project Location

N W E S

0 1 Miles

TRANSCON environmental



Biological Resources
Davis-Kingman Tap 69-kV Transmission Line Rebuild Project

Legend

- Transmission Centerline
- Access Road

Desert Tortoise Habitat

- Category 1
- Category 2
- Category 3
- Abandoned Mine
- Migratory Bird Nest
- Potential Burrowing Owl Habitat/ Potential Swainson's and Ferruginous Hawk Foraging Habitat
- Potential Peregrine Falcon Nesting Habitat
- Wildlife Linkages

1 2 3 4 5 6 7

ARIZONA

Project Location

N W E S

0 1 Miles

TRANSCON environmental

Biological Resources
Davis-Kingman Tap
69-kV Transmission Line
Rebuild Project

2001-541.ASM

2000-815.ASM

Mohave County

Union Pass Quadrangle

Secret Pass Quadrangle

B L A C K M O U N T A I N S

Union Pass

Sugarloaf

Mount Perkins - Warm Springs Wildlife Linkage

3 mines
at this location

Thumb Butte

T24N R20W

T24N R19W

Mohave County

356.ASM

Legend

- Transmission Centerline
- Access Road

Desert Tortoise Habitat

- Category 1
- Category 2
- Category 3
- Abandoned Mine
- Migratory Bird Nest
- Potential Burrowing Owl Habitat/ Potential Swainson's and Ferruginous Hawk Foraging Habitat
- Potential Peregrine Falcon Nesting Habitat
- Wildlife Linkages

1 2 3 4 5 6 7

ARIZONA

Project Location

N W E S

0 1 Miles

TRANSCON environmental

Biological Resources
Davis-Kingman Tap
69-kV Transmission Line
Rebuild Project

Mount Perkins - Warm Springs Wildlife Linkage

Mohave County

Water Tank

T22N R20W

T21N R19W

Mohave County

Secret Pass Quadrangle

Legend

- Transmission Centerline
- Access Road

Desert Tortoise Habitat

- Category 1
- Category 2
- Category 3
- Abandoned Mine
- Migratory Bird Nest
- Potential Burrowing Owl Habitat/ Potential Swainson's and Ferruginous Hawk Foraging Habitat
- Potential Peregrine Falcon Nesting Habitat
- Wildlife Linkages

1 2 3 4 5 6 7

ARIZONA

Project Location

N W E S

0 1 Miles

TRANSCON environmental

Biological Resources
Davis-Kingman Tap
69-kV Transmission Line
Rebuild Project

Mohave County

Mohave County

Secret Pass Quadrangle

Kingman NW Quadrangle

T21N R19W

T21N R18W

Legend

- Transmission Centerline
- Access Road

Desert Tortoise Habitat

- Category 1
- Category 2
- Category 3
- Abandoned Mine
- Migratory Bird Nest
- Potential Burrowing Owl Habitat/ Potential Swainson's and Ferruginous Hawk Foraging Habitat
- Potential Peregrine Falcon Nesting Habitat
- Wildlife Linkages

1 2 3 4 5 6 7

ARIZONA

Project Location

N W E S

0 1 Miles

TRANSCON environmental

Biological Resources
Davis-Kingman Tap
69-kV Transmission Line
Rebuild Project

Mohave County

Mohave County

Hulapai Mountains - Cerbat Mountains Wildlife Linkage

T21N R18W

T21N R17W

Kingman NW Quadrangle

Kingman Quadrangle

Legend

- Transmission Centerline
- Access Road

Desert Tortoise Habitat

- Category 1
- Category 2
- Category 3
- Abandoned Mine
- Migratory Bird Nest
- Potential Burrowing Owl Habitat/ Potential Swainson's and Ferruginous Hawk Foraging Habitat
- Potential Peregrine Falcon Nesting Habitat
- Wildlife Linkages

1 2 3 4 5 6 7

ARIZONA

Project Location

N W E S

0 1 Miles

TRANSCON environmental

Biological Resources
Davis-Kingman Tap
69-kV Transmission Line
Rebuild Project

Mohave County

Mohave County

Hulapai Mountains - Cerbat Mountains Wildlife Linkage

T21N R17W

Kingman Quadrangle

Kingman Quadrangle

Legend

- Transmission Centerline
- Access Road

Desert Tortoise Habitat

- Category 1
- Category 2
- Category 3
- Abandoned Mine
- Migratory Bird Nest
- Potential Burrowing Owl Habitat/ Potential Swainson's and Ferruginous Hawk Foraging Habitat
- Potential Peregrine Falcon Nesting Habitat
- Wildlife Linkages

