United States
Department of
Agriculture

Forest
Service

September
2006

Environmental Assessment

Pennsylvania Hill Underground Powerline Project and Communications Site Designation

Mountain City Ranger District
Humboldt-Toiyabe National Forest
Elko County, Nevada

T44N, R53E, Sections 5, 6, 8, 9, 16

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Table of Contents

1.0	**Introduction**	1
1.1	Document Structure	1
1.2	Background	2
1.3	Proposed Action	2
1.4	Project Location	4
1.5	Purpose and Need for Action	4
1.6	Decision Framework	7
1.7	Public Involvement	8
1.8	Tribal Consultation	8
1.9	Issues	8
2.0	**Alternatives, Including The Proposed Action**	12
2.1	Alternative 1 – No Action	12
2.2	Alternative 2 – Original Proposal	14
2.3	Alternative 3 - Proposed Action	17
2.4	Mitigation and Monitoring Common To All Alternatives	19
2.5	Comparison of Alternatives	20
3.0	**Affected Environment and Environmental Consequences**	22
3.1	Existing Facilities	22
3.2	Vegetation/Plant Communities	22
3.2	Wildlife (General)	23
3.4	Migratory Birds	24
3.5	Special Status and Sensitive Species	25
3.6	Surface Water Quality	32
3.7	Cumulative Impacts	33
3.8	Other Required Disclosures	37
4.0	**Consultation and Coordination**	40
5.0	**References**	42

Figures

Figure 1A - Pennsylvania Hill Vicinity/Location Map	5
Figure 1B - Pennsylvania Hill Site Detail Map	6
Figure 2A - Alternative 1 - No Action	13
Figure 2B- Alternative 2 – Original Proposal	16
Figure 2C: Alternative 3 – Proposed Action	18
Figure 3A - Cumulative Impact Area	34

Tables

Table 1 Alternative Comparison by Resource	20
Table 2 - Summary of Impacts to Known Lewis' Buckwheat Habitat	31
Table 3 - Vegetation Community Types - Cumulative Impact Area	35

Environmental Assessment

Pennsylvania Hill Underground Powerline Project
and
Communications Site Designation
Elko County, Elko, Nevada

Lead Agency: .....USDA Forest Service
..... Humboldt-Toiyabe National Forest

Responsible Official: ..... Edward C. Monnig, Forest Supervisor
.....Humboldt-Toiyabe National Forest
..... 1200 Franklin Way
..... Sparks, Nevada 89431

For More Information Contact..... Will Wilson, Project Coordinator
.....Humboldt-Toiyabe National Forest
..... Mountain City Ranger District
..... 2035 Last Chance Road
.....Elko, Nevada 89801
.....Front Desk 775-738-5171
..... Will Wilson 775-778-6132
.....Fax 775 778 6199
.....Electronic mail: wwilson@fs.fed.us

1.0 INTRODUCTION

1.1 Document Structure

The Unites States Forest Service (USFS) has prepared this Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into five parts:

- ***Introduction:*** The section includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the USFS informed the public of the proposal and how the public responded.
- ***Alternatives, including the Proposed Action:*** This section provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes possible mitigation measures. Finally, this section provides a summary table of the environmental consequences associated with each alternative.
- ***Affected Environment and Environmental Consequences:*** This section describes the environmental effects of implementing the proposed action and other alternatives. This analysis is organized by resource component. Within each section, the affected environment is described first, followed by the effects of the No Action Alternative that provides a baseline for evaluation and comparison of the other alternatives that follow.
- ***Consultation and Coordination:*** This section provides a list of preparers and agencies consulted during the development of the environmental assessment.
- ***References:*** This section provides a list of the references used.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the Mountain City Ranger District Office in Elko, Nevada.

1.2 Background

The Pennsylvania (Penn) Hill Communications Site, located on the Mountain City Ranger District has been in use since the 1970s. The communications site was never designated a communications site in the Forest Plan and requires such official designation prior to issuance of a long-term lease to the State of Nevada Department of Information Technology (NDOIT). The site is used by the State of Nevada, and Elko County to provide radio communications in Northeast Nevada, especially for emergency and law enforcement communications.

Currently, power to the Pennsylvania Hill Communications Site is supplied by solar panels, one wind turbine and propane powered generators. Maintaining constant power to the communications equipment is difficult due to weather and access conditions, especially in winter months. In addition, new communications equipment being installed and allowances for additional users necessitates the need for additional power sources.

Raft River Rural Electric (RRRE) on behalf of NDOIT has submitted an application for the construction and operation of an underground powerline branching from the RRRE overhead powerline located in Trail Creek Road (County Road 729) and proceeding to the Pennsylvania Hill Communications Site along Forest System Road (FSR) 170.

1.3 Proposed Action

The proposed action consists of three elements: 1) underground powerline construction; 2) Forest Plan Communication Site designation; and 3) long-term site occupancy and operation authorization.

The underground powerline construction element is for the construction of approximately 4.0 miles of underground powerline from Trail Creek to the Pennsylvania Hill Communications Site. The construction phase would allow for a 25 foot width disturbance for construction from the centerline of the road. Once completed, the permit width for maintenance and operations along the powerline route would revert to a 10 foot width from centerline.

Construction is planned for fall of 2006 lasting approximately 3-4 weeks starting at the Penn Hill Communications Site working downhill with the ripping of the surface in the roadway (FSR 170) down to an approximate depth of 48 inches and placement of underground electric cable (powerline) 36-48 inches in depth. A junction box would be placed about every 3,000-4,000 feet tying the powerline cables together. The junction boxes, measuring 3 feet by 3 feet in size would be set approximately 15 feet, from centerline, to the side of the road. Some areas of road have rock outcrops that may in extreme cases require the use of explosives to move. Such actions would require certified and qualified personnel with public safety a high priority.

Access would occur off County Road 729 approximately 7 miles southwest of State Hwy 225. The underground line work would be within the construction/disturbance allowance of 50 feet total width with 25 feet from road centerline. The underground line would be set within the existing Penn Hill Road.

Equipment involved would include pick-ups, utility trucks, and a dozer with ripper, line laying machine and backhoe. Several staging areas for equipment parking and material storage would be necessary. One staging area would be located at the intersection of Penn Hill Road and Trail Creek Road. Another staging area would be located approximately ¼ mile down hill from the Penn Hill Communications Site and would be specifically identified in early summer once plants have grown enough for identification by a botanist. When possible, RRRE would utilize private lands, with permission from landowners, located along Trail Creek Road for storage.

1.3.1 Reclamation

Reclamation would involve: re-contouring, by filling in any holes and ripped surfaces; grading of road's running surface, and removal of remaining materials, supplies and garbage. The reclamation would also include construction of water bars and ripping and seeding with appropriate native weed free seed mixes as approved by the USFS with particular attention to botany concerns.

1.3.2 Mitigation Measures

Mitigation measures will be implemented to avoid and minimize negative effects to resources surrounding and within the project area. Specific measures identified to date are:

1.3.2.1 Noxious Weed Suppression

RRRE would be responsible for annual weed monitoring, prevention, and suppression along route of underground powerline.

1.3.2.2 Rare Plants Protection and Avoidance

1. In areas along ridgeline where sides are very steep making current road the only feasible route through Lewis' Buckwheat (*Eriogonum lewisii*) sites the underground electric line would be buried within roadbed. These areas would be marked with flags or staked before construction and contractor would avoid driving equipment or storing soil/rocks/materials/etc. on road sides.

2. In the large saddle in Section 6 the powerline would be diverted 30 to 40 feet south of Lewis' Buckwheat sites and existing access road would be relocated to new line. The old road would be closed with suitable barriers or gates. A fence around old road and Lewis' Buckwheat sites would protect sites from vehicle, human, and livestock use.

3. The communications site road passes near rocky outcrops (Section 5) where the Lewis' Buckwheat populations are. This area would be difficult to trench because of shallow hard bedrock. At this point the buried powerline would be placed on north side of road for approximately 600 feet.

1.3.2.3 Public Safety

The communications site road would be closed to public access during construction due to steep terrain and confined width of the road.

1.3.3 Communications Site Designation

Through this analysis the USFS would also designate this communications site in the Forest Plan. This designation would require a site specific non-significant Forest Plan Amendment to the Humboldt National Forest Land and Resource Management Plan.

1.3.4 Special Use Permit/Lease Issuance

To administratively authorize the proposed action, the USFS is proposing to issue RRRE Co-operative a Term Special Use Permit for use and operation of their distribution line.

Similarly, the USFS proposes to issue NDOIT a Communications Site Lease for the operation of Penn Hill Communications Site.

1.3.5 Similar Actions

Raft River Rural Electric has also proposed plans to reconstruct the existing Trail Creek overhead powerline (7.2 KV) that supplies power to residences along Trail Creek and would supply future power to the Pennsylvania Hill Communications Site. The line was installed in the early 1950s, has reached the end of its design life, and is showing sings of deterioration. It extends south approximately 7 miles from the Mountain City Substation to approximately .75 mile south of the Pennsylvania Hill/Trail Creek intersection. The northern 5.5 miles would be replaced with power poles and overhead line, generally in the same footprint as the current alignment. The southern 1.5 miles would be replaced with an underground line that would be buried in the County road right-of-way. A separate environmental analysis is being conducted for this project.

1.4 Project Location

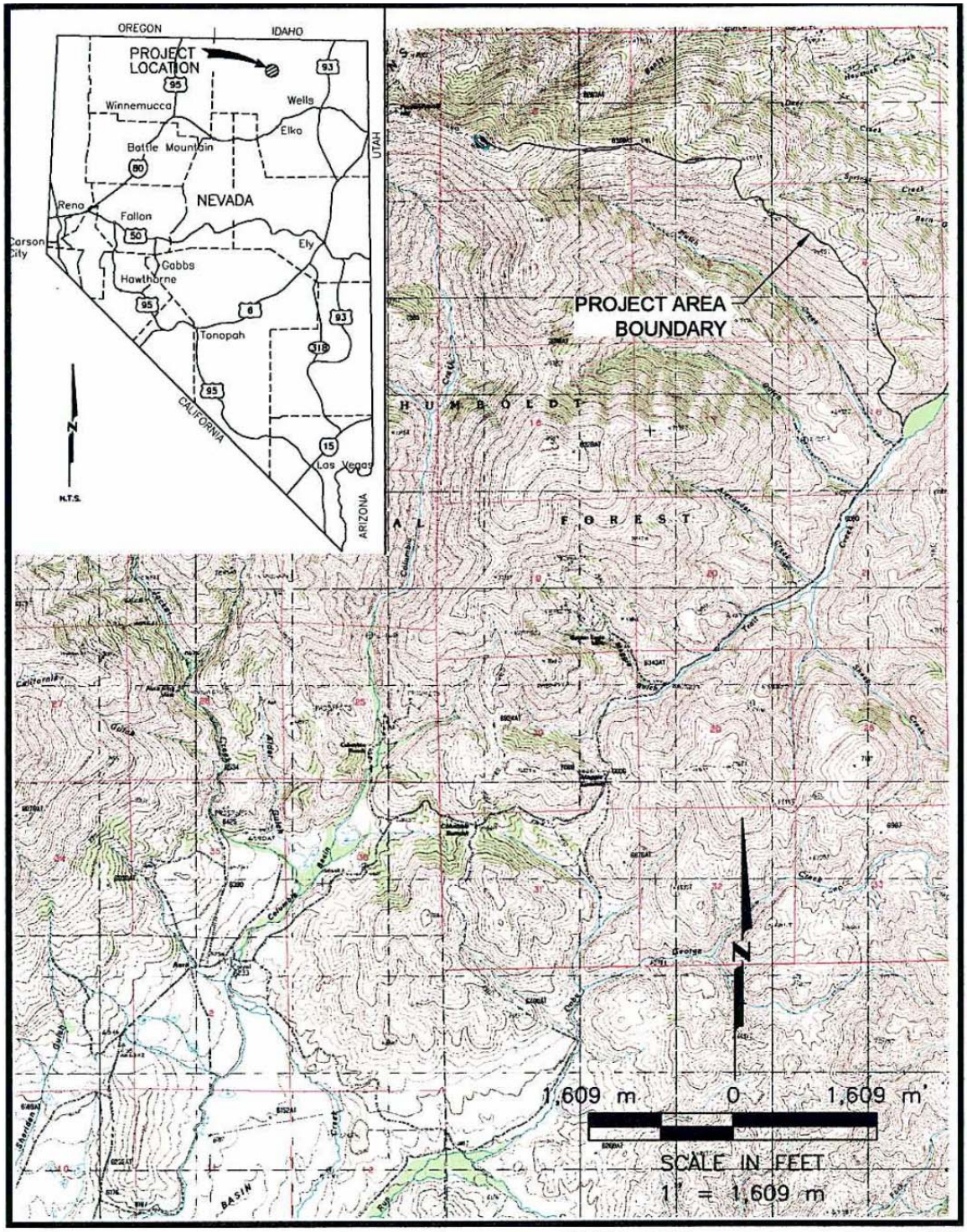
The project area is located approximately 88 miles north northwest of Elko, Nevada within the Mountain City Ranger District, Humboldt-Toiyabe National Forest, Nevada. (Figure 1A). The location is T.44N. R.53E. Sections 5,6,8,9 and 16. Mount Diablo Meridian. Pennsylvania Hill is in the Bull Run Mountain Range.

