

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

**Harris Well Pipeline and Troughs Preliminary
Environmental Assessment**

DOI-BLM-NV-L020-2011-0018-EA

February 10, 2012

PREPARING OFFICE

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Chapter 1. Introduction

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This Environmental Assessment (EA) has been prepared to analyze the construction of the Harris Well Pipeline. The pipeline is located in the Cave Valley Ranch Allotment east of Patterson Pass, White Pine County, Nevada (see Map 1.1, “Harris Well Pipeline and Troughs Project Location” (p.)). This EA is a site-specific analysis of potential impacts that could result with the implementation of the proposed action or alternatives. The EA assists the Bureau of Land Management (BLM) in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any “significant” impacts could result from the analyzed actions. “Significance” is defined by NEPA and is found in Chapter 40 of the Code of Federal Regulations (CFR) §§1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of “Finding of No Significant Impact” (FONSI).

This document is tiered to the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (RMP/EIS) released in November 2007. Should a determination be made that implementation of the proposed or alternative actions would not result in “significant environmental impacts” or “significant environmental impacts beyond those already addressed in the RMP/EIS”, a FONSI will be prepared to document that determination, and a Decision Record issued providing the rationale for approving the chosen alternative.

1.1. Identifying Information:

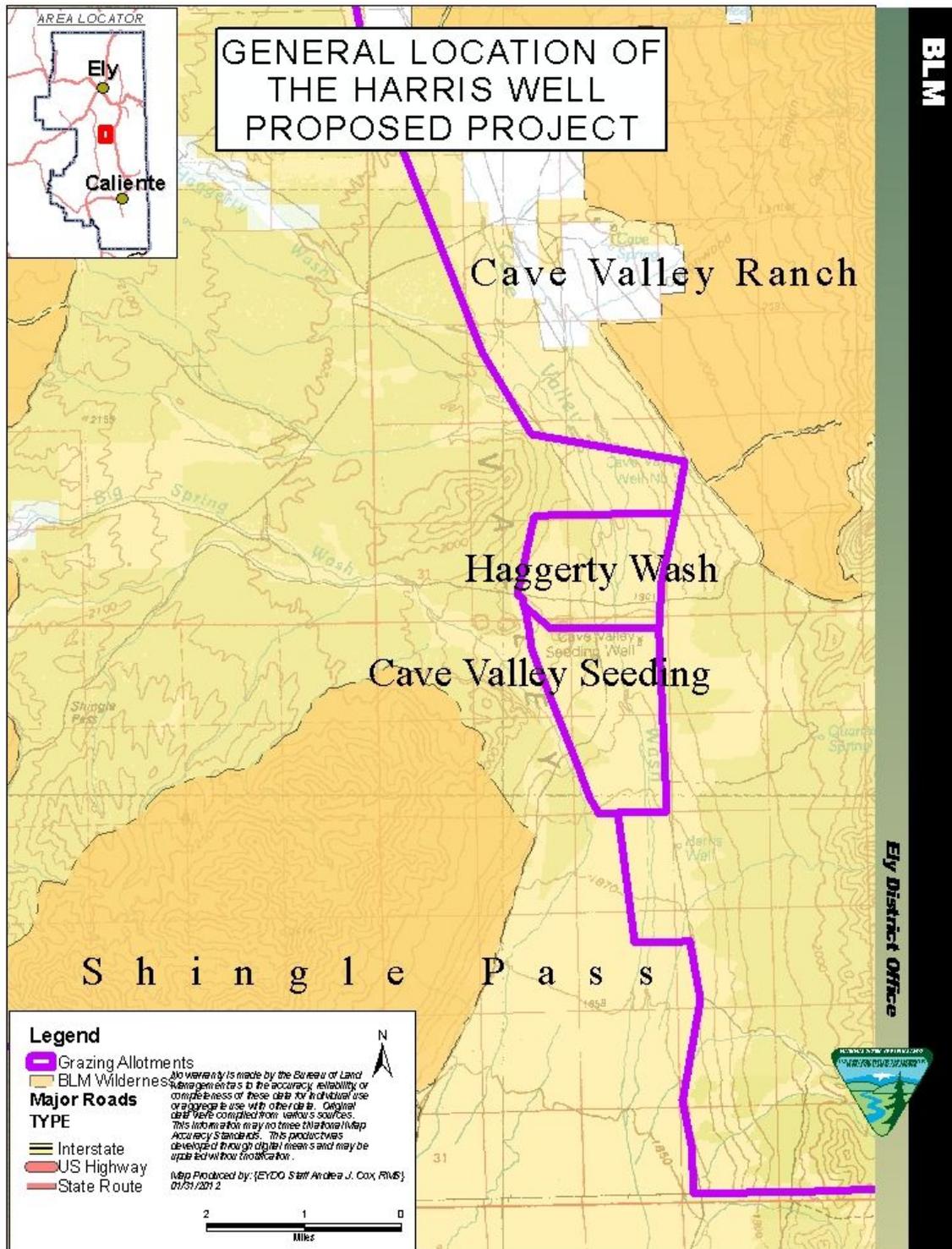
1.1.1. Title, EA number, and type of project:

