



## United States Department of the Interior



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### In Reply Refer To:

NVN-085482

NVN-012182

2850 (LLNVL03000)

Dear Reader;

Attached is the *Preliminary Environmental Assessment for the Scott Substation in Coyote Spring Valley to the Nevada Test and Training Range, Tikaboo Valley, NV Transmission Facilities Project* for your review. The Environmental Assessment (EA) assesses the impacts of a proposal of the Lincoln County Power District (LCPD) to build two new power transmission lines to upgrade its distribution system and provide power to the Nevada Test and Training Range (NTTR). The United States Air Force is collaborating with the LCPD to build the facilities. The BLM would grant Rights-of-Way (ROW) to the LCPD to build and operate 46.5 miles of 138 kilovolt overhead transmission line from the permitted Scott Substation (N-83047) located on private land in T12S R63E Sections 6 and 7 along the SWIP utility corridor to the existing Delamar Switchyard (N-12182), located on BLM administered lands in T5S R64E Sections 16 and 17, which would be expanded to become the proposed Delamar Substation. The other transmission line would be a 12.7 mile 69 kV line on BLM administered lands from the proposed Mt. Irish Switchyard located in T6S R58E Section 10 to interconnect with a structure at the NTTR boundary located in T7S R56E Section 12. The proposed 69 kV transmission line would exit the proposed Mt. Irish Switchyard and head southwest on BLM land, cross State Route 375 and then continue on BLM administered land for approximately 10.5 miles at which point it would turn and head west for approximately 2.2 miles to the NTTR.

In addition to the transmission lines, LCPD would install 37.6 miles of optical ground wire (OPGW) on the existing Delamar to Tempiute 69 kV transmission line (N-12182) would be required as a result of this transmission project. The installation of the OPGW would not require new right-of-way as this line would be installed on the existing transmission structures.

Comments on the EA will be accepted until the close of business, Monday, January 3, 2011. Please submit any comments to Karen McAdams-Kunze at the address on the letterhead. If you have any questions, please feel free to contact Sheri Wysong 775-726-8140 or [Sheri\\_Wysong@blm.gov](mailto:Sheri_Wysong@blm.gov), or Karen McAdams-Kunze at 775-726-8108 or [Karen\\_McAdams-Kunze@blm.gov](mailto:Karen_McAdams-Kunze@blm.gov).

Sincerely,

/s/ Shirley Johnson, Acting for

Victoria Barr  
Field Manager  
Caliente Field Office

**U.S. Department of the Interior  
Bureau of Land Management**

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**Preliminary Environmental Assessment  
DOI-BLM-NV-L030-2010-0046-EA  
December 2010**

**Scott Substation in Coyote Spring Valley to the  
Nevada Test and Training Range, Tikaboo Valley,  
NV Transmission Facilities Project**

**FLPMA TITLE V ROW**

**Lincoln County, Nevada**

***Applicant: Lincoln County Power District  
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NVN-012182

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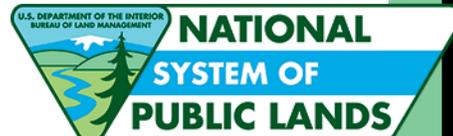


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## ACRONYMS

ac	acre
APE	area of potential effect
AUM	animal unit month
BAPC	Nevada Bureau of Air Pollution Control
BAQP	Nevada Bureau of Air Quality Planning
BLM	United States Bureau of Land Management
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Register
CWA	Clean Water Act
DRI	Desert Research Institute
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
ft	feet/foot
GIS	geographic information system
GLO	General Land Office
ha	hectare/hectares
HMA	herd management area
km	kilometer/kilometers
kV	kilovolt
LCPD	Lincoln County Power District
mi	mile/miles
m	meter/meters
MV	megavolt
NAAQS	National Ambient Air Quality Standards
NDEP	Nevada Division of Environmental Protection
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NNHP	Nevada National Heritage Program
NRHP	National Register of Historic Places
NTTR	Nevada Test and Training Range
NVCRIS	Nevada Cultural Resource Information System
OHV	off highway vehicle
OPGW	optical ground wire
PNWR	Pahranagat National Wildlife Refuge
POD	Plan of Development
ROW	Right-of-way
SHPO	State Historic Preservation Office
USAF	United States Air Force
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VRM	Visual Resource Management

# PRELIMINARY ENVIRONMENTAL ASSESSMENT

## 801 Transmission Facilities Project [N-85482]: Scott Substation in Coyote Spring Valley to the Nevada Test and Training Range, Tikaboo Valley, NV

### 1 INTRODUCTION

This Environmental Assessment (EA) is prepared pursuant to Section 102 of the National Environmental Policy Act of 1969 (NEPA), as implemented by the regulations promulgated by the President's Council on Environmental Quality (CEQ, 1978), and the Bureau of Land Management's National Environmental Policy Act Handbook H-1790-1 to ensure compliance with NEPA and CEQ regulations. Since the United States Air Force would be providing funds for the implementation of the proposal, it also has been prepared pursuant to 32 CFR Part 989, (which defines the Air Force's Environmental Impact Analysis Process (EIAP); see Air Force Instruction 32-7061)) in anticipation of the Air Force's adoption of the document as provided for in *CEQ Guidance Regarding NEPA Regulations, 48 Fed. Reg. 34263 (July 28, 1983)*. The objective of NEPA is to ensure that the federal decision-making process recognizes natural and cultural resources and considers the potential environmental impacts of proposed actions before decisions are made and actions are taken. Therefore, this EA contains an explanation of the proposed action, an evaluation of the natural and cultural resources present, a description of alternative actions, and an estimate of the environmental impacts of all alternative actions. Also, it provides sufficient evidence and analysis to determine whether or not to prepare an environmental impact statement (EIS) or a finding of no significant impact (FONSI) (40 CFR 1508.9). All of the requirements contained in the Clean Air (CAA), Clean Water (CWA), Endangered Species (ESA), and National Historic Preservation (NHPA) Acts as they apply to implementation of the proposed action will be complied with.

This EA tiers to and incorporates by reference the Proposed Ely District Resource Management Plan (RMP) Environmental Impact Statement (EIS) (2007) and the West Wide Energy Corridor EIS and incorporates by reference the Final EIS for the ON Line Project. It evaluates only those natural, cultural and socio-economic resources reasonably expected to be potentially significantly affected by the granting of the required rights-of-way and construction of the proposed transmission facilities.

#### 1.1 Background

Lincoln County Power District No. 1 (LCPD) owns and operates electrical transmission and switching equipment in Coyote Spring Valley, Delamar Valley, Pahrangat Valley and Tikaboo Valley and provides electrical service to all of Lincoln County. Communities served include the new Coyote Spring development, the town of Alamo and surrounding rural areas of Pahrangat Valley, the agricultural area and small community of Rachel in Penoyer Valley, the towns of Caliente, Panaca and Pioche, and all associated rural areas. LCPD's current combined load is approximately 18 megawatts (MW). The LCPD proposed action would increase the combined load by a maximum of 8 MW.

LCPD is a political subdivision of the State of Nevada, created on June 24, 1935 by Order and Opinion of the Public Service Commission of the State of Nevada as a Power District

under Chapter 72 of the laws of Nevada. These laws were subsequently revised and LCPD is now considered a General Improvement District governed by Chapter 318 of the Nevada Revised Statutes. As a General Improvement District, LCPD is governed by a five member board elected by citizens residing within LCPD's boundaries. The function of LCPD is to provide electric service throughout Lincoln County, Nevada and adjoining areas. As a General Improvement District, LCPD does not profit from the sale of electric energy and its primary purpose is to provide a public good by serving the electric energy needs of its customers.

## **1.2 Purpose of the Proposed Action**

The BLM's purpose in considering approval of the application for a grant of right-of-way for electrical transmission facilities is to provide legitimate use of the public lands to the proponent. Legitimate uses are those that are authorized under Title V, Section 501 of the Federal Lands Policy Management Act (FLPMA) of 1976 and meet the proponent's objectives while preventing undue and unnecessary degradation in accordance with the objectives defined by 43 CFR 2810.2 (a-d).

LCPD's objective is to satisfy a pre-development contract with the U.S. Air Force (USAF), to construct new, and upgrade some existing, transmission facilities in order to provide reliable and cost effective external electrical energy to the northeast boundary of the Nevada Test and Training Range (NTTR) to support the Department of Defense missions within the NTTR.

## **1.3 Need for the Proposed Action**

The BLM needs to consider approval of the application for a grant of right-of-way to respond to its mandate under the FLPMA to manage the public lands for multiple uses in a manner which recognizes the Nation's need for reliable electrical energy distribution and its need to support a viable and effective national defense. Critical to the latter is the Department of Defense's missions on the NTTR. Some of the electronic equipment on the NTTR is run by operation of relatively small on-site electrical energy generation equipment. Reliability of electrical energy is critical to defense missions on the NTTR and thus there is a need for a reliable and cost effective primary external source of electricity as is proposed to be provided by LCPD.

## **1.4 Land Use Plan Conformance**

The proposed action is in conformance with The Ely District Record of Decision and Approved Resource Management Plan (August, 2008). Although the proposed action is not specifically provided for in the Resource Management Plan (RMP) it is clearly consistent with the Goals and Objectives of the RMP which are to:

- Manage public lands in a manner that meets public, local, state and federal agency needs for use authorizations such as rights-of way, permits, leases, and easements while avoiding or minimizing adverse impacts to other resource values and
- To respond to public, local, state and federal agency needs for land for community development, utility and other associated rights of way, communication sites, and other allowed uses of BLM administered lands. (pages 66 and 67)

## **2 Proposed Action and Alternative**

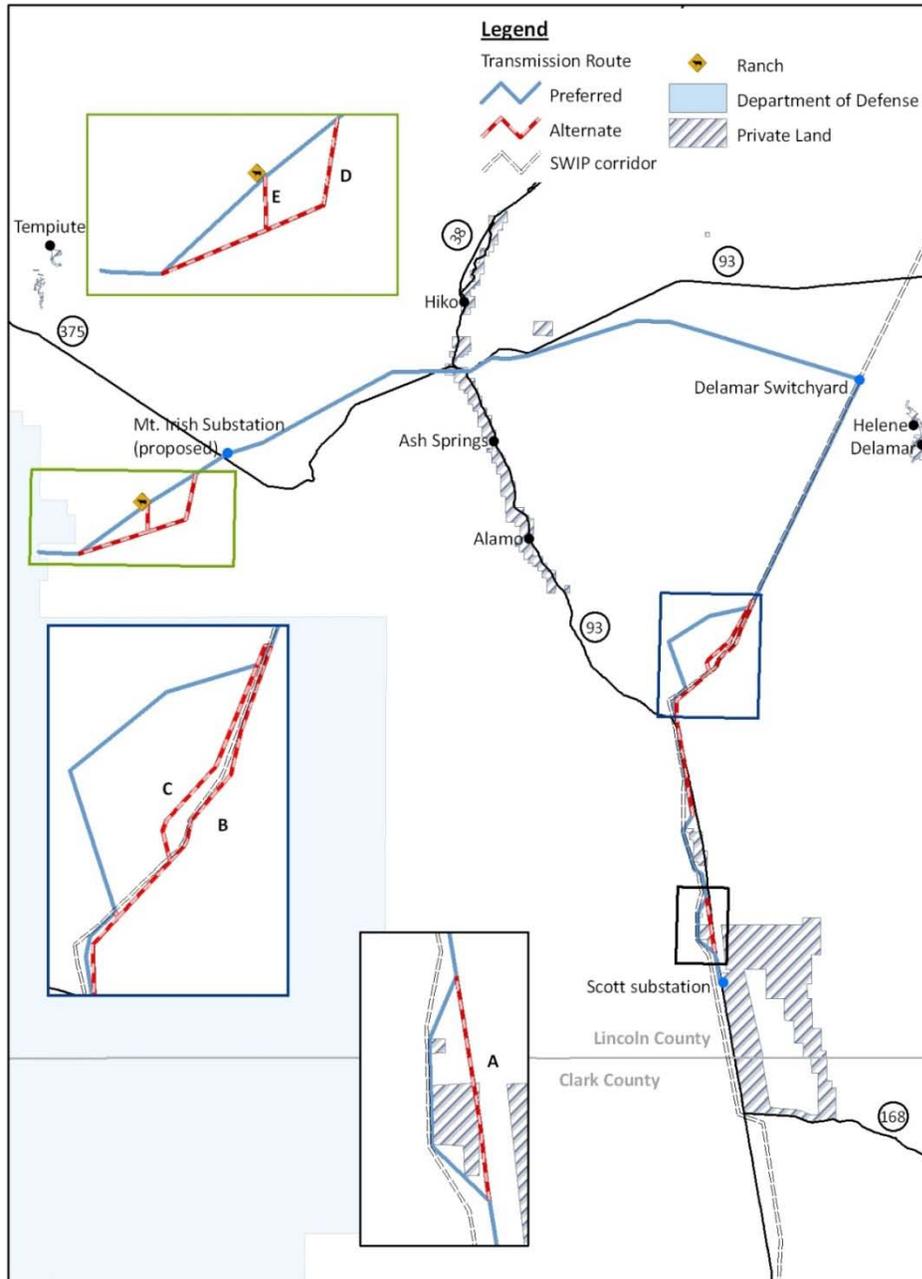
### **2.1 No Action Alternative**

Under this alternative BLM would not grant the requested right-of-way, LCPD would not construct and upgrade the proposed facilities and the Air Force would thus not contract with LCPD for the power. The No-Action alternative does not meet the purpose and need of the proposed action.

### **2.2 Proposed Action**

Alignment for the proposed action is shown in Figure 2.1. If BLM issues the ROW grant, LCPD would construct and operate a 46.5 miles 138 kilovolt (kV) overhead transmission line from the existing Scott Substation located on private land in T12S R63E Sections 6 and 7 to the permitted Delamar Switchyard (N-12182) which would be expanded to become the proposed Delamar Substation, located on BLM administered land in T5S R64E Sections 16 and 17. The proposed 138 kV transmission line would exit the Scott Substation to the west, cross US Highway 93 and turn north within a BLM Designated Utility Corridor. The proposed project would continue within this utility corridor for approximately 21.5 mi until the terrain becomes impassible within the corridor. At this point, the line would be forced to deviate from the utility corridor for approximately 8.9 miles. (Where the route leaves the designated utility corridor, a new road will be required. Location of this road was coordinated with NV Energy looking to also by-pass the corridor constriction with the ON Line Transmission Line. However, to the extent practicable, overland travel between utility poles will require a single road, rather than construction of additional access roads. This new 8.9 miles long road will be maintained by LCPD for the purpose of transmission line maintenance work.) The line would then re-enter the corridor and continue the remaining 16.1 mi north to the Delamar Switchyard which would be expanded to become Delamar Substation. The expansion would require approximately 5 acre (ac) of new right-of-way. The construction of this proposed 138 kV transmission line is anticipated to require approximately 46.5 mi of 150 feet (ft) wide right-of-way. Approximate land area to be disturbed by the proposed action is shown in Table 2.1.

As a part of the project, LCPD would construct and operate a 12.7 mi 69 kV transmission line on BLM land from the proposed Mt. Irish Switchyard located on BLM administered land in T6SR58E Section 10 to interconnect with a structure at the NTTR boundary located in T7S R56E Section 12. The proposed 69 kV transmission line would exit the proposed Mt. Irish Switchyard and head southwest, crossing State Route 375, for approximately 10.5 mi at which point it would turn and head west for approximately 2.2 mi to the NTTR. The proposed Mt. Irish Switchyard would include the installation of switchgear and other electrical equipment. The construction of the proposed Mt. Irish Switchyard would require approximately 5 ac of right-of-way. The construction of the proposed 69 kV transmission line is anticipated to require approximately 12.7 mi of 100ft wide right-of-way. The preferred route alternative across Tikaboo Valley from the Mt. Irish Switchyard to the NTTR would require construction of a maximum of approximately 10.5 mi of new access road. However, as noted above, to the extent practicable, overland travel between structures will be used, rather than construction of new access roads, thus, something less than the maximum 10.5 miles will be graded. From the point where the route turns west, stub roads will be constructed from the existing road to access structure sites. These stub roads will be within the requested right-of-way.



**Figure 2.1** The preferred and alternative transmission line routes in Lincoln County Nevada.

**Table 2-1 Approximate Land Area to be Disturbed with the Proposed Action**

Design Specifications	Description
<b><u>138 kV Transmission Line</u></b>	
Line Length	46.5 miles
Land Temporarily Disturbed (short-term disturbance)	<ul style="list-style-type: none"> <li>- Wood pole H-Frame would require approximately 0.27 ac/structure (130 ft x 90 ft) with conventional construction methods.</li> <li>- Wire pulling sites (approximately 7 sites) would require approximately 0.46 ac/site (200 ft x 100 ft)</li> <li>- Material &amp; storage handling yards would be located on private property and BLM land</li> </ul>
Land Permanently Disturbed	Pole structures would require approximately 0.06 ac/structure (30 ft x 90 ft)
Access Roads	New temporary or permanent roads (16 ft wide) - 1.94 ac/mile. LCPD would coordinate with adjacent utilities to provide common access for construction and maintenance to the extent possible
Structures & Span Length	Approximately 10 /mile at 550 ft spacing (approximately 465 total)
Delamar Substation	5 acres
<b><u>69 kV Transmission Line</u></b>	
Line Length	12.7 miles
Land Temporarily Disturbed (short-term disturbance)	<ul style="list-style-type: none"> <li>- Single wood pole would require approximately 0.23 ac/structure (120 ft x 85 ft) with conventional construction methods</li> <li>- Wire pulling sites (approximately 7) would require approximately 0.46 ac/site (200 ft x 100 ft)</li> <li>- Some material and storage yards would be on BLM land</li> </ul>
Land Permanently Disturbed	Pole structures would require approximately 0.06 ac/structure (30 ft x 90 ft)
Access Roads	New temporary or permanent roads (16 ft wide) - 1.94 ac/mile.
Structures & Span Length	Approximately 11/mile at 475 ft spacing (approximately 140 total)
Mt Irish Switchyard	5 acres

In addition, the installation of 37.6 miles of optical ground wire (OPGW) on the existing Delamar to Tempiute 69 kV transmission line (N-12182) would be required as a result of this transmission project. The installation of the OPGW would not require new right-of-way as this line would be installed on the existing transmission structures.

Temporary material storage yards would be required for construction materials at suitable locations along the transmission line and public access ways. These areas would serve as reporting locations for workers, parking spaces for vehicles and storage spaces for equipment and materials. Two material storage yards are anticipated to be needed. These storage yards would be located on BLM administered land. Each yard would be located in an area requiring minimal clearing and grading, to the extent possible. Structural materials such as wood structures, hardware, foundation material, and spools of conductor would be hauled by truck into the yard. A crane or forklift would be required to unload and transport the materials. Construction materials would be delivered by truck from the yard to lay down areas. From these areas, materials would be brought to structure sites as needed. Crews would load the material required for the workday thus limiting the weight hauled on the access roads. This would limit the impact and rutting on access roads caused by the use of heavy vehicles.

Conductor pulling sites would be required at angle locations and at substation locations for stringing the conductor. However, distances between each site would vary depending on the geography, topography and environmental sensitivity of the specific area, the length of the conductor pull, and the accessibility by equipment. Pulling sites would require a temporary area of approximately 100 ft by 200 ft in size. However, when construction occurs in the steep and rough terrain, these sites may require larger, less symmetrical pulling and tensioning sites. These sites would be located along the transmission line centerline. Angle structure pulling sites would be located outside the right of way or on a temporary use area. At each pulling site stringing equipment would be set up approximately 400 ft from the initial structure for leveraging the conductor pull safely.

The project would utilize any existing access roads wherever practical, thus keeping new construction to the minimum practical. However, some new access roads would be built where no existing access roads exist. Short spur roads would be constructed from existing access roads to structure sites, as required. New spur roads would be located within the right-of-way whenever practical and would be located to minimize visual impacts. The number of new spur roads would be held to a minimum, consistent with their intended use (e.g., structure construction or conductor stringing and tensioning). New access roads and improvements to existing access roads would be constructed only where absolutely necessary. Overland travel would be utilized to the maximum extent possible, including during the process of pulling conductor directly along the pole alignment. The specific road locations and anticipated acres of impact would be provided as a part of the Environmental Assessment.

In areas of steep terrain, the centerline of the road would be staked, and the road built so that there would be approximately 12 feet of travel-way with 2 feet of berm generally on either side (16 feet total). To minimize dust, the entire roadway width may not be bladed. To the extent practical, equipment passing would not be accommodated in these areas.

A portion of the road network used to get through the transmission line corridor would potentially cross area drainages. This would involve the potential installation of drainage structures. To the maximum extent possible, drainages would be crossed at grade (i.e., referred to as an Arizona crossing). Where Arizona crossings are not feasible, culverts would be installed.

Some of these proposed facilities are located on BLM managed land; some are located on BLM ROWs held by LCPD; some are located on a BLM Inheritable Occupancy Lease; and others are located on private property.

### Geotechnical Investigations

Prior to the final design of the project, geotechnical tests would be conducted at several of the structure locations and at the substation sites to determine the soil conditions for design of foundations. Geotechnical investigations will include borings at pre-selected sites. Boring locations for transmission line structures shall be sampled to a minimum depth of forty-five feet, unless auger refusal occurs at a shallower depth. Boring locations for substation structures shall be sampled to a minimum depth of thirty-five feet, unless auger refusal occurs at a shallower depth.

### 2.3 Route Alternatives Considered but Eliminated

As part of the preliminary design process, five route alternatives were examined to select a preferred route (see Figure 2.1). The first route alternative (alternative A) is approximately 2 miles north of the Scott Substation. This alternative to the preferred route crosses private property and is parallel to an existing 69kV transmission line. Route alternative A has the transmission line running in a straight line across the property as opposed to going around the private property. Crossing the private lands would entail entering a costly lease arrangement for the right-of-way. Furthermore, the existing transmission line crosses through an identified cultural resources site.

Route alternatives B and C are both located in the vicinity of the designated utility corridor constriction at the south end of Delamar Valley. The LCPD's existing 69kV transmission line currently traverses this zone, and other new transmission lines (e.g. LS Power, and SNWA) and the SNWA pipeline have been proposed for the corridor, making this segment potentially severely congested. Addition of the 138kV line through this constriction on the corridor would be very expensive and result in significant land disturbance to erect the H-frame structures. Potential routes along each side of the canyon were examined. In the project POD (ECI, 2008) the design firm described the constriction saying that "... the terrain becomes impassable within the corridor." Route alternative B is located outside and just to the east of the designated utility corridor, while route alternative C is totally within the corridor. Each of these route alternatives presents costly construction activities with some extensive associated land disturbance.