1 2 3 4 5 6 7

ARIZONA

Project Location

N W E S

0 1 Miles

TRANSCON environmental

APPENDIX E

SONORAN DESERT TORTOISE GUIDELINES

GUIDELINES FOR HANDLING SONORAN DESERT TORTOISES ENCOUNTERED ON DEVELOPMENT PROJECTS

Arizona Game and Fish Department
Revised October 23, 2007

The Arizona Game and Fish Department (Department) has developed the following guidelines to reduce potential impacts to desert tortoises, and to promote the continued existence of tortoises throughout the state. These guidelines apply to short-term and/or small-scale projects, depending on the number of affected tortoises and specific type of project.

The Sonoran population of desert tortoises occurs south and east of the Colorado River. Tortoises encountered in the open should be moved out of harm's way to adjacent appropriate habitat. If an occupied burrow is determined to be in jeopardy of destruction, the tortoise should be relocated to the nearest appropriate alternate burrow or other appropriate shelter, as determined by a qualified biologist. Tortoises should be moved less than 48 hours in advance of the habitat disturbance so they do not return to the area in the interim. Tortoises should be moved quickly, kept in an upright position parallel to the ground at all times, and placed in the shade. Separate disposable gloves should be worn for each tortoise handled to avoid potential transfer of disease between tortoises. Tortoises must not be moved if the ambient air temperature exceeds 40° Celsius (105° Fahrenheit) unless an alternate burrow is available or the tortoise is in imminent danger.

A tortoise may be moved up to one-half mile, but no further than necessary from its original location. If a release site, or alternate burrow, is unavailable within this distance, and ambient air temperature exceeds 40° Celsius (105° Fahrenheit), the Department should be contacted to place the tortoise into a Department-regulated desert tortoise adoption program. Tortoises salvaged from projects which result in substantial permanent habitat loss (e.g. housing and highway projects), or those requiring removal during long-term (longer than one week) construction projects, will also be placed in desert tortoise adoption programs. *Managers of projects likely to affect desert tortoises should obtain a scientific collecting permit from the Department to facilitate temporary possession of tortoises.* Likewise, if large numbers of tortoises (>5) are expected to be displaced by a project, the project manager should contact the Department for guidance and/or assistance.

Please keep in mind the following points:

- These guidelines do not apply to the Mojave population of desert tortoises (north and west of the Colorado River). Mojave desert tortoises are specifically protected under the Endangered Species Act, as administered by the U.S. Fish and Wildlife Service.

- These guidelines are subject to revision at the discretion of the Department. We recommend that the Department be contacted during the planning stages of any project that may affect desert tortoises.

- Take, possession, or harassment of wild desert tortoises is prohibited by state law. Unless specifically authorized by the Department, or as noted above, project personnel should avoid disturbing any tortoise.

APPENDIX F

BURROWING OWL SURVEY PROTOCOL

BURROWING OWL PROJECT CLEARANCE GUIDANCE FOR LANDOWNERS

Arizona Burrowing Owl Working Group

Arizona Game and Fish Department
5000 West Carefree Highway
Phoenix, Arizona 85086

January 2009

BURROWING OWL PROJECT CLEARANCE GUIDANCE FOR LANDOWNERS

Arizona Burrowing Owl Working Group

INTRODUCTION

The western burrowing owl (*Athene cunicularia*) is one of the most interesting birds of prey in Arizona (Figure 1). Its species name, *cunicularia*, means "miner", in reference to this owl's unusual habit of spending time underground. It is also called the "rattlesnake owl", because young burrowing owls make a buzzing sound that sounds like a rattlesnake when disturbed. Burrowing owls can be seen during daylight hours, and use underground burrows for nesting and escape cover. Despite the fact they are active during the day and are adaptable to human presence, the burrowing owl can go unnoticed in an area due to their secretive nature. Their use of burrows also makes them susceptible to impacts from ground disturbing activities.