Harris Well Pipeline Project

DOI-BLM-NV-L020-2011-0018-EA

1.1.2. Location of Proposed Action:

The proposed project will occur in the state of Nevada, Lincoln County, Township 08 North, Range 64 East in various sections (see Map 1.1, “Harris Well Pipeline and Troughs Project Location” (p.)).



Map 1.1. Harris Well Pipeline and Troughs Project Location

1.1.3. Name and Location of Preparing Office:

U.S. Department of the Interior
Bureau of Land Management
Schell Field Office
HC 33 Box 33500
Ely, NV 89301
Office: 775 289-1800
Fax: 775-289-1910

1.2. Background

Harris Well was originally constructed in 1968 and consists of a pump jack and a 14 foot diameter bottomless trough. The well and trough area has a corral and loading chutes that are used in conjunction with the livestock operation and the area is fenced on the north, east, and south sides.



Photo of the well and trough area, including the corral in the background.

Figure 1.1. Photo of Harris Well and trough area

The west side of the well area is composed of a county road (Cave Valley Road) that has a fence running on the west side of it. When the cattle are in the Patterson Pass Seeding, the gates are left open in the fences along the county road and the pasture and a wire drop down gate is erected

across Cave Valley Road. This allows livestock to utilize the Patterson Pass Seeding pasture (west of Cave Valley Road) and access water from the Harris Well trough (east of Cave Valley Road), while still containing the livestock in the appropriate pasture during the correct season of use.



Cave Valley Road, looking south, and the wire drop down gate in the foreground

Figure 1.2. Cave Valley Road fence and wire drop down gate

1.3. Purpose and Need for Action:

The purpose for the pipeline and troughs is to provide additional water sources to the Patterson Pass Seeding and Cave Valley Ranch Allotment to encourage improved livestock distribution, as well as eliminate the need for a temporary, intermittently used wire gate across a county road.

The need for the action is to prevent concentrated use around a single water source to continue progressing toward achieving the standards and guidelines for rangeland health as approved by Nevada's Mojave—Southern Great Basin Resource Advisory Council (RAC) Standards and Guidelines (2006).

1.4. Scoping, Public Involvement and Issues:

An interdisciplinary (ID) team analyzed the potential consequences of the proposed action during internal scoping meetings held on February 7, 2011 and August 22, 2011, and the following potential issues were identified:

Would the ground disturbance associated with the pipeline construction promote growth and/or contribute to introduction of noxious and invasive non-native plant species?

Would soil compaction result from the installation of the pipeline and troughs?

What are the effects on special status animal species if this project is implemented?