The preferred project alignment avoids the designated utility corridor constriction at the south end of Delamar Valley while minimizing environmental impact outside the utility corridor. This utility corridor constriction has been encountered by other projects being planned in the area, most notably the NV Energy One Nevada Transmission Line Project (ON Line Project). The LCPD proposed alignment parallels the alignment proposed by NV Energy as Segment 9A, the preferred action, described in the FEIS Environmental Impact Statement (FEIS) for the ON Line Project. The NV Energy ON Line Project and the LCPD 138-kV transmission line would be located in close proximity and would be able to share a common construction and maintenance access road

Route alternatives D and E are both in Tikaboo Valley to the southwest across Highway 375 from the proposed Mt. Irish Switchyard. From the switchyard to the beginning of either route alternative D or E, the preferred route will involve construction of some, at this time undetermined, length of access road for structure placement. Where possible on this route, access

will be by overland travel. Both route alternatives D and E are parallel to existing permanent roadways from which stub roads would allow access for structure placement, thus, potentially eliminating up to approximately 8.2 mi and 3.2 mi respectively of new access road construction. These reductions would be slightly offset by the aggregate lengths of the stub roads. Respectively for route alternatives D and E, these stub roads total approximately 1 mi and 0.6 mi. The added areas for the guy wires and cable pull areas in each case is approximately 1.8 ac.

## **RECLAMATION AND PUBLIC SAFETY AND ENVIRONMENTAL PROTECTION MEASURES**

Appropriate Right-of-Way Guide Stipulations (Appendix A) from the BLM 2801 Manual, would be added to the grant's terms and conditions. In addition, the applicant has committed to following Environmental Protection Measures in Section 3 of the POD:

### **Reclamation**

The Contractor would be required to have a continuous cleanup program throughout construction. The Contractor would restore land crossed to its pre-construction condition. Restoration would include the removal of deep ruts and the disposal of foreign objects such as: slash chunks of concrete, pile cut-off, construction materials, etc. Reclamation would include re-contouring of impacted areas to match the surrounding terrain, cleaning trash out of gullies and restoring terraces.

Waste materials and debris from construction areas, would be collected, hauled away, or disposed of at approved landfill sites. Equipment used could include a blader, front-end loader, tractor, and a dozer with a ripper. Procedures for restoration and right-of-way maintenance would be coordinated with the BLM, and private landowners and implemented as standard construction and reclamation measures.

The Contractor would be required to keep a clear work area throughout construction. After completion of the project, the Project Engineer would complete a final walk-through in conjunction with a BLM representative. The Project Engineer would note any waste material left on site and any ruts or terrain damage or vegetation disturbance that has not been repaired. The Contractor would be given this list and final payment would not be received until all items are completed.

The temporary areas of disturbance would be re-contoured to match the surrounding terrain. Construction sites, material storage yards, and access roads would be kept in an orderly condition and free of trash throughout the construction period. Refuse and trash would be collected at the temporary material staging construction yards (pulling and tensioning sites) in a closed container until removed from the sites and disposed of in an approved manner. Oils and fuels would not be dumped on the right-of-way. Waste oils or chemicals would be hauled to an approved site for disposal.

### **Public Safety Measures**

#### **Stipulations During Blasting**

Some work areas that may potentially require blasting are situated in rocky outcrops in high elevations. If this becomes necessary, all applicable state, local, and federal laws concerning the use of explosives will be followed. The blasting contractor will be licensed as required to handle and store explosives. LCPD would obtain a permit from the necessary agency as required

for the period when blasting may occur and would comply with the following requirements developed by BLM:

- The holder shall post warning signs at all entry points for the project. Warning signs shall include information on blasting, including the general hours blasting might take place and audible signals to be used warning of impending blasting, and to indicate that the site is all clear.
- Access points to areas where blasting would take place would be blocked, to prevent access by the public, at least 30 minutes prior to blasting. The site shall be swept five minutes prior to any shot being put off, to ensure that no unauthorized personnel have wandered onto the site. An audible warning signal, capable of carrying for one half mile, shall be used at least two minutes prior to the shot being put off. An “all clear” signal would be given once it has been determined that all danger in the area has passed.

### Fire Protection Plan

All federal, state, and county laws, ordinances, rules, and regulations, which pertain to prevention, pre-suppression, and suppression of fires, would be strictly adhered to. All personnel would be advised of their responsibilities under the applicable fire laws and regulations. It would be the responsibility of the construction contractor to notify the BLM when a project related fire occurs within or adjacent to the construction area.

The contractor would be responsible for any fire started, in or out of the project area, by its employees or operations during construction. The contractor would be responsible for fire suppression and rehabilitation. The contractor would take aggressive action to prevent and suppress fires on and adjacent to the project area, and would utilize its workers and equipment on the project for fighting fires within the project area.

Costs involved with contractor-caused fires would be charged to the contractor. There would be no extension of time for line construction for delays caused by contractor-related fires. Specific construction-related activities and safety measures would be implemented during construction of the transmission line in order to prevent fires and to ensure quick response and suppression in the event a fire occurs. These activities and requirements include:

- All vehicles must stay on designated roads or park in areas free of vegetation.
- The contractor would provide and store in a place easily accessed at each construction site: an axe, shovel, 1-5 gallons of water, and one 5-pound ABC dry powder CO<sub>2</sub> fire extinguisher during all construction activities.
- The contractor would have the appropriate notification numbers including the BLM Fire Dispatch, BLM Project Representative, and LCPD Construction Project Manager readily available on site for all employees in case of fire.

Any BLM imposed fire restrictions in the Proposed Project area would be adhered to, as necessary, during the construction, operation, and maintenance phase of the project. LCPD would make available to personnel traveling overland: axes, shovels, 1-5 gallon water jugs, and fire extinguishers per BLM recommendations to visitors on public land

### Environmental Protection Measures

Equipment Refueling and Leaks, Solid Waste

- LCPD would implement standard refueling procedures for heavy equipment that is left on the right-of-way for long periods of time, such as cranes, blades, cats, drill rigs, etc. This equipment would be refueled in place. However, no personal or light duty vehicles would be allowed to refuel on the right-of-way.
- Totally enclosed containment would be provided for any trash stored on site. Spill kits would be on site and diapers would be placed under leaking equipment immediately to prevent ground contamination.
- All construction waste, including trash and litter, garbage or solid waste, petroleum products and other materials would be removed to a disposal facility authorized to accept such materials. All construction, operation, and maintenance activities would comply with all applicable Federal, state and local laws and regulations regarding the use of hazardous substances. The construction or maintenance crew foreman would be responsible for maintaining compliance with all applicable laws and regulations. In addition, an onsite inspector would be present during construction to make sure all materials are used and stored properly.

#### Dust Control

- Water trucks would be the primary means of dust abatement during all phases of construction. Areas of high erosion may require application of a BLM approved palliative to reduce dust and prevent excess moisture on the road that may attract tortoise. LCPD or a designated contractor would obtain dust permits as necessary prior to construction and comply with all conditions in the permit. At each structure site the disturbed soil would be watered to form a crust following structure installation. Roads would be watered regularly and as needed to prevent dust emissions. Water spray would be controlled so that pooling would be avoided to the extent possible. Speed limits of 20-25 miles per hour would be set and strictly enforced.
- The contractor would negotiate with a regional enterprise to obtain water for construction and dust control. All project personnel would be educated on the site dust mitigation plan. The CIC would monitor dust conditions on site during construction.

Applicant Proposed Mitigation Measures (Section Five of the POD-some have been omitted because they are essentially the same as the *Right-of-Way Guide Stipulations (Appendix A)* and in the BMPs from the *RMP Programmatic Biological Opinion* or because they are in conflict with stipulations in the *Weeds Risk Assessment (Appendix D)*) include:

#### Air Quality

1. During excavation, backfilling, contouring, and rehabilitation, the disturbed soil should be wetted, chemically treated, or treated by other means satisfactory to the Authorized Officer, sufficiently in order to effectively reduce airborne dust and reduce soil erosion. A regular maintenance program shall include, but is not limited to, soil stabilization and reapplication of dust abatement methods as necessary.
2. All requirements of those entities having jurisdiction over air quality matter would be adhered to and any permits needed for construction activities would be obtained. Open burning of construction trash is not allowed.

3. Access to work areas would be by overland travel whenever possible to minimize grading. Access roads would be staked and blading would only be done if necessary. Speed would be limited to prevent excessive amounts of dust.

#### Hazardous or Solid Waste

1. No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate limits of survey or construction activity.
2. No biodegradable debris would be left in the right of way.

#### Cultural and Paleontological Resources

Prior to construction, Project personnel would be instructed on the protection of cultural, paleontological and ecological resources.

#### Special Status Plants

In designated areas, sensitive plants and/or habitat would be flagged and structures would be placed to allow spanning of the features, where feasible, within limits of standard structure design.

#### Soils/Watershed

1. Grading would be minimized by driving overland within work areas whenever possible, travelling the shortest practical path possible.
2. Construction activities would be minimized when the soil is too wet and unable to adequately support construction equipment.
3. New roads would be built at right angles to washes to the extent practicable. Construction and maintenance activities would be conducted to minimize disturbance to vegetation and drainage channels. Existing roads would be left in or restored to a condition equal to or better than their condition prior to construction.
4. All new access roads not required for maintenance would be permanently closed using methods approved by the landowner/manager (e.g. stockpiling and replacing topsoil or rock replacement).

#### Wildlife

Temporary work areas and designated access roads would be located to reduce impacts to wildlife and habitat.

#### Migratory Birds

Habitat altering activities would normally be timed to occur outside of the bird breeding season. If this cannot be avoided, vegetated areas would be surveyed for nesting birds prior to impact. If nesting birds are found, these areas would be avoided by an appropriately sized buffer as determined by BLM and US Fish and Wildlife Service (USFWS)

### 3 AFFECTED ENVIRONMENT

#### 3.1 General Setting/Resources Considered

As stated in the previous sections, the proposed action would result in the construction of both new and improvements to existing, transmission facilities in four different valleys. Both Mojave and Great Basin ecosystems are represented across these valleys, which transition south to north from Mojave Desert in Coyote Springs to Great Basin Desert in Delamar and Tikaboo valleys, respectively. Over the course of the proposed route, the topography varies from flat to rugged with steep slopes, with elevation ranging from 2,400 to 5,900 ft. The topographic variability across two ecosystems including the ecotone provides for a wide variety of habitats, geologic settings, and hydrologic conditions.

##### 3.1.1 General Setting

###### Climate

Climate in the proposed project area is continental, including hot summers, cold winters and wide diurnal fluctuations. Winter temperatures have fallen to as low as minus 15°F and summer highs have exceeded 117°F. Diurnal swings of 50°F are common.

Precipitation is most abundant in the winter and early spring, with periodic convective storms during the summer months. The standard deviation for each month tends to be greater than the mean indicating relatively large annual variation for every month of the year. The overall pattern is dominated by El Niño events, which result in extremely wet years, e.g. 1998 and 2004. Winter (October to March) precipitation ranges from 50 to 70 percent of total annual. The bulk of the winter precipitation occurs as rain although snowfall events of greater than 8 inches are not uncommon it usually melts within days.

The route for the proposed transmission line lies completely within the eastern portion of the Basin and Range physiographic province, an area characterized by generally north-south oriented mountain ranges separated by broad, alluvium-filled valleys. The proposed route begins in Coyote Spring Valley, enters and transits the hydrographically closed Delamar Valley, and then crosses Pahrnatagat Valley and terminates in Tikaboo Valley-Northern Part, which drains southward to hydrographically closed Tikaboo Valley-Southern Part. Both Coyote Spring Valley and Pahrnatagat Valley ultimately drain to the Muddy River, a tributary to the Colorado River. Much of the proposed route is adjacent to, or coincident with, existing transmission lines.

###### Vegetation and Soils

Annual precipitation also has a significant impact on the diversity and density of native and introduced annual forb and grass species that appear each spring. El Niño years with above average winter precipitation produce massive blooms whereas below average precipitation years result in few to no annuals. The 2008/2009 winter/spring precipitation along the preferred route was slightly below average resulting in average diversity and density of native annuals. Mediterranean grass (*Schismus arabicus*) is the dominant invasive annual species in Mojave communities and *Bromus* species tend to be the dominant invasive species in Great Basin communities, though several other invasive annuals may be locally abundant. No riparian communities occur along the preferred route although the southernmost portion of the preferred route traverses mesquite woodlands that are obligates to shallow groundwater associated with nearby Coyote Spring. The preferred route also traverses the eastern edge of Delamar Valley playa, which is devoid of vascular plant species but may support massive algal blooms after large

precipitation events. Soils vary from deep and sandy in level areas to shallow and rocky on steep slopes. Floristic distribution may vary with soil. While some species, *e.g.* Indian ricegrass, are ubiquitous and occur across the entire range of soils others are restricted to specific soils such as bearpoppies (*Arctomecon spp.*), found only on gypsum badlands.

The preferred route begins on the east side of US 93 and almost immediately transits the highway to run along the west side of highway within the northern edge of the Mojave Desert ecosystem. Within the Mojave Desert ecosystem several community types occur along the first 27.5 mi of the preferred route. The first community encountered was a typical creosote bush/bursage (*Larrea/Ambrosia*) desert shrub community on gently sloping alluvial soils, followed by mesquite woodlands, gypsum badland and then north of the gypsum badlands, *Larrea/Ambrosia* communities on level sandy soils again dominate the preferred route. However the preferred route also intersects several level benches with well-developed desert pavement soils and a significantly less dense *Larrea/Ambrosia* shrub cover and a larger component of cacti and *Yucca* species. Within the Mojave Desert ecosystem as elevation increases, the preferred route crosses over to the east side of highway US93 and intersects several relatively narrow rocky drainages with relatively high diversity of shrubs, perennial forbs and grasses, and annual forbs and grasses, but with a continuous *Larrea/Ambrosia* component.

Along the preferred there is a gradual transition from the Mojave Desert ecosystem to the southern Great Basin Desert ecosystem over approximately 2 mi, but in general the boundary between these two ecosystems coincides with the northern limit of the range for creosote bush. There is about a 60 percent overlap of the total of 236 plant species found along the entire route between ecosystems (Appendix B, Table B-3). However, overlapping species may also have a much greater frequency or abundance in one ecosystem versus the other. Overall plant diversity of 193 species found in the Mojave communities was only slightly greater than the 179 plant species found in Great Basin communities. Temporarily leaving the Mojave Desert behind, the preferred route continues north for approximately 17 mi in Great Basin plant communities. The route then turns west for approximately 22 mi before reentering the Mojave Desert for only about 3.1 mi in Pahranaagat Valley. The remaining 27.5 mi of the preferred route continues west and then south across Pahranaagat Valley, then enters Tikaboo Valley, completely within the Great Basin Desert ecosystem and ends in the southwest corner of Tikaboo Valley.

Community types in each ecosystem vary in species composition due to changes in elevation, soil texture, depth and chemistry and precipitation and temperature regimes. Elevations ranging from 2,400 to 5,300 ft interacting with latitude may also limit the occurrence of many species within their overall ranges. Communities in both ecosystems also vary greatly in terms of cover by soil cryptobiotic crusts which are composed of lichen, alga and mosses that reduce soil erosion and contribute biologically fixed nitrogen. Communities in the Great Basin ecosystem include 1) saltbush desert scrub dominated by *Atriplex* species, 2) almost pure winterfat (*Krascheninnikovia lanata*) stands, 3) desert grasslands with mixtures of galleta, needle, threeawn and dropseed grass species (*Pleuraphis*, *Achnatherum*, *Aristida*, and *Sporobolus* species), 4) blackbrush (*Coleogyne ramosissima*), 5) Hopsage/Desert-thorn (*Grayia spinosa/Lycium andersonii*), 6) sagebrush (*Atremesia* species) and 7) at the highest elevations Pinyon/Juniper (*Pinus monophylla/Juniperus osteosperma*). Furthermore, many of these southern Great Basin communities contain a significant number of Joshua trees (*Yucca brevifolia*), though they tend to be absent on fine texture soils.

### Migratory and Sensitive Birds

During the biological resources survey 35 bird species were identified (Appendix B, Table B-1). Bird identification and taxonomy was based on the *Sibley Guide to Birds* (Sibley, 2000).

Among the bird species 15 species, or approximately 43 percent of total bird diversity, occurred in both Mojave and Great Basin ecosystems with Black-throated sparrows (*Amphispiza bilineata*), a breeding migratory species, being the most abundant and widespread. Twenty-eight species were identified in the Great Basin communities and seven were identified in Mojave communities. This is not unexpected as the majority of the preferred route (70 percent) is in Great Basin communities. The total number of bird species that may occur in the proposed project area over the entire year in either ecosystem is expected to be greater than the number observed during this survey, most of which are migratory.

Among the potentially occurring sensitive or listed bird species, Loggerhead shrikes (*Lanius ludovicianus*) were the most commonly observed. Phainopeplas (*Phainopepla nitens*) were observed only in the Mesquite woodland community of the Mojave Desert ecosystem. One prairie falcon (*Falco mexicanus*), one Gray vireo (*Vireo vicinior*) and three Pinyon jays (*Gymnorhinus cyanocephalus*) were all observed in Great Basin communities. Other sensitive bird species observed flying over the proposed project area during preliminary reconnaissance surveys of the proposed routes included a Golden eagle (*Aquila chrysaetos*) and Ferruginous hawk (*Buteo regalis*).

### General Wildlife

The biological resources survey for the proposed transmission line project was conducted in July 2008 and May through September in 2009. However, most of the preferred route and route alternatives were surveyed between May and June 2009, when greater than 90 percent of the plant species were flowering and spring bird migration was active. During these surveys six Great Basin and one Mojave mammal species were as observed, respectively. Several bat species are known to occur in both ecosystems. Seven Mojave reptile and four invertebrate species were observed, respectively. Mammal identification and taxonomy were based on *A field guide to the mammals* (Burt and Grossenheider, 1976). Reptile and insect identification and taxonomy were based on *A Field Guide to the Reptiles and Amphibians of North America* (Behler and King 1979) and *A Field Guide to the Insects of America North of Mexico* (Borror and White 1970), respectively. Species observed during the surveys are listed in Appendix B.

### 3.1.2 Resources Considered

Table 3.1 lists resource issues/concerns and describes how each was addressed in preparing this environmental assessment.

**Table 3-1 Resources/Concerns Considered for Analysis**

Resource/ Concern	Issue(s) Analyzed? (Y/N)	Rationale for Dismissal from Detailed Analysis or Issue(s) Requiring Detailed Analysis (Grouped in accordance with the format of the Ely RMP)
<b>Air Resources</b>		
Air Quality*	N	Construction equipment proposed will be powered by internal combustion engines. These engines produce exhaust emissions that include 5 of the 6 federal criteria pollutants (excluding only lead). The project POD includes a table outlining the conventional construction personnel and equipment requirements. Based on the table, emissions from construction vehicles

		are not expected to cause or contribute to an exceedance of either the federal or state ambient air quality standards. No significant impacts to air quality related values would result from the proposed project. Minor localized effects of fugitive dust from vehicle and heavy equipment traffic over unpaved areas would be controlled in accordance with a Dust Control Plan, as discussed in Section 4.4.
<b>Water Resources</b>		
Water Quality, Drinking/Ground*	N	There are no drinking water sources in the project area. The project would not encounter aquifers.
Water Resources (Water Rights)	N	The Proposed Action is expected to require water only for dust suppression, and that water will be acquired from existing sources. No new water developments or water rights applications are anticipated
<b>Soil Resources</b>		
Farmlands, Prime and Unique*	N	Not present
<b>Vegetation Resources</b>		
Forest Health*	N	Project does not meet HFRA criteria.
Rangeland Standards and Guidelines*	N	Not a vegetation treatment project
Wetlands/Riparian Zones*	N	Not present in affected area.
<b>Fish and Wildlife</b>		
Fish and Wildlife	N	Negligible fish and wildlife habitat will be impacted if the Proposed Action minimizes disturbance and implements a post-construction restoration program
Migratory Birds including sensitive migratory birds (other than sage grouse).*	N	With implementation of the operator proposed mitigation measure, impacts to migratory/sensitive bird species would be negligible.
<b>Special Status Species</b>		
FWS Listed (or proposed for listing) Threatened or Endangered Species or critical habitat. Also, ACEC's designated to protect Desert Tortoises, Southwest Willow Flycatcher, and Big Spring spinedace*	Y	The USFWS and Nevada Natural Heritage Program (NNHP) identified the following federally listed animal species as potentially occurring in or around the Project Area: Threatened Mojave Desert Tortoise (FWS) were found in the Proposed Project Area
Greater Sage Grouse	N	None in affected area.
Sensitive species (SS), including plant species. and ACECs designated to protect SS habitat.	N	Surveys were conducted for Las Vegas Bear Poppy and no specimens were found.
<b>Wild Horses</b>		
Wild Horses	N	No BLM Horse Management Area (HMA) occurs in the Project Area
<b>Cultural Resources</b>		
Cultural Resources*	Y	A Class III Inventory of the project area has been completed, and the power line has been re-designed to avoid most of the resources present within the project area. However, it will not be possible to avoid all of the resources.
ACEC's designated for Cultural Resources*	N	Not present
Heritage Special Designations (Historic	N	Not present