1.5 Purpose and Need for Action

The Pennsylvania Hill Communications Site (Figure 1B) is a critical communications component to the State and County's emergency services network. The purpose of the action is to provide a consistent and reliable power source for operating the communications site. This action is needed because this communications site is a vital link for emergency service communications to the northern portion of Elko County.

This functioning communications site will help ensure the health and welfare of Northern Elko County citizens and the public as a whole. This action responds to the goals and objectives outlined in the Humboldt-Forest Plan, and helps move the project area towards desired conditions described in that plan (USDA 1986).

Figure 1A - Pennsylvania Hill Vicinity/Location Map



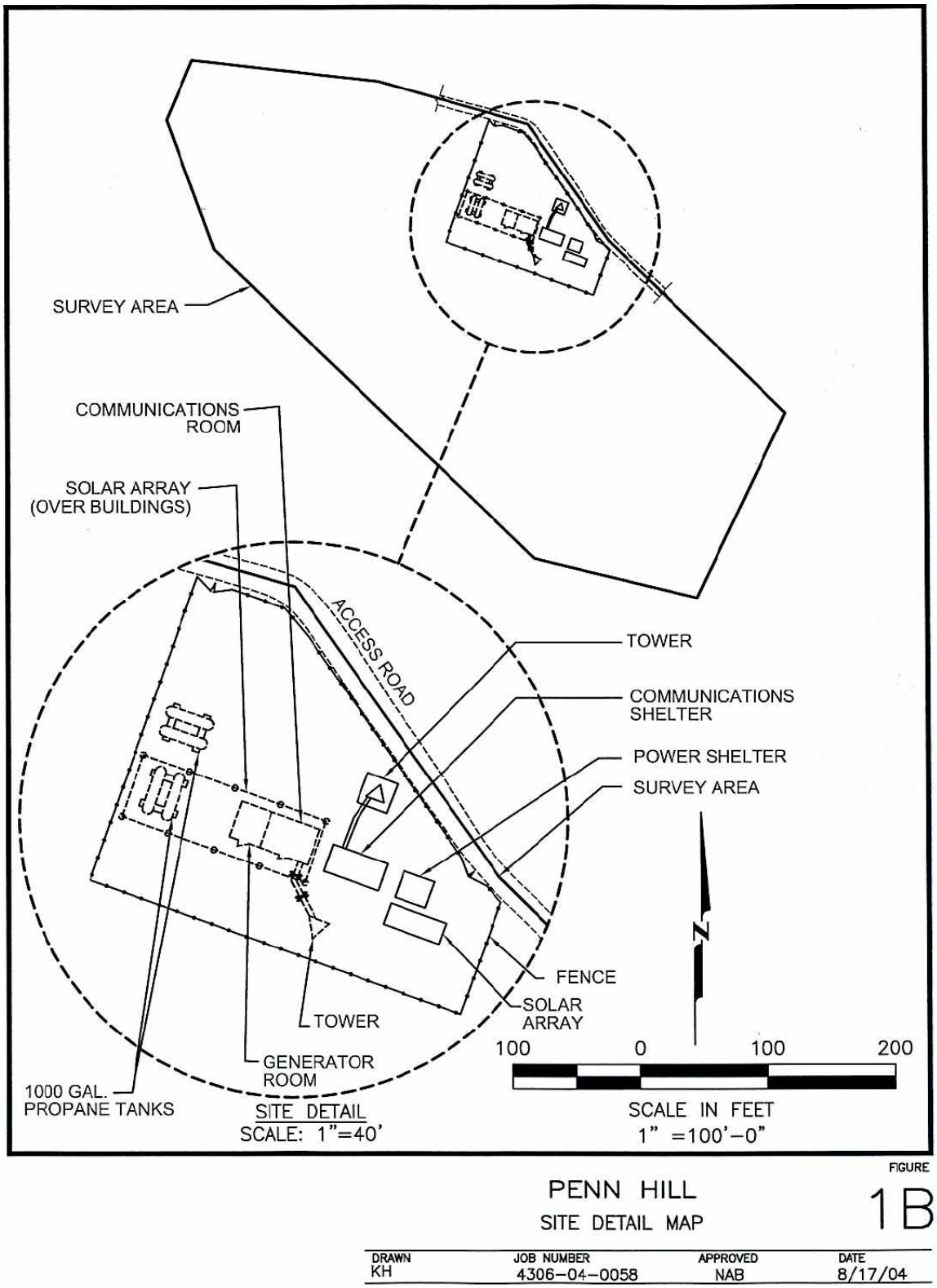
PENN HILL
VICINITY/LOCATION MAP

FIGURE
1A

DRAWN	JOB NUMBER	APPROVED	DATE
SCB	4306-050618	NAB	4-17-06

P:\4306-05\4306-05-0018 Penn Hill Transmission Line EA & Cultural\dwg\Penn Hill Transmission Line May 23 NAB.dwg
May 25, 2006 - 10:03am

Figure 1B - Pennsylvania Hill Site Detail Map



FIGURE

PENN HILL

SITE DETAIL MAP

1B

DRAWN	JOB NUMBER	APPROVED	DATE
KH	4306-04-0058	NAB	8/17/04

1.5.1 Forest Plan Direction

The proposed action is consistent with the following goals of the Land and Resource Management Plan (Forest Plan) for the Humboldt National Forest.

Goal #9
Provide for a pleasing visual landscape in the Humboldt National Forest.

Goal #10
Identify, protect, interpret and manage significant cultural resources.

Goal #21
Maintain sensitive plant species.

Goal #24
Emphasize the control of priority one noxious weeds.

Goal #29
Provide water and soil resource input to other resource activities to protect or improve water quality and soil productivity.

Goal #43
Provide access to National Forest lands needed for public use, permittee activities and administration.

Goal #44
Allow non-recreation private structures where private land is not available and the applicant demonstrates through the environmental analysis process that National Forest is the best location for the structure and that unacceptable impacts can be avoided.

The project is also consistent with Forest Plan Amendment 5. The Amendment adopted the 1995 Inland Native Fish Strategy (USDA Forest Service.). Referred to as "INFISH", this strategy protects habitat and populations of resident native fisheries outside of anadromous fish habitat in the Columbia River watershed. Key elements included adoption of Riparian Management Objectives, guidelines for delineation of Riparian Habitat Conservation Areas, and standards and guidelines for management actions. The Trail Creek watershed (where the project is located) contains a population of redband trout. In the vicinity of the project, the creek and its tributaries may either contain fish or provide important flow contribution during summer months. Applicable direction from INFISH standards and guidelines has been included in the proposed action, including RF-2 and RF-3 (road management and erosion/drainage control), LH-3 (issuance of special use permits), and RA-3 and RA-4 (herbicide application, fuel storage, and refueling).

1.6 Decision Framework

Given the purpose and need, the deciding official reviews the proposed action and the other alternatives in order to make the following decisions:

1. Whether an environmental impact statement is required.
2. Whether to approve the actions as proposed or as described in an alternative.
3. What mitigation and monitoring measures are needed

1.7 Public Involvement

The proposal was listed in the Schedule of Proposed Actions on April of 2005 and in subsequent issues. The proposal was also provided to the public and other agencies for comment during scoping through a mailing dated April 15, 2005. The USFS mailed the scoping letter to 38 individuals and public agencies. The responses involved comment from Elko County, Trail Creek area residents, United States Fish and Wildlife Service, State of Nevada Historic Preservation Office, and Nevada Department of Wildlife. Appropriate comments and responses were used to synthesize and develop issues.

The Mountain City Ranger District on the Humboldt-Toiyabe National Forest provided *Notice of Proposed Action (NOPA*) on the proposal submitted by RRRE to install an underground powerline to the Pennsylvania Hill Communications Site. The Notice and Opportunity to Comment on Proposed Action was published in the Elko Daily Free Press Newspaper on April 12, 2005. The forest mailed the *Notice of Proposed Action* to *interested parties on April 7, 2006.*

Comments received from State of Nevada Agencies and the general public regarding this project include:

- Utilization of dark sky lighting fixtures, and careful site planning and use of earth tone paint colors on new structures to reduce visual impacts to adjacent public and private lands.
- Inadequacy of the current solar and wind driven generator to supply power to the existing telecommunications facility, high cost of facility maintenance and danger to repair crews while accessing the communications facility during winter months.
- Benefits of future cell phone communication capability for this remote area.
- Responsibility of sensitive plant protection being placed on RRRE instead of the USFS.
- Construction of an additional road that would require maintenance activities when the existing FSR 170 is in a state of disrepair.
- Potential visual impacts of the proposed fencing to protect area plants.
- Potential to eradicate additional weedy plant species.

1.8 Tribal Consultation

Six letters were sent to tribal governments dated May 5, 2005 as part of initiating tribal consultation regarding the project. No verbal or written responses were received in response to this letter. A follow-up letter was sent to the Shoshone-Paiute Tribes of Duck Valley on April 11, 2006. A meeting with the Shoshone-Paiute Tribes of Duck Valley by the District Ranger in Owyhee, NV on March 1, 2006 did not reveal any concerns for the project.

1.9 Issues

The USFS separated the issues into two groups: significant and non-significant issues. Significant issues were defined as those directly or indirectly caused by implementing the Proposed Action. Non-

significant issues were identified as those: 1) outside the scope of the Proposed Action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; 4) conjectural and not supported by scientific or factual evidence or 5) limited in extent, duration or intensity. The Council on Environmental Quality (CEQ) NEPA regulations require this delineation in Sec. 1501.7, "…identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)…" A list of non-significant issues and reasons regarding their categorization as non-significant may be found in the project record.

As for significant issues, the USFS identified 5 topics raised during scoping. These issues are:

Plant Communities

Issue Statement: Project activities and disturbance may negatively affect the area plant communities.

Discussion: Removal or disturbance to plant communities within the project area would result in the loss or alteration of impacted plant communities and wildlife habitat. Impacts would be minimized by the implementation of Best Management Practices (BMPs). Impacts would decrease overtime following mitigation measures described in Section 2.4 and including the reestablishment of native vegetation, and the monitoring and elimination of non-native/ invasive and noxious weeds.

Indicator: An increase in the amount (acreage) of bare soil, or an increase in abundance of non-native/invasive or noxious weeds. A qualitative change in the diversity or abundance of plants or vegetation communities.