Figure 1. Adult burrowing owl. *Photo by Bruce Taubert.*

Over the past 50 years, most burrowing owl populations have experienced declines throughout their range in North America. Because of this decline, these owls are protected by various Federal, state, and local laws. The burrowing owl is listed by the USFWS as a National Bird of Conservation Concern, listed as endangered in Canada, and threatened in Mexico. It is also listed as endangered, threatened, or a species of concern in 9 U.S. States. All owls in Arizona are protected federally by the Migratory Bird Treaty Act (MBTA) and Arizona state law (ARS Title 17). Violation of these laws, intentional or benign, may result in prosecution.

Burrowing owls are found in areas of Arizona where urbanization and other human activities are occurring. Arizona is one of the fastest growing states in the U.S., leading to frequent conflicts between burrowing owls and development. Owls can be affected by disturbance and habitat loss, even though there may be no direct impacts to the birds themselves or their burrows. There is often inadequate information about the presence of burrowing owls on a project site until ground disturbance is imminent. By then, it is too late to develop a solution that is helpful to the owls or the developer. These guidelines are intended to provide information and tools than can be applied when there is the potential for a project or action to adversely affect burrowing owls and the resources that support them. Each project and situation is different and should be evaluated for the tools and approach that is most effective in allowing a project to move forward while achieving burrowing owl conservation. These guidelines may not provide the necessary procedures for every project, and we encourage coordination with the agencies and entities listed in the Contact section of this document (Appendix A).

BURROWING OWLS SURVEY PROTOCOL

This guidance was developed by State, Federal, and other burrowing owl experts to help individuals avoid violating the laws protecting burrowing owls. This effort will provide a standardized means for conducting burrowing owl surveys in areas where burrows are likely to be disturbed by projects that may displace them in order to minimize impacts to the owls.

This protocol involves visual surveying for owls and burrows using transects to look for occupancy and/or signs of occupancy. We recommended that only individuals with proper training and certification conduct the survey. This document will be revised as necessary, and updates will be provided to certified surveyors, along with any guidance related to maintaining certification. Updates to this document will also be made available to the public. To facilitate statewide burrowing owl management, we recommend that all survey areas, routes, times, and detections be reported to Arizona Game and Fish Department (AGFD) within 30 days of survey completion. If owls or active burrows are detected, coordination with the appropriate agencies prior to initiating ground-disturbing activity will facilitate compliance with the applicable laws (see Appendix A).

SUITABLE HABITAT

Burrowing owl nesting habitat typically consists of dry, treeless, short-grassland or prairie plains. In the desert environment they nest in areas of short, open scrublands such as mesquite (*Prosopis* spp.), creosote bush (*Larrea tridentate*), rabbit-brush (*Chrysothamnus nauseous*), and four-wing saltbush (*Atriplex canescens*). They tend to be tolerant of human presence, and will nest in human-modified landscapes such as: abandoned lots within rapidly developing urban areas, airports, golf courses, agricultural fields, irrigation canals, storm drains, roadsides, and parking lots (Figure 2). In the western United States, burrowing owls do not dig their own burrows, and therefore depend on the presence of burrowing mammals. Throughout Arizona, burrowing owls are associated with Gunnison's prairie dogs (*Cynomys gunnisonii*), American badgers (*Taxidea taxus*), ground squirrels (*Spermophilus* spp.), rock squirrels (*Spermophilus variegatus*), foxes (*Vulpes* spp.), and coyotes (*Canis latrans*). Therefore, any open grassland, scrubland, or park-like area devoid of dense tree cover and containing burrowing mammals or adequate artificial nest burrows (e.g., erosion channels or storm drain pipes) can represent adequate nesting, wintering or migratory habitat.

Figure 2. Natural burrow on a wash bank. *Photo by Elissa Ostergaard.*

SURVEYOR CREDENTIALS

Burrowing owl surveyors should have burrowing owl survey protocol certification (training provided by AGFD; see Website in Contacts below for next date and location) with appropriate documentation.

Completed burrowing owl survey reports provided to AGFD should include each surveyor's certification. Certification will be awarded on an individual basis based on attendance at the training, and will not need to be renewed unless new information or conditions dictate substantial change to the survey protocol.

SURVEY TIMING

Burrowing owls are most likely to occupy breeding burrows between March and mid-July (Figure 3). While burrowing owl migration habits are not well documented, it is believed that owls in northern Arizona generally migrate south for the winter, whereas a larger proportion (12 to 61%; Conway and Ellis 2004) of owls in southern and western Arizona is thought to be non-migratory (Sheffield 1997).