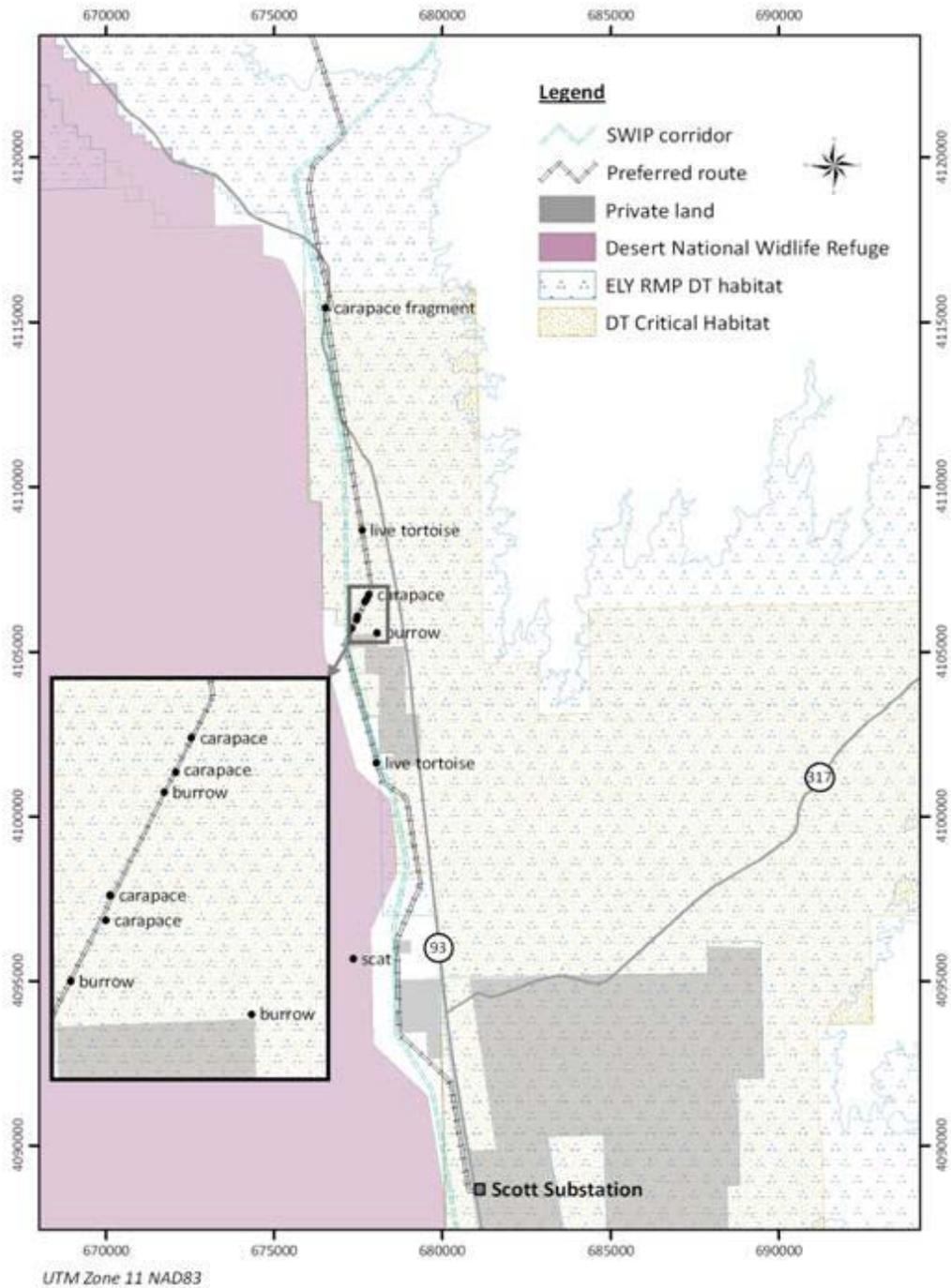
Trails, Archaeological Districts and Areas)		
<b>Paleontological Resources</b>		
Paleontological Resources	N	Potential paleontological resources will be unaffected by the proposed transmission line, since very little surface disturbance will take place. Neither the exposed geologic formations traversed by the transmission line or the broad alluvial valleys that make up the vast majority of the route are known to contain any significant paleontological specimens.
<b>Visual Resources</b>		
Visual Resources	Y	The proposed action was overlaid on a map of the Ely District VRM classes. All new lines are located in areas designated Class III or IV and would conform to the Class Objectives. Although there would be OGPW installed in the Class II designation, it would not substantially add to the visual impact of the existing powerline. Thus the proposed action is in conformance with the RMP. Visual Impacts of the section within the corridor were analyzed in the ONLine, RMP and WWEC EISs. However, Visual impacts should be analyzed for the sections of the line outside the SWIP corridor.
<b>Lands and Realty/Renewable Energy</b>		
Land Uses	N	The proposed action is in a utility corridor with several other linear rights-of-way, but is working with other ROW holders and applicants to avoid conflicts. It will also cross a 40 acre parcel proposed for disposal (Medlin Parcel), but has entered into an agreement with buyers that there would be no conflict with the line crossing a corner of the property.
<b>Travel Management</b>		
Transportation/ Access	N	New roads will be authorized under the ROW. Temporary roads will be reclaimed.
<b>Recreation</b>		
Recreation Uses	N	Recreational resources will not be negatively affected by the proposed action. Public access to backcountry may be improved in some segments
<b>Livestock Grazing</b>		
Grazing Uses/Forage	N	Most of the new construction is within the SWIP utility corridor and adjacent to existing lines. Sections 3.9, 4.9 and 5.9 of the analysis in the Final Environmental Impact Statement for the ON Line Project are incorporated by reference. Impacts discussed are forage loss from surface disturbance and temporary livestock displacement during construction. However this project would not affect grazing uses or forage to the point that AUMs would have to be reduced in any affected allotment.
<b>Forest/Woodland Products</b>		
Forest/Woodland and other vegetative products (Native seeds, yucca and cactus plants)	Y	All cacti and Joshua Trees are protected by the State of Nevada and should be transplanted to adjacent suitable habitat, or replanted in areas disturbed by the proposed action (Nevada Natural Heritage Program, 1998). However, avoiding cacti and Joshua trees during construction is the preferred action.
<b>Geology and Mineral Extraction</b>		
Mineral Resources	N	The Proposed Action preferred alignment or routing alternatives will not cross any mining claims or interfere with mining activities in the project area. There are no known mineral deposits on or adjacent to the alignment.
<b>Watershed</b>		
Soils/Watershed	N	Disturbed areas would be reclaimed. Operator proposed mitigation measures should implemented. Impacts to soils and watershed would be temporary, and minimized by the Right-of-way guide stipulations.
Floodplains*	Y	The Proposed Action will cross the Pahrangat Wash at several locations, although minimal disturbance will occur during construction within the active channel or floodplain.

<b>Fire</b>		
Fuels	N	No Fuels projects are planned for the affected area.
ES&R	N	No ESR projects are have been conducted nor planned for the affected area.
<b>Noxious and Invasive Weeds</b>		
Noxious and Invasive Weeds*	Y	Powerline corridors can be a vector for weed establishment and/or spread. See further analysis below.
<b>Special Designations</b>		
Wilderness/WSA*	N	Not Present
Wild and Scenic Rivers	N	Not Present
<b>Other Concerns</b>		
Human Health and Safety*	N	The proposed action will not present any public human health or safety issues
Native American Religious and other Concerns*	N	From previous consultations with potentially affected tribes on similar projects in the same area, it is not anticipated that this project will raise concerns.
Wastes, Hazardous or Solid*	N	The proposed action will not generate and hazardous wastes, and construction related wastes will be managed as presented in the construction management plan.
Public Safety	N	The safety measures in the proposed action are sufficient to protect public safety.
Environmental Justice*	N	No minority or low-income groups would be disproportionately affected by health or environmental effects.
Socioeconomics	N	The Proposed Action would require 15-20 workers at a time over a period of 18 to 24 months. A small percentage of the workers (2 to 4 workers) are expected to reside in the area. Remaining workers would be temporary and should not create a demand for added public or private services, but would support local business and provide income to the Pahranaagat Valley community through purchase of services and goods. Thus, the Proposed Action socioeconomic impacts would be beneficial, but temporary.

## **3.2 Resources/Concerns Analyzed in Detail**

### **3.2.1 FWS Listed (or proposed for listing) Threatened or Endangered Species or critical habitat**

One federally listed threatened animal, the Mojave Desert Tortoise, was documented in the proposed project area (Appendix B, Table B-2). Only one live desert tortoise, two tortoise carapaces, a desert tortoise burrow, and a scat were observed, but no tracks were observed. A total of approximately 182,323 acres are designated critical habitat, dominated by creosote bush/white bursage communities, within Lincoln County; within this the proposed project area will encompass approximately 204 acres of desert tortoise critical habitat over a linear distance of approximately 11 miles of the preferred route (Figure 3-1). The preferred route will run approximately 30 miles through general tortoise habitat as defined in the BLM Ely RMP. The entire 204 acres were surveyed for biological resources as well as several hundred acres of mesquite woodland surrounding the ROW. Disturbance will occur on a total of approximately 48 acres, and of this, 41 acres will be temporary. Approximately 7 acres will be permanently disturbed. Of the 204 acres within the right-of-way, approximately 156 acres will be undisturbed. The permanently disturbed areas will not be restored since they are the sites for the pole



**Figure 3.1** Desert tortoise critical habitat within the proposed project area and the proposed preferred transmission line route.

structures and there will be regular future maintenance activities. The preferred route does not intersect with BLM identified Kane Springs Area of Critical Environmental Concern.

### **3.2.2 Cultural and Historical Resources**

The “area of potential effects” (APE) for an undertaking is defined in the NHPA Section 106 regulations (36 CFR 800.16[d]) as “the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist.” The APE considered for the proposed action included the 150-ft wide right-of-way (ROW), associated pull areas, lay-down or equipment storage areas, and access roads (both new construction and existing) necessary for the construction and subsequent maintenance of the transmission line. Both the preferred route and route alternatives were surveyed.

Between April and September 2008, Desert Research Institute (DRI) archaeologists, under BLM Cultural Resource Use Permit Number N-40987, conducted site and survey record file searches at a number of Nevada repositories to determine the presence of previously recorded archaeological sites and cultural resource inventories located within a 1-mi radius of the Proposed Action ROW. On-site visits were made to the Southern Nevada Archaeological Archives at the Harry Reid Center for Environmental Studies, University of Nevada, Las Vegas and to the BLM Ely District Office. Additionally, an online record search of the geographic information system (GIS) based, Nevada Cultural Resource Information System (NVCRIS) website was completed. Historic maps and plats were also examined to identify potential unrecorded historic-age resources (e.g., roads, structures, utility lines, etc.) that might fall within the one-mile radius. The Nevada map collections at the University of Nevada, Las Vegas, Lied Library were reviewed, as were maps and plats from two online sources; the Nevada BLM General Land Office website and the University of Nevada, Reno, DeLaMare Library, Mary B. Ansari Map Library, Nevada in Maps digital collection. Finally, ethnographic studies pertinent to Pahranaagat and Coyote Springs valleys and the surrounding mountain ranges were reviewed for potentially sensitive traditional cultural areas.

The literature review revealed that between 1976 and 2007, a total of 84 cultural resource inventories had been conducted within one mile of the proposed action ROW (Appendix C, Table C-1). Two more Class III inventories for transmission lines paralleling, but not coincident with, the proposed LCPD ROW were recently completed (Crews et al. 2007; Duke et al. 2010) and numerous sites were recorded during these projects. The final survey reports for these projects are still in the BLM review process but the data has been shared. In addition, DRI recently completed a pedestrian survey of the APE for the proposed LCPD transmission line ROW as well as the Alternate Route segments considered but eliminated. DRI is currently finishing the draft Section 106 report.

The survey projects listed in Appendix C, Table C-1 identified 220 previously recorded archaeological sites within one-mile of the project area. Of these, 50 sites fall within the APE of the proposed action. Forty of those sites are located along the proposed north-south 138 kV ROW between the Scott Substation and Delamar Switchyard and ten sites fall along the east-west 69kV line between the Delamar Switchyard and the NTTR Boundary (Appendix C, Table C-2). Eleven previously recorded sites were identified along the Alternate route segments (Appendix C, Table C-3)

The majority of the previously recorded sites are small prehistoric lithic scatters without temporally or culturally diagnostic artifacts. However there are a substantial number of larger

habitation sites that consist of open temporary camps with ground stone, ceramics and hearth features. Two sites with petroglyph panels also lie within the project corridor as well as five rockshelters and approximately ten large toolstone procurement areas. Additionally, several historic roads cross or parallel portions of the corridor and there are a number of small historic debris scatters within the APE. Eighteen sites in the APE of the preferred ROW, located during previous surveys, were determined eligible to the National Register of Historic Places (NRHP) by the BLM (Table C-2). Twenty-six of the previously recorded sites have been determined non-significant by the BLM, while the remaining six sites have not been evaluated.

The review of the General Land Office (GLO) plats and historic Nevada map collections indicated that remnants of some historic features may still be present within the proposed action ROW. At least six previously unrecorded historic roads cross the proposed LCPD corridor. Other possible historic resources identified from the map records include a possible "Indian trail," a few mining claims but no shafts or adits, a couple of structures, a waterwell and several fenced fields.

Desert Research Institute has completed the Section 106 inventory and is in the process of completing the draft report for the proposed action APE. Although the report is not complete, DRI archaeologists have identified 215 isolated artifacts (prehistoric and historic) along with approximately 275 sites within the APE. Of the 275 recorded sites 213 are of the prehistoric time period, 22 are of the historic time period and 40 have components that are of both the prehistoric and historic time periods. In addition each of the sites has been evaluated for national register eligibility by DRI archaeologists and they will be recommending that 54 of the recorded sites are eligible for the National Register of Historic Places. The BLM has not had a chance to review these recommendations to make the decision as to the sites eligibility status. These decisions will be made once a report has been submitted and will be done in full consultation with the Nevada SHPO. Sites originally recorded over 10 years ago were re-recorded and re-evaluated for NRHP eligibility. Site descriptions and boundaries for those recorded more recently were verified and when necessary updated or expanded. NRHP eligibility evaluations were occasionally modified when additional features or diagnostic artifacts were found.

The majority of the sites discovered during the DRI survey were small, diffuse lithic scatters lacking diagnostic artifacts and features. There were also a number of larger, diffuse lithic scatters interpreted as opportunistic quarries with most of the artifacts consisting of debitage and cores. However, a number of more complex prehistoric sites were also identified. These included several rockshelters, and some other very intensively utilized open temporary campsites. Those sites contained a more diverse artifact assemblage including ground stone or grinding slicks, bifacial and unifacial tools, and fire-affected rock concentrations. Occasionally sites with temporally diagnostic ceramics (Intermountain brownware, Anasazi, and/or Fremont) and projectile points were found. Evidence of illegal collecting was found at a number of sites (primarily those around Coyote Spring) so surface diagnostic artifacts were absent from many sites.

Historic sites were also encountered during the DRI inventory. Most are small debris scatters, but several historic fencelines and roads with associated artifact scatters were also identified. Currently, only one of the roads is recommended as potentially eligible to the NRHP.

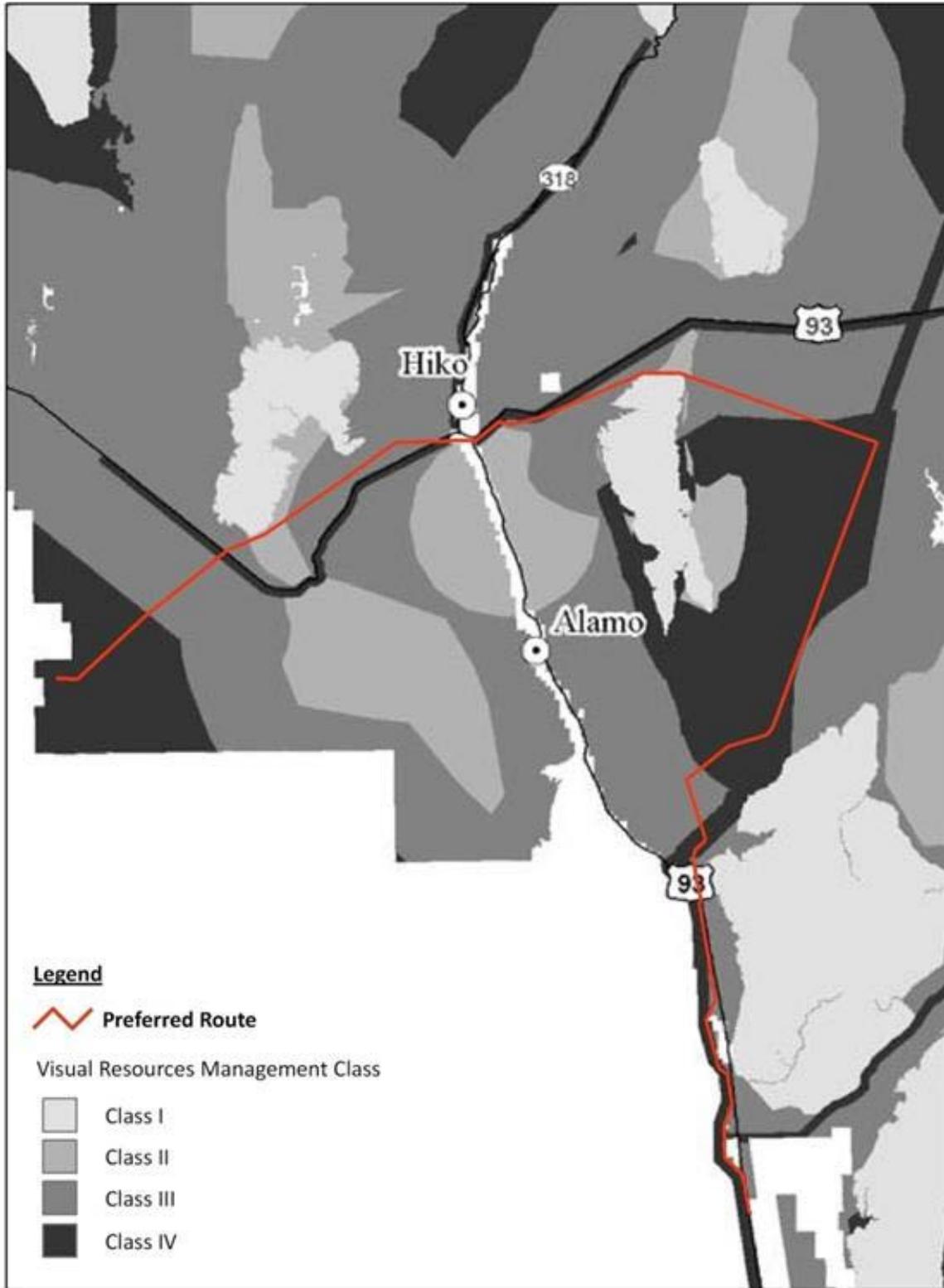
This project has been designed in order to avoid all but 10 of the 54 sites that DRI will be recommending as eligible for the NRHP. Some of these sites may be mitigated as part of mitigation measures that are being undertaken by the ONLine (formerly SWIP) powerline that is in the early stages of construction and has a Historic Properties Treatment Plan that has been approved and is being implemented.

### **3.2.3 Visual Resources**

The sections of the proposed power line outside the SWIP corridor are currently largely undeveloped. The designated utility corridor has all been designated as VRM Class IV land due to the man-made constructions permitted within it (see Figure 3.2). As the corridor proceeds from Scott Substation to the point where it moves through the constriction into Delamar Valley, it passes through lands that on either side of it have been designated as VRM Class III. These lands are in the Mojave Desert ecosystem with its associated vegetation communities.

In Delamar Valley, most of the valley bottom through which the corridor passes has been designated as VRM Class IV lands. This valley is within the Great Basin ecosystem. At the southern end of the valley there is an extensive playa that is largely devoid of vegetation. The Delamar switchyard lies on the edges of in a pinyon –juniper woodland emanating from the alluvial fan to the east. Moving westward from the switchyard across Delamar Valley into and through the Pahrnagat Valley and thence into Tikaboo Valley the preferred route continues in the Great Basin ecosystem.

In Tikaboo Valley the lands that the new 60kV transmission line will cross have all been designated as either VRM Class III or IV lands. Tikaboo Valley has a substantial number of yuccas growing across its bottom lands together with the typical Great Basin vegetation. These largely vertical structures tend to mask and blend in other vertical structures such as power poles.



**Figure 3.2** BLM Visual Resources Management Classes in the vicinity of the proposed transmission line route as defined in the Ely District RMP (BLM, 2007).

### **3.2.4 Forest and Woodland Products**

The Jepson Manual of Higher Plants of California (Hickman, 1993) and the Intermountain Flora Volumes 1-6 (Cronquist et al, 1972-2005) were used to determine plant species taxonomic status during surveys of forest and woodland resources occurring within the preferred and route alternatives. However, in some cases species could only be identified at the genus level, especially for several annual forb genera, though none of these genera are reported to have threatened, endangered or sensitive species in the proposed project area (Nevada Natural Heritage Program, 1998).

The preferred project route includes approximately 1 mi of pinyon/juniper woodland that may include BLM permitted harvesting of pinyon as Christmas trees. Conversely there are many Joshua trees and cactus species that occur both within the pinyon/juniper woodland and for most of the non-pinyon/juniper portions of the preferred route that are protected by the State of Nevada.

### **3.2.5 Floodplains (Surface Water and Flooding Potential)**

As noted in Sec 3.2 and above, the route for the proposed transmission line begins in Coyote Spring Valley, transects two closed hydrographic basins, Tikaboo and Delamar valleys, and crosses the Pahrnagat Valley. The Pahrnagat Wash, which collects drainage from Pahrnagat Valley, Kane Spring Valley, and several western tributaries, ultimately drains to the Muddy River, a tributary to the Colorado River. Most surface water within these basins is ephemeral; however, some reaches of Pahrnagat Wash are perennial, specifically through the Pahrnagat National Wildlife Refuge (PNWR). Other perennial surface waters within Pahrnagat Valley are the spring-fed lakes at Key Pittman Wildlife Refuge and the nearby pools at Crystal Spring.

Tikaboo Valley consists of two large hydrographic subbasins, Tikaboo Valley-Northern and -Southern subbasins, with areas of 607 and 391 mi<sup>2</sup>, respectively. Ephemeral channels in both subbasins drain to Desert Lake, a playa lake located in the Southern subbasin. The transmission line transects the Northern subbasin, crossing a major ephemeral wash system in the bottom of the valley.

Delamar (playa) Lake is located in the south-central end of Delamar Valley (383 mi<sup>2</sup> area), and is the terminus of ephemeral drainage systems within the valley. The transmission line crosses several large wash systems within the valley until it transects along the eastern edge of the playa lake, and eventually leads into Pahrnagat Valley.

The Pahrnagat Wash conveys tributary flows from Pahrnagat Valley (768 mi<sup>2</sup>), Kane Spring Valley (234 mi<sup>2</sup>), and several western tributaries, into Coyote Spring Valley (657 mi<sup>2</sup>), and eventually via the Muddy River to the Colorado River system. The entire watershed area for Pahrnagat Wash is 3,860 mi<sup>2</sup>, with approximately 2,750 mi<sup>2</sup> of this area located upstream of the PNWR (Guo, 2000). A previous 1988 Master Plan [Flood] Study (The Mark Group, 1988) divided the Pahrnagat Wash into upper and lower reaches, with the division at the PNWR. That study determined that the PNWR had sufficient storage capacity to contain 100-year flood flows from the upper tributary area without overflow. Although the transmission line alignment crosses the northern end of Pahrnagat Valley, it also follows a southern route out of Delamar Valley, again crossing into Pahrnagat Valley downstream of the PNWR. The transmission line route generally parallels highway US93 and Pahrnagat Wash, crossing the Wash at several locations.