Wildlife (General Species)

Issue Statement: Project activities may affect wildlife species not federally, state or agency listed that utilize the project area.

Discussion: The project area and adjacent habitat is home to numerous wildlife species including big game, small mammals, raptors, songbirds, fish, reptiles and amphibians. Project activities have the potential to impact these species. Impacts to general wildlife species would be minimized by the implementation of mitigation measures as described in Section 2.4.

Indicator: A qualitative change in wildlife habitat diversity and/or wildlife species diversity or abundance.

Migratory Birds

Issue Statement: Project activities may affect bird species protected under the Migratory Bird Treaty Act (MTBA) of 1918 as amended (16 U.S.C. 703 *et seq*.).

Discussion: The project area and adjacent habitat is home to numerous bird species. Project activities have the potential to impact these species. Impacts to

birds would be minimized by the implementation of mitigation measures as described in Section 2.4.

Indicator: A qualitative change in bird habitat diversity and/or bird species diversity or abundance.

Special Status and Sensitive Species

Wildlife

Issue Statement: Project activities may affect federal, state and agency listed species including the federally listed species Columbia spotted frog; and USFS sensitive species pygmy rabbit, greater sage-grouse and northern goshawk.

Discussion: The project area and adjacent habitat provides habitat for federal, state and agency listed species. Project activities have the potential to impact these species. Impacts to special status and sensitive wildlife species would be minimized by the implementation of mitigation measures described in Section 2.4.

Indicator: A qualitative change in wildlife habitat diversity and/or special status or sensitive wildlife species diversity or abundance.

Plants

Issue Statement: The USFS sensitive plant Lewis' buckwheat and least phacelia may be affected by project activities. Lewis' buckwheat is known to exist in the project area to the Pennsylvania Hill Communications Site. Project activities and disturbance could have a negative effect on the sensitive plant populations of Lewis' buckwheat located on Pennsylvania Hill Road (FSR 170).

Discussion: Proposed project activities are proposed for areas of existing Lewis' buckwheat habitat and known plant occurrences. The project area follows the ridgeline along FSR 170 with steep slopes below. This topography limits opportunities to alter the underground powerline route to avoid disturbance to existing Lewis' buckwheat habitat and known plant occurrences. Impacts to the sensitive plant species Lewis' buckwheat and its habitat would be minimized by the implementation of mitigation measures described in Section 2.4.

Indicator: A quantitative change in Lewis' buckwheat habitat and/or plant occurrences.

Surface Water Quality (Erosion and Sedimentation)

Issue Statement: Project activities and disturbance on steep slopes have the potential to increase erosion and sedimentation, resulting in a decrease in surface water quality.

Discussion: A decrease in surface water quality could affect area vegetation and wildlife resources dependent on surface water resources. Those plants species

dependent on surface water and identified as wetland indicators would be most affected by a decrease in surface water quality. Those wildlife species dependent on surface water during all or part of their life history would be most affected by a decrease in surface water quality. These impacts would be minimized by the implementation of mitigation measures described in Section 2.4. Impacts would decrease overtime, following reclamation efforts and the reestablishment of vegetation to increase surface water flow infiltration and decrease run-off.

Indicator: An increase in the amount of erosion permitting sedimentation to flow into area surface waters.

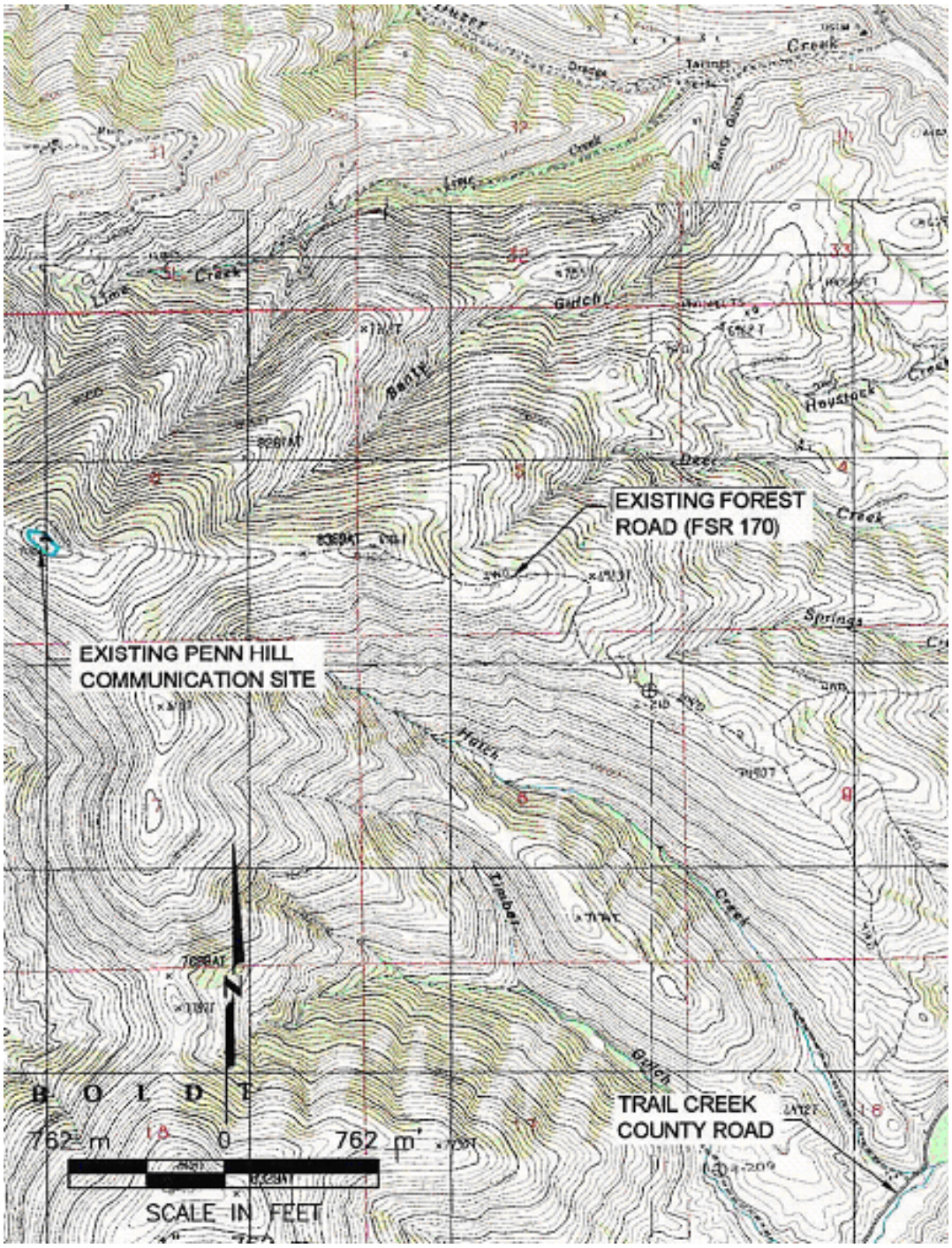
2.0 ALTERNATIVES, INCLUDING THE PROPOSED ACTION

This chapter describes and compares the alternatives considered for the Pennsylvania Hill Underground Powerline Project. It includes a description and map of each alternative considered. This section also presents the alternatives in comparative form, sharply defining the differences between each alternative and providing a clear basis for choice among options by the decision maker and the public. Some of the information used to compare the alternatives is based upon the design of the alternative (i.e., helicopter logging versus the use of skid trails) and some of the information is based upon the environmental, social and economic effects of implementing each alternative (i.e., the amount of erosion or cost of helicopter logging versus skidding).

2.1 Alternative 1 – No Action

Under the No Action alternative, current management plans would continue to guide management of the project area (Figure 2A). The proposed underground powerline project would not be authorized through a special use permit and the project would not happen. No disturbance would occur. Current auxiliary power systems (solar/propane gas generation and wind generation) at the Pennsylvania Hill Communications Site would be susceptible to periodic failure or interruption due to an empty propane tank, iced over solar panels or a drop in wind speeds. For example, a very late winter with high elevation snow depths could prohibit access to the site in order to fill up the propane tank. This in turn could affect critical emergency communications services deemed critical for Elko County. The communications site would not be designated in the forest plan as a formal communications site affecting long term management concerns with the site. A short term special use permit issued to NDOIT in 2003 authorizing use and occupancy of the communications site would not be renewed and a new 30 year lease would not be issued to NDOIT for the long term use of the site.

Figure 2A - Alternative 1 - No Action



2.2 Alternative 2 - Original Proposal

The original proposal consists of three elements: 1) underground powerline construction; 2) Forest Plan Communication Site designation; and 3) long-term site occupancy and operation authorization.

Underground Powerline Construction

Alternative 2 proposes the installation of approximately 4.0 miles of underground powerline within the existing Penn Hill Road, from Trail Creek to the Pennsylvania Hill Communications Site (Figure 2B). Access would occur off County Road 729, approximately 7 miles southwest of State Hwy 225. The construction phase would allow for a 25 foot width disturbance from the centerline of the road. Once completed, the permit width for maintenance and operations along the powerline route would revert to a 10 foot width from centerline.

Construction would start at the Penn Hill Communications Site, working downhill. The road surface (FSR 170) would be ripped down to an approximate depth of 48 inches; some areas of the road have rock outcrops that may require the use of explosives. Underground electric cable (powerline) would be placed at 36-48 inches in depth, with junction boxes (tying the powerline cables together) every 3,000-4,000 feet. The junction boxes, measuring 3 feet by 3 feet, would be set approximately 15 feet from centerline to the side of the road

Equipment involved would include pick-ups, utility trucks, and a dozer with ripper, line laying machine and backhoe. Several staging areas for equipment parking and material storage would be necessary. One staging area would be located at the intersection of Penn Hill Road and Trail Creek Road. Another staging area would be located approximately ¼ mile down hill from the Penn Hill Communications Site and would be specifically identified to avoid sensitive plants. RRRE has also proposed the option of utilizing private lands along Trail Creek Road for storage, with permission from landowners.

Reclamation would involve: re-contouring, by filling in any holes and ripped surfaces; grading of road's running surface, and removal of remaining materials, supplies and garbage. The reclamation would also include construction of water bars, and ripping and seeding with appropriate native weed free seed mixes, as approved by the USFS.

The proposal would intersect and go through habitat and plant populations of the USFS sensitive Lewis' buckwheat plant occurring around and along the middle of the access road. In places where the current road goes through Lewis' buckwheat sites equipment/disturbance restrictions would be implemented to minimize disturbance. These areas would be marked with flags or staked before construction and the contractor would avoid driving equipment or storing soil/rocks/materials/etc on those road sides. In these areas some damage to the buckwheat would probably occur because plants grow in the centerline of the road. In some areas only the uphill side of the road would need to be avoided because the plants reside only along that side.

Site Designation

USFS Policy at FSH 2700 requires Forest Plan designation of communications sites to ensure the effective management of communications facilities. The Humboldt Forest Plan does not currently

designate Pennsylvania Hill as a Communications Site. Consequently, the Forest Plan would be modified to incorporate this designation.

Site designation would include the minimum designators for the site and uses, as identified in FSH 2709.11 Chapter 90, 91.