Who holds the water rights?

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Chapter 2. Proposed Action and Alternatives

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2.1. Aspects Common to Action Alternatives

2.1.1. General Construction Guidelines

The permittee has consulted with the Natural Resource Conservation Service (NRCS) for design specifications and recommendations and all final construction plans will follow BLM and NRCS guidelines and best management practices.

2.1.2. Water Trough Installation

All stock tanks installed will be the bottomless type with concrete bottoms poured in place and will utilize float valves to prevent water from overflowing. Troughs will be equipped with wildlife escape ramps as required by the BLM RMP/EIS.

2.1.3. Hazardous Materials

The proponent assumes liability for any and all releases of hazardous substances and is responsible for the clean up. Proponent will immediately notify the BLM Authorized Officer and the Nevada Department of Environmental Protection (NDEP) at 775-687-9485 or 888-331-6337 on all spills/releases in which the reportable quantity for the particular compound is exceeded 40 CFR part 302.

2.1.4. Noxious Weeds

The mitigation measures listed in the Weed Risk Assessment will be followed during implementation of this project to minimize the introduction and/or spread of weeds.

2.2. Aspects of Proposed Action

2.2.1. Construction Methods

Pipeline construction methods would be consistent with those actions described below for both the proposed action and the first alternative. High-density polyethylene pipe of the size required to overcome friction loss in the pipeline would be installed in the following manner:

A D-7 high track dozer with a ripper claw attached, a flatbed pickup truck, and a backhoe would be used to install the new pipeline. The pipe is bundled in large rolls of 5,000 feet and is placed on the back of the flatbed pickup truck (Figure 2.1, “A roll of pipe on the back of the flatbed pickup truck” (p. 10)). The pipe is then threaded over the dozer into the ripper claw in the back (Figure 2.2, “The pipe being threaded over the dozer and into the ripper claw” (p. 10)).

Once the pipe is fed into the ripper claw, the claw is driven into the ground at an approximate depth of three feet. At a depth of three feet the pipe is protected from freezing and exposure due to erosion. As the dozer moves forward, the pipe is laid into the ground with little surface disturbance (Figure 2.3, “The ground disturbance left after the pipeline has been placed in the ground along a two track road” (p. 11)). The backhoe is driven behind the dozer to fill the trench over the pipeline. The backhoe is also used to load each new roll of pipe onto the back of the flatbed truck.



Figure 2.1. A roll of pipe on the back of the flatbed pickup truck



Figure 2.2. The pipe being threaded over the dozer and into the ripper claw



Figure 2.3. The ground disturbance left after the pipeline has been placed in the ground along a two track road

Construction of this pipeline will require new surface disturbance. In an effort to minimize the impacts to the affected resources, the pipeline would be placed within the existing county road right-of-way when possible. Vegetation will be crushed from construction equipment but is expected to recover with no additional treatments.

The pipeline will cross the county road. A backhoe will be used to dig a trench across the road. A sleeve will be placed at the bottom of the trench and the new pipe will be threaded through the sleeve. The trench would be filled with the material removed, compacted, and smoothed to its original state. The road would be closed for no more than four hours. According to the Lincoln County Road Department (LCRD), neither the BLM nor the permittee need a permit to trench across the road. The permittee will be required to notify both the LCRD and the BLM before starting the construction. The LCRD is willing to provide signage that indicates road construction. There are no private residences south of the construction area, so traffic should be incidental.

At each intersection of the pipe and as needed, an air vent may be installed to release trapped air and provide vacuum relief to protect the integrity of the pipeline. The LCRD has requested that any air vents installed be located far enough off the Cave Valley Road that they will not be impacted by routine county road maintenance, such as grading, plowing, road material removal, etc.

2.2.2. Water Resources

A submersible booster pump would be installed in the Harris Well to supplement the existing motorized pump jack. Power sources for the submersible pump may include a gas or diesel generator and/or solar power.