There are several possible flood hazards along the proposed route, including alluvial fan flooding, riverine flooding, sheetflow, and playa lake flooding. Although alluvial fan flooding

and sheetflow may present flash flood hazards, and playa lakes may be temporarily inundated during precipitation events, the only significant established flood hazard is from riverine flooding within the Pahranaagat Wash. Several previous flood studies (Carter::Burgess, 2007; Guo, 2000; The Mark Group, 1988) have been completed to delineate the 100-year floodplain of the Pahranaagat Wash within the southern portion of Pahranaagat Valley and in Coyote Spring Valley. Regulatory Federal Emergency Management Agency (FEMA) flood maps have been produced for the reaches of Pahranaagat Wash located within Clark County, Nevada (NFIP, 2002). No FEMA flood maps exist for Lincoln County.

### **3.2.6 Non-Native Invasive and Noxious Species**

Invasive plant species occurred along almost the entire preferred route, but densities and species composition varied significantly. Within the southern portion of the preferred route dominated by Mojave Desert communities, the most abundant invasive species were two annual grasses, red brome (*Bromus madritensis*) and Mediterranean six-weeks grass (*Schismus arabicus*). Both species were relatively common regardless of disturbance level, while three other invasive annual forbs, Russian tumbleweed (*Salsola iberica*), Halogeton (*Halogeton glomeratus*), and filaree (*Erodium cicutarium*), occurred in the most highly disturbed areas. Within the ecotone between Mojave and Great Basin communities, nearly 5 miles of the preferred route had burned within the past 5 years due to lightning ignited wildfires and mainly within an extensive blackbrush community, resulting in significant portions of the burned area now dominated by red brome, cheatgrass (*Bromus tectorum*), Russian tumbleweed, filaree and pigweed (*Chenopodium album*). North of the burned area within the Great Basin communities, cheatgrass generally replaces red brome and Mediterranean six-weeks grass disappears. Most of the preferred route from the Delamar Lake playa up to Tikaboo Valley occurs beneath an existing transmission line. These disturbed areas tend to have a greater proportion of introduced annuals and a lower percent cover of native shrubs and grasses compared to adjacent undisturbed areas. A few scattered individuals of Sahara mustard (*Brassica tournefortii*) were found within the first few miles of the southern end of the preferred route within the Mojave Desert Ecosystem. Within Great Basin communities a few individuals of Tumble mustard (*Sisymbrium altissimum*), another introduced annual mustard, were also documented. Salt cedar (*Tamarix spp.*) which is a noxious perennial shrub or tree species was observed along roads and drainages leading to the project but was not found within the preferred route.

## **4 ENVIRONMENTAL CONSEQUENCES OF PROPOSED ACTION**

### **4.1 Impact on FWS Listed (or proposed for listing) Threatened or Endangered Species or critical habitat**

#### Proposed Action

Due to the federally listed threatened status of the Mojave Desert tortoise, the proposed action will require that a certified desert tortoise monitor be present during all construction activities along the first 27.5 mi of the proposed action to reduce risk to desert tortoises within the project area. Of the approximately 204 acres of critical tortoise habitat within the proposed project area, approximately 41 acres will be temporarily disturbed and slightly less than approximately 7 acres will be permanently disturbed. Furthermore, all construction activities will be conducted in accordance with the Terms and Conditions proposed in the 2010 USFWS Biological Opinion for the LCPD Tickaboo Transmission line Project (BO file no. 84320-2010-F-0411 appended to PBO file no. 84320-2008-F-0078) to minimize the effects and impacts of the proposed action on desert tortoises (USFWS, 2010, Appendix E). In addition these mitigation procedures are recommended in accordance with the Approved Ely District Resource Management Plan and the Record of Decision for the Management of Desert Tortoise Habitat, September 2000 (BLM 2000). Transmission line pole design will incorporate the latest designs that are most effective for deterring ravens from roosting or nesting on poles in desert tortoise habitat (ECI, 2008).

#### No Action Alternative

The No Action Alternative would have no impact on federally endangered, threatened, candidate, Bureau of Land Management sensitive species or Nevada Natural Heritage Program/Lincoln County rare species.

### **4.2 Impacts on Cultural Resources**

#### Proposed Action

In accordance with 36 CFR 800 (a)(1), an adverse effect to a historic property eligible for inclusion in the NRHP is found when "...an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify that property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association." The ground disturbing activities associated with the proposed action will directly impact ten eligible sites. Consultation with SHPO is currently taking place to develop a Historic Properties Treatment Plan for those sites. Appropriate treatments might include surface collections or intensive in-field artifact analysis, subsurface testing or more extensive excavation, or ethnographic or historical research. In addition, other sites determined eligible for inclusion in the NRHP that fall within the APE may be inadvertently damaged by construction personnel due to lack of awareness of the nature and importance of cultural resources. Indirect adverse affects to eligible properties may occur due to unauthorized artifact collection that could be brought about by increased public access from newly constructed access roads.

#### Mitigation:

1. Prior to commencing construction in the vicinity of the sites, the Historic Properties Treatment Plan would be approved and the proponent would contract with a BLM-approved archaeological organization to implement the treatment.
2. To avoid inadvertent impacts from construction activities, the proponent would contract with a BLM-approved archaeological monitor to be on the construction site at all times crews are working within the vicinity of all eligible sites within the APE.
3. If it is necessary for the archaeological monitor to flag or partition off sites to ensure construction crews do not inadvertently impact them, the flags and/or partitions would be placed just prior to the crews working in the vicinity, and removed immediately after crews leave the area.
4. Any temporary roads constructed in the vicinity of eligible sites would be reclaimed immediately after construction crews leave the area.

#### No Action Alternative

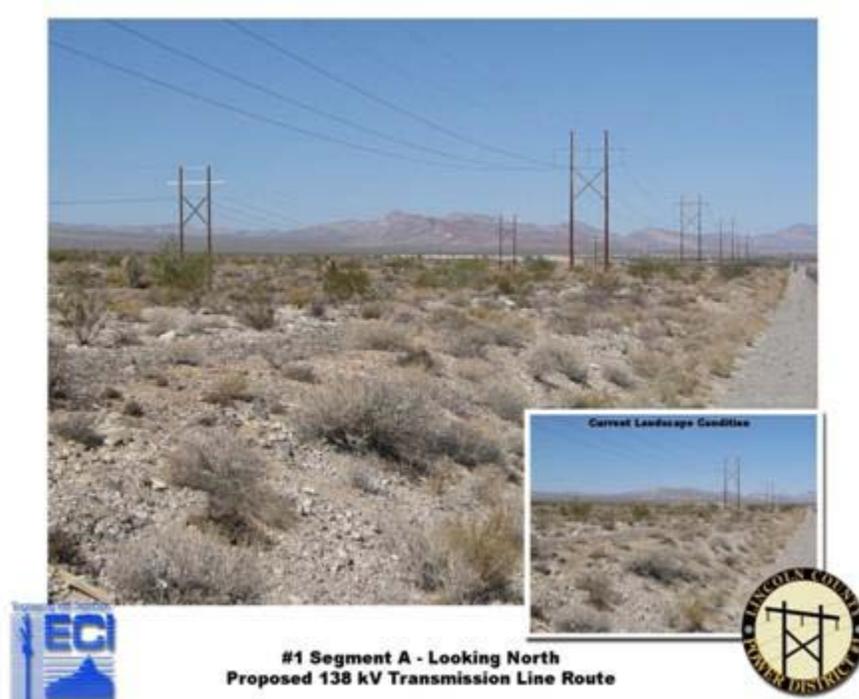
Under the No Action Alternative no construction-related impacts to cultural resources would occur because no new facilities would be built on Federal lands.

### **4.3 Impacts on Visual Resources**

#### Proposed Action

The proposed action will have some visual impacts along the preferred route. From the Scott Substation north along the proposed route, the new 138kV line will parallel the existing LCPD 69kV transmission line thus adding to the visual impact in this area. Figure 4.1 is a photo simulation of the view looking northward along US 93 in this reach of the new 138kV transmission line. As can be seen in this simulation, the addition of the parallel H-frame structures would make the transmission lines in this segment much more visible and notable to persons travelling along US 93. However, the incremental effect of the new line is less than that imposed by the existing lines.

Figure 4.1 is a photo simulation of the visual effects of the H-frame structures as the transmission line enters Delamar Valley from the south along the preferred route. The existing route of travel in Delamar Valley is on a two-track road that receives very limited, if any, maintenance. Most persons travelling this road are associated with various proposals for use of the Designated Utility Corridor for construction of transmission lines or a water delivery pipelines. In the central portion of Delamar Valley, expansion of the Delamar switchyard to substation status will result in an increase in footprint of the facility, but that increase will not materially affect the visual effects provided by the existing facility.



**Figure 4.1** Photo-simulation of the visual effects of the new H-frame transmission structures paralleling the existing 69kV transmission line and highway US 93 in Coyote Spring Valley (photo by M. Cablk and J. Miller of DRI; photosimulation by ECI)

From the proposed Delamar Substation to the proposed Mt Irish switchyard in Tikaboo Valley, the proposed action is simply to add an OPGW cable to the top of the existing transmission line structures. To the casual observer, this added cable will not even be noticed, and thus there will be no substantive change in the visual effects of that existing transmission line.

Construction of the Mt. Irish switchyard on the eastern edge of Tikaboo Valley will provide a visual element of man's presence that is not now there, and thus, an intrusion into a somewhat, but not totally natural environment. This switchyard will be inserted into the existing transmission line and provide for moving electricity to the new 69kV line to the NTTR. Its appearance will be very similar to that of the existing Delamar switchyard.

Figure 4. 2 is a photo-simulation of the new single pole transmission structure as it crosses Tikaboo Valley from the Mt. Irish Switchyard going towards the NTTR boundary. The single pole nature of the line tends to make it blend in with the pole-like structure of the Joshua trees on the valley floor. The natural brown coloring of the structures helps to minimize the visual intrusion. The Medlin ranch is in the mid-ground of the image. Figure 4.3 is a photo-simulation of this structure from the road leading to the Medlin ranch.

#### No Action Alternative

The No Action Alternative would have no impact on visual resources.



**Figure 4.2** Photo-simulation of the visual effects of the 69kV single pole transmission line as it transits across Tikaboo Valley past the Medlin ranch as seen from State Route 375 (photo by M. Cablk and J. Miller of DRI, photo- simulation by ECI)



**Figure 4.3** Photo-simulation of the visual effects of the 69 kV single pole transmission line as it passes over the road leading to the Medlin ranch. View is to the west northwest with Bald Mountain in the background (photo by M. Cablk and J. Miller of DRI, photo-simulation by ECI)

#### **4.4 Impacts on Forest and Woodland Products**

##### Proposed Action

Cactus and Joshua Trees could be uprooted or crushed by heavy equipment during construction.

##### Mitigation

Prior to determining the final placement of structures, the location of cacti and Joshua Trees should be considered and, where feasible the locations spanned, within limits of standard structure design. If the plants cannot be avoided, Decision FP-2 of the Ely RMP (2008) allows for the sale and salvage of desert vegetation. Plants should be salvaged by transplanting according to techniques to be provided by the authorized officer of the BLM. If it is not practical to transplant, the authorized officer should be contacted to arrange for alternative salvage.

##### No Action Alternative

The No Action Alternative would have no impact on Forest and Woodland Products.

#### **4.5 Impacts on Floodplains**

##### Proposed Action

The ephemeral channels and floodplains crossed by the transmission line alignment may be impacted if tower structures are built within the active channels or overbank floodplains, and if vehicle crossings of ephemeral stream channels are constructed.

##### Impact Mitigation

Impacts to the ephemeral channels and floodplains crossed by the transmission line alignment can be minimized by selective location of the towers (spanning drainages), limiting areas of disturbance, and erosion control measures. To the extent practical for the Proposed Action tower structures will be designed to not occur within the approximated floodplain of Pahranaagat Wash. If a structure cannot be avoided in the overbank floodplain, the structures will be designed to withstand overbank flooding, and will span the active drainage channel. Because of the small (0.1 ac) footprint of the transmission structures and the small associated long-term disturbance, negligible alteration to the function of these overbank floodplain areas would be expected. These practices should also be used at major wash crossings in Tikaboo and Delamar valleys. The project POD anticipates that all vehicle crossings of ephemeral stream channels along the alignment will be done at right angles to the channel in order to minimize any erosion during times when the channels carry runoff.

As flows from the upper reach of Pahranaagat Wash will be contained within the lakes at PNWR, only flows emanating from subbasins along the lower reach are of concern within the Pahranaagat Wash floodplain near the southern portion of the alignment. The majority of the flow emanates from the Kane Springs and adjacent subbasins.

Major wash crossings in Tikaboo Valley will have negligible effects on the floodplain through this valley.

##### No Action Alternative

The No Action Alternative would have no direct or indirect impact on flooding potential, as no new disturbance would occur.

## 4.6 Non-native Invasive and Noxious Species

### Proposed Action

Most of the preferred route has already experienced some level of disturbance, resulting in varying densities of existing invasive species with variable species compositions. The weed stipulations in the proposed action should prevent these populations from spreading. The exception is for the portion of the preferred route where the new 138kV transmission line will be outside of the designated utility corridor circumventing the constriction at the south end of Delamar Valley. This portion of the preferred route will be susceptible to the establishment of new invasive plant populations. This impact would be minimized by implementing the following mitigation measures from the Weeds Risk Assessment (Appendix D)

- Prior to entering public lands, the contractor, operator, or permit holder will provide information and training regarding noxious weed management and identification to all personnel who will be affiliated with the implementation and maintenance phases of the project. The importance of preventing the spread of weeds to uninfested areas and importance of controlling existing populations of weeds will be explained.
- Monitoring will be conducted for a period no shorter than the life of the permit or until bond release and monitoring reports will be provided to the Ely District Office. If the presence and/or spread of noxious weeds is noted, appropriated weed control procedures will be determined in consultation with Ely District Office personnel and will be in compliance with the appropriate BLM Handbook sections and applicable laws and regulations. All weed control efforts on BLM-administered lands will be in compliance with BLM Handbook H-9011, H-9011-1 Chemical Pest Control, H-9014 Use of Biological Control Agents of Pests on Public Lands, and H-9015 Integrated Pest Management. Submission of Pesticide Use Proposals and Pesticide Application Records will be required.
- To eliminate the transport of vehicle-borne weed seeds, roots, or rhizomes all vehicles and heavy equipment used for the completion, maintenance, inspection, or monitoring of ground disturbing activities or for authorized off-road driving will be free of soil and debris capable of transporting weed propagules. All such vehicles and equipment will be cleaned with power or high pressure equipment prior to entering or leaving the work site or project area. Equipment at the site needs to be cleaned using air, not water, since Sahara mustard may be transported in on vehicles and Sahara mustard seeds are more likely to stick and propagate if water is used. Cleaning efforts will concentrate on tracks, feet and tires, and on the undercarriage. Special emphasis will be applied to axels, frames, cross members, motor mounts, on and underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. Cleaning sites will be recorded using global positioning systems or other mutually acceptable equipment and provided to the District Weed Coordinator or designated contact person.
- To eliminate the introduction of noxious weed seeds, roots, or rhizomes all interim and final seed mixes, hay, straw, hay/straw, or other organic products used for reclamation or stabilization activities, feed, bedding will be certified free of plant species listed on the Nevada noxious weed list or specifically identified by the BLM Ely District Office.
- Removal and disturbance of vegetation would be kept to a minimum through construction site management (e.g. using previously disturbed areas and existing easements, limiting equipment/materials storage and staging area sites, etc.)

- Reclamation would normally be accomplished with native seeds only. These would be representative of the indigenous species present in the adjacent habitat. Rationale for potential seeding with selected nonnative species would be documented. Possible exceptions would include use of non-native species for a temporary cover crop to out-compete weeds. Where large acreages are burned by fires and seeding is required for erosion control, all native species could be cost prohibitive and/or unavailable. In all cases, seed mixes would be approved by the BLM Authorized Officer prior to planting.
- Any noxious weeds that become established will be controlled.

#### No Action Alternative

The No Action Alternative would have no impact on invasive species.

## **5 CUMULATIVE IMPACTS OF THE PROPOSED ACTION**

This EA incorporates by reference the cumulative impact analysis of the *Final Environmental Impact Statement for the ON Line Project*, which was issued on December 3, 2010. A list of the Past, Present and Reasonable Foreseeable Actions that may contribute to the cumulative impacts of this project can be found in Tables 5.1-2 and 5.1-3, pages 5-4 through 5-7, of the FEIS.

### **5.1 Impacts on Invasive Species**

Creating a new road to avoid the existing utility corridor where impassable topography and existing transmission lines occur has the greatest potential for cumulative adverse impacts due to invasive species. To mitigate these effects, during transmission line construction and maintenance activities LCPD will monitor and attempt to control the extent of invasion by noxious and invasive species. Weed risk assessments are completed for all present proposed actions and this is expected to continue for future proposed actions on public lands. The stipulations in these weed risk assessments help prevent cumulative affects regarding weed establishment and spread.

### **5.2 Impacts to Visual Resources**

In Coyote Spring Valley, the new transmission line will add to the visual intrusion of structures in the background Class I visual resources. However, the incremental effect of the new line is less than that imposed by the existing lines. As more utilities (e.g. the Online and Great Basin Line) are built in the designated corridor in the area, those transmission lines will become a major part of the visual environment along highway US 93 from Scott Substation to the Delamar Valley corridor constriction.

In Delamar Valley there is much less traffic and thus many fewer people will see the transmission lines as they course through the middle of the valley. Located as they will be, and are, with respect to the route of travel and surrounding visual resources, they are not so intrusive and the cumulative impact of the new line is thus less. From Delamar Substation to Tikaboo Valley there should be no noticeable cumulative impact.

The new 69kV transmission line in Tikaboo Valley is the only expected structure in that area, so there should be no further, or cumulative, impact to those Class II and III visual resources.

### **5.3 Impacts to Cultural Resources**

Section 5-10 of the ONLine FEIS is incorporated by reference into this FEIS. Most of the impacts that are associated with the past, present and reasonably future actions are similar to those described in Section 4.2 of this document. As is stated in Section 5.10-6 “Section 106 of the National Historic Properties Act requires avoidance and/or mitigation of impacts to NRHP-eligible cultural resources by federal undertakings...” As such, potentially significant impacts, direct, indirect and cumulative, are avoided through design features or mitigated through either operator committed environmental protection measures or terms and conditions applied to the approvals. The design features of the proposed action and the mitigation measures already proposed in Section 4.2 of this document as well as those that will be required in the Treatment

Plan discussed in the same section would prevent the project from incrementally increasing the potential cumulative impacts to cultural resources to a significant level.

#### **5.4 Impacts to FWS Listed (or proposed for listing) Threatened or Endangered Species or Critical Habitat**

Section 5.8.6 on the ONLine FEIS is incorporated by reference into this FEIS. The most substantial cumulative effect from the past, present and reasonably foreseeable future actions is Desert Tortoise habitat fragmentation. However, all actions that potentially impact Desert Tortoise must undergo either Section 7 or Section 10 consultation with the Fish and Wildlife Service (FWS) which considers cumulative effects on habitat, and prepares the terms and conditions of the Biological Opinion accordingly. Therefore, incremental increase of effects to the Desert Tortoise from the proposed action would not result in a significant cumulative impact.

## **6 Tribes, Individuals, Organizations, or Agencies Consulted**

Preparation of this EA has been coordinated with the United States Air Force. Consultation with the U.S. Fish and Wildlife Service and Steve and Glenda Medlin has been completed and the results of the collaboration are documented in the EA. Copies of the preliminary document have been sent to the Nevada State Clearinghouse and potentially affected Native American Tribes, grazing permittees and ROW holders for their review and comments. Letters were sent to other potentially interested parties informing them of the availability of the document on the Ely District BLM website.

## 7 LIST OF PREPARERS

Table 7-1 BLM Preparers

Name	Title	Resource Represented
<u>Elizabeth Domina</u>	<u>Outdoor Recreation Planner</u>	<u>Recreation, Travel Management, Visual Resources</u>
<u>Sheri Wysong</u>	<u>Planning and Environmental Coordinator</u>	<u>Air Quality, Environmental Justice, NEPA</u>
<u>Zachary Peterson</u>	<u>Forester</u>	<u>Forest Health, Forest/Woodland Products</u>
<u>Dominick Bolognani</u>	<u>Rangeland Management Specialist</u>	<u>Rangelands Standards and Guidelines, Livestock Grazing Water Resources, Soil</u>
<u>Mark D'Aversa</u>	<u>Hydrologist</u>	<u>Resources, Riparian/Wetlands, Watershed</u>
<u>Andrew Daniels</u>	<u>Wildlife Biologist</u>	<u>Fish and Wildlife, Special Status Species</u>
<u>Benjamin Noyes</u>	<u>Wild Horse Specialist</u>	<u>Wild Horses</u>
<u>Leslie Riley</u>	<u>Archaeologist</u>	<u>Cultural Resources, Paleontological Resources</u>
<u>Karen McAdams-Kunze</u>	<u>Realty Specialist</u>	<u>Lands/Energy</u>
<u>Alan Kunze</u>	<u>Geologist</u>	<u>Mineral Resources</u>
<u>Kyle Teel</u>	<u>Fire Ecologist</u>	<u>Fuels</u>
<u>Karen Prentice</u>	<u>Rehabilitation Manager</u>	<u>Emergency Stabilization and Rehabilitation</u>
<u>Mindy Seal</u>	<u>Natural Resource Specialist</u>	<u>Noxious and Invasive Species</u>
<u>Dave Jacobson</u>	<u>Planning and Environmental Coordinator</u>	<u>Special Designations</u>
<u>Melanie Peterson</u>	<u>Environmental Protection Specialist</u>	<u>Wastes, Hazardous and Solid, Human Health and Safety</u>
<u>Elvis Wall</u>	<u>Native American Coordinator</u>	<u>Native American Concerns</u>

### CONTRACTOR'S

**Gilbert F. Cochran**, a Research Professor Emeritus with the Desert Research Institute's (DRI) Division of Hydrologic Sciences has B.S. and M.S. degrees in Civil Engineering and a Ph.D. in Hydrology. He has over 37 years experience in studies and management related to environmental concerns ranging from hydrological investigations to preparation of major Environmental Impact Statements. Dr. Cochran was responsible for assembling the draft EA and for providing editorial and coordinating functions on this EA. DRI is a Division of the Nevada System of Higher Education.

**Mary E. Cablk**: Associate Research Professor with DRI's Division of Earth and Ecosystem Sciences, earned degrees in Biology (BS), Environmental Management (MEM), and Forestry (PhD). She has over 19 years of experience in the application of spatial modeling, GIS,

and image processing techniques to assess landscape change, specifically in deserts and anthropogenic related. Dr. Cablk has contributed to other environmental impact studies in Nevada. She was responsible for coordinating and supporting activities involving spatial data collection, analysis, interpretation, and graphics as well as making technical contributions to sections involving biota.