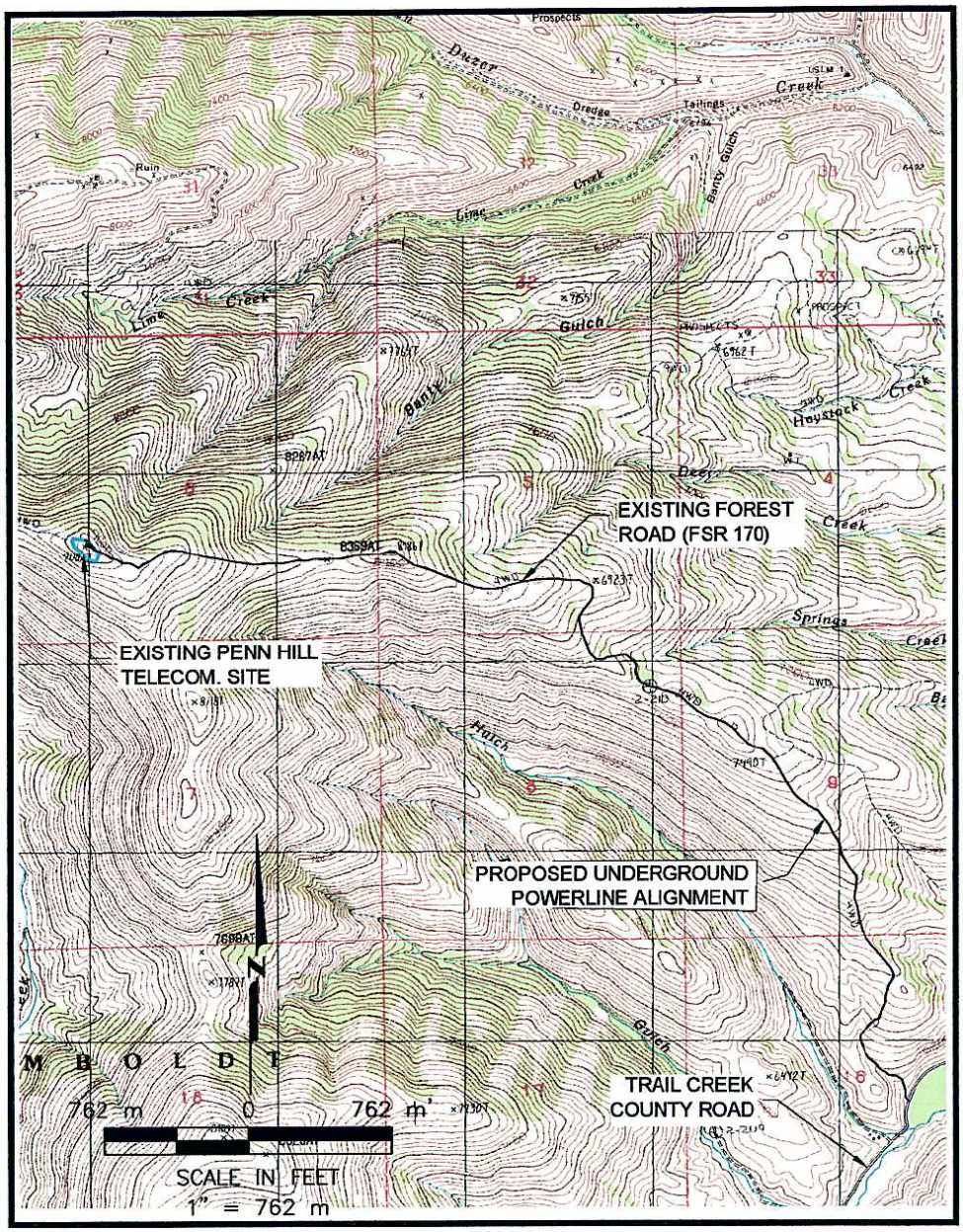
- Completion and approval of a communications site plan in accordance with FSH 2709.11 Chapter 90 would be undertaken following completion of this analysis.
- The facility would continue to be restricted to non-broadcast uses including, but not limited to: cellular telephone service, commercial mobile radio service, private mobile radio service and microwave service. Broadcast uses would be prohibited at the site. Users would include both government and non-government entities as listed in Chapter 3. NDOIT would be the Facility Owner.
- The approved facilities are adequate for existing uses and up to three additional users, depending on the amount of rack space required. Due to limited topography and rare plant concerns the site is considered fully developed and additional structures would not authorized. Additional future uses would be in full compliance with all federal rules and regulations, be compatible with senior users, and be consistent with the site plan for Pennsylvania Hill.

Special Use Permit/Lease Issuance

To administratively authorize the proposed action, the USFS is proposing to issue RRRE Co-operative a Term Special Use Permit for use and operation of their distribution line.

Similarly, the USFS proposes to issue NDOIT a Communications Site Lease for the operation of Pennsylvania Hill Communications Site.

Figure 2B: Alternative 2 – Original Proposal



PENN HILL

FIGURE 2B

ALTERNATIVE 2–ORIGINAL PROPOSAL

DRAWN	JOB NUMBER	APPROVED	DATE
SCB	4306–05–0018	NAB	4–17–06

P:\4306-05\4306-05-0018 Penn Hill Transmission Line EA & Cultural\dwg\Penn Hill Transmission Line may 23 NAB.dwg
May 23, 2006 - 4:24pm

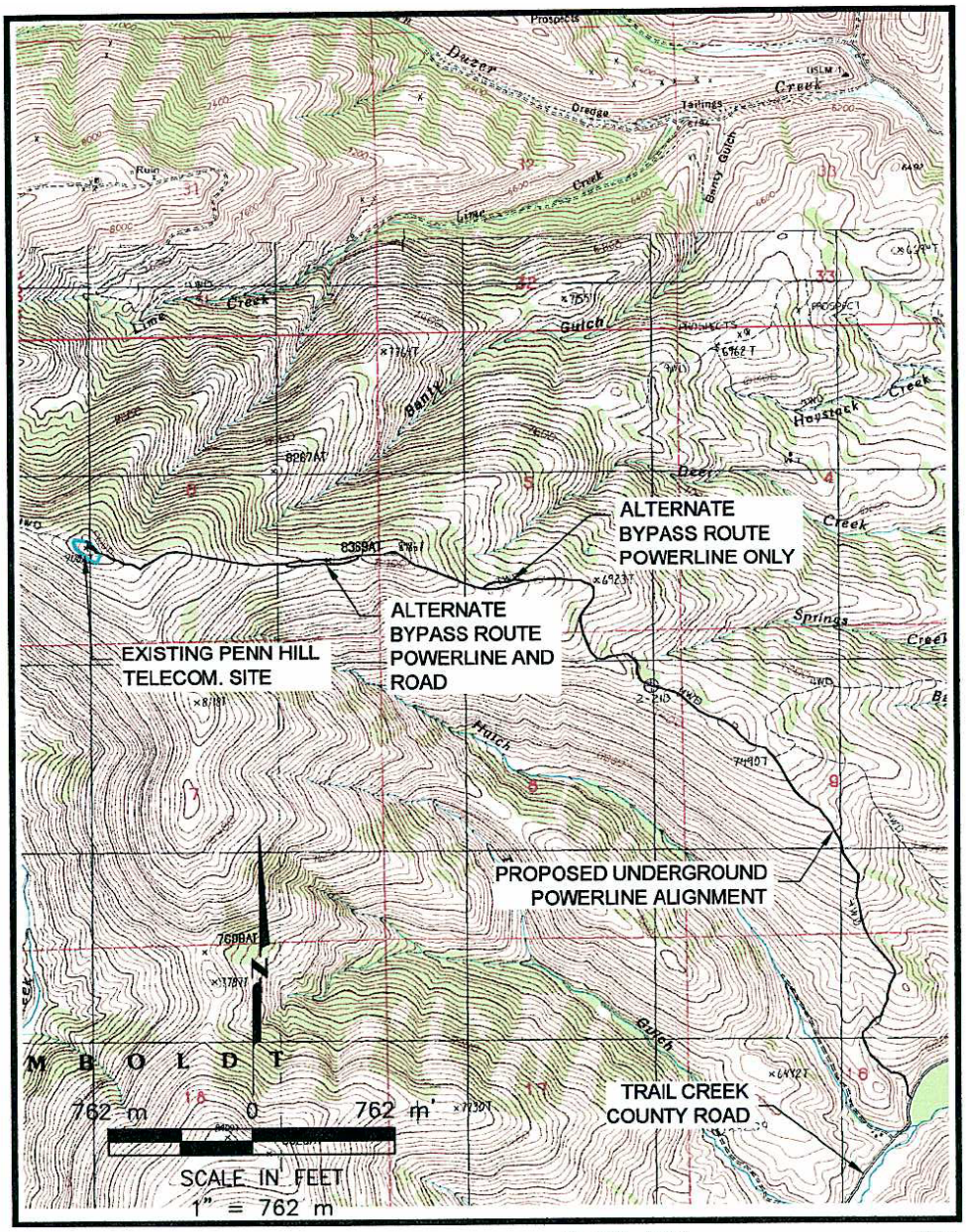
2.3 Alternative 3 – Proposed Action

Under the Proposed Action the project would be the same as for Alternative 2 with additional actions as listed below that would provide additional protection for Lewis' buckwheat habitat and some populations (Figure 2C) by allowing two bypass routes around Lewis' buckwheat habitat and some populations.

1. In the large saddle in Section 6 (Maggie Summit 7.5' USGS Quadrangle) the cable would be diverted 30 to 40 feet south of the buckwheat sites and the access road would be diverted to the new line. The new section of road would be approximately 900 feet in length. This section of the old road would be closed off with suitable barriers and/or gates. A fence would be constructed around the old road and buckwheat sites to protect the sites from vehicle, human, and livestock disturbance.

2. The access road passes near rocky outcrops (Section 5, Maggie Summit 7.5' USGS Quadrangle) where Lewis' Buckwheat populations are. This area would be difficult to trench because of the shallow hard bedrock. Hammering and piling of rocks would be necessary and would cause disturbance affects to the populations. At this location the powerline would be re-routed on the north side of the access road for approximately 600 feet. The road would not be re-routed in this section. Users are not likely to drive on the buckwheat sites along the current route because of the highly rocky nature of the area which confines traffic to the existing route.

Figure 2C: Alternative 3 – Proposed Action



PENN HILL

FIGURE 2C

ALTERNATIVE 3, (PREFERRED)
PROPOSED/MODIFIED PROPOSAL

DRAWN	JOB NUMBER	APPROVED	DATE
SCB	4306-05-0018	NAB	4-17-06

P:\4306-05\4306-05-0018 Penn Hill Transmission Line EA & Cultural\dwg\Penn Hill Transmission Line May 23 NAB.dwg
May 24, 2006 - 1:10pm

2.4 Mitigation and Monitoring Common To All Alternatives

In response to public comments and USFS concerns on the proposal, mitigation measures were developed to ease some of the potential impacts the various alternatives may cause. The mitigation measures would be applied to the action alternatives (Alternatives 2 and 3).

- Implement standard BMPs to control surface water runoff, and reduce the potential for soil erosion and sediment transport along the proposed project route and all staging areas. Potential preventative actions could include installation of sediment structures such as straw bales, water bars, and silt fencing. Obtain (RRRE) a Stormwater Management Permit and prepare a Stormwater Pollution Prevention Plan that includes procedures for using the roads and working on steep terrain, and engineering standards for road maintenance. Regulate equipment during wet periods to minimize erosion and sediment transport. Standards would be consistent Forest Plan Amendment 5 (INFISH RA- 4, RF-2 and RF-3) and Forest Plan Appendix L (Soil and Water Conservation Practices).
- Prepare and implement (RRRE) Spill Plan and Prevention Measures, consistent with Forest Plan Amendment #5 (INFISH RA-4).
- Where blasting is necessary to remove rocks, assure (RRRE) that personnel are certified and qualified.
- Conduct (RRRE) annual weed monitoring, prevention, and suppression along the proposed route of the underground powerline, consistent with the USFS Weed Management Plan; FSM 2000, Chapter 2080, Supplement # 2000-2004-1; and Forest Plan Amendment #5 (INFISH RA-3).
- Conduct a pre-construction survey (using a Forest Service approved botanist) to determine the limits and protection of the Lewis' buckwheat populations. Flag or stake Lewis' buckwheat sites along the ridgeline prior to construction to avoid disturbance by equipment or material storage.
- Conduct a pre-construction route survey (USFS approved wildlife biologist) if construction activities occur during the nesting season for migratory birds (May through July). If nesting birds are present, establish and maintain a buffer zone (100 feet for migratory birds) of non-disturbance until the young birds have fledged.
- Minimize soil surface and vegetation disturbance. Following construction, rehabilitate and revegetate the disturbance to minimize Lewis' buckwheat habitat loss.
- Reclaim and revegetate disturbed areas (RRRE), as approved by the USFS, using weed free native seed mixes as described in the USFS Weed Management Plan and Prevention Schedules. Limit surface disturbance to minimize vegetation and habitat loss, and prevent sedimentation and erosion.
- Close FDR 170 during construction to assure public safety.
- Should cultural resources be encountered during implementation, stop all disturbance activities and report the resources to the Forest Service for evaluation in accordance with the National Historic Preservation Act.
- Take measures (RRRE) to prevent and control wildfire starts from construction related activities.