We recommend that preliminary surveys be conducted at the time of property acquisition or before project design to allow time to properly accommodate or mitigate for owls, if present (Table 1). We recommend avoiding project initiation in March due to the possibility of new owls arriving during construction unless all suitable burrows were permanently closed by a properly permitted individual or group before project-related activities. If owls or occupied burrows are detected within the construction area at any time during project implementation, burrows must be avoided (see below for buffer requirements) until: 1) status of the burrows can be determined and owls removed by properly permitted individuals or groups, or 2) other conservation measures are implemented.

Surveys should be conducted within first light (typically ½ hour before sunrise) and 3 hours after sunrise, and between 2 hours before sunset until dusk (typically ½ hour after sunset). Do not conduct surveys during or within 24 hours after a heavy rain or when wind speed is greater than 32 km/hr (20 mi/hr).

Figure 3. Artificial burrow with signs of occupancy. *Photo by Elissa Ostergaard.*

Table 1. Schedule for burrowing owl surveys.

Fall or Winter Initial Survey	
Results	Action
No burrows detected	None.
Unoccupied burrows found	Implement conservation measures* and conduct a second survey 90 days prior to grading.
Occupied burrows or owls found	Implement conservation measures* and survey 30 days prior to grading.

Spring or Summer Initial Survey	
Results	Action
No burrows detected	None.
Unoccupied burrows found	Implement conservation measures* and conduct a second survey 30 days prior to grading.
Occupied burrows or owls found	See below.

*Potential conservation measures include: 1) collapsing all unoccupied burrows of suitable dimensions by a permitted individual, 2) identifying open space areas to be protected as a buffer around occupied and suitable owl burrows, 3) passive exclusion of owls, or 4) translocation of owls by a permitted individual.

FIELD SURVEY PROTOCOL

We recommend that surveys be conducted in all portions of the project site that fit the description of Suitable Habitat (see above). Surveys are conducted by walking straight-line transects 10 m (33 ft) apart (or arranged so that all ground surfaces can be seen) and looking for evidence of owls: individuals, burrows, and sign of occupancy at burrow entrances (pellets, feces or other "ornamentation", feathers, prey remains, whitewash, etc) (Figure 4). Transects should be located over the entire project area, and oriented so the tops and sides of all topographic features are examined. For example, if the project area includes a wash with a steep bank, one transect should be near the top of the bank, and another near the base of the bank in the wash.

Figure 4. Adult burrowing owl at an artificial burrow entrance. *Photo by Bruce Taubert.*

At the start of each transect and every 100 m (300 ft), scan the entire visible project area for owls using binoculars or a spotting scope. Record the location of all burrows (natural and artificial). Burrows may include holes dug by mammals, birds, or created by erosion, pipes, spaces below concrete or other solid structures, etc. Each burrow (entrance height 8 + cm [3 + in]; width 8 +

cm [3 + in]; burrow depth > 1 m [3 ft]) should be assessed to determine potential use by burrowing owls, unless owls are present.

An "active" burrow has a live owl or owls, or shows sign of recent use (e.g., fresh whitewash, fresh pellets, feathers, or nest ornamentation – Figure 2). A "potentially active" burrow is one with evidence of previous use, but not recent (e.g., old whitewash, old pellets, cobwebs over entrance, and/or debris at burrow entrances). An "inactive" burrow exhibits no evidence of use by burrowing owls but is of suitable size for occupancy.

Record the number and location of all owls seen within or near the project area. Clean and remove all owl sign at potentially active burrows. Visit the site again after 2-8 days and check all potentially active burrows for fresh sign.

Survey Reporting

Record the surveys locations, dates, and the details of all burrow and owl detections (even if outside the construction zone), either on a hard copy map or as UTMs (Universal Transverse Mercator map coordinates compatible with GIS and GPS systems) using the standard form provided. Attach credentials of all surveyors as described above. Send within 30 days to raptors@azgfd.gov (preferred) or by mail:

Raptor Management Coordinator
Arizona Game and Fish Department
Nongame Branch
5000 West Carefree Highway
Phoenix, Arizona 85086

Owl Detections, Conservation and Mitigation

Should preliminary measures fail to prevent burrowing owl occupancy of a project site during implementation, or if active burrows are located in the construction zone during construction activities, the owls should not be disturbed as it may violate federal and state laws. A 35-m (100-ft) radius buffer, excluding all heavy machinery and foot traffic, should be set up around all active burrow entrances during construction and until the appropriate conservation action is determined (B. Fox, pers. comm.). To permanently accommodate owls on site, we recommend that a buffer of 35-m (100-ft) should remain in perpetuity between the burrows and new construction and managed to maintain breeding habitat suitability (Millsap and Bear 2000). On-site conservation areas should be connected to adjacent burrowing owl habitat through the use of habitat connections. Conservation areas should avoid isolation or fragmentation of burrowing owl habitat. Delineating protected areas (fencing, cones, etc.) is encouraged as long as it does not enclose the owls or prevent the owls' ability to see nearby predators.