**Susan C. Edwards:** Associate Research Archaeologist with DRI's Division of Earth and Ecosystem Sciences holds a B.A. in History and an M.A. in anthropology. She has over 25 years of experience in archaeology and historical research throughout the American West including investigations of mining and ranching communities, early 20th century ethnographic sites, and most recently, Cold War material culture. Ms. Edwards managed and conducted the cultural resources field survey and prepared the cultural and historical resource sections of this EA.

**Julianne Miller:** Associate Research Hydrologist with DRI's Division of Hydrologic Sciences, has a BS degree in Geological Sciences and a MS degree in Water Resources Management. Ms. Miller was responsible for the climate, flood, and surface water erosion aspects of the EA.

**Stephen A. Mizell:** Associate Research Professor with DRI's Division of Hydrologic Sciences, has a B.S. in Geology, an M.S. in Hydrology and a Ph.D. in Hydrogeology with over 36 years experience in various groundwater investigations. Dr. Mizell was responsible for contributing some materials dealing with hydrogeology, water quality, water resources management and groundwater contamination in this EA.

**Pat Nelson:** Technical Director, HazAir. He has a BS in Physics, MS in Nuclear Engineering and 28 years experience in air pollutant emission control technology development and federal/state/local air quality regulatory compliance, including 12 years experience with Nevada State regulations. He wrote the sections on air quality.

**Randy A. Nicholson:** Staff Hydrogeologist with DRI's Division of Hydrologic Sciences. He has a B.S. in Environmental Geoscience and over 20 years experience in exploration geology, mining operations and hydrogeology. He was responsible for the geological field survey and checking minerals, oil, and gas records, and for preparing the geology and minerals resources materials in this EA.

**Lonnie C. Pippin:** Research Professor with DRI's Division of Earth and Ecosystem Sciences. He has a Ph.D. in Anthropology and over 25 years of archaeological and palynological experience in Nevada, California, the American Southwest and Peru. He participated in the cultural resources field survey and contributed to the cultural/historical resource sections in this EA.

**Stephen F. Zitzer:** Assistant Professor of Plant Ecology with DRI's Division of Earth and Ecosystem Sciences has a B.S. in Soil Science from the University of Wisconsin, an M.S. in Forestry from Clemson University, a Ph.D. in Plant Physiology from the University of Illinois. He has more than 27 years experience as a biologist/ecologist. He was responsible for the EA sections covering vegetation and wildlife

## APPENDIX A

### Right of Way Guide Stipulations

#### 1 Non-BLM Required Authorizing Actions

##### a Air Quality

###### (1) Technical Report.

The holder shall submit for the authorized officer's review a technical report addressing criteria and methodology of how the proposed facility will be located and designed to meet applicable Federal, State, and local air quality standards.

###### (2) Emission Standards.

The holder shall meet Federal, State, and local emission standards for air quality.

###### (3) Dust Control.

The holder shall furnish and apply water or use other means satisfactory to the authorized officer for dust control.

##### b Construction in Waters and Wetlands

###### (1) Section 404 Permit

The holder shall comply with the construction practices and mitigating measures established by 33 CFR 323.4, which sets forth the parameters of the "nationwide permit" required by Section 404 of the Clean Water Act. If the proposed action exceeds the parameters of the nationwide permit, the holder shall obtain an individual permit from the appropriate office of the Army Corps of Engineers and provide the authorized officer with a copy of same. Failure to comply with this requirement shall be cause for suspension or termination of this right-of-way grant.

#### 2 Resources Values and Environmental Concerns

##### a Cultural and Paleontological Resources

Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any persons working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer to determine appropriate action to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

##### b Soil Stabilization and Rehabilitation

- (1) The holder shall prepare a seedbed by: (a) scarifying the disturbed area, (b) distributing topsoil uniformly, or (c) disking the topsoil, as directed by the authorized officer (select and use one as appropriate).

(2) No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of (specify) inches deep, the soil shall be deemed too wet to adequately support construction equipment.

3 Scheduling, Engineering, and Construction Details.

a Scheduling

Construction activity and surface disturbance will be prohibited during the period from (specify date) to (specify date) for the protection of (specify).

Any exception to this requirement must have prior written approval from the authorized officer.

b Protection of Survey Monuments

The holder shall protect all survey monuments found within the right-of-way. Survey monuments include, but are not limited to, General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U. S. Coastal and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any of the above, the holder shall immediately report the incident, in writing, to the authorized officer and the respective installing authority, if known. Where General Land Office or Bureau of Land Management right-of-way monuments or references are obliterated during operations, the holder shall secure the services of a registered land surveyor or a Bureau cadastral surveyor to restore the disturbed monuments and references using surveying procedures found in the Manual of Surveying Instructions for the Survey of the Public Lands of the United States, latest edition. The holder shall record such survey in the appropriate county and send a copy to the authorized officer. If the Bureau cadastral surveyors or other Federal surveyors are used to restore the disturbed survey monument, the holder shall be responsible for the survey cost.

c Work Limits.

The holder shall conduct all activities associated with the construction, operation, and termination of the right-of-way within the authorized limits of the right-of-way.

d Construction and Placement of Improvements and/or Structures on the Right-of-Way Grant.

(1) Culverts.

The holder shall furnish and install culverts of the gauge, materials, diameter(s), and length(s), indicated and approved by the authorized officer. Culverts shall be free of corrosion, dents, or other deleterious conditions. Culverts shall be placed on channel bottoms on firm, uniform beds which have shaped to accept them and aligned to minimize erosion. Backfill shall be thoroughly compacted. No equipment shall be routed over a culvert until back fill is adequate to protect the culverts.

(2) Low-Water Crossings.

The holder shall construct low-water crossings in a manner that will prevent any blockage or restriction of the existing channel. Material removed shall be stockpiled for use in rehabilitation of the crossings.

(3) Cattleguards

- (a) Cattleguards shall be (specify) feet by (specify) feet and as a minimum meet the (specify) standard. They shall be set on (timber, precast concrete, cast-in-place concrete) bases at right angles to the roadway. Backfill around cattleguards shall be thoroughly compacted. A bypass gate shall be built adjacent to each cattleguard structure. Gate materials, dimensions, and construction shall conform to the requirements as specified by the authorized officer.
- (b) Cattleguards shall be constructed and installed as shown on attached drawings and specification as provide by the authorized officer. (Generally for use on permanent or high-volume roads.)

4 Flagging and Staking of the Right-of Way.

- a The holder shall place slope stakes, culvert location and grade stakes, and other construction control stakes as deemed necessary by the authorized officer to ensure construction in accordance with the plan of development. If stakes are disturbed, they shall be replaced before proceeding with construction.
- b The holder shall mark the exterior boundaries of the right-of-way with a stake and/or lath at (specify) foot intervals. The intervals may be varied at the time of staking at the discretion of the authorized officer. The tops of the stakes and/or laths will be painted and the laths flagged in a distinctive color as determined by the holder. The survey station numbers will be marked on the boundary stakes and/or laths at the entrance to and the exit from public land. Holder shall maintain all boundary stakes and/or laths in place until final cleanup and restoration is completed and approved by the authorized officer. The stakes and/or laths will then be removed at the direction of the authorized officer.
- c The holder shall survey and clearly make the centerline and/or exterior limits of the right-of-way, as determined by the authorized officer.
- d No surface disturbance or construction activity will be allowed within (specify) feet of (specify) which shall be clearly marked as specified by the authorized officer. Any deviation from this requirement shall have the prior written approval of the authorized officer.

5 Clearing and Grading of the Right-of-Way.

- a The holder shall clear and remove all roots, woody plants over (specify) feet high, and other vegetative materials from the surfaces to be covered by embankments and disturbed by excavation. Clearing shall be accomplished without mixing topsoil with vegetation. Cleared vegetative materials shall be disposed of as directed by the authorized officer; excess mineral materials shall be stockpiled for disposal by the United States or used in construction in accordance with 43 CFR 2801.1-1(d).

- b Right-of-way clearing shall be limited to (specify) on each side of the centerline, (the limits of the right-of-way, or the limits of the cut and fill stakes).
- c A buffer strip of vegetation (specify) feet wide shall be left between areas of surface disturbance and riparian vegetation as determined necessary by the authorized officer.
- d Suitable topsoil material removed in conjunction with clearing and stripping shall be conserved in stockpiles (within the right-of-way, at the following staked locations:) Topsoil shall be stripped to an average depth of (specify) inches. A total of (specify) cubic yards of topsoil shall be stockpiled.
- e Earthwork areas shall be cleared of vegetation and the topsoil stockpiled for future rehabilitation. Prior to fill construction, the existing surface shall be sloped to avoid sharp banks and allow equipment operations. No fills shall be made with water saturated soils. Materials shall be placed in uniform layers not exceed (specify). Construction equipment shall be routed evenly over the entire width of the fill to obtain a thorough compaction.

6 Stabilization and Rehabilitation of the Right-of-Way.

a Recontouring

- (1) The holder shall recontour disturbed areas, or designated sections of the right-of-way, by grading to restore the site to approximately the original contour of the ground as determined by the authorized officer.
- (2) The holder shall recontour the disturbed area and obliterate all earthwork by removing embankments, backfilling excavations, and grading to re-establish the appropriate original contours of the land in the right-of-way.
- (3) The holder shall uniformly spread topsoil over all unoccupied disturbed areas (outside the ditch line, fence line, work area). Spreading shall not be done when the ground or topsoil is frozen or wet.

b Waterbars

The holder shall construct waterbars on all disturbed areas to the spacing and cross sections specified by the authorized officer. Waterbars are to be constructed to: (1) simulate the imaginary contour lines of the slope (ideally with a grade of one or two percent); (2) drain away from the disturbed area; and (3) begin and end in vegetation or rock whenever possible.

c Terrace and Bench Construction

Where slope stabilization requires significant terrace or bench construction, the holder shall include engineering drawings for this work to be reviewed, and where appropriate, modified and approved by the authorized officer.

d Seeding.

- (1) The holder shall seed all disturbed areas with the seed mixture(s) listed below. The seed mixture(s) shall be planted in the amounts specified in pounds of pure live seed

(PLS)/acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed shall be tested and the viability testing of seed shall be done in accordance with State law(s) and within 9 months prior to purchase. Commercial seed shall be either certified or registered seed. The seed mixture container shall be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed shall be planted using a drill equipped with depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area. (Smaller/heavier seeds have a tendency to drop to the bottom of the drill and are planted first. The holder shall take appropriate measures to ensure this not occur.) Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre noted below are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of the (specify) growing season after seeding. The authorized officer is to be notified a minimum of (specify) days prior to seeding of the project.

Seed Mixture		
Species of Seed	Variety	Pounds/acres PLS

Total (specify) lbs/acre

PLS

Pure Live Seed (PLS) formula: % of purity of seed mixture time % germination of seed mixture = portion of seed mixture that is PLS.

- (2) The holder shall seed all disturbed areas, using an agreed upon method suitable for the location. Seeding shall be repeated if a satisfactory stand is not obtained as determined by the authorizing officer upon evaluation after the first growing season.

e Mulching.

- (1) The holder shall mulch disturbed areas designated by the authorized officer. The type of mulch shall meet one of the following requirements:
  - (a) Straw used for mulching shall be from oats, wheat, rye, or other approved grain crops, and free from noxious weeds or other objectionable material as determined by the authorized officer. Straw mulch shall be suitable for placing with mulch blower equipment.
  - (b) Hay shall be of approved herbaceous mowing, free from noxious weeds or other objectionable material as determined by the authorized officer. Hay shall be suitable for placing with mulch blower equipment.
  - (c) Wood cellulose fiber shall be natural or cooked wood cellulose fiber, shall disperse readily in water, and shall be nontoxic. The homogeneous slurry or mixture shall be capable of application with power spray equipment. A colored dye that is noninjurious to plant growth may be used when specified. Wood cellulose fiber shall be packaged in new, labeled containers.

f Weed Control

The holder shall be responsible for weed control on disturbed areas within the limits of the right-of-way. The holder is responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods (within limits imposed in the grant stipulations).

7 Access to and Along the Right-of-Way During Construction.

- a Construction –related traffic shall be restricted to routes approved by the authorized officer. New access roads or cross-country vehicle travel will not be permitted unless prior written approval is given by the authorized officer. Authorized roads used by the holder shall be rehabilitated or maintained when construction activities are complete as approved by the authorized officer.
- b The holder shall permit free and unrestricted public access to and upon the right-of-way for all lawful purposes except for those specific areas designated as restricted by the authorized officer to protect the public, wildlife, livestock, or facilities constructed within the right-of-way.
- c The holder shall provide for the safety of the public entering the right-of-way. This includes, but is not limited to, barricades for open trenched, flagmen/women with communications systems for single-lane roads without inter visible turnouts, and attended gated for blasting operations.
- d Specific sites as identified by the authorized officer (e.g., archaeological sites, area with threatened and endangered species, or fragile watersheds) where construction equipment and vehicle shall not be allowed, shall be clearly marked onsite by the holder before any construction or surface disturbing activities begin. The holder shall be responsible for assuring that construction personnel are well trained to recognize these markers and understand the equipment movement restrictions involved.
- e Existing roads and trails on public lands that are blocked as the result of the construction project shall be rerouted or rebuilt as directed by the authorized officer.

8 Fire Plans

a Fire Prevention and Suppression Plan.

The holder shall prepare a fire prevention and suppression plan, that shall be reviewed, modified and approved, as appropriate, by the authorized officer. The holder shall take into account such measures for prevention and suppression of fire on the right-of-way and other public land used or traversed by the holder in connection with operations of the right-of-way. Project personnel shall be instructed as to individual responsibility in implementation of the plan.

b Spark Arresters

During construction, operation, maintenance, and termination of the right-of-way, during the period from (specify) to (specify), vehicles, gas-powered equipment, and flues shall be equipped with spark arrestors approved by the authorized officer.

c Restricted Operations.

During conditions of extreme fire danger, operations shall be limited or suspended in specific areas, or additional measures may be required by the authorized officer.

d Fire Watch.

The holder shall maintain a fire watch with fire-fighting equipment during construction at the following locations (specify locations) as required by the authorized officer.

e Availability of Equipment.

When requested by the authorized officer, the holder shall make his equipment available for fighting fires in the vicinity of the project. Payment for such services will be made at rates determined by the authorized officer.

9 Operation and Maintenance of the Facility.

a Painting.

All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for this (site, project) is (name and Munsel Soil Color Number) (Color chart is attached).

b Use of Right-of-Way

Except rights-of-way expressly authorizing a road after construction of the facility is completed, the holder shall not use the right-of-way as a road for purposes other than routine maintenance as determined by the authorized officer in consultation with the holder.

c Maintenance of Right-of-Way

(1) Holder shall maintain the right-of-way in a safe, usable condition, as directed by the authorized officer. (A regular maintenance program shall include, but is not limited to, blading, ditching, culvert installation, and surfacing).

(2) If snow removal from road is undertaken, equipment used for snow removal operations shall be equipped with shoes to keep the blade (specify) inches off the road surface. Holder shall take special precautions where the surface of the ground is uneven and at drainage crossings to ensure that equipment blades do not destroy vegetation.

d Signing

Upon completion of construction, the holder shall post as directed by the authorized officer, the Bureau serial number assigned to this right-of-way grant at the following locations(s) (specify).

e Waste Disposal

(1) Construction sites shall be maintained in a sanitary condition at all times; waste materials at those sites shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

- (2) A litter policing program shall be implemented by the holder, and approved of in writing by the authorized officer, which covers all roads and sites associated with the right-of-way.

f Industrial Wastes and Toxic Substances.

- (1) The holder(s) shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, holder(s) shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially provisions on polychlorinated biphenyls, 40 CFR 761-1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
- (2) The holder of Right-of-Way No. (specify) agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980 42 U.S.C. 6901, et seq.) on the right-of-way (unless the release of threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

10 Terminations.

- a Prior to termination of the right-of-way, the holder shall contact the authorized officer to arrange a predetermination conference. This conference will be held to review the termination provisions of the grant.
- b (Specify) (days, months) prior to termination of the right-of-way, the holder shall contact the authorized officer to arrange a joint inspection of the right-of-way. This inspection will be held to agree to an acceptable termination (and rehabilitation) plan. This plan shall include but is not limited to, removal of facilities, drainage structures, or surface material, recontouring, topsoiling, or seeding. The authorized officer must approve the plan in writing prior to the holder's commencement of any termination activities.

APPENDIX B

Floral and Faunal Species Observed in the Proposed Project Area

Table B-1. Animal species found in Mojave and Great Basin communities during the biological resource survey for the proposed Lincoln County power line project.

Birds					
common name		Mojave		Great Basin	
		Freq.*	Totals**	Freq.	Totals
Black-throated sparrow	<i>Amphispiza bilineata</i>	43	77	58	125
Horned lark	<i>Eremophila alpestris</i>	5	8	23	74
Raven	<i>Corvus corax</i>	5	6	13	41
Western kingbird	<i>Tyrannus tyrannus</i>	7	8	9	18
House finch	<i>Carpodacus mexicanus</i>	7	11	8	15
Rock wren	<i>Salpinctes obsoletus</i>	11	14	13	15
Mockingbird	<i>Mimus polyglottos</i>	4	4	11	14
Loggerhead shrike	<i>Lanius ludovicianus</i>	2	4	8	8
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>	2	2	5	5
Mourning dove	<i>Zenaida macroura</i>	9	11	4	4
Red-tailed hawk	<i>Buteo jamaicensis</i>	2	2	3	4
Turkey vulture	<i>Cathartes aura</i>	2	2	2	2
Bendire's thrasher	<i>Toxostoma bendirei</i>	1	1	1	1
Gambel's quail	<i>Callipepla gambelii</i>	1	1	1	1
Scott's oriole	<i>Icterus parisorum</i>	1	1	1	1
Barn swallow	<i>Hirundo rustica</i>	1	1	0	0
Black-chinned hummingbird	<i>Archilochus alexandri</i>	2	2	0	0
Lucy's warbler	<i>Vermivora luciae</i>	1	1	0	0
Phainopepla	<i>Phainopepla nitens</i>	3	8	0	0
Redwing blackbird	<i>Agelaius phoeniceus</i>	1	1	0	0
Verdin	<i>Auriparus flaviceps</i>	1	1	0	0
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	1	1	0	0
Brewer's sparrow	<i>Spizella breweri</i>	0	0	4	4
Lark sparrow	<i>Chondestes gramma</i>	0	0	2	4
Cactus wren	<i>Champhorhynchus brunneicapillis</i>	0	0	2	3
Pinyon jay	<i>Gymnrrhinus cyanocephalus</i>	0	0	2	3
Western meadowlark	<i>Sturnella neglecta</i>	0	0	3	3
Blue-gray gnatcatcher	<i>Polioptila caerulea</i>	0	0	2	2
Bushtit	<i>Psaltiriparus minimus</i>	0	0	2	2
Ladder-backed woodpecker	<i>Picoides scalaris</i>	0	0	2	2
Say'sphoebe	<i>Phoebe sayornis</i>	0	0	2	2
Black-headed grosbeck	<i>Pheucticus melanocephalus</i>	0	0	1	1
Gray vireo	<i>Vireo vicinior</i>	0	0	1	1
Lesser nighthawk	<i>Chordeillis acutipennis</i>	0	0	1	1
Prairie falcon	<i>Falco mexicanus</i>	0	0	1	1
Total species (35)		22	167	28	357
Shared species (15)					

\*Freq. = # of observations, \*\*Totals = # of individuals seen

Table B-1 Continued

Mammals					
common name	scientific name	Mojave		Great Basin	
		Freq.	Totals	Freq.	Totals
Whitetailed antelope squirrel	<i>Ammospermophilus leucurus</i>	0	0	8	17
Black-tailed jackrabbit	<i>Lepus californicus</i>	0	0	6	6
Coyote	<i>Canis latrans</i>	0	0	1	1
Desert cottontail	<i>Sylvilagus audubonii</i>	0	0	1	1
Mule deer	<i>Odocoileus hemionus</i>	0	0	1	1
Pronghorn	<i>Antilocarpa americana</i>	0	0	1	1
Pack rat	<i>Neotoma lepida</i>	1	1	0	0
Total species (7)		1	1	6	27
Shared species (0)					
Reptiles					
common name	scientific name	Mojave		Great Basin	
		Freq.	Totals	Freq.	Totals
Side-blotched lizard	<i>Uta stansburiana</i>	21	29	19	20
Zebra-tailed lizard	<i>Callisaurus draconoides</i>	12	14	10	12
Leopard lizard	<i>Callisaurus wislizenii</i>	1	1	9	9
Desert spiny lizard	<i>Scleropus magister</i>	0	0	1	1
Fence lizard	<i>Scleropus graciosus</i>	0	0	1	1
Coachwhip snake	<i>Mastcophis flagellum</i>	1	1	0	0
Desert collared lizard	<i>Crotophytus insularis</i>	1	1	0	0
Desert horned lizard	<i>Phrynosoma platyrhinos</i>	1	1	0	0
Desert tortoise	<i>Gopherus agassizii</i>	1	1	0	0
Total species (10)		7	48	5	43
Shared species (4)					
Invertebrates					
common name	scientific name	Mojave		Great Basin	
		Freq.	Totals	Freq.	Totals
Western white butterfly	<i>Pontia occidentalis</i>	5	5	5	5
Dragonflies	Anioptera and Zygoptera	1	2	1	1
Painted lady butterfly	<i>Vannessa cardui</i>	2	3	1	1
Monarch butterfly	<i>Danaus plexippus</i>	1	1	0	0
Total species (5)		4	11	3	7
Shared species (4)					

Table B-2. Federally listed endangered and Nevada Natural Heritage Program endangered, and Bureau of Land Management sensitive species for Lincoln County.