2.5 Comparison of Alternatives

Table 1 provides a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Table 1 Alternative Comparison by Resource

Resource	Alternative		
	1: No Action	**2: Original Proposal**	**3: Proposed Action**
Vegetation/Plant Communities	No direct impacts to plant communities	Ground disturbance from construction activities impact the native plant communities. Impacts would include limited and short-term disturbance to vegetation. The use of BMPs and reclamation measures would limit the amount and distribution soil erosion to area vegetation.	Ground disturbance from construction activities impact the native plant communities. Impacts would include limited and short-term disturbance to vegetation. The use of BMPs and reclamation measures would limit the amount and distribution soil erosion to area vegetation.
General Wildlife Species	No direct impacts to wildlife species	The area is used by a variety of wildlife species, including mule deer, mountain lions and numerous bird species. Because the powerline is being installed underground mainly within an existing right-of-way, the disturbance to habitat is expected to be minimal. Some short-term displacement of animals may occur due to noise and activities.	The area is used by a variety of wildlife species, including mule deer, mountain lions and numerous bird species. Because the powerline is being installed underground mainly within an existing right-of-way, the disturbance to habitat is expected to be minimal. Some short-term displacement of animals may occur due to noise and activities.

Table 2 Alternative Comparison by Resource (Continued)

Resource	Alternative		
	1: No Action	**2: Original Proposal**	**3: Proposed Action**
Migratory Bird Species	No direct impacts to migratory bird species.	Project activities would result in a limited loss of habitat as the majority of disturbance would occur within the existing roadway. Impacts to nesting birds would be avoided by surveying the project route and flagging an area of non-disturbance at nest locations.	Project activities would result in a limited loss of habitat as the majority of disturbance would occur within the existing roadway. Impacts to nesting birds would be avoided by surveying the project route and flagging an area of non-disturbance at nest locations.
Special Status Species (wildlife)	No direct impacts to wildlife species in project area.	Very minimal impacts to sage-grouse and Northern goshawks that inhabit the project area.	Very minimal impacts to sage-grouse and Northern goshawks that inhabit the project area.
Special Status Species (plants)	No direct impacts to rare plant species.	The underground powerline would be placed within populations of Lewis" buckwheat. Impacts to some individual plants expected.	The underground powerline would be placed within populations of Lewis' buckwheat. Impacts to some individual plants expected; however, the two alternate routes would minimize impacts.
Surface Water Quality	No direct impacts to water quality	Project activities and disturbance on steep slopes have the potential to increase erosion and sedimentation, resulting in a slight decrease in surface water quality. Proposed mitigation would minimize impacts.	Project activities and disturbance on steep slopes have the potential to increase erosion and sedimentation, resulting in a slight decrease in surface water quality. Proposed mitigation would minimize impacts.

3.0 AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

This section summarizes the physical, biological, social and economic environments of the affected project area and the potential changes to those environments due to implementation of the alternatives. It also presents the scientific and analytical basis for comparison of alternatives presented in Table 1 above.

3.1 Site Facilities

The site has been in use since the early 1970's. In 1991 expansion of the site was authorized and a new 40 foot tower was installed, new radio building installed and a new solar array built. A second expansion was authorized in 2004 which included additional solar arrays, a second radio/generator building, second 80 foot antenna, and four 1000 gallon propane tanks. Work began on this latest expansion in the summer of 2005 and is expected to be completed during the summer of 2006.

Current Users

Current users of the site are:

- Nevada Highway Patrol
- Nevada Department of Transportation
- Nevada Division of Forestry
- Elko County Sheriff
- Southwest Gas Corporation
- Emergency Medical Services (EMS)

Presently, the facility is limited to non-broadcast uses including two-way radio and microwave service. There are no broadcast uses at the site.

3.2 Vegetation/Plant Communities

3.2.1 Affected Environment

The existing access road and alternative powerline routes were surveyed 100 feet to either side of the route centerline. Several vegetation associations are present along the survey routes, of which three are dominated by sagebrush (*Artemisia* ssp.) species. The low sagebrush (*Artemisia arbuscula*) dominated vegetation association occurs on rock outcrops and exposed ridges at higher elevations for approximately two-thirds of the survey route. This is also the habitat for the sensitive plant species Lewis' buckwheat. After the low sagebrush dominated ridges, mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*) is the most predominant vegetation association encountered adjacent to the access road in the lower third of the survey route. Yet another sagebrush dominated vegetation association is found near the base of the survey route in deep soil. The basin big sagebrush (*Artemisia tridentata* spp. *tridentata*) vegetation association is characterized by basin big sagebrush and rubber rabbitbrush (*Chrysothamnus nauseosus*). At high elevations, scattered groves of limber pine (*Pinus flexilis*) mingled with subalpine fir (*Abies*

lasiocarpa) occur mostly on the north facing slopes of the ridge road, with a few scattered limber pine occurring immediately adjacent to and south of the road as well.

3.2.2 Environmental Consequences

3.2.2.1 Alternative 1 - No Action

If the Proposed Action (Alternative 3) and Original Proposal (Alternative 2) are not authorized, there would be no impacts to vegetation.

3.2.2.2 Alternative 2 - Original Proposal

Impacts to vegetation/plant communities within the project area would be low and short-term, especially within the existing FSR 170 right-of-way. There would be a very minimal increase in the amount of bare ground in the project area following construction activities. Reclamation and revegetation measures would return the disturbed areas to a productive state, except for where the cable is buried in the road disturbance. The possibility of invasive/non-native or noxious weed establishment would be low due to the implementation of mitigation measures.

3.2.2.3 Alternative 3 - Proposed Action

Impacts to vegetation/plant communities within the project area would be low and short-term, especially within the existing FSR 170 right-of-way. There would be a very minimal increase in the amount of bare ground in the project area following construction activities. Reclamation and revegetation measures would return the disturbed areas to a productive state, except for where the cable is buried in the road disturbance. Impacts to vegetation/plant communities outside the road right-of-way would be minimized and compensated for with the implementation of mitigation measure.

3.3 Wildlife (General)

3.3.1 Affected Environment

The project area and vicinity support a diverse group of common mammal, avian, reptile, and amphibian species. Habitats in the area consist of large expanses of sagebrush interspersed with patches of subalpine and aspen forests. The linear riparian zones provide a protected corridor for area wildlife species. No mammal, reptile or amphibian species were observed during the September 28, 2005 site visit. Birds identified during the site visit are described in Section 3.3.

Big game including mule deer (*Odciolious hemionus*) which is listed as a Management Indicator Species, elk (*Cervus elaphus)* and pronghorn antelope (*Antilocapra americanea*) inhabit the project area. The sagebrush, mountain brush and forest habitat within the area are utilized by these species for forage and cover. No fawning habitat for these species occurs within the project area, although individuals may forage or migrate through the area.

Other mammal species that may occur in the area include coyote (*Canus latrans*), mountain cottontail (*Sylvilagus nuttalli*), black-tailed jackrabbit (*Lepus californicus*), white-tailed jackrabbit (*Lepus townsendii*), golden-mantled ground squirrel (*Spermophilus lateralis*), least chipmunk (*Neotamias minimus*) and deer mouse (*peromyscus maniculatus*).

Game birds that may occur within and adjacent to the project area include the greater sage-grouse (*Centrocercus urophasianus*) blue grouse (*Dendragapus obscurus*), and mourning dove (*Zenaida macroura*). Common raptor species that may occur within and adjacent to the project area include the red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco americanus*). Other birds likely to utilize the project area are discussed in Section 3.3.

Reptiles and amphibians common to desert shrubland and coniferous and riparian forest habitats that may occur within the vicinity of the project include the western rattlesnake (*Crotalus viridis*), gopher snake (*Pituophis melanolcus*), side-blotched lizard (*Uta stansburiana*), western fence lizard (*Sceloporus* occidentalis), sagebrush lizard (Sceloporus graciosus), Pacific chorus frog (Pseudacris regilla) and Western toad (Bufo Boreas).

3.3.2 Environmental Consequences

3.3.2.1 Alternative 1 - No Action

If the Proposed Action (Alternative 3) and Original Proposal (Alternative 2) are not authorized, there would be no impacts to wildlife.

3.3.2.2 Alternative 2 - Original Proposal

Impacts to general wildlife (primarily reptiles and small mammals) from construction disturbance would be low and result in the loss or temporary displacement of individuals utilizing habitat within or adjacent to the proposed powerline alignment (FSR 170) during the construction period.

3.3.2.3 Alternative 3 - Proposed Action

Impacts to general wildlife (primarily reptiles and small mammals) from construction disturbance would be low and result in the loss or temporary displacement of individuals utilizing habitat within or adjacent to the proposed powerline alignment (FSR 170) during the construction period.

3.4 Migratory Birds

3.4.1 Affected Environment

The proposed project area supports predominately sagebrush habitat that provides nesting and foraging habitat for migratory bird species. Migratory birds are a concern of the FWS under the Migratory Bird Treaty Act (15 U.S.C. 701-718h) and may not be harmed or killed. Migratory birds and their active nests (with eggs or young) are protected under the MBTA. The nesting season for birds within the Proposed Action area is May through July. The project area supports several species of nesting songbirds including the sage thrasher (*Oreoscoptes montanus*), Brewer's sparrow (*Spizella breweri*), and sage sparrow (*Amphispiza belli*).

Migratory birds were observed within and adjacent to the project area during the September 28, 2005 site visit. Bird species observed that prefer open country including sagebrush habitat were the common raven (*Corvus corax*), black-billed magpie (*Pica hudsonia*), golden eagle (*Aquila chrysaetos*), northern harrier (*Circus cyaneus*), American kestrel (*Falco americanus*), red-tailed hawk (*Buteo jamaicensis*) and white-crowned sparrow (*Zonotrichia leucophrys*).

The subalpine and aspen forests adjacent to the proposed project area support such bird species

observed as the Clark's nutcracker (*Nucifraga columbiana*), dark-eyed junco (*Junco hyemalis*), mountain chickadee (*Poecile gambeli*), red-breasted nuthatch (*Sitta canadensis*), ruby-crowned kinglet (*Regulus calendula*), sharp-shinned hawk (*Accipiter striatus*) and yellow-rumped warbler.

3.4.2 Environmental Consequences

3.4.2 1 Alternative 1 - No Action

If the Proposed Action (Alternative 3) and Original Proposal (Alternative 2) are not authorized, there would be no impacts to migratory birds.

3.4.2.2 Alternative 2 - Original Proposal

Impacts to nesting birds from construction disturbance within the access road right-of way could result in the disturbance to nesting birds. These low and temporary to permanent impacts would be minimized by the implementation of mitigation measures.

3.4.2.3 Alternative 3 - Proposed Action

Impacts to nesting birds from construction disturbance (activities and noise) within the access road right-of way could result in the disturbance to nesting birds. These low and temporary to permanent impacts would be minimized by the implementation of mitigation measures.