If after surveys are completed and reports submitted to AGFD, burrowing owls or active or potentially active burrows are located within the project boundaries, the landowner is advised to contact the nearest AGFD office (see Appendix A) for direction. Further mitigation or costs may be avoided if occupied owl areas can be set aside for at least 10 years and if suitable habitat for nesting and foraging will remain after development is finished. If it is determined that the best option is to disturb and then mitigate for the disturbance of the owls, the owner must obtain a permit from U.S. Fish and Wildlife Service. Mitigation may include excluding owls from disturbed burrows prior to construction and/or providing artificial burrows on-site or in a different location and monitoring to determine the success of the actions taken.

Figure 5. Owlets at a natural burrow entrance. *Photo by Bruce Taubert.*

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Conway, C.J. and L.A. Ellis. 2004. Demography of Burrowing Owls Nesting in Urban and Agricultural Lands in Southern Arizona. Arizona Game and Fish Department, Heritage Grant Technical Report U03006, Phoenix, AZ.

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U.S. Fish and Wildlife Service. Migratory Bird Treaty Act, Migratory Bird Permit Office. Last accessed May 4, 2007. http://www.fws.gov/permits/mbpermits/birdbasics.html

APPENDIX A: CONTACTS

In Tucson and southern AZ:

Arizona Game and Fish Department
Urban Wildlife Program, Tucson Office
555 N. Greasewood Rd.
Tucson, AZ 85745
(520) 628-5376

US Fish and Wildlife Service
Ecological Services Office
201 N. Bonita Ave., Ste. 141
Tucson, AZ 85745
(520) 670-6144

In Phoenix, central and northern AZ:

Arizona Game and Fish Department
Raptor Management Coordinator
5000 W. Carefree Highway
Phoenix, AZ 85086
(623) 236-7500
www.azgfd.gov

US Fish and Wildlife Service
Ecological Services Office
2321 W. Royal Palm Road, Ste. 103
Phoenix, AZ 85021
(602) 242-0210
http://www.fws.gov/southwest/es/arizona/

Burrowing Owl Working Group Members

Marit Alanen, U.S. Fish and Wildlife Service
Troy Corman, Nongame Branch, Arizona Game and Fish Department
Tim Snow, Region V, Arizona Game and Fish Department
James Driscoll, Nongame Branch, Arizona Game and Fish Department
Bob Fox, Wild At Heart (Burrowing Owl Conservation Group)
Sam Fox, Wild At Heart (Burrowing Owl Conservation Group)
David Grandmaison, Research Branch, Arizona Game and Fish Department
Mike Ingraldi, Research Branch, Arizona Game and Fish Department
Shawn Lowery, Research Branch, Arizona Game and Fish Department
Scott Richardson, U.S. Fish and Wildlife Service
Ray Schweinsberg, Research Branch, Arizona Game and Fish Department
Aninna Thornburg, Region V, Arizona Game and Fish Department

APPENDIX B. BURROWING OWL SURVEY REPORT FORM

Surveyor(s):

Date of Survey:

Project Location Information
Project Name:
City:
County:
Legal Description (address, ¼ Section, Township, Range):

Weather Conditions During Survey
Precipitation: Y / N (circle one)
Wind Speed (mph):
Temperature: °F / °C (circle)
% Cloud Cover:

Survey Data
Area Surveyed: acres / ha / km^2 / m^2 (circle one)
Adult burrowing owls detected:
Juvenile burrowing owls detected:
Total # burrowing owls detected:
Total # Active burrows:
Total # Potentially Active burrows:

Habitat Description within Project Area (check if applicable)
- Open, treeless area
- Creosote flats
- Wash corridor
- Suitable burrows
- Fossorial mammals present – list species:
- Sonoran desert scrub
- Agriculture
- Urban development