Scientific Name	Common Name	Status	Observed
PLANTS			
<i>Arctomecon californica</i>	Las Vegas bearpoppy	Endangered <sup>2</sup>	Yes
<i>Asclepias eastwoodiana</i>	Eastwood's milkweed	Sensitive/Rare <sup>3</sup>	No
<i>Cymopterus ripleyi</i> var. <i>saniculoides</i>	Sanicle bisquitroot	Sensitive/Rare <sup>3</sup>	No
<i>Erigeron ovinus</i>	Sheep fleabane	Sensitive/Rare <sup>3</sup>	No
MAMMALS			
<i>Antrozous pallidus</i>	Pallid bat	Sensitive <sup>3</sup>	No
<i>Microdipodos megacephalus</i> ssp. <i>albiventer</i>	Desert Valley kangaroo mouse	Sensitive/Rare <sup>3</sup>	No
<i>Myotis californicus</i>	California myotis	Sensitive/Rare <sup>3</sup>	No
<i>Myotis evotis</i>	Long-eared myotis	Sensitive <sup>3</sup>	No
<i>Myotis lucifugus</i>	Little brown myotis	Sensitive/Rare <sup>3</sup>	No
BIRDS			
<i>Aquila chrysaetos</i>	Golden eagle	Sensitive <sup>3</sup>	Yes
<i>Asio otus</i>	Long-eared owl	Sensitive <sup>3</sup>	No
<i>Athene cunicularia</i>	Burrowing owl	Sensitive/Rare <sup>3</sup>	No
<i>Baeolophus griseus</i>	Juniper titmouse	Sensitive <sup>3</sup>	No
<i>Buteo regalis</i>	Ferruginous hawk	Sensitive <sup>3</sup>	Yes
<i>Buteo swainsoni</i>	Swainson's hawk	Sensitive <sup>3</sup>	No
<i>Charadrius alexandrinus</i> ssp. <i>nivosus</i>	Western snowy plover	Threatened <sup>1</sup>	No
<i>Dolichonix orysivorus</i>	Bobolink	Sensitive <sup>3</sup>	No
<i>Falco mexicanus</i>	Prairie falcon	Sensitive <sup>3</sup>	Yes
<i>Falco peregrinus</i>	Peregrine falcon	Sensitive <sup>3</sup>	No
<i>Gymnorhinus cyanocephalus</i>	Pinyon jay	Sensitive <sup>3</sup>	Yes
<i>Icteria virens</i>	Yellow-breasted chat	Sensitive <sup>3</sup>	No
<i>Lanius lucovicianus</i>	Loggerhead shrike	Sensitive <sup>3</sup>	Yes
<i>Melanerpes lewis</i>	Lewis's woodpecker	Sensitive <sup>3</sup>	No
<i>Numenius americanus</i>	Long-billed curlew	Sensitive <sup>3</sup>	No
<i>Phainopepla nitens</i>	Phainopepla	Sensitive <sup>3</sup>	Yes
<i>Sphyrapicus nuchalis</i>	Red-naped sapsucker	Sensitive <sup>3</sup>	No
<i>Vireo vicinior</i>	Gray vireo	Sensitive <sup>3</sup>	Yes
REPTILES			
<i>Gopherus agassizii</i>	Mojave Desert Tortoise	Threatened <sup>1</sup>	Yes

Current status as of September 2005, <sup>1</sup> federal list, <sup>2</sup>State endangered and <sup>3</sup>State and BLM sensitive.

Table B-3. Plant species found in Mojave and Great Basin communities during the biological resource survey for the proposed Lincoln County transmission line project

Genus	Species	Family	Cycle	Form	Origin	Mojave	Great Basin
<i>Abronia</i>	<i>turbinata</i>	Nyctaginaceae	nn	forb	native	1	1
<i>Acacia</i>	<i>greggii</i>	Fabaceae	er	shrub	native	1	
<i>Achnatherum</i>	<i>hymenoides</i>	Poaceae	er	grass	native	1	1
<i>Acamptopappus</i>	<i>shockleyi</i>	Asteraceae	er	shrub	native	1	1
<i>Achnatherum</i>	<i>speciosum</i>	Poaceae	er	grass	native	1	1
<i>Agropyro</i>	<i>desertorum</i>	Poaceae	er	grass	exotic		1
<i>Arctomecon</i>	<i>californica</i>	Papaveraceae	er	forb	native	1	
<i>Adenophyllum</i>	<i>cooperi</i>	Asteraceae	er	shrub	native	1	1
<i>Allium</i>	<i>nevadense</i>	Liliaceae	er	forb	native	1	1
<i>Allonia</i>	<i>incarnata</i>	Nyctaginaceae	nn	forb	native	1	1
<i>Ambrosia</i>	<i>acanthoarpa</i>	Asteraceae	nn	forb	native		1
<i>Ambrosia</i>	<i>confertiflora</i>	Asteraceae	er	shrub	native		1
<i>Ambrosia</i>	<i>dumosa</i>	Asteraceae	er	shrub	native	1	1
<i>Ambrosia</i>	<i>eriocentra</i>	Asteraceae	er	shrub	native		1
<i>Amsinkia</i>	<i>tessellata</i>	Boraginaceae	nn	forb	native	1	1
<i>Amsonia</i>	<i>tomentosa</i>	Apocynaceae	er	shrub	native	1	
<i>Androstephium</i>	<i>breviflorum</i>	Liliaceae	er	forb	native	1	
<i>Anemopsis</i>	<i>californica</i>	Saururaceae	er	forb	native	1	
<i>Antirrhinum</i>	<i>kingii</i>	Scrophulariaceae	nn	forb	native	1	
<i>Artemesia</i>	<i>bigelovii</i>	Asteraceae	er	shrub	native	1	1
<i>Artemesia</i>	<i>ludoviscianus</i>	Asteraceae	er	shrub	native	1	1
<i>Arenaria</i>	<i>macradenia</i>	Caryphyllaceae	er	forb	native	1	1
<i>Argemone</i>	<i>corymbosa</i>	Papaveraceae	er	forb	native	1	
<i>Argemone</i>	<i>munita</i>	Papaveraceae	nn	forb	native	1	1
<i>Artemesia</i>	<i>nova</i>	Asteraceae	er	shrub	native		1

<b>Genus</b>	<b>Species</b>	<b>Family</b>	<b>Cycle</b>	<b>Form</b>	<b>Origin</b>	<b>Mojave</b>	<b>Great Basin</b>
<i>Aristida</i>	<i>purpurea</i>	Poaceae	er	grass	native	1	1
<i>Artemesia</i>	<i>spinescens</i>	Asteraceae	er	shrub	native		1
<i>Artemesia</i>	<i>tridentata</i>	Asteraceae	er	shrub	native		1
<i>Astragalus</i>	<i>lentigiformis</i>	Fabaceae	nn	forb	native	1	1
<i>Aster</i>	<i>scopulorum</i>	Asteraceae	er	forb	native		1
<i>Atriplex</i>	<i>canescens</i>	Chenopodiaceae	er	shrub	native	1	1
<i>Atriplex</i>	<i>confertifolia</i>	Chenopodiaceae	er	shrub	native	1	1
<i>Atriplex</i>	<i>lentiformis</i>	Chenopodiaceae	er	shrub	native	1	
<i>Atriplex</i>	<i>polycarpa</i>	Chenopodiaceae	er	shrub	native	1	
<i>Baileya</i>	<i>multiradiata</i>	Asteraceae	er	forb	native	1	1
<i>Baileya</i>	<i>pleniradiata</i>	Asteraceae	nn	forb	native	1	1
<i>Boerhavia</i>	<i>wrightii</i>	Nyctaginaceae	nn	forb	native	1	1
<i>Brickellia</i>	<i>arguta</i>	Asteraceae	er	shrub	native	1	1
<i>Brickellia</i>	<i>desertorum</i>	Asteraceae	er	shrub	native	1	
<i>Brassica</i>	<i>tournefortii</i>	Brassicaceae	nn	forb	exotic	1	1
<i>Bromus</i>	<i>madritensis</i>	Poaceae	nn	grass	exotic	1	1
<i>Brickellia</i>	<i>oblongifolia</i>	Asteraceae	er	shrub	native	1	1
<i>Bromus</i>	<i>tectorum</i>	Poaceae	nn	grass	exotic	1	1
<i>Buddleja</i>	<i>utahensis</i>	Buddlejaceae	er	shrub	native		1
<i>Camissonia</i>	<i>boothii</i>	Onagraceae	nn	forb	native	1	1
<i>Camissonia</i>	<i>brevipes</i>	Onagraceae	nn	forb	native	1	1
<i>Caulanthus</i>	<i>crassicaulis</i>	Brassicaceae	er	forb	native		1
<i>Calochortus</i>	<i>flexuosus</i>	Liliaceae	er	forb	native	1	1
<i>Camissonia</i>	<i>heterochroma</i>	Onagraceae	nn	forb	native		1
<i>Castilleja</i>	<i>angustifolia</i>	Scrophulariaceae	er	forb	native	1	1
<i>Calicoserius</i>	<i>wrightii</i>	Asteraceae	nn	forb	native	1	1
<i>Centrostigia</i>	<i>thurberi</i>	Poygonaceae		forb	native	1	1

Genus	Species	Family	Cycle	Form	Origin	Mojave	Great Basin
			nn				
<i>Cercocarpus</i>	<i>intricatus</i>	Rosaceae	er	shrub	native		1
<i>Chamaesyce</i>	<i>albomarginata</i>	Euphorbiaceae	er	forb	native	1	1
<i>Chenopodium</i>	<i>album</i>	Chenopodiaceae	nn	forb	exotic	1	1
<i>Chorizanthe</i>	<i>brevicoru</i>	Poygonaceae	nn	forb	native	1	
<i>Chaenactis</i>	<i>carphoclinia</i>	Asteraceae	nn	forb	native	1	1
<i>Chaenactis</i>	<i>fremontii</i>	Asteraceae	nn	forb	native	1	1
<i>Chaenactis</i>	<i>macrantha</i>	Asteraceae	nn	forb	native	1	1
<i>Chrysothamnus</i>	<i>greenii</i>	Asteraceae	er	shrub	native		1
<i>Chilopsis</i>	<i>linearis</i>	Bignoniaceae	er	tree	native	1	
<i>Chamaesyce</i>	<i>micromera</i>	Euphorbiaceae	nn	forb	native	1	1
<i>Chrysothamnus</i>	<i>nauseosus</i>	Asteraceae	er	shrub	native	1	1
<i>Chorizanthe</i>	<i>rigida</i>	Polygonaceae	nn	forb	native	1	1
<i>Chaenactis</i>	<i>stevoides</i>	Asteraceae	nn	forb	native	1	1
<i>Chrysothamnus</i>	<i>viscidiflorus</i>	Asteraceae	er	shrub	native	1	1
<i>Cirsium</i>	<i>neomexicanum</i>	Asteraceae	nn	forb	native	1	1
<i>Coleogyne</i>	<i>ramosissima</i>	Rosaceae	er	shrub	native	1	1
<i>Cryptantha</i>	<i>angustifolia</i>	Boraginaceae	nn	forb	native	1	1
<i>Cryptantha</i>	<i>circumscissa</i>	Boraginaceae	nn	forb	native	1	1
<i>Cryptantha</i>	<i>confertiflora</i>	Boraginaceae	er	forb	native	1	1
<i>Cryptantha</i>	<i>humilis</i>	Boraginaceae	er	forb	native		1
<i>Cryptantha</i>	<i>micrantha</i>	Boraginaceae	nn	forb	native	1	
<i>Cryptantha</i>	<i>nevadensis</i>	Boraginaceae	nn	forb	native	1	
<i>Cryptantha</i>	<i>recurvata</i>	Boraginaceae	nn	forb	native	1	
<i>Cryptantha</i>	<i>utahensis</i>	Boraginaceae	nn	forb	native	1	
<i>Cymopterus</i>	<i>globosus</i>	Apiaceae	er	forb	native		1
<i>Cymopterus</i>	<i>ripleyi</i>	Apiaceae	er	forb	native		1

<b>Genus</b>	<b>Species</b>	<b>Family</b>	<b>Cycle</b>	<b>Form</b>	<b>Origin</b>	<b>Mojave</b>	<b>Great Basin</b>
<i>Datura</i>	<i>wrightii</i>	Solanaceae	er	shrub	native	1	
<i>Delphinium</i>	<i>parishii</i>	Ranunculaceae	er	forb	native	1	1
<i>Descurrainia</i>	<i>pinnata</i>	Brassicaceae	nn	forb	native	1	1
<i>Distichlis</i>	<i>spicata</i>	Poaceae	er	grass	native	1	
<i>Draba</i>	<i>cuneifolia</i>	Brassicaceae	nn	forb	native	1	1
<i>Echinocereus</i>	<i>engelmannii</i>	Cactaceae	er	succ	native	1	1
<i>Echinocactus</i>	<i>polycephalus</i>	Cactaceae	er	succ	native	1	1
<i>Elymus</i>	<i>elymoides</i>	Poaceae	er	grass	native	1	1
<i>Enceliopsis</i>	<i>nudicaulis</i>	Asteraceae	nn	forb	native		1
<i>Encelia</i>	<i>virginensis</i>	Asteraceae	er	shrub	native	1	1
<i>Ephedra</i>	<i>nevadensis</i>	Ephedraceae	er	shrub	native	1	1
<i>Ephedra</i>	<i>viridis</i>	Ephedraceae	er	shrub	native	1	1
<i>Eriogonum</i>	<i>caespitosum</i>	Polygonaceae	er	forb	native	1	1
<i>Eriogonum</i>	<i>cernuum</i>	Polygonaceae	nn	forb	native	1	1
<i>Erodium</i>	<i>cicutarium</i>	Geraniaceae	nn	forb	exotic	1	1
<i>Ericameria</i>	<i>cooperi</i>	Asteraceae	er	shrub	native	1	1
<i>Ericameria</i>	<i>nana</i>	Asteraceae	er	shrub	native		1
<i>Eriogonum</i>	<i>deflexum</i>	Polygonaceae	nn	forb	native	1	1
<i>Erigeron</i>	<i>eatonii</i>	Asteraceae	er	forb	native	1	1
<i>Eriastrum</i>	<i>eremicum</i>	Polemoniaceae	nn	forb	native	1	1
<i>Eriogonum</i>	<i>fasciculatum</i>	Polygonaceae	er	forb	native	1	1
<i>Eriogonum</i>	<i>inflatum</i>	Polygonaceae	er	forb	native	1	1
<i>Eriogonum</i>	<i>maculatum</i>	Polygonaceae	nn	forb	native	1	1
<i>Eriogonum</i>	<i>microthecum</i>	Polygonaceae	er	forb	native	1	1
<i>Eriogonum</i>	<i>nidularium</i>	Polygonaceae	nn	forb	native	1	1
<i>Eriophyllum</i>	<i>pringeli</i>	Asteraceae	nn	forb	native	1	
<i>Erioneuron</i>	<i>pulchellum</i>	Poaceae		grass	native	1	1

Genus	Species	Family	Cycle	Form	Origin	Mojave	Great Basin
			er				
<i>Eriogonum</i>	<i>trichopes</i>	Polygonaceae	nn	forb	native	1	1
<i>Eschscholzia</i>	<i>glyptoserma</i>	Papaveraceae	nn	forb	native	1	1
<i>Escobaria</i>	<i>vivipara</i>	Cactaceae	er	succ	native	1	1
<i>Gaura</i>	<i>coccinea</i>	Onagraceae	er	forb	native	1	
<i>Gilia</i>	<i>cana</i>	Polimoniaceae	nn	forb	native	1	1
<i>Gilia</i>	<i>aliquinata</i>	Polimoniaceae	nn	forb	native		1
<i>Gilia</i>	<i>scopularum</i>	Polimoniaceae	nn	forb	native	1	
<i>Glyptopleura</i>	<i>marginata</i>	Asteraceae	nn	forb	native	1	
<i>Glossopetalon</i>	<i>spinescens</i>	Crossosomataceae	er	shrub	native		1
<i>Grayia</i>	<i>spinosa</i>	Chenopodiaceae	er	shrub	native	1	1
<i>Guillenia</i>	<i>lasiophylla</i>	Brassicaceae	nn	forb	native	1	
<i>Halogeton</i>	<i>glometatus</i>	Chenopodiaceae	nn	forb	exotoc	1	1
<i>Hazardia</i>	<i>squarrosa</i>	Asteraceae	er	shrub	native		1
<i>Heliomeris</i>	<i>multiflora</i>	Asteraceae	er	forb	native	1	1
<i>Hymenochlea</i>	<i>salsola</i>	Asteraceae	er	shrub	native	1	1
<i>Ipomopsis</i>	<i>polycladon</i>	Polimoniaceae	nn	forb	native	1	1
<i>Isocoma</i>	<i>acradenia</i>	Asteraceae	er	shrub	native	1	
<i>Juniperus</i>	<i>osteosperma</i>	Cupressaceae	er	tree	native		1
<i>Kochia</i>	<i>americana</i>	Chenopodiaceae	er	shrub	native	1	1
<i>Krameria</i>	<i>erecta</i>	Krameriaceae	er	shrub	native	1	
<i>Krascheninnikovia</i>	<i>lanata</i>	Chenopodiaceae	er	shrub	native	1	1
<i>Langloisia</i>	<i>setosissima</i>	Polimoniaceae	nn	forb	native	1	1
<i>Larrea</i>	<i>tridentata</i>	Zygphyllaceae	er	shrub	native	1	
<i>Lepidium</i>	<i>fremontii</i>	Brassicaceae	er	shrub	native	1	1
<i>Lepidium</i>	<i>lasiocarpum</i>	Brassicaceae	nn	forb	native	1	1
<i>Lepidium</i>	<i>montanum</i>	Brassicaceae	nn	forb	native		1

<b>Genus</b>	<b>Species</b>	<b>Family</b>	<b>Cycle</b>	<b>Form</b>	<b>Origin</b>	<b>Mojave</b>	<b>Great Basin</b>
<i>Leptodactyon</i>	<i>pungens</i>	Polemoniaceae	er	forb	native	1	1
<i>Lesquerella</i>	<i>tenella</i>	Brassicaceae	nn	forb	native	1	
<i>Leymus</i>	<i>cinereus</i>	Poaceae	er	grass	native		1
<i>Linum</i>	<i>lewisii</i>	Linaceae	er	forb	native		1
<i>Lupinus</i>	<i>shockleyi</i>	Fabaceae	nn	forb	native	1	
<i>Lupinus</i>	<i>brevicaulis</i>	Fabaceae	nn	forb	native	1	1
<i>Lycium</i>	<i>andersonii</i>	Solanaceae	er	shrub	native	1	1
<i>Macaeranthera</i>	<i>canescens</i>	Asteraceae	er	forb	native	1	1
<i>Malacothrix</i>	<i>glabrata</i>	Asteraceae	nn	forb	native	1	1
<i>Mentzelia</i>	<i>albicaulis</i>	Loasaceae	nn	forb	native	1	1
<i>Mentzelia</i>	<i>involuta</i>	Loasaceae	nn	forb	native	1	
<i>Mentzelia</i>	<i>multiflora</i>	Loasaceae	nn	forb	native	1	
<i>Mentzelia</i>	<i>tricuspis</i>	Loasaceae	nn	forb	native	1	
<i>Menodora</i>	<i>spinescens</i>	Oleaceae	er	shrub	native	1	1
<i>Mimulus</i>	<i>bigelovii</i>	Scrophulariaceae	nn	forb	native	1	1
<i>Mirabillis</i>	<i>alipes</i>	Nyctaginaceae	er	forb	native	1	1
<i>Mirabillis</i>	<i>bigelovii</i>	Nyctaginaceae	er	forb	native	1	1
<i>Mirabillis</i>	<i>multiflora</i>	Nyctaginaceae	er	forb	native		1
<i>Mimulus</i>	<i>parryi</i>	Scrophulariaceae	nn	forb	native	1	1
<i>Mirabillis</i>	<i>pudica</i>	Nyctaginaceae	er	forb	native	1	1
<i>Monoptilon</i>	<i>bellidiforme</i>	Asteraceae	nn	forb	native	1	
<i>Mulenbergia</i>	<i>porteri</i>	Poaceae	er	grass	native		1
<i>Nama</i>	<i>demissum</i>	Hydrophyllaceae	nn	forb	native	1	1
<i>Nicotiana</i>	<i>obtusifolia</i>	Solanaceae	nn	forb	native	1	1
<i>Oenothera</i>	<i>caespitosa</i>	Onagraceae	er	forb	native	1	1
<i>Oenothera</i>	<i>californica</i>	Onagraceae	er	forb	native	1	1
<i>Oenothera</i>	<i>deltoides</i>	Onagraceae		forb	native	1	1

Genus	Species	Family	Cycle	Form	Origin	Mojave	Great Basin
			nn				
<i>Oenothera</i>	<i>primaveris</i>	Onagraceae	nn	forb	native	1	1
<i>Opuntia</i>	<i>basilaris</i>	Cactaceae	er	succ	native	1	1
<i>Opuntia</i>	<i>echinocarpa</i>	Cactaceae	er	succ	native	1	1
<i>Opuntia</i>	<i>erinacea</i>	Cactaceae	er	succ	native	1	1
<i>Opuntia</i>	<i>ramosissima</i>	Cactaceae	er	succ	native	1	
<i>Orobanche</i>	<i>cooperi</i>	Orobanchaceae	er	para	native		1
<i>Oxetheca</i>	<i>perfoliata</i>	Polygonaceae	nn	forb	native	1	1
<i>Penstemon</i>	<i>acuminatus</i>	Scrophulariaceae	er	forb	native		1
<i>Penstemon</i>	<i>eatonii</i>	Scrophulariaceae	er	forb	native		1
<i>Penstemon</i>	<i>floridus</i>	Scrophulariaceae	er	forb	native		1
<i>Pectocarya</i>	<i>heterocarpa</i>	Boraginaceae	nn	forb	native	1	1
<i>Petalonyx</i>	<i>nitida</i>	Loasaceae	er	shrub	native	1	
<i>Penstemon</i>	<i>palmeri</i>	Scrophulariaceae	er	forb	native		1
<i>Peucephyllum</i>	<i>schottii</i>	Asteraceae	er	shrub	native	1	1
<i>Phacelia</i>	<i>bicolor</i>	Hydrophyllaceae	nn	forb	native		1
<i>Phorodendron</i>	<i>californicum</i>	Viscaceae	er	para	native	1	
<i>Phacelia</i>	<i>crenulata</i>	Hydrophyllaceae	nn	forb	native	1	1
<i>Phacelia</i>	<i>fremontii</i>	Hydrophyllaceae	nn	forb	native	1	
<i>Phacelia</i>	<i>ivesiana</i>	Hydrophyllaceae	nn	forb	native	1	
<i>Phlox</i>	<i>spp</i>	Polimoniaceae	er	forb	native	1	1
<i>Phlox</i>	<i>stansburyi</i>	Polimoniaceae	er	forb	native	1	1
<i>Physalis</i>	<i>crassifolia</i>	Solanaceae	er	shrub	native	1	
<i>Pinus</i>	<i>monophylla</i>	Pinaceae	er	tree	native		1
<i>Pleuraphis</i>	<i>jamesii</i>	Poaceae	er	grass	native		1
<i>Plantago</i>	<i>ovata</i>	Plantaginaceae	nn	forb	native	1	
<i>Pleuraphis</i>	<i>rigida</i>	Poaceae	er	grass	native		1