Impacts to nesting birds from construction disturbance (noise) activities outside the access road right-of-way could result in the disturbance of nesting birds. T hese low and temporary impacts would be minimized by the implementation of mitigation measures.

3.5 Special Status and Sensitive Species (Wildlife and Plants)

3.5.1 Affected Environment

The FWS and Nevada Natural Heritage Program (NNHP) were contacted and requested to furnish information on special status species (threatened and endangered, candidate species, species of concern and sensitive species) with the potential to occur within the project area. The FWS response letter dated May 24, 2005 and NNHP response letter dated June 24, 2004 are available for review in the project file. The USFS sensitive species list was also consulted.

No special status or sensitive wildlife species were observed during the September 28, 2005 site visit. No special status plant species was observed, however the sensitive plant species Lewis' Buckwheat was observed within and adjacent to FSR 170 and the adjacent 2-track.

The species list below includes those special status and sensitive plant and wildlife species that could occur or potential habitat for them exists within the project area. These species are discussed below.

Candidate Species

Amphibians

Columbia spotted frog (*Rana luteiventris*)

Sensitive Species

Mammals

Pygmy rabbit (*Brachylagus idahoensis*)

Birds

Greater sage-grouse (*Centrocercus urophasianus*)
Northern goshawk (*Acciper gentilis*)

Plants

Lewis' buckwheat (*Eriogonum lewisii*)
Least phacelia (*Phacelia minutissima*)

The following wildlife species were eliminated from further analysis in this EA as the project area does not contain suitable habitat for their support: Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*), bull trout (*Salvelinus confluentus*), Bonneville trout (*Oncorhynchus clarki utah*), red band trout (*Oncorhynchus mykiss gairdneri*), Yellow-billed cuckoo (*Coccyzus americanus occidentalis*), spotted bat (*Euderma maculatum*), Western (Townsend's) big-eared bat (*Corynorhinus townsendii*), bald eagle (*Haliaeetus leucocephalus*), mountain quail (*Oerortyx pictus*), flammulated owl (*Otus flammeoulus*), great gray owl (*Otus flammeoulus*) and three-toed woodpecker (*Picoides tridactylus*). The Lahontan cutthroat; and bull, Bonneville and red band trout require creek habitats and no potential habitat for these fish occurs within the proposed project area. The spotted and Western big-eared bats require caverns, mines or structures for roosting and raising young. No suitable roosting or maternity sites are located within the project area. The bald eagle, mountain quail, flammulated owl, great gray owl and three-toed woodpecker require coniferous forest, meadow and/or riparian habitat for nesting and the proposed project area does not provide suitable nesting habitat for these species.

Sensitive plants species not identified as having habitat within the project area were discussed and eliminated from further analysis in the Pennsylvania Hill Underground Powerline EA, Specialist Report, Botany (USDA 2006) and is available in the project file.

Candidate Species Affected

Amphibians

Columbia Spotted Frog: Columbia spotted frogs of the Great Basin, including Nevada, inhabit seasonally wet, resource limited and often ephemeral habitats. This frog species prefers ponds or slow-moving waters that are clear and have little canopy cover (Reaser 1997). Over-wintering adults require bodies of water that don't freeze on the bottom. The Columbia spotted frog prefers abundant aquatic vegetation with thick algae for cover. Aquatic habitats with springs, floating vegetation and larger bodies of water are preferred for reproduction (IDFG et al. 1995, Reaser 1997). Hibernation or torpor requires a deep silt or muck substrate (Morris and Tanner 1969).

Individual spotted frogs have been observed within two miles of the project area. No surveys for the Columbia spotted frog have been conducted and no observations of this species have been recorded within the project area.

Portions of three riparian drainages are adjacent to the project area to the northeast and another runs parallel to, downslope and to the southwest of the project area.

Sensitive Species Affected

Mammals

Pygmy Rabbit: The pygmy rabbit is a sagebrush obligate species and prefers dense stands of primarily Basin big sagebrush (*Atremesia tridentata*) growing in deep loose soils (Green and Flinders 1980). Sagebrush is the primary food of the pygmy rabbit with grasses and forbs an important spring and summer food source (Green and Flinders 1980, Lyman 1991). Pygmy rabbits can be found from 4,494 feet up to between 7,500 and 8,500 feet in Nevada (Gilbertson 2005).

Pygmy rabbits have been observed approximately 8 miles from the project area. Pygmy rabbit burrows have been documented approximately 1.25 miles from the lower section of the proposed underground powerline alignment. Potential habitat for the pygmy rabbit within the Proposed Action area is unlikely due to steep slopes, shallow soils and lack of Basin big sagebrush.

Birds

Greater Sage-grouse: The sage-grouse, listed as a Management Indicator Species, is a sagebrush obligate species and requires large areas of sagebrush communities for nesting, brood rearing, wintering and foraging. Sagebrush species required for sage-grouse habitat includes Wyoming, mountain and Basin big sagebrush. Nesting sage-grouse prefer mid-elevation habitats with brush and herbaceous covers (Connelly et al. 2000). Sagebrush is the primary food for sage-grouse and the grouse feed almost exclusively on big or low sagebrush during winter months. Spring, summer and fall habitats also require a component of native grasses and forbs.

No sage-grouse leks are known to occur within 2.0 miles of the project area. However, sage-grouse observations have been documented within 2.0 miles of the lower section of the proposed underground powerline alignment. Sage-grouse may forage and winter in the vicinity of the project area.

Northern Goshawk: The northern goshawk, listed as a Management Indicator Species, is typically a permanent resident of forest habitats including the mixed conifer and riparian forest (Johnsgard 1990). Mature or old-growth forests are preferred for nesting. Goshawk forage in heavily forested to relatively open habitats (Beier and Drennan 1997). In Nevada, goshawks have been documented foraging in open sagebrush habitat adjacent to riparian aspen stands (Younk and Bechard 1992, cited in Squires and Reynolds 1997).

No nesting territories of the northern goshawk occur in the project area, but individuals may forage within or adjacent to the project area. Northern

goshawk observations have been documented within 0.25 mile of the project area.

Plants

Lewis' buckwheat: Lewis' wild buckwheat is a small, long-lived perennial from a woody taproot that flowers from June to July and sets seed between early June and the end of August. Lewis' buckwheat is a Nevada endemic from north-central Elko County and northern Eureka County. It is found in the Bull Run, Independence, and Tuscarora Mountains and the Jarbidge Mountains complex (Morefield 2001). This species is documented for 33 sites from about 10 scattered groups. The Humboldt-Toiyabe National Forest manages 73 percent of the known sites (Morefield 1996). Additional potential habitat has been identified based on Coats (1987) geology map (Morefield 1996). Lewis' buckwheat occupies exposed rocky ridges with sagebrush at high elevation from 6,470 to 9,720 feet (Morefield 2001). The habitat is described as dry, exposed, shallow, relatively barren and undisturbed, rocky residual soils on convex ridgeline knolls and crests (Morefield 1996). This species is often found on flat to moderately steep slopes of aspects. It is found occasionally at lower elevations on clay hills. The soil is limestone or other carbonate rock types with significant silt or other siliceous component. The species dominates sites (buckwheat carbonate balds) with low sagebrush (*Artemisia arbuscula*), green rabbitbrush (*Chrysothamnus viscidiflorus*), squirreltail (*Elymus elymoides*), and Indian ricegrass (*Achnatherum hymenoides*) (Morefield 1996) within the mountain sagebrush zone.

Anthropogenic impacts have been documented for Lewis' wild buckwheat at 76 percent of the known sites. Mineral exploration and development are near known sites. In the Independence Mountain, exploration activities have impacted sites through exploration road construction (Morefield 1996). Due to the ridge-line habitat, several sites are bisected or impacted by roads (Morefield 1996). This also increased the opportunity for off-road vehicle use and tracks were seen at several sites. Communication sites are also located on other high-elevation ridge-lines similar to the Pennsylvania Hill site. Ridge-lines can also serve as convenient sites for staging and fire suppression activities. The sites in the Klondyke area were impacted by a wildland fire in 1992. Construction of fire lines and access roads were created through the known site. Activities associated with livestock grazing have also impacted sites on the Forest (Morefield 1996). Due to the sparse vegetation, herbivory damage from livestock is low, but the ground disturbance from concentrative activities or bands of sheep can be substantial. Placement of salt blocks in several sites, including the Klondyke area, has impacted plants and habitat (Smith and Curto 1995, Johnson 2004). Sheep herders will also camp on ridge-lines. Lewis' buckwheat sites are small and isolated at high-elevations, making them susceptible to local extinction events and habitat loss due to climate warming. There is no known information on pollinators (Morefield 1996) or seedbanks. Lewis' buckwheat is capable of recolonizing moderate disturbances within its habitat (Morefield 1996), as observed around the communication site on Pennsylvania Hill. However it does not appear to persist with repeated, severe disturbance.

The Lewis' buckwheat population at Pennsylvania Hill was documented in 1995 by James Morefield; he noted that the site was impacted by a jeep trail (Morefield 1996). The user-created jeep trail has also been used as the access road for the communications site. Expansion of the communications site in 2005 avoided direct impacts to known Lewis' Buckwheat patches but increased use along the access road. The road currently crosses 10 patches of plants and directly impacts approximately 0.45 acre of the area within those patches. The total area of Lewis' Buckwheat on the ridge east of the communications site is approximately 10.98 acres.

Least phacelia: Least phacelia is a native annual herb that grows to 3.9 inches tall. The range-wide distribution of least phacelia is known from Elko and Eureka Counties in Nevada, Idaho, Oregon, and Washington (Morefield 2001). Its growing elevation ranges from 6,240 to 8,900 feet (Morefield 2001, Washington Department of Natural Resources). Within Nevada, least phacelia has had 30 occurrences mapped with a 0.62 mile (1.0 km) separation with an estimated total of 28,000 individuals spreading over 122 acres (49.4ha) (Morefield 2001). Occurrences are located within the Jarbidge and Independence Ranges.

Least phacelia occurs in vernally or ephemerally saturated, summer-drying, sparsely vegetated, partially shaded to fully exposed riparian areas of bare soil or on mud banks in meadows (Morefield 2001). The microsite is described as dry creek beds, on mud banks of small gullies in wet meadows, in the bottom of shallow ditches or water channels, at high water lines, and around springs (Atwood 1997). Plants can be seen growing separately, or in dense patches (Curto and Smith 1996). This may be the result of seed dispersal characters or the differences in microsite conditions. Associated species documented in monitoring reports include mule-ears (*Wyethia),* false hellebore *(Veratrum californicum),* white sagebrush *(Artemisia ludoviciana),* quaking aspen (*Populus tremuloides*), willow (*Salix*), and bedstraw (*Galium*) (Curto and Smith 1996).

The FSR 170 crosses a few very small drainages but the vegetation in those drainages is dominated by grasses, with little of the bare soil or forb dominated communities necessary for phacelia habitat. Past surveys in the area have not identified any phacelia.

3.5.2 Environmental Consequences

3.5.2.1 Alternative 1 - No Action

If the Proposed Action (Alternative 3) and Original Proposal (Alternative 2) are not authorized, there would be no impacts to special status or sensitive wildlife or plant species.

3.5.2.2 Alternative 2 - Original Proposal

Candidate Species

Amphibians

Columbia Spotted frog

Effects are expected to be low and temporary to Columbia spotted frog and its habitat due to project activities occurring primarily within the access road right-of-way. The access road is in upland habitat and located away from spotted frog habitat. In addition, impacts to the Columbia spotted frog would be minimized with the implementation of mitigation measures such as erosion control and project reclamation.

Sensitive species

Mammals

Pygmy Rabbit

No effects are expected due to project activities occurring primarily within the access road right-of-way and the lack of suitable habitat.