The permittee holds the water right to Harris Well with the State of Nevada.

2.2.3. Cultural Resources

A BLM archaeologist has determined that the project's Area of Potential Effect has no potential for containing archaeological deposits due to previously authorized ground disturbance. All project construction disturbance for both action alternatives will be contained in areas of previous disturbances, which include authorized road maintenance, gravel pits now abandoned, and crested wheat grass seeding areas. As such, the proposed project and alternatives will have no impact to any historic properties.

2.2.4. Wildlife Resources

Project area is within two miles of two active sage grouse leks. Avoid surface disturbance between March 1 – June 15 within two miles of active leks to avoid disturbance to breeding and nesting sage grouse. No surface disturbance during migratory bird breeding and nesting season from April 15 – July 31, unless a nest clearance survey is conducted one week prior to surface disturbance.

2.3. Description of the Proposed Action:

The proposed action is to install a pipeline from the Harris Well across the Cave Valley Road to a new trough approximately 300 yards to the west in the Patterson Pass Seeding. The pipeline would then head north for approximately two miles and south approximately three miles along the valley bottom (see Map 2.1, "Harris Well Pipeline and Troughs — Proposed Action" (p. 13)). The north branch of the pipeline will terminate at a new trough in an abandoned gravel pit. The south branch would include two troughs; both troughs would be placed east of the road and be located at abandoned gravel pits.

The following are the legal descriptions of the well and troughs:

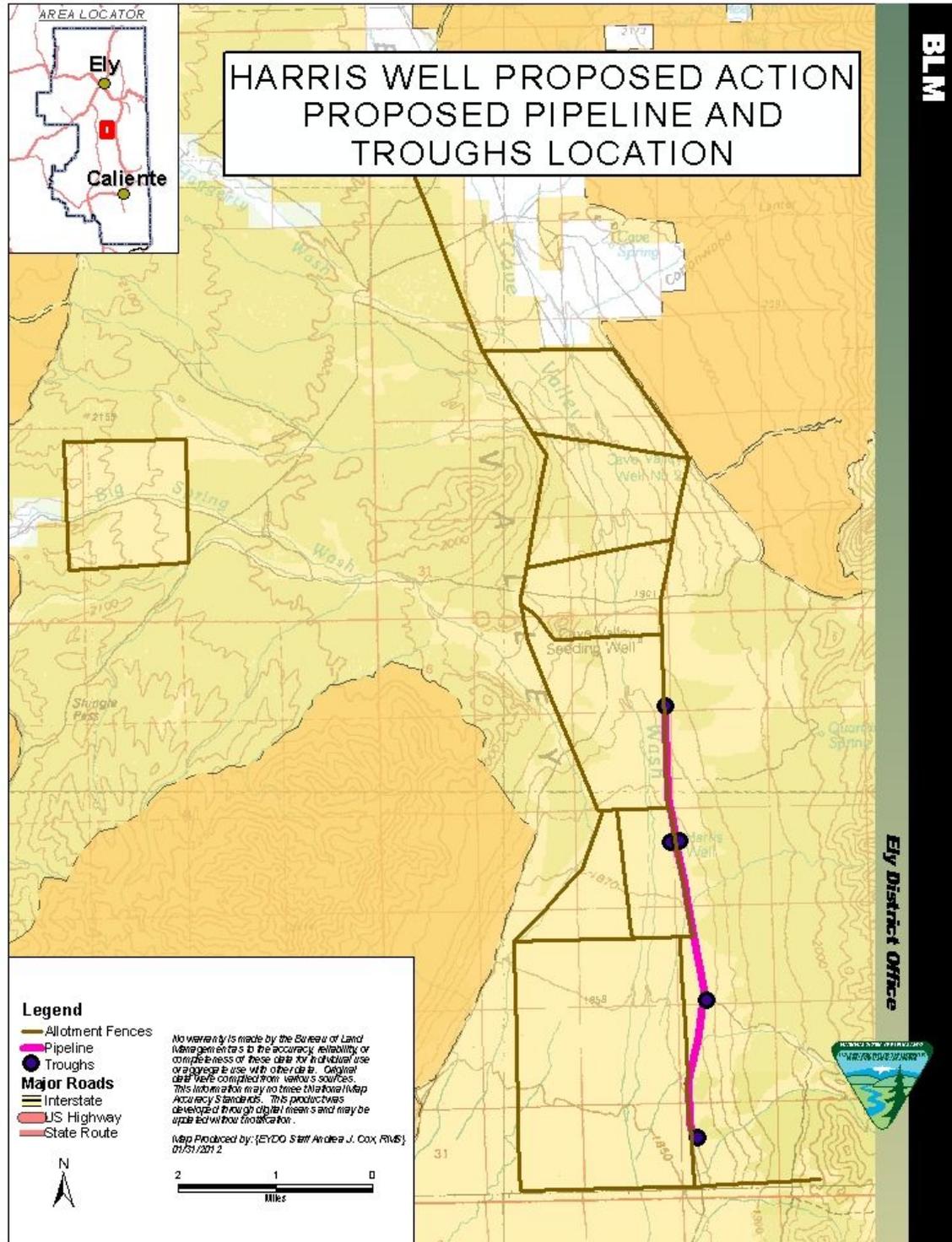
Harris Well T08N R64E Sec. 15 SWNW

Trough T08N R64E Sec. 04 SESE

Trough T08N R64E Sec. 16 SENE

Trough T08N R64E Sec. 22 SWSW

Trough T08N R64E Sec. 34 SWNW

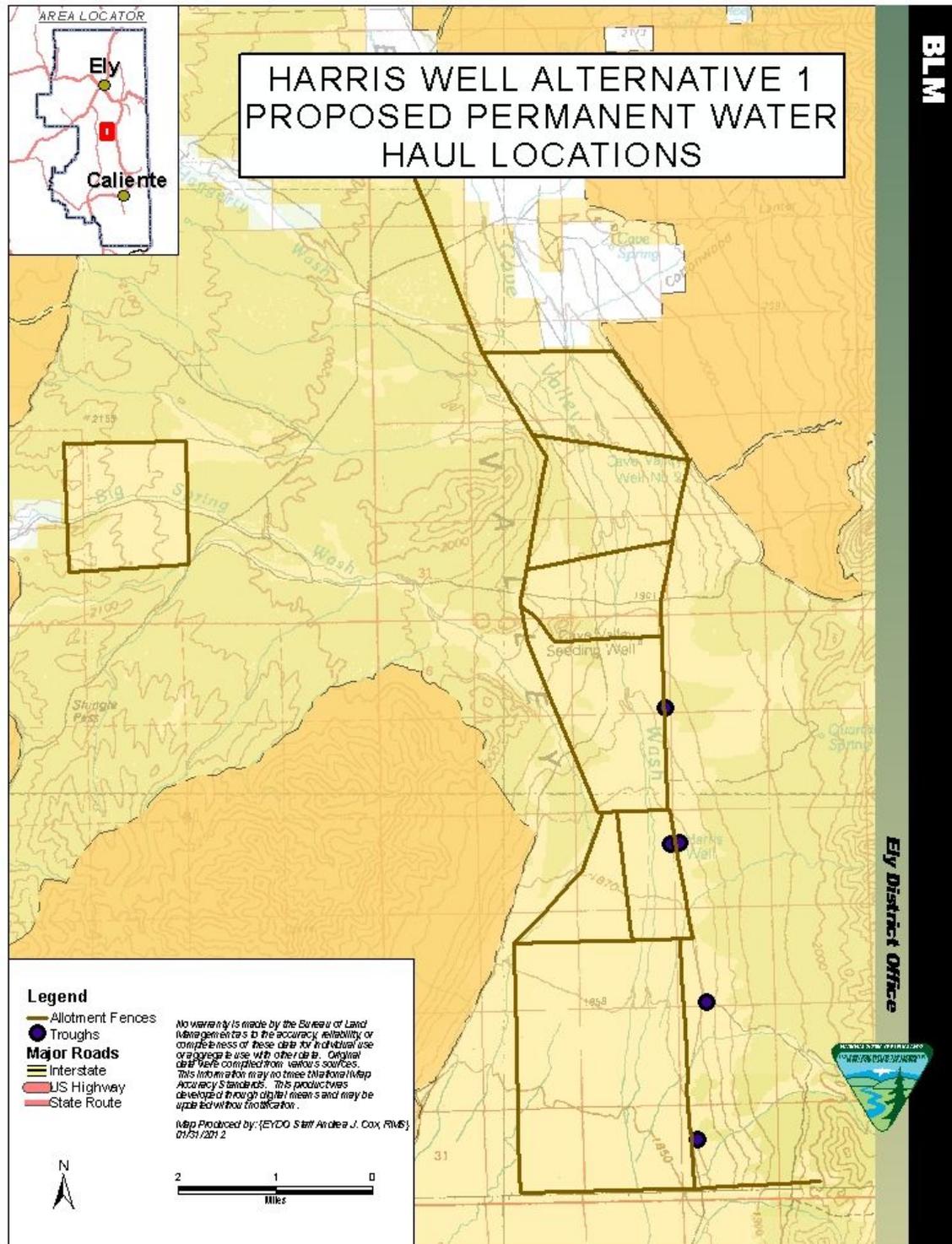


Map 2.1. Harris Well Pipeline and Troughs — Proposed Action

2.4. Description of Alternatives Analyzed in Detail:

2.4.1. Alternative 1. Pipeline and Permanent Water Haul Locations

The alternative action is to install a pipeline from the Harris Well approximately 300 yards to the west and place a new trough (see Map 2.2, “Harris Well Pipeline and Troughs — Alternative 1 ” (p. 15)). In addition, troughs would be installed in the locations of the north and south gravel pits listed above. These sites would become permanent water haul sites to be used when livestock are permitted in the area. Troughs and water storage tanks would be authorized to remain on site for use by the permittee. The permittee would access the water haul locations by using the Cave Valley Road



Map 2.2. Harris Well Pipeline and Troughs — Alternative 1

Chapter 2 Proposed Action and Alternatives
 Alternative 1. Pipeline and Permanent
 Water Haul Locations

2.4.2. Alternative 2. No Action

No new surface disturbance would occur and the pipeline would not be constructed. Potential implications of concentrated livestock use in the area of the Harris Well would be possible.

2.5. Alternatives Considered but not Analyzed in Detail

No other alternatives in addition to the Proposed Action, Alternative 1 and Alternative 2 were considered.

2.6. Conformance

This proposal is in conformance with the Ely District Approved Resource Management Plan (August 20, 2008), which states, “To manage livestock grazing on public lands to provide for a level of livestock grazing consistent with multiple use, sustained yield, and watershed function (Page 85).

This proposal is also consistent with the following Federal, State, and local plans to the maximum extent possible:

- State Protocol Agreement between the Bureau of Land Management, Nevada and the Nevada State Historic Preservation Office for Implementing the National Historic Preservation Act (2009)
- Mojave-Southern Great Basin Resource Advisory Council (RAC) Standards and Guidelines (September, 2006)
- Lincoln County Public Lands Policy Plan (2010)

Chapter 3. Affected Environment:

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3.1. Resources/Concerns Analyzed

The following resources have been evaluated for the potential for significant impacts to occur, either directly, indirectly, or cumulatively, due to the implementation of the proposed action or alternatives:

Resource/Concern	Rationale for Dismissal from Detailed Analysis
Air Quality	Air quality is not monitored by the State of Nevada in White Pine County and as such is considered “unclassifiable”. The proposed action and alternatives are not expected to cause air quality to exceed National standards.
Areas of Critical Environmental Concern	This resource is not present within this project location.
Cultural Resources	No cultural resource issues were identified — see Section 2.2.3, “Cultural Resources” (p. 12)
Environmental Justice	This project is not anticipated to disproportionately affect any minority or economically disadvantaged population.
Farmlands, Prime and Unique	There are no unique farmlands in the State of Nevada. The entire project analysis area soil type is considered prime farmland that could be placed into agricultural production if irrigated and reclaimed of excess salts and sodium. The proposed action and alternatives would not alter the character or properties of the soil or potential farmland.
Fish and Wildlife Listed or Proposed for Listing, Threatened or Endangered or Critical Habitat	No critical seasonal or year-round habitat is located in or near project area. There are no Threatened or Endangered Species within the project area.
Floodplains	No floodplains occur within the project area.
Forest Health	Project location occurs outside of forest and/or woodland areas.
Migratory Birds	There is no impact because design features address concerns in Section 2.2.4, “Wildlife Resources” (p. 12)
Mineral Resources	There are no mineral claims in the project area and this project will not prohibit future access to minerals.
Native American Religious and other Concerns	There are no Native American traditional religious sites or cultural sites of importance within the proposed project area that would be affected as a result of this project. There are no “Indian Trust Assets” identified within the Ely District Office.
Socioeconomics	This project is not anticipated to impact the socioeconomic climate of the surrounding area.
Special Status Plant Species, other than those listed or proposed by the FWS as Threatened or Endangered.	There are no Special Status Plant Species within the project area.
Wastes, Hazardous or Solid	No known hazardous or solid wastes exist on the project area, nor would any be introduced.
Water Quality, Surface/Ground	No surface water is present in the project area. The only groundwater source in the project area is used for stock watering purposes. No water in the project area is used for human drinking purposes.
Water Resources (Water Rights)	The existing water permit has an associated Place of Use (POU) at the same location as the Point of Diversion (POD) in SWNW Sec. 15 T08N R64E. Use of water in the Proposed Action and Alternative 1 would occur outside of the POU for the existing water permit.
Wetlands/Riparian Zones	These resources are not present within this project area.
Wild and Scenic Rivers	This resource is not present within this project area.
Wilderness	This resource is not present within this project area

3.2. Noxious and Invasive Non-native Species

A weed risk assessment was conducted for the project area (Appendix A, *Risk Assessment for Noxious and Invasive Weeds* (p. 45)). No noxious species have been recorded in the area according to the Ely District Weed Inventory Data. However, noxious non-native thistle was seen along the county road in the project area during a site visit. It is also reasonable to expect cheatgrass (*Bromus tectorum*), Russian thistle (*Salsola kali*), and Saltlover (*Halogeton glomeratus*), all non-native invasive species, to be found within the project area.

3.3. Rangeland Health

A mosaic of vegetation exists within the project area. On the east side of Cave Valley Road, the vegetation is characterized by native species including Pinyon pine (*Pinus edulis*), Utah juniper (*Juniperus osteosperma*), Black sagebrush (*Artemisia nova*), Indian ricegrass (*Oryzopsis hymenoides*), and Needle and Thread grass (*Hesperostipa comata*). On the west side of Cave Valley Road, the vegetation is characterized by Crested wheatgrass (*Agropyron cristatum*) seeding projects that were established in the 1960s. Scattered native species including a variety of sagebrush (*Artemisia spp.*) can be found throughout these seeding projects.

Although current monitoring has not suggested that a livestock distribution problem exists in the area, the potential for detrimental effects to the vegetation exists around the Harris Well due to the lack of other sources of available water for livestock in the area.