Attach map of surveyed area with locations of survey transects. Identify locations of owls and suitable burrows. List owl detections and active or potentially active burrow locations in the following table (please include coordinates and datum) Attach additional pages if necessary:

Observation Type (Owl or Burrow)	Coordinates

Observation Type (Owl or Burrow)	Coordinates

Return completed forms (regardless of whether burrowing owls are detected) along with the surveyor's certification to:

Raptor Management Coordinator
Arizona Game and Fish Department
Nongame Branch
5000 West Carefree Highway
Phoenix, AZ 85086
(623) 236-7500
raptors@azgfd.gov

APPENDIX G

VISUAL SIMULATIONS

Photograph

This KOP is located at the intersection of Davis Dam Road and Katherine Spur Road. This location receives traffic from Lake Mead Recreation Area visitors. Viewers at this location have views of various transmission line elements. No significant change in the landscape was estimated to occur at this KOP and therefore no simulation was prepared.

Davis-Kingman Tap 69-kV Transmission Line Rebuild Project

Western AREA POWER ADMINISTRATION

KOP 1

Photograph

Simulation

This KOP is located within a residential neighborhood at the intersection of Sunbonnet Drive and Sunlane Drive. Residents in this community have views toward the Black Mountains, the Colorado River, and nearby residents. The Project is located almost one-quarter of one mile away from this point.

Davis-Kingman Tap 69-kV Transmission Line Rebuild Project

Western AREA POWER ADMINISTRATION

KOP 2

Photograph

Simulation

This KOP is located near Katherine Mine Road and the western edge of a planned residential development. Views of the rugged hills conceal portions of the existing alignment. The topography and vegetation would continue to screen elements of the Project upgrades.

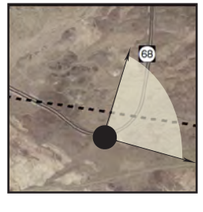
Davis-Kingman Tap 69-kV Transmission Line Rebuild Project

Western AREA POWER ADMINISTRATION

KOP 3

Photograph

Simulation



This KOP is at the intersection of State Route 68 and the Secret Pass Trail (Old Kingman Highway) turnoff. Views in the simulation are toward the northeast along SR 68 looking to the Black Mountains. Viewers along State Route 68 are generally traveling at speeds of 65 miles per hour. The nearest structure is located approximately one-tenth of one mile away.

Davis-Kingman Tap 69-kV Transmission Line Rebuild Project

Western AREA POWER ADMINISTRATION

KOP 4

Photograph

This KOP is at an established access point within the Mount Nutt Wilderness area. The Project is located more than 1.5 miles to the north. Distance, topography and vegetation conceal the existing project from viewers in its current state. This photograph has been included to illustrate how the elements of the existing line are non-evident. It is reasonable to assume that the Project upgrades would remain unseen.

Davis-Kingman Tap 69-kV Transmission Line Rebuild Project

Western AREA POWER ADMINISTRATION

KOP 5

Photograph

Existing distribution lines
(not part of this Project)

This KOP is at the Cave Spring trailhead, a primary access point to the Mount Nutt Wilderness area. The Project is located approximately three miles to the north of the trailhead. Distance, topography and vegetation conceal the existing transmission lines from viewers at this location. This photograph has been included to illustrate how the elements of the existing line are non-evident. It is reasonable to assume that the Project upgrades would remain unseen.

Davis-Kingman Tap 69-kV Transmission Line Rebuild Project

Western AREA POWER ADMINISTRATION

KOP 6

Photograph

Simulation

This KOP is located in the center of Golden Valley, near a more densely populated residential neighborhood. This simulation represents typical views that residents would have of the project within the Golden Valley. The Project is approximately one-quarter of one mile south of this location.

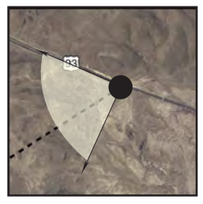
Davis-Kingman Tap 69-kV Transmission Line Rebuild Project

Western AREA POWER ADMINISTRATION

KOP 7

Photograph

Simulation



This KOP is to the southwest from the parking area at the Monolith Gardens Trailhead within the Cerbat Foothills Recreation Area. This area is used by hikers, mountain bikers, and horseback riders. The nearest transmission line structure is located approximately one-tenth of one mile away.

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Western AREA POWER ADMINISTRATION

KOP 8