Birds

Greater Sage-grouse

Effects are expected to be low and temporary to greater sage-grouse and its habitat due to project activities occurring primarily within the access road right-of-way. Individual grouse may be temporarily displaced by disturbance from construction activities. Impacts to the sage-grouse would be minimized with the implementation of mitigation measures.

Northern Goshawk

Effects are expected to be low and temporary to Northern goshawk and its habitat due to project activities occurring primarily within the access road right-of-way. Individual goshawks may be temporarily displaced by disturbance from construction activities. Impacts to the Northern goshawk would be minimized with the implementation of mitigation measures.

Plants

Lewis' Buckwheat

Approximately 0.65 acre (2,625 meters squared) of new disturbance to Lewis' Buckwheat habitat would occur from Alternative 2. The existing road currently crosses 10 patches of plants and 0.43 acre of existing habitat. Table 2 summarizes the amount of Lewis' Buckwheat habitat impacted by project alternatives.

Table 2 Summary of Impacts to Known Lewis' Buckwheat Habitat

Alternative:	Alternative 1 No Action	Alternative 2 Original Proposal	Alternative 3 Proposed Action
	Estimated acres of Lewis' Buckwheat habitat		
Existing road	0.43	0.43	0.43
New disturbance	0	0.65	0.28
Closed road in habitat*	0	0	0.10
Total protected habitat*	0	0	1.541

* Habitat area enclosed within fence

Disturbance from the bulldozer used to dig the trench and associated support vehicles would increase the area of impacts to approximately 6.56 feet (2 meters) on each side of the existing road 19.70 feet (6 meters total width). Junction boxes would be placed where necessary to splice portions of the powerline. The total area of impacts to Lewis' buckwheat habitat would be 1.079 acre (4,365 $m^{2)}$, approximately 10% of the total habitat in the project area, plus up to 0.019 (75 m^2) for each junction box placed in buckwheat habitat. Use of this road will remain similar or increase due to widely acknowledged increases in off-highway vehicle use on the Forest. No portion of the plants will be protected from future vehicle or livestock impacts.

Least Phacelia

No effects are anticipated to least phacelia due to a limited amount of appropriate habitat and no plants have been recorded in the project area. Any rare alpine species that may grow along the ridge will experience effects similar to Lewis' buckwheat.

Impacts to sensitive plant species including the Lewis' Buckwheat would be minimized with the implementation of mitigation measures.

3.5.2.3 Alternative 3 Proposed Action

Candidate Species

Amphibians

Columbia Spotted frog

Effects would be similar to alternative 2.

Sensitive species

Mammals

Pygmy Rabbit

Effects would be similar to Alternative 2.

Birds

Greater Sage-grouse

Effects would be similar to Alternative 2.

Northern Goshawk

Effects would be similar to Alternative 2.

Plants

Lewis' Buckwheat

Approximately 0.28 acre (1132 meters squared) of new disturbance to Lewis' buckwheat habitat would occur from Alternative 3. The existing road currently crosses 10 patches of plants and 0.43 acre (1,740 meters squared) of existing road. Table 2 above summarizes the amount of Lewis' buckwheat habitat impacted by project alternatives.

Disturbance from the bulldozer used to dig the trench and associated support vehicles would increase the area of impacts to approximately 6.56 feet (2 meters) on each side of the existing road 19.70 feet (6 meters total width). Junction boxes would be placed where necessary to splice portions of the powerline. The total area of impacts to Lewis' buckwheat habitat would be 1.079 acre (4,365 $m^{2)}$, approximately 10% of the total habitat in the project area, plus up to 0.019 (75 m^2) for each junction box placed in buckwheat habitat. Use of this road will remain similar or increase due to widely acknowledged increases in off-highway vehicle use on the Forest. No portion of the plants will be protected from future vehicle or livestock impacts. These impacts are expected to be low and temporary to permanent.

Impacts to sensitive plant species and their habitat would be minimized with the implementation of mitigation measures. Mitigations specific to the Lewis' Buckwheat include a road closure of 0.10 acre (392 meters squared) and road re-route. The road closure would protect and improve 1.541 acres (6,236 meters squared) of habitat in the long term (Table 2).

Least Phacelia

Effects would be similar to Alternative 2.

3.6 Surface Water Quality

3.6.1 Affected Environment

The proposed Penn Hill underground powerline project is located within the State of Nevada Snake River Hydrographic Basin (No. 3) and the Owyhee River Hydrographic Area (No. 37) (USGS 2006). The major perennial drainage is the Owyhee River, located about five miles northeast of the project area.

The project area follows a northwest/southeast ridgeline and surface flow is generally northeast and southeast. The northeast slopes include the upper watershed of approximately eight

drainages. These named and unnamed drainages flow into perennial Van Duzer Creek to the north and perennial Trail Creek to the east. Both Van Duzer and Trail Creeks eventually drain into the Owyhee River. Surface flow from the southern slope of the ridgeline drains into Hutch Creek, which flows into Trail Creek and then into the Owyhee River.

3.6.2 Environmental Consequences

3.6.2.1 Alternative 1 - No Action

If the Proposed Action (Alternative 3) and Original Proposal (Alternative 2) are not authorized, there would be no impacts to surface water quality.

3.6.2.2 Alternative 2 - Original Proposal

Impacts to surface water resources could occur from erosion caused by surface runoff from FSR 170 prior to, after and during the proposed underground powerline construction activities. These impacts are considered low and temporary. The implementation of mitigation measures including BMPs would minimize impacts to surface water quality.

3.6.2.3 Alternative 3 - Proposed Action

Effects would be similar to Alternative 2.

3.7 Cumulative Impacts

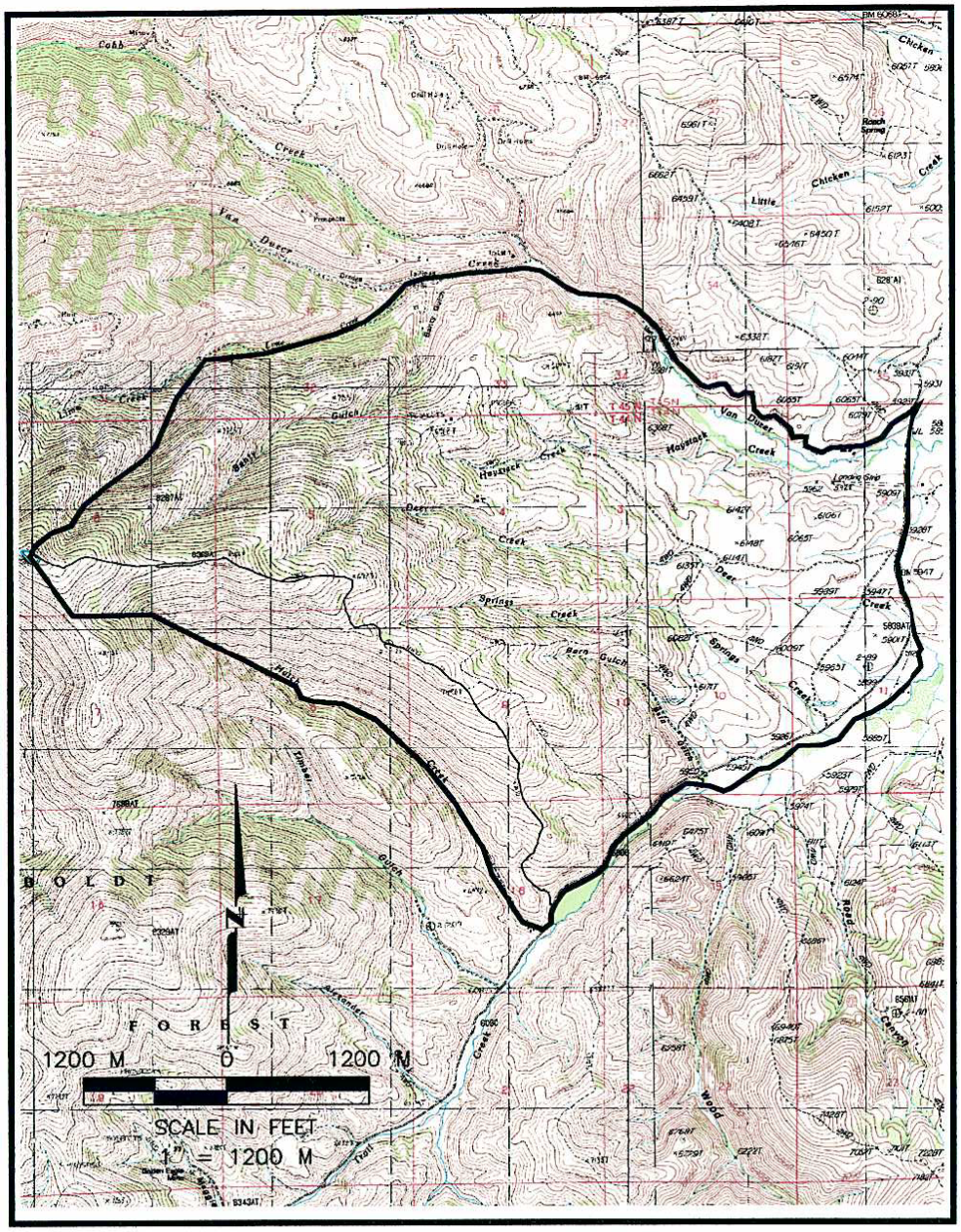
The Cumulative Impact Area (CIA) includes the southern and northern hillsides that drain downslope from the proposed underground powerline alignment into perennial and ephemeral creeks. The cumulative impact area is approximately 5200 acres in size and is illustrated on Figure 3. The slopes to the south of the proposed underground powerline alignment drain into Hutch Creek which flows into Trail Creek. The slopes to the north and east of the proposed underground powerline alignment drain into Banty Gulch and Haystack Creek before flowing into Van Duzer Creek; while Deer Creek, Springs Creek and Barn Gulch flow into Trail Creek. The majority of lands within the CIA are National Forest System lands administered by the Mountain City Ranger District, but there is a small amount of private land along Van Duzer Creek and Trail Creek. This cumulative impacts analysis would apply to either Alternative 2 or 3.

Past activities that have affected resource conditions in the CIA area include 1) livestock grazing, 2) road development and use, 3) agricultural uses on private lands.

Present activities include: 1) livestock grazing, 2) road development and use, 3) agricultural uses on private lands, 4) recreational uses, 5) off-highway vehicle use, 6) road maintenance and 7) continued use and improvement to the existing Pennsylvania Hill communications site.

Reasonably Foreseeable Future Actions include: 1) livestock grazing, 2) road development and use, 3) agricultural uses on private lands, 4) recreational uses and 5) limited off-highway vehicle use (following adoption of travel management policies), 6) road maintenance, 7) reconstruction of the existing Trail Creek powerline (above ground replacement for 5.5 miles and replacement with 1.5 miles of new underground powerline) and 8) continued use and improvement to the existing Pennsylvania Hill communications site.

Figure 3 – Cumulative Impacts Area



PENN HILL

CUMULATIVE IMPACT AREA

FIGURE 3

DRAWN	JOB NUMBER	APPROVED	DATE
SCB	4306-05-0018	NAB	4-17-06

P:\4306-05\4306-05-0018 Penn Hill Transmission Line EA & Cultural\dwg\Penn Hill Transmission Line May 23 NAB.dwg
May 23, 2006 - 3:56pm

3.7.1 Vegetation/Plant Communities

Table 2 displays the Vegetation Community Types within the CIA.