<b>Genus</b>	<b>Species</b>	<b>Family</b>	<b>Cycle</b>	<b>Form</b>	<b>Origin</b>	<b>Mojave</b>	<b>Great Basin</b>
<i>Poa</i>	<i>secunda</i>	Poaceae	er	grass	native	1	1
<i>Prenanthes</i>	<i>exigua</i>	Brassicaceae	nn	forb	native	1	
<i>Prunus</i>	<i>fasciculata</i>	Rosaceae	er	shrub	native	1	1
<i>Prosopis</i>	<i>glandulosa</i>	Fabaceae	er	tree	native	1	
<i>Prosopis</i>	<i>pubescens</i>	Fabaceae	er	tree	native	1	
<i>Psilostrophe</i>	<i>cooperi</i>	Asteraceae	nn	forb	native	1	
<i>Psoralea</i>	<i>fremontii</i>	Fabaceae	er	shrub	native	1	1
<i>Psoralea</i>	<i>polydenius</i>	Fabaceae	er	shrub	native	1	1
<i>Psoralea</i>	<i>ramosissima</i>	Asteraceae	nn	forb	native	1	1
<i>Purshia</i>	<i>mexicana</i>	Rosaceae	er	shrub	native	1	1
<i>Rafinesquia</i>	<i>neomexicana</i>	Asteraceae	nn	forb	native	1	
<i>Rumex</i>	<i>hymenosephalus</i>	Polygonaceae	er	forb	native	1	1
<i>Salvia</i>	<i>clevelandii</i>	Lamiaceae	er	shrub	native	1	
<i>Salvia</i>	<i>columabriae</i>	Lamiaceae	nn	forb	native	1	
<i>Salvia</i>	<i>dorrii</i>	Lamiaceae	er	shrub	native	1	
<i>Salsola</i>	<i>iberica</i>	Chenopodiaceae	nn	forb	exotic	1	1
<i>Salvia</i>	<i>mexicana</i>	Lamiaceae	er	shrub	native	1	1
<i>Sanguisorba</i>	<i>occidentalis</i>	Rosaceae	er	forb	native		1
<i>Sarcobatus</i>	<i>vermiculatus</i>	Chenopodiaceae	er	shrub	native	1	1
<i>Schismus</i>	<i>arabicus</i>	Poaceae	nn	grass	exotic	1	
<i>Senecio</i>	<i>flaccidus</i>	Asteraceae	er	forb	native	1	1
<i>Senecio</i>	<i>multilobatus</i>	Asteraceae	er	forb	native		1
<i>Selinocarpus</i>	<i>nevadensis</i>	Nyctaginaceae	nn	forb	native	1	
<i>Sisymbrium</i>	<i>altissimum</i>	Brassicaceae	nn	forb	exotic	1	1
<i>Sphaeralcea</i>	<i>ambigua</i>	Malvaceae	er	forb	native	1	1
<i>Sporobolus</i>	<i>airoides</i>	Poaceae	er	grass	native	1	

<b>Genus</b>	<b>Species</b>	<b>Family</b>	<b>Cycle</b>	<b>Form</b>	<b>Origin</b>	<b>Mojave</b>	<b>Great Basin</b>
<i>Sporobolus</i>	<i>cryptandrus</i>	Poaceae	er	grass	native		1
<i>Sporobolus</i>	<i>flexuosus</i>	Poaceae	er	grass	native	1	1
<i>Sphaeralcea</i>	<i>grossulariifolia</i>	Malvaceae	er	forb	native	1	
<i>Streptanthus</i>	<i>cordatus</i>	Brassicaceae	nn	forb	native		1
<i>Stanleya</i>	<i>elata</i>	Brassicaceae	er	forb	native	1	1
<i>Stephanomeria</i>	<i>exigua</i>	Asteraceae	nn	forb	native	1	1
<i>Streptanthella</i>	<i>longirostris</i>	Brassicaceae	nn	forb	native	1	1
<i>Stephanomeria</i>	<i>pauciflora</i>	Asteraceae	nn	forb	native	1	1
<i>Stanleya</i>	<i>pinnata</i>	Brassicaceae	er	forb	native	1	1
<i>Stephanomeria</i>	<i>tenuifolia</i>	Asteraceae	er	forb	native	1	
<i>Sueda</i>	<i>moquinii</i>	Chenopodiaceae	er	shrub	native	1	1
<i>Swertia</i>	<i>albomarginata</i>	Gentianaceae	er	forb	native		1
<i>Symphoricarpus</i>	<i>longiflorus</i>	Caprifoliaceae	er	shrub	native	1	1
<i>Tetradymia</i>	<i>axillaris</i>	Asteraceae	er	shrub	native	1	1
<i>Tetradymia</i>	<i>canescens</i>	Asteraceae	er	shrub	native	1	
<i>Tetradymia</i>	<i>glabrata</i>	Asteraceae	er	shrub	native	1	1
<i>Thamnosia</i>	<i>montana</i>	Rutaceae	er	shrub	native	1	
<i>Thymophylla</i>	<i>pentachaeta</i>	Asteraceae	er	shrub	native	1	
<i>Tiquilia</i>	<i>nuttallii</i>	Boraginaceae	nn	forb	native		1
<i>Vulpia</i>	<i>octoflora</i>	Poaceae	nn	grass	native	1	1
<i>Xylorhiza</i>	<i>tortifolia</i>	Asteraceae	er	forb	native	1	1
<i>Yucca</i>	<i>baccata</i>	Liliaceae	er	succ	native	1	1
<i>Yucca</i>	<i>brevifolia</i>	Liliaceae	er	succ	native	1	1
<i>Yucca</i>	<i>schidigera</i>	Liliaceae	er	succ	native	1	
Total species 234		Shared species 136				192	177

APPENDIX C

Historical Cultural Resources Survey Data

Table C-1. Previous Archaeological Surveys Within One Mile of the Proposed Action ROW

<b>Previous Archaeological Survey Reference</b>	<b>BLM Report Number</b>	<b>Alternate Report Number</b>	<b>Project Type</b>
Allison 1999	8111 NV-04-99-1302A	U99-12	Summary of Cultural Resources
Asbjorn 1982	5-994(N)		Livestock Reservoirs
Blair 1993	5-1863(P)	HRC 5-45-8(2)	Fiber Toll Joint Venture
Blair 1996a		HRC 5-167-1	Gravel removal near Maynard Lake
Blair 1996b	4-96-1186	5-166-1	BEDROC
Brooks et al. 1975	5-166	4/2/2001	Navajo-McCullough Transmission
Bunch 1984		NDOT-041-84P	3 Material Pits
Clay & Zeier 1992	Misc 33		Inventory
Coleman and Gourley 1999	8111 NV-04-99-1302A		Level (3) Comm. Fiber Optic
Commonwealth Associates 1980	5-790(P)	NSM 18-85 (aka 18-85 MX)	MX Missile System
Crews et al. 2007	5-2537, 2006-1593b		Southwest Intertie Project (SWIP)
Dernburg 1998	NV04-98-1704(N)	Project 4648	NW Pahroc Pasture Water Haul
Dobschuetz 2006	8111 NV 040-2006-1593		Southwest Intertie Project
DuBarton and Bergin 1981	5-823(P)	ARC 5-36-5	Seismic Line 5
Duke et al 2010 (draft in review)	8111-NV-040-2008-1640G		One Nevada Transmission Line
ERTECT1981	5-906(P)		Aquifer Studies at 6 locations
ERTEC 1981	5-920(P)		Station in 2(3) Valleys
ERTEC 1981	5-946(P)		DTN-OBTS Vol II
Ferris 1992	5-1847(P)		Pahroc Fence Construction
Foley 1978	5-408(P)	ARC 5-20-1	Seismic Survey Delamar NW
Fowler et al. 1978	4-207(P), 5-400(P)	TR-4	Class II Field Sampling Inv.
Fugro 1980	5-683(P)		Geotechnical Site Verification
Fugro 1979	5-583(P)		Aquifer Studies at 7

<b>Previous Archaeological Survey Reference</b>	<b>BLM Report Number</b>	<b>Alternate Report Number</b>	<b>Project Type</b>
			sites
Gundry 1984	5-1245(N)		Use Permit NV-057-FU4-34
Hall 1978	5-450(N)		Right-of-way Kane Springs
Harper 2004a	4-1523C (N)	8111NV-040-2004-1523C (A & B)	Cingular Wireless facilities near Pahroc Summit Pass
Harper 2004b	8111 NV 04-04-1534		10 Monitoring Well Locations
Hatoff 1976	5-161(P)	NSM 9-73	N12182 Tenpiute Mine 69 KV Trans
Hougland 1977	5-317(N)		Airport Lease N-16653
Hull 2005	Cal Tech Report 05-19	8111NV040-2005-1558	Joint Red Flag 05
1989 Johnston and Ferris	5-1680(N)		Hare and Hound ORV Race
1984 Knight & Leavitt	5-1240(P)	NDOT-001-84P	Highway Improvement US93
1988 Knight & Leavitt	5-1677(P)	NDOT-LN063-88P	3 Material Source Locations
1999 Knight & Leavitt	8111 NV 04-00-1310		Material Source in Pahranaagat Valley
Kyle 2003	CT-196		Wireless Facility LV-363-02
Leavitt 1980	5-851(P)	NDOT 122-80B	SR 318(38) MP-LN-O to MP-LN-4.7
Levy, 1982	5-972(P)		Telephone Communication Site
Livingston, 2003			Damage Assessment of 5 Sites
Matranga 1990	5-1825(P)	NDOT-LN065-89P	6 Material Applications
Matranga 1995	6-1880(P)	NDOT-LN094-006P	US 93 Material Sources Pahranaagat and Meadow Valley
Matranga et al 1984		NDOT-030-84B	Statewide Inventory US093
Matranga et al 1984a		NDOT-021-84B	Cultural Resources Report
1984b Matranga et al		NDOT-033-84B	Statewide Inventory US093
1985 Murray and Young	5-1288(P)		Seismic Work in Tikaboo Valley
Myhrer 1986	5-1597(N)		Right-of-way for 12 KVA
Orr 1984	5-1240(N)		Deer Lodge Side Drill
Perry 1999	4-1286	8111-NV-04-99-1286	Transmission Line
Petersen 1984		NDOT-022-84R	SR375 Betterment

<b>Previous Archaeological Survey Reference</b>	<b>BLM Report Number</b>	<b>Alternate Report Number</b>	<b>Project Type</b>
Polk 1984	9-147	53 Arch. Report No.	5 Seismic Lines in Tikaboo Valley
Rafferty 1989		DAS 5-123-1	Coyote Springs and Garfield Flat
Rajala 1982	4-521(P)		Motorcycle Race in Pahroc Valley
Raymond 1998		#12 Fish & Wildlife	Pahranagat NWR Fence
1986 Reno and Pippin		TR-46	Groom Range
2006a Riddle and Smith	8111NV04-06-1608B	HRC 5-190-1	0.39 acres Comm. Towers
2006b Riddle and Smith	8111NV04-06-1608E	HRC 5-190-5	Communication tower, utility corridor and existing access road
Rolf 1994	5-1883(N)		Buckhorn Allotment livestock
1978 Rolf and Baratti	5-411(N)		Kane Springs road realignment
1978 Roske and Planzo	DRI no number		Overview of History of Lincoln County
Rusco 1979	5-634(P)	NSM #9-130	2 gravity test lines
1981 Rusco and Kuffner	5-944(P)		Coyote Spring Valley
1981 Rusco and Kuffner	5-945(P)		Coyote Spring Valley Alternate
2000a Seddon and Ellis	4-1302	00-19 Arch. Report No.	Treatment Plan
2000b Seddon and Ellis	4-1302	00-15 Arch. Report No.	6 Cultural Resources
2001 Seddon and Ellis	8111NV04-99-1302	CRR no. 01-153	Playa to Panaca, Vol I
2006a Smith and Riddle	8111NV04-06-1608F	HRC 5-190-6	Communication tower, utility corridor and existing access road
2006b Smith and Riddle	8111NV04-06-1608G	HRC 5-190-2	Communication tower, utility corridor and existing access road
Stearns 2006	NV04-05-1562	003(P) NDOT-LN05-	4 Material Pits
Stearns 1996	5-2337(P)	250(P) NDOT-LN95-	40 acre material pit (CC018107)
Stearns 1993	5-1855(P)	006(P) NDOT LN93-	Material gravel pits E.A. 71623-9
2008 Stoner and Ringhoff	8111 NV 04-07-1682, 5-2576		Coyote Springs 138kV transmission line
Stoney 1992	NV 04-00-1333	CRNV04-7121	Crystal Wash Petroglyph Site
Stornetta 1987	5-1725		Williams Telecommunication

<b>Previous Archaeological Survey Reference</b>	<b>BLM Report Number</b>	<b>Alternate Report Number</b>	<b>Project Type</b>
Stornetta and Elston 1985	5-1289(P)		Eighteen Seismic Test Lines in Tikaboo Valley, Lincoln County, Nevada
Teel and Ferris 1989	5-1681(N)		Pahranagat Range Guzzler Construction Project
Thomas 2003	8111 NV 04-2003-1489		Sand and Gravel Pit Northern Tikaboo
Thompson 1979	5-607(P)		Dry Lake, Delamar and Tikaboo Valley
Tucker 1983	5-1049		IPP Power Project (revised)
Turner et al. 1981	5-852(P)	NDOT 45-81B	60m either side of SR318
White 2003	8111NV04-02-1447	HRC 5-127-2	Linear Fiberoptic Project
White, Blair, and Cline-Murphy 1997		HRC Report 1-1-35	Where People Gather
Williams, 1976	5-178(N)	N5-76-13	Gamblers Motorcycle Race
Young at al 2007 (draft)	8111-NV-040-1640D		Ely Energy Center Project, Unit C
Zeier 1991a	5-946(P)		Procedures and Standards
Zeier 1991b	Misc 34		Coyote Spring Valley selected sites
Zerga and Associates 1994	5-1874	#94-26	Frehner Const. Pit expansion
Zerga and Stornetta 1986	Unassigned.		Class I Williams Telecomm. (draft)

Table C-2. Previously Recorded Sites Within the Proposed Action APE

Proposed Action Location	Previously Recorded Site	Description	National Register Eligibility
138kV ROW – Scott Substation to Delamar Substation new construction	264	26LN0 Quarry	Eligible
	269	26LN0 Quarry; Camp; Historic component	Eligible
	674	26LN1 Temporary camp, groundstone, fire affected rock feature	Eligible
	686	26LN1 Lithic scatter; possible temp. camp	Eligible
	687	26LN1 Lithic scatter	Non-Significant
	306	26LN2 Lithic scatter, historic component	Non-Significant
	310	26LN2 Lithic scatter	Non-Significant
	316	26LN2 Lithic scatter	Non-Significant
	342	26LN2 Lithic scatter - no diagnostics	Non-Significant
	353	26LN2 Temporary camp	Non-Significant
	359	26LN2 Isolate	Non-Significant
	646	26LN2 Prehistoric foot trail, lithic scatter, rock alignments	Eligible
	360	26LN3 Isolate	Non-Significant
	373	26LN3 Isolate	Non-Significant
	376	26LN3 2 flakes	None
	382	26LN3 2 flakes	None
	661	26LN3 Rockshelter	Eligible
	296	26LN4 Lithic scatter	Non-Significant
	297	26LN4 Lithic scatter	Non-Significant
	019	26LN5 Temporary camp	Non-Significant
020	26LN5 Lithic scatter; Fire Affected Rock	Eligible	
	26LN5	Habitation site	Eligible

<b>Proposed Action Location</b>	<b>Previously Recorded Site</b>	<b>Description</b>	<b>National Register Eligibility</b>
	021		
	26LN5 022	Temporary camp (possible subsurface deposits)	Unevaluated
	26LN5 023	Temporary camp	Eligible
	26LN5 024	Lithic scatter	Non-Significant
	26LN5 025	Temporary camp (possible subsurface deposits)	Unevaluated
	26LN5 026	Lithic scatter; large Historic dump	Non-Significant
	26LN5 044	Lithic scatter	Non-Significant
	26LN5 045	Lithic scatter	Non-Significant
	26LN5 046	Lithic scatter	Non-Significant
	26LN5 047	Lithic scatter	Non-Significant
	26LN5 049	Lithic scatter	Non-Significant
	26LN5 050	Habitation site	Eligible
	26LN5 051/ 5052	Lithic scatter	Non-Significant
	26LN5 053	Temporary camp w/ feature	Eligible
	26LN5 055	Lithic scatter	Non-Significant
	26LN5 057	Lithic scatter	Non-Significant
	26LN5 075	Temporary camp	Eligible
	26LN5 085	Lithic scatter	Non-Significant
	26LN5 099+	Old Hwy 93	Non-Significant
	26LN5 296	Historic road	Eligible/Non-Sig
	26LN5 299	Prehistoric trail w/ features	Unevaluated
	26LN5 352	Lithic scatter w/ceramics	Eligible
	26LN5 611/	Lithic scatter	Non-Significant

<b>Proposed Action Location</b>	<b>Previously Recorded Site</b>	<b>Description</b>	<b>National Register Eligibility</b>
	5612		
	613	26LN5 Lithic scatter; Quarry	Eligible
	620	26LN5 Lithic scatter, Quarry	Non-Significant
	621	26LN5 Lithic scatter	Non-Significant
	622	26LN5 Toolstone procurement	Non-Significant
	623	26LN5 Toolstone procurement	Non-Significant
	69kV ROW – Delamar Substation to NTTR Boundary existing line upgrade	201	26LN0 Lithic scatter
223		26LN0 Lithic scatter; rock ring (possible looted grave?)	Unevaluated
561/ 563		26LN1 1562/1 Temporary camp	Eligible
566		26LN1 2 rockshelters; 1 bead	None
567		26LN1 Lithic scatter	Non-Significant
568		26LN1 Large quarry	Eligible
866		26LN1 Lithic scatter	Non-Significant
869		26LN1 Lithic scatter	Non-Significant
218		26LN3 Historic road	None
648		26LN3 Historic road	Non-Significant
747		26LN3 Temporary camp, historic component	Eligible

Table C-3. Previously Recorded Sites Within the Eliminated Alternative Route Segment APE

<b>Alternate Route Segment Location</b>	<b>Previously Recorded Site</b>	<b>Description</b>	<b>National Register Eligibility</b>
138kV ROW – Scott Substation to Delamar Substation new construction	7	26LN168 Lithic scatter	Non- Significant
	6	26LN231 Lithic scatter	Non- Significant
	9	26LN235 Isolate	Non- Significant
	0	26LN336 Isolate	Non- Significant
	2	26LN338 2 flakes	None
	1	26LN366 Rockshelter	Eligible
	6	26LN429 Lithic scatter	Non- Significant
	7	26LN429 Lithic scatter	Non- Significant
	2	26LN562 Toolstone procurement	Non- Significant
	3	26LN562 Toolstone procurement	Non- Significant
69kV ROW – Delamar Substation to NTTR Boundary existing line upgrade	8	26LN321 Historic road	None

APPENDIX D

**RISK ASSESSMENT FOR NOXIOUS & INVASIVE WEEDS**  
**LCPD Transmission Line**

On June 2, 2010 a Noxious & Invasive Weed Risk Assessment was completed for the LCPD Transmission Line project in Lincoln County, NV. Implementation of the proposed action would result in granting the right-of-way and LCPD constructing and operating a (46.5 miles (mi)) 138 kilovolt (kV) overhead transmission line from the permitted Scott Substation (N-83047) located on private land in T12S R63E Sections 6 and 7 to the existing Delamar Switchyard (N-12182) which will be expanded to become the proposed Delamar Substation, located on BLM land in T5S R64E Sections 16 and 17. Existing access roads would be used to the extent possible with construction of stub roads to install structures. Where the route leaves the designated utility corridor, a new road will be required. Location of this road was coordinated with other entities looking to also by-pass the corridor constriction. However, to the extent practicable, overland travel between utility poles will require a single road, rather than construction of additional access roads. This new long road will be maintained by LCPD for the purpose of transmission line maintenance work.

No field weed surveys were completed for this project. Instead the Ely District weed inventory data was consulted. There are currently no known infestations within the project area. The following species are found along roads and drainages leading to the project area:

<i>Lepidium draba</i>	hoary cress
<i>Tamarix spp.</i>	salt cedar

The project area was last inventoried for noxious weeds in 2007. While not officially documented the following non-native invasive weeds probably occur in or around the area: red brome (*Bromus rubens*) and Russian thistle (*Salsola kali*).

**Factor 1 assesses the likelihood of noxious/invasive weed species spreading to the project area.**

None (0)	Non	Noxious/invasive weed species are not located within or adjacent to the project area. Project activity is not likely to result in the establishment of noxious/invasive weed species in the project area.
(1-3)	Low	Noxious/invasive weed species are present in the areas adjacent to but not within the project area. Project activities can be implemented and prevent the spread of noxious/invasive weeds into the project area.
Moderate (4-7)	Mod	Noxious/invasive weed species located immediately adjacent to or within the project area. Project activities are likely to result in some areas becoming infested with noxious/invasive weed species even when preventative management actions are followed. Control measures are essential to prevent the spread of noxious/invasive weeds within the project area.
(8-10)	High	Heavy infestations of noxious/invasive weeds are located within or immediately adjacent to the project area. Project activities, even with preventative management actions, are likely to result in the establishment and spread of noxious/invasive weeds on disturbed sites throughout much of the project area.

For this project, the factor rates as High (8) at the present time. The ground disturbance, heavy machinery, and noxious and invasive species associated with this project make it likely that new infestations would occur within the project area.

**Factor 2 assesses the consequences of noxious/invasive weed establishment in the project area.**

Low to Nonexistent (1-3)	None. No cumulative effects expected.
Moderate (4-7)	Possible adverse effects on site and possible expansion of infestation within the project area. Cumulative effects on native plant communities are likely but limited.
High (8-10)	Obvious adverse effects within the project area and probable expansion of noxious/invasive weed infestations to areas outside the project area. Adverse cumulative effects on native plant communities are probable.

This project rates as Moderate (7) at the present time. The project area is currently considered to be weed-free, however there are numerous weed infestations nearby and the highway that the line crosses has several weed infestation that could spread due to vehicles traveling in the area. If new weed infestations establish within the project area this would have possible adverse impact the surrounding native plant communities. Also, an increase of red brome could increase fire frequency with increased impacts to native vegetation.

**The Risk Rating is obtained by multiplying Factor 1 by Factor 2.**

(0) None	Proceed as planned.
(1-10) Low	Proceed as planned. Initiate control treatment on noxious/invasive weed populations that get established in the area.
Moderate (11-49)	Develop preventative management measures for the proposed project to reduce the risk of introduction of spread of noxious/invasive weeds into the area. Preventative management measures should include modifying the project to include seeding the area to occupy disturbed sites with desirable species. Monitor the area for at least 3 consecutive years and provide for control of newly established populations of noxious/invasive weeds and follow-up treatment for previously treated infestations.
(50-100) High	Project must be modified to reduce risk level through preventative management measures, including seeding with desirable species to occupy disturbed site and controlling existing infestations of noxious/invasive weeds prior to project activity. Project must provide at least 5 consecutive years of monitoring. Projects must also provide for control of newly established populations of noxious/invasive weeds and follow-up treatment for previously treated infestations.