Table 3
Vegetation Community Types - Cumulative Impact Area

Vegetation Community Type	Acres
Agriculture	138
Aspen	952
Barren	41
Basin Big Sage	51
Basin Grassland	20
Cottonwood	6
Curleaf Mtn Mahogany	25
Juniper	5
Low Sage	384
Mixed Aspen/Conifer	16
Mixed Sage/Bitterbrush	408
Mixed Shrub/Basin Shrub	256
Mountain Shrub	1332
Mtn Big Sage	1216
Mtn Grassland	67
Riparian Aspen	18
Riparian Grassland	81
Riparian Shrub	195
Subalpine Fir	342
Wyoming Big Sage	31.
Total	**5594**

Cumulative impacts to vegetation/plant communities will continue from the past present and future uses described above. These impacts could directly and indirectly affect the diversity and quality of vegetation/plant communities within the project area, including the introduction and/or spread of invasive/non-native or noxious weeds. These impacts are expected to be low to moderate.

3.7.2 Wildlife (General)

Cumulative impacts to wildlife species will continue from the past, present, and future uses described above. These impacts could directly and indirectly affect these species through the loss of habitat and disturbance to or loss of individuals. These impacts are expected to be low to moderate.

3.7.3 Migratory Birds

Cumulative impacts to birds will continue from the past, present, and future uses described above. These impacts could directly or indirectly affect birds through loss of habitat and or the displacement or loss of individuals. These impacts are expected to be low to moderate.

3.7.4 Special Status and Sensitive Species

3.7.4.1 Special Status Species

Candidate Species

Amphibians

Columbia Spotted Frog

Cumulative impacts to the federally listed Columbia spotted frog and habitat will continue from the past, present, and future uses described above. These impacts could directly affect this species through the loss of habitat and disturbance to or loss of individuals. These impacts are expected to be low and short-term.

Sensitive Species

Mammals

Pygmy Rabbit

Cumulative impacts to the FS sensitive pygmy rabbit will continue from the past, present, and future uses described above. These impacts could directly and indirectly affect these species through the loss of habitat and disturbance to or loss of individuals. These impacts are expected to be low and short-term.

Birds

Greater Sage-grouse

Cumulative impacts to the FS sage-grouse will continue from the past present and future uses described above. These impacts could directly and indirectly affect these species through the loss of habitat and disturbance to or loss of individuals. These impacts are expected to be low and short-term.

Northern Goshawk

Cumulative impacts to the FS sensitive northern goshawk will continue from the past present and future uses described above. This impact could directly affect the species by disturbance to nesting and foraging individuals. These impacts are expected to be low.

Plants

Lewis' Buckwheat

Cumulative impacts to Lewis' buckwheat habitat and plants will continue to from the past, present, and future uses described above. The relatively flat, cobbly nature of the habitat allows vehicles to easily leave the existing road to drive or park on the plants, thereby producing a loss of habitat and plants. Introduction of invasive/non-native and noxious weeds may occur through OHV use, road maintenance, or livestock use, though this has not yet occurred. These impacts are expected to be moderate and

long-term due to long-term nature of uses in the area, the permanent nature of the road, and the increase in maintenance of the communication site and road.

Least Phacelia

Cumulative impacts to least phacelia would not occur due to a limited amount of appropriate habitat and no plants have been recorded in the project area. Any rare alpine species that may grow along the ridge will experience effects similar to Lewis' Buckwheat.

3.7.5 Surface Water Quality

Cumulative impacts to surface water quality will continue from the past, present and future uses described above. These impacts could directly or indirectly affect surface water quality through the removal of or damage to vegetation thereby increasing the potential for erosion and sedimentation. These impacts are expected to be low to moderate and long-term due to the permanent nature of the uses in the watershed access. As of the November 2005, EPA Approved Final Nevada's 2004 303 (d) Impaired Watershed List (EPA 2005) none of the creeks within the CIA were designated as impaired waters. Overall, the degree of effect to the waters of Trail Creek is not expected to change much in the near future.

3.7.6 Fisheries

The project is located within the Trail Creek watershed, INFISH waters, occupied by native red band trout.

Cumulative impacts to fisheries within Trail Creek will continue from the past, present and future uses described above. These activities have led to a reduction in habitat quality for fisheries. Overall habitat quality appears to be moderate based upon recent stream assessments. Most noticeable changes include increased sedimentation from ground disturbances and roads, reduction in vegetative cover and loss of bank stability along streambanks from agricultural practices and livestock grazing, and a decrease in instream flows during summer months due to agricultural diversions. The Proposed Action and Reasonably Foreseeable Future Actions are not expected to add measurably to the present effects due to the limited nature of the disturbances related to the proposed action, the use of environmental protection measures, and the fact that these actions occurs primarily in upland habitats outside of riparian habitat conservation areas.

3.8 Other Required Disclosures

3.8.1 National Forest Management Act

The proposed action is consistent with the direction of the National Forest Management Act of 1976. The proposed action is also consistent with the Humboldt National Forest plan (1986) as amended, including the direction contained in Amendment #5 for INFISH.

3.8.2 Short-term Uses and Long-term Productivity

NEPA requires consideration of the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity (40 CFR 1502.16). This includes using all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans (Section 101 of NEPA).

In the short term, the Proposed Action would remove vegetation and displace wildlife over an area of approximately 10.7 acres. Reclamation of the site following the completion of construction activities would return the area to a similar or slightly improved vegetated condition compared to current conditions. Wildlife would return to the area once disturbance from construction activities have ceased.

3.8.3 Unavoidable Adverse Effects

The Proposed Action would result in short-term adverse effects to vegetation, wildlife, surface water, and visual resources as discussed in Sections 3.3, 3.4, 3.6, and 3.11, respectively. These effects would be compensated for when the site is reclaimed at the conclusion of construction activities.

3.8.4 Irreversible and Irretrievable Commitment of Resources

Irreversible commitments of resources are those than cannot be regained, such as the extinction of a species. There are no irreversible commitments of resources associated with this project.

Irretrievable commitments are those that are lost for a period of time such as the temporary loss of timber productivity in forested areas that are kept clear for use as a power line right-of-way or road. Irretrievable commitments associated with the Proposed Action include the loss of vegetation, wildlife habitat and visual aesthetics during construction activities. These resources would be restored when construction and reclamation activities are completed.

3.8.5 Energy Requirements and Conservation Potential

The construction of the powerline would consume petroleum products, primarily diesel fuel for the trucks and other heavy equipment. This would be a short term use of energy. Continued use of the communications site would require a long-term use of electrical energy. Use would be low due to minimal power requirements and would also be partially reduced by the solar and wind powered generation on-site.

3.8.6 Executive Order 12898 (Environmental Justice)

Executive Order 12898 directs Federal agencies to identify and address the issue of environmental justice, which concerns adverse human health and environmental effects of agency programs that disproportionately affect minority and low-income populations.

Implementation of the action alternatives for the Pennsylvania Hill Underground Powerline Project and Communications Site Designation would not cause adverse health, social, or environmental effects that would disproportionately affect minority and low-income populations.

4.0 CONSULTATION AND COORDINATION

The USFS consulted the following individuals, Federal, State, and local agencies, tribes and non-USFS persons during the development of this environmental assessment:

4.1 List of Preparers:

4.1.1 United States Forest Service

Will Wilson	NEPA/Special Uses/Recreation
Doug Clarke	NEPA Coordinator
Karen Kumiega	Cultural Resources
Maija Meneks	Fisheries
Michelle Caviness	Wildlife/T&E
Joanne Baggs	Plants/T&E
Janel Johnson	Plants/T&E
Ron Hudson	Soils/Hydrology
Kevin Carnes	Hazmat/Engineering
Nancy Prall	Grazing
Juanita Mendive	GIS
Jim Winfrey	Acting District Ranger
Dan Dallas	District Ranger

4.1.2 MACTEC Engineering and Consulting, Inc.

Bill Reich, CF	Review and Quality Control
Nancy Bish	Lead Preparer, Wildlife/T&E/Migratory Birds
Vickie Clay, RP	Cultural Resources, Native American Religious Concerns

4.2 Federal, State, and Local Agencies Contacted:

United States Fish & Wildlife Service

Nevada Natural Heritage Program

State Historical Preservation Office

Nevada Department of Information Technology

4.3 Tribes Contacted

Te-Moak Tribe of Western Shoshone

Elko Band Council

South Fork Band Council

Battle Mt. Band Council

Shoshone-Paiute Tribes of Duck Valley

Wells Band Council.

4.4 Others contacted:

Rural Raft River Electric

A complete list of individuals and other entities contacted is contained in the project file.

5.0 REFERENCES

Beier, P., J.E. Drennan. 1997. Forest structure and prey abundance in foraging areas of northern goshawks. Ecology Applications 7:564-571.

Bunch, James H. 2000. A Class III Cultural Resource Survey for a Buried Powerline to a Communication Facility in the Bull Run Mountains of Elko County, Nevada. Nevada Department of Transportation, Carson City, Nevada. USFS Report No. HM-01-849. NDOT Report No. EL00-039R.

Clay, Vickie, Sarah Branch and Erich Obermayr. 2005. Cultural Resource Inventory for the Penn Hill Underground Utility Line Project, Elko County, Nevada. Humboldt-Toiyabe National Forest Cultural Resource Narrative Report No. R2005041701628.

Connelly, J.W., M.A. Schroeder, A.R. Sands and C.E. Braun. 2000 Guidelines to manage sage grouse populations and their habitats. Wildlife Society Bulletin 28:967-985.

Gilbertson. 2005. Larry Gilbertson. Northeastern Great Basin Resource Advisory Council Nevada, Meeting Minutes. March 31, 2005. Eureka, Nevada.

Green, J.S. and J.T. Flanders. 1980. *Brachylagus idahoensis*. Mammalian Species 125:1-4.

EPA. 2005. Environmental Protection Agency. EPA Approved Final Nevada's 2004 303(d) Impaired Waters List. Environmental Protection Agency, Bureau of Water Quality Planning. November 2005.

IDFG. 1995. Draft Habitat Conservation Assessment and Conservation Strategy; Spotted Frog (*Rana pretiosa*). Idaho Department of Fish and Game, Idaho Department of Parks and Recreation, Bureau of Land Management, Regions 1 and 4 of U.S. Forest Service, and U.S. Fish and Wildlife Service. Idaho State Conservation Effort.

Johnsgard, P.A. 1990. Hawks, eagles, and falcons of North America. Smithsonian Institute Press. Washington, DC. xvi + pp.

Lyman, R.L. 1991. Late Quaternary biogeography of the pygmy rabbit (*Brachylagus idahoensis*) in eastern Washington. Journal of Mammalogy 72:110-117

Morris, R.L. and W.W. Tanner. 1969. The ecology of the western spotted frog, *Rana pretiosa pretiosa* Baird and Girard, a life history study. Great Basin Naturalist 2:45-81.

Reaser , J.K. 1997. Amphibian declines: conservation science and adaptive management. Ph.D. Thesis, Stanford University, Stanford, California.

Squires, J.R. and R.T. Reynolds. 1997. Northern goshawk (*Accipiter gentilis*). In A. Poole and F. Gill, editors, The Birds of North America, No. 298. Academy of Natural Sciences, Philadelphia, and American Ornithologists' Union, Wahington, DC. 32pp.

USDA. 2006B. United States Department of Agriculture. Pennsylvaniia Hill Underground Powerline Project Specialist Report – Botany. Humboldt-Toiyabe National Forest, Reno Nevada.

USDA. 1986. *The Humboldt National Forest Land and Resource Management Plan*. United States Department of Agriculture Forest Service, Humboldt National Forest. 306 pp and 11 Appendices.

USGS. 2006. United States Geographical Survey. Nevada Water Science Center, Water Resources Data, Middle Snake River Basin, Upper Owyhee River Basin. Information available on the internet at http://nevada.usgs.gov.

WRCC. 2005. Western Regional Climate Center. Wind, precipitation and temperatures information available on the internet at http://www.wrcc.dri.edu.

Younk, J.V. and M.J. Bechard. 1992. Effects of gold mining activity on northern goshawks breeding in Nevada's Independence and Bull Run Mountains. Annual Report, Raptor Research Center, Boise State University, Boise Idaho.