For this project, the Risk Rating is High (56). This indicates that the project can proceed as planned as long as the following measures are followed:

- Prior to entering public lands, the contractor, operator, or permit holder will provide information and training regarding noxious weed management and identification to all personnel who will be affiliated with the implementation and maintenance phases of the project. The importance of preventing the spread of weeds to uninfested areas and importance of controlling existing populations of weeds will be explained.
- Monitoring will be conducted for a period no shorter than the life of the permit or until bond release and monitoring reports will be provided to the Ely District Office. If the presence and/or spread of noxious weeds is noted, appropriated weed control procedures will be determined in consultation with Ely District Office personnel and will be in compliance with the appropriate BLM Handbook sections and applicable laws and regulations. All weed control efforts on BLM-administered lands will be in compliance with BLM Handbook H-9011, H-9011-1 Chemical Pest Control, H-9014 Use of Biological Control Agents of Pests on Public Lands, and H-9015 Integrated Pest Management. Submission of Pesticide Use Proposals and Pesticide Application Records will be required.
- To eliminate the transport of vehicle-borne weed seeds, roots, or rhizomes all vehicles and heavy equipment used for the completion, maintenance, inspection, or monitoring of ground

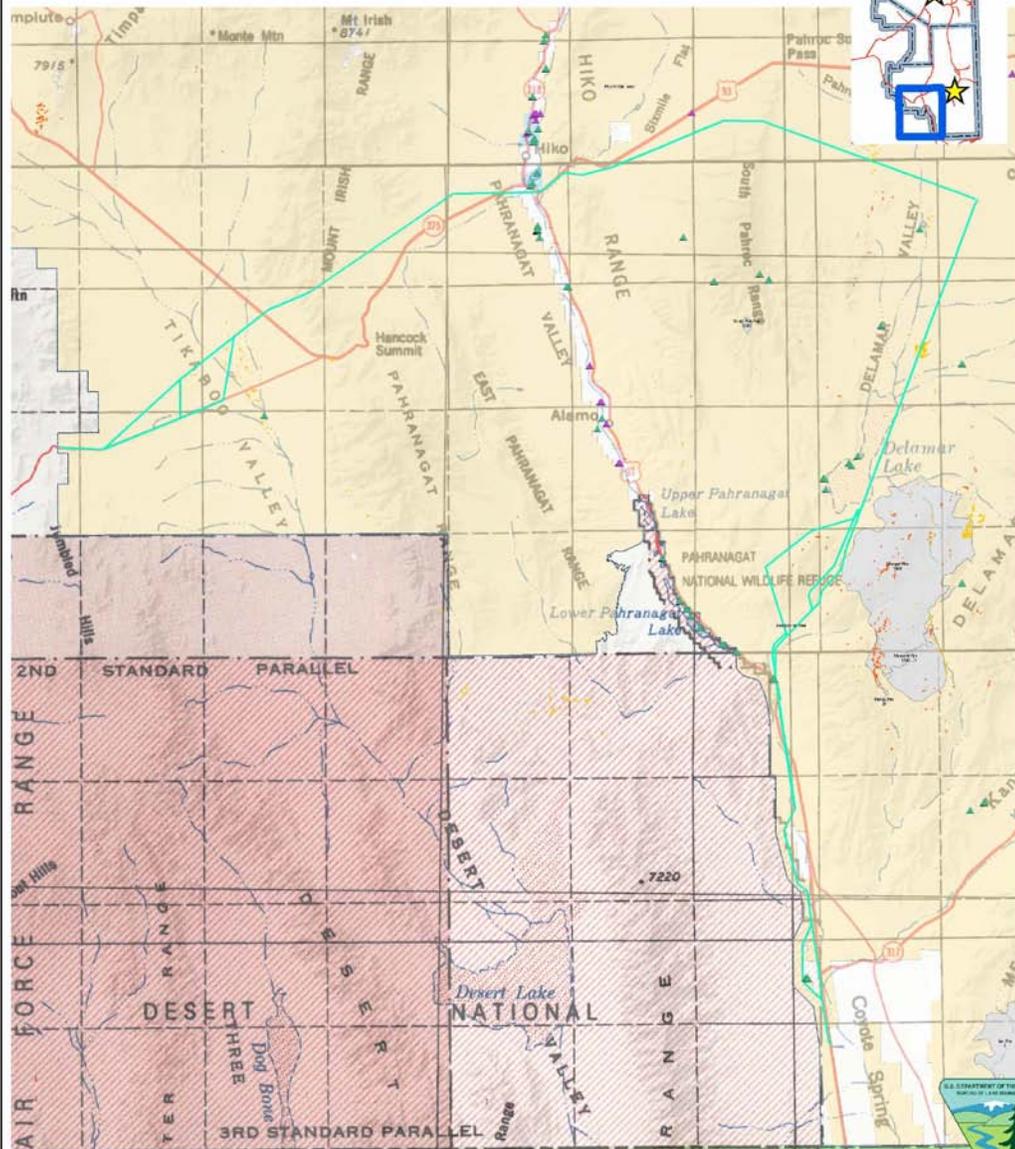
disturbing activities or for authorized off-road driving will be free of soil and debris capable of transporting weed propagules. All such vehicles and equipment will be cleaned with power or high pressure equipment prior to entering or leaving the work site or project area. Equipment at the site needs to be cleaned using air, not water, since Sahara mustard may be transported in on vehicles and Sahara mustard seeds are more likely to stick and propagate if water is used. Cleaning efforts will concentrate on tracks, feet and tires, and on the undercarriage. Special emphasis will be applied to axels, frames, cross members, motor mounts, on and underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. Cleaning sites will be recorded using global positioning systems or other mutually acceptable equipment and provided to the District Weed Coordinator or designated contact person.

- To eliminate the introduction of noxious weed seeds, roots, or rhizomes all interim and final seed mixes, hay, straw, hay/straw, or other organic products used for reclamation or stabilization activities, feed, bedding will be certified free of plant species listed on the Nevada noxious weed list or specifically identified by the BLM Ely District Office.
- Removal and disturbance of vegetation would be kept to a minimum through construction site management (e.g. using previously disturbed areas and existing easements, limiting equipment/materials storage and staging area sites, etc.)
- Reclamation would normally be accomplished with native seeds only. These would be representative of the indigenous species present in the adjacent habitat. Rationale for potential seeding with selected nonnative species would be documented. Possible exceptions would include use of non-native species for a temporary cover crop to out-compete weeds. Where large acreages are burned by fires and seeding is required for erosion control, all native species could be cost prohibitive and/or unavailable. In all cases, seed mixes would be approved by the BLM Authorized Officer prior to planting.
- Any noxious weeds that become established will be controlled.

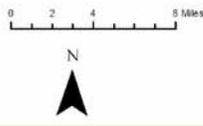
Reviewed by:	<hr/>	06/03/2010
	Mindy Seal Natural Resource Specialist	Date

LCPD TICKAPOO POWERLINE PROJECT  
DOCUMENTED NOXIOUS AND NON NATIVE INVASIVE WEEDS

BLM



- Legend**
- LCPD\_linear\_location
  - Invasive Annual and Biennial Forbland
  - Invasive Annual Grassland
  - Invasive Perennial Grassland
  - Past Large Fires
  - BLM
  - FS
  - State of Nevada
  - Private
  - ▲ SALT CEDAR
  - ▲ WHITETOPHOARY CRESS



No warranty is made by the Bureau of Land Management as to the accuracy, reliability or completeness of these data for individual use or aggregate use with other data.

Inventoried in 2007  
Map Produced by: EYDO Weed Staff  
6/1/2010

Ely District Office



## APPENDIX E

### REASONABLE AND PRUDENT MEASURES WITH TERMS AND CONDITIONS

The RMPs, with their implementing Terms and Conditions, are necessary and appropriate to minimize the impact of incidental take of desert tortoise that might otherwise result from the proposed actions.

**RPM 1:** *BLM shall ensure that agency personnel, or project proponent and their contractors implement the following measures to minimize injury or mortality of desert tortoises due to project activities:*

#### Terms and Conditions:

- 1.a. All construction and maintenance workers will participate in a tortoise education program. The program will be developed by the project proponent prior to beginning of construction. The program will be submitted to the Service for review and approval prior to implementation. The program will include; at a minimum, the following topics: (a) the occurrence of desert tortoise in the project area; (b) the sensitivity of the species to human activities; (c) legal protection for desert tortoises; (d) penalties for violations of Federal and State laws; (e) general tortoise activity patterns; (f) reporting requirements; (g) measures to protect tortoises; and <sup>(11)</sup> personal measures employees can take to promote the conservation of desert tortoises.
- 1.b. Tortoises discovered to be in imminent danger during projects or activities covered under this biological opinion, may be moved out of harm's way.
- 1.c. Desert tortoises shall be treated in a manner to ensure that they do not overheat, exhibit signs of overheating (e.g. gaping, foaming at the mouth, etc.), or are placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being. Desert tortoises will be kept shaded at all times until it is safe to release them. No desert tortoise will be captured, moved, transported, released, or purposefully caused to leave its burrow for whatever reason when the ambient air temperature is above 95°F. Ambient air temperature will be measured in the shade, protected from wind, at a height of 2 inches above the ground surface. No desert tortoise will be captured if the ambient air temperature is anticipated to exceed 95°F before handling and relocation can be completed. If the ambient air temperature exceeds 95°F during handling or processing, desert tortoises will be kept shaded in an environment that does not exceed 95°F and the animals will not be released until ambient air temperature declines to below 95°F.
- 1.d. Desert tortoises shall be handled by authorized desert tortoise biologists. For

most projects, an authorized desert tortoise biologist will be onsite during project activities within desert tortoise habitat.

- 1.e. Prior to starting operations each day on any project that is not totally enclosed by tortoise-proof fencing and cattle guards; the project proponent shall be responsible for conducting a desert tortoise inspection by authorized desert tortoise biologists using techniques approved by the Service and BLM. The inspection will determine if any desert tortoises are present in the following locations:
- Around and under all equipment;
  - In and around all disturbed areas to include stockpiles and reject materials areas;
  - In and around all routes of ingress and egress; and
  - In and around all other areas where the operation might expand to during that day.

If a tortoise is discovered during this inspection or later in the day, the operator will immediately cease all operations in the immediate vicinity of the tortoise and will immediately notify the BLM authorized officer.

- 1.f. If blasting is necessary, LCPD shall notify BLM 24 hours prior to any blasting.

Field meetings will be held to review the blasting process and its implementation. Prior to blasting, a 200-foot area around the blasting site shall be surveyed for desert tortoise using 100-percent coverage survey techniques. Desert tortoises in burrows within 75 feet of the blasting shall be placed into an artificial or unoccupied burrow no less than 500 feet from the blasting site. Tortoises in burrows at a distance of 75 to 200 feet from the blasting site shall be left in their burrows. Burrow locations shall be flagged and recorded using a GPS unit and burrows shall be stuffed with newspaper. Immediately after blasting, newspaper and flagging would be removed. Any desert tortoises located aboveground will be moved no less than 500 feet from the blasting site.

- 1.g. With the exception of emergency repair situations, maintenance and termination activities in areas of critical habitat will be modified or discontinued during sensitive periods (March 11 through October 31), or as identified by BLM.

- 1.h. During tortoise high activity (*e.g.*, March 11 through October), tortoise biologists shall be present during all construction, and maintenance (*e.g.*, emergency repair) activities where one or more pieces of heavy construction equipment are being used.
- 1.i. Construction and maintenance vehicles will not exceed a speed of 20 miles per hour in tortoise habitat, except where posted otherwise.

- 1.j. Construction sites and access roads shall be surveyed by qualified tortoise biologists no more than 15 days prior to the initiation of construction. Surveys shall provide 100-percent coverage of the construction area. All desert tortoise burrows located will be conspicuously flagged or marked. All desert tortoise burrows, and other species' burrows that may be used by desert tortoises, will be examined to determine the occupancy of each burrow by tortoises, using a fiber-optic scope, if necessary.
- 1.k. When desert tortoises are not highly active (e.g., winter), environmental monitors or desert tortoise biologists will be onsite during all phases of transmission line construction to ensure that all construction vehicles and heavy equipment remain within the boundaries or the marked construction zone. If necessary, a qualified desert tortoise biologist will be brought on site to excavate any tortoise burrow in harm's way.
- 1.l. Desert tortoise and eggs found within construction sites will be removed by a qualified desert tortoise biologist, in accordance with the most recent protocols Identified by BLM and the Service. Desert tortoises removed from the project sites will be released into undisturbed habitat within 1,000 feet of the collection site. Any desert tortoise removed construction sites shall be placed in the shade of a shrub or in a natural, unoccupied burrow similar to the one in which it was found or in an artificial burrow, following the most recent protocol approved by BLM and the Service. Desert tortoise shall not be placed on lands outside the administration of the Federal government without written permission of the landowner. Desert tortoises shall be purposely moved only by qualified tortoise biologists, solely for the purpose of moving them out of harm's way.
- 1.m. Any excavated holes related to transmission line construction (i.e., foundations) to be left open overnight will be covered, and/or tortoise-proof fencing will be installed to prevent the possibility of tortoises falling into the open holes.
- 1.n. The project proponent will designate a Compliance Inspector Contractor (CIC), who will be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordinating compliance. The CIC will have the authority to halt activities of construction equipment that may be in violation of the stipulations.
- 1.o. Injured tortoises will be transported to a qualified veterinarian. The Service will furnish direction on the final disposition of tortoises taken to a veterinarian.

**RPM 2:** *BLM shall ensure that agency personnel, or project proponent and their contractors implement the following measures to minimize predation on desert tortoises by predators drawn to the project area:*

Terms and Conditions:

- 2.a. A litter-control program shall be implemented to minimize predation on tortoises

by ravens drawn to the project site. This program will include the use of covered, raven-proof trash receptacles, removal of trash from project areas to the trash receptacles following the close of each work day, and the proper disposal of trash in a designated solid waste disposal facility. Appropriate precautions must be taken to prevent litter from blowing out along the road when trash is removed from the site.

- 2.b. BLM shall ensure that structures are inspected annually for nesting ravens and observations of raven nests. All nests shall be reported to the Service. The right-of-way grantee will cooperate with the Service to discuss the necessity to remove any nests determined by the Service to threaten tortoise populations in the area.
- 2.c. H-frame structure with perch deterrents will be utilized in critical habitat and post-construction monitoring for ravens and removal of raven nests will be undertaken in this area as part of the inspection and maintenance activities. If evidence of raven nesting is observed in the right-of-way, the Service shall be notified within three days.
- 2.d. To prevent mortality, injury and harassment of desert tortoises and damage to their burrows and cover sites, no pets shall be permitted in any project construction area, unless confined or leashed.

**RPM 3:** *BLM shall ensure that agency personnel, or project proponent and their contractors implement the following measures to minimize loss and long-term degradation and fragmentation of desert tortoise habitat, such as soil compaction, erosion, crushed vegetation, and introduction of weeds or contaminants:*

Terms and Conditions:

- 3.a. All vehicles shall be inspected prior to moving into the project area to ensure proper fluid containment. Any vehicles leaking fluid (oil, transmission fluid, etc.) will not be allowed in the project area. Any fuel or hazardous waste leaks/spills shall be contained immediately and cleaned up at the time of occurrence. Contaminated soil will be removed and disposed of at an appropriate facility.
- 3.b. All project vehicles and activities shall be confined to previously-disturbed areas unless unavoidable.
- 3.c. The work site shall be selected to avoid perennial vegetation to the greatest extent possible.
- 3.d. All construction vehicle movement outside the right-of-way will normally be restricted to pre-designated access, contractor acquired access, or public access.
- 3.e. The limits of construction activities will normally be predetermined, with activity restricted to, and confined within, those limits. No paint or permanent discoloring

agents \will be applied to rocks or vegetation to indicate survey or construction activity limits.

- 3.f. In construction areas where recontouring is not required, vegetation will be left in place wherever possible and original contour will be maintained to avoid excessive root damage and allow for resprouting.
- 3.g. In construction areas (*e.g.* marshalling yards, tower sites, spur toads from existing access roads) where ground disturbance is significant or where recontouring is required, surface restoration will occur as required by the landowner or land management agency. The method of restoration will normally consist of returning disturbed areas back to their natural contour, reseeding (if required), cross drains installed for erosion control, placing water bars in the road, and filling ditches.
- 3.h. Prior to construction, all supervisory construction personnel will be instructed on the protection of ecological resources. To assist in this effort, the construction contract will address: (a) Federal and State laws regarding antiquities and plants and wildlife, including collection and removal; and (b) the importance of these resources and the purpose and necessity of protecting them.
- 3.i. Roads will be built as near as possible at right angles to streams and washes. Culverts will be installed where necessary. All construction and maintenance activities shall be conducted in a manner that will minimize disturbance to vegetation, drainage channels, and intermittent or perennial stream banks. In addition, road construction will include dust-control measures during construction in sensitive areas. Only water or an alternative substance approved by BLM will be used as a dust suppressant. All existing roads will be left in a condition equal to or better than their condition prior to the construction of the transmission line. Towers will be sited with a minimum distance of 200 feet from streams and washes.
- 3.j. Fences and gates will be repaired or replaced to their original pre-disturbance condition as required by the landowner or the land managing agency if they are damaged or destroyed by construction activities. Temporary gates will be installed only with permission of the landowner or land managing agency; and will be restored to their original pre-disturbance condition following construction
- 3.k. Hazardous material shall not be drained onto the ground or into stream or drainage areas. Totally enclosed containment shall be provided for all trash and litter, garbage, or other solid waste, petroleum products, and other potentially hazardous materials. All waste and hazardous material shall be removed to a disposal facility authorized to accept such materials.
- 3.l. Pre-construction surveys for plants and wildlife species, designated as sensitive or of concern will be conducted in areas of known occurrence of habitat, including

noxious weed surveys as stipulated by the land-administering agency once the transmission line, centerline, access roads, and tower sites have been located and staked in the field.

- 3.m. No widening or upgrading of existing access roads will be undertaken in the area of construction and operation, except for repairs necessary to make roads passable, where soils and vegetation are very sensitive to disturbance.
- 3.n. The alignment of any new roads or overland routes will follow the designated area's landform contours where possible, providing that such alignment does not additionally impact resource values.
- 3.o. All new roads not required for maintenance will be permanently closed using the most effective and least environmentally damaging methods appropriate to that area with concurrence of the landowner or land manager (e.g. stock piling and replacing topsoil, seeding or rock replacement). Public access will be controlled through the installation of fences and gates in key locations or sections. This will limit new or improved accessibility into the area.
- 3.p. In designated areas, structures will be placed to avoid sensitive features such as, but not limited to, riparian areas, water courses, and cultural sites, and/or to allow conductors to clearly span the features, within the limits of standard tower design. This will minimize the amount of sensitive features disturbed and/or reduce visual contrast.
- 3.q. All construction sites and access roads shall be clearly marked or flagged at the outer limits prior to the outset of any surface-disturbing activity. All personnel shall be informed that their activities must be confined within the marked or flagged area.
- 3.r. Within desert tortoise habitat, a biologist will be assigned to the pre-construction survey team(s). The biologist will be responsible for ensuring that the placement of new access routes, spur roads, and tower sites will affect as few tortoise burrows as possible. The alignment of access and spur roads will be as direct as possible, to minimize habitat disturbance and minimize the destruction of tortoise burrows. Other work areas (e.g., splicing, tensioning; pulling and batch sites) will be surveyed by a biologist as construction proceeds. Potential work areas will be flagged several days prior to construction for review by a biologist. To the extent possible; these sites will be located in previously-disturbed areas.
- 3.s. Overnight parking and storage of equipment will be in previously-disturbed areas (i.e., lacking vegetation). These areas will also be designated by the pre-construction survey team. If previously-disturbed areas are not available, these activities will be restricted to the right-of-way and will be cleared of tortoises by the on-site biologist prior to use.

- 3.t. Within desert tortoise habitat, construction and maintenance workers will strictly limit their activities and vehicles to construction and routes of travel that have been identified and/or flagged to eliminate adverse impacts to desert tortoises and their habitat. Aside from these areas, workers may not drive cross-country, even within the right-of-way. All workers will be instructed that their activities are restricted to previously-identified, flagged or cleared areas.
- 3.u. In areas where restoration is required, reseeded will occur through the use of native plant species. Reclamation and monitoring requirements and practices will be approved by BLM.
- 3.v. Herbicides will not be used as part of this project within desert tortoise habitat. To the extent possible, access to tower sites, and at splicing and tensioning sites will occur by overland travel and crushing of vegetation, i.e., no blading of such sites, will occur. The CIC will ensure that blading is conducted only where necessary. Due to construction constraints resulting from equipment size and personnel safety, blading will be needed at most spur roads and tower sites.
- 3.x. Prior to surface-disturbing activities associated with the proposed project, BLM, or other jurisdictional Federal agencies as appropriate, shall pay remuneration fees for compensation of desert tortoise habitat loss. BLM estimates that 2,966 acres of habitat will be disturbed. Total fees for disturbance of desert tortoise habitat within the material site and expansion area will be \$53,406.

If fees are paid after March 1 of the year, the rate will be indexed for inflation based on the Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U). Information on the CPI-U can be found on the internet at: <http://stats.bls.gov/news.release/ecpi.nws.htm>.

The payments shall be accompanied by the enclosed Section 7 Fee Payment Form, and completed by the payee. The project proponent or applicant may receive credit for payment of such fees and deduct such costs from desert tortoise impact fees charged by local government entities. Payment shall be by certified check or money order payable to the Bureau of Land Management and delivered to:

Bureau of Land Management  
Southern Nevada District Office  
4701 North Torrey Pines Drive  
Las Vegas, Nevada 891 30  
(702) 5 15-5000

- RPM 4.** *BLM shall ensure their agency personnel, or project proponent and their contractors implement the following measure to comply with RMP, Terms and Conditions, reporting requirements contained in this biological opinion:*

Terms and Conditions:

- 4.a. Brief, but complete reports shall be prepared by the project proponent and submitted to BLM and the Service within 30 days following the conclusion of project activities. Appropriate information for the report includes, but is not limited to: amount of new disturbance (documented if possible by photo points or GPS data); amount of take exempted and actual take that occurred; effectiveness or ineffectiveness of the Terms and Conditions of this biological opinion.
- 4.b. The CIC and on-site biologist will prepare a report for BLM and the Service no later than 90 days after completion of construction within desert tortoise habitat. The report will make recommendations for modifying or refining the stipulations. The report will include the actual acres of habitat disturbance caused by crushing and blading versus the estimates prior to construction.

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