3.4. Soil Resources

Soil in the analysis area is texturally classified as loamy sand with sand-sized materials accounting for upwards of 60% of the total soil composition. Parent material for the soil is outwash alluvium derived from welded tuff and perhaps some limestone which originated from surrounding mountains. Soil in the analysis area is considered well suited for natural surface road use due to surface texture and ground slope.

3.5. Special Status Animal Species

Geographic Information Systems (GIS) analysis was used to determine if special status species occurred in the project area. The project area intersects with a polygon that has been identified as containing 75% of the Greater Sage Grouse (*Centrocercus urophasianus*) breeding density within Nevada. The project area is also within areas identified by the Nevada Department of Wildlife as Greater Sage Grouse nesting, early brood-rearing, and wintering habitats. Telemetry studies indicate that sage grouse leave the project area during late brood-rearing. There are 5 active leks within the 75% breeding density polygon that overlaps with the project area. In 2011, 76 males were counted on leks within the 75% breeding density polygon. South Patterson Pass 1 is one of two leks within 2 miles of the project area and has had the highest lek attendance within the 75% breeding density polygon for the past decade (30% of males within the polygon in 2011). However, no leks fall within the pastures affected by the actions described in this EA. Important habitat characteristics for sage grouse nesting and brood-rearing include sagebrush height and canopy cover, as well as grass/forb height and canopy cover. Within nesting habitats, sagebrush should be 30-80 cm tall and have 15-25% canopy cover. Grass and forb heights should be >18 cm with $\geq 15\%$ canopy cover (Connelly et al. 2000). Vegetation requirements are less stringent

for brood-rearing habitats (sagebrush: 40-80 cm tall, 10-25% canopy cover; grass/forb: variable heights, >15% canopy cover).

Potential pygmy rabbit (*Brachylagus idahoensis*) habitat occurs within the allotment. Pygmy rabbits require mature stands of big sagebrush (*Artemisia tridentata*) and soft deep soils to construct burrows. While there are currently no other sensitive species reported from Cave Valley, there are several sensitive bat species reported from adjacent valleys and it is likely that these species also occur in Cave Valley.

3.6. Transportation

The Cave Valley Road is maintained by the Lincoln County Road Department. Although there are no residences south of the project area, this road is used by ranchers, hunters, and recreationists, both local and from out of town. Historically, the use of the single trough (Harris Well trough) has required the intermittent usage of a wire, drop down gate across the county road to restrict livestock movement to the appropriate pastures/use areas.

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Chapter 4. Environmental Effects:

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4.1. Noxious and Invasive Non-Native Species

4.1.1. Impacts from Proposed Action

Initial ground disturbance and construction equipment would increase the risk of the spread of noxious and invasive species. Mitigation measures outlined in the Weed Risk Assessment (Appendix A, *Risk Assessment for Noxious and Invasive Weeds* (p. 45)) would be followed to mitigate the risk of new weed introductions.

4.1.2. Impacts from Alternative 1

Initial ground disturbance and construction equipment would increase the risk of the spread of noxious and invasive species. Mitigation measures outlined in the Weed Risk Assessment (Appendix A, *Risk Assessment for Noxious and Invasive Weeds* (p. 45)) would be followed to mitigate the risk of new weed introductions.

4.1.3. Impacts from Alternative 2: No Action

No new introductions of weeds from the construction of the pipeline would occur. Under this alternative the current impact to vegetation communities associated with concentrated livestock use would continue. Concentrated livestock may cause a loss of desirable vegetation adjacent to the trough, increasing the risks of establishment of noxious and invasive weeds.

4.2. Rangeland Health

4.2.1. Impacts from Proposed Action

Localized utilization of vegetative resources around the Harris Well would decrease and a more uniform utilization pattern should emerge across the area serviced by the proposed waters. Increased residual biomass due to reduced utilization would result in increased soil fertility, nutrient cycling, and water infiltration. Consequently, the health and vigor of the vegetation in the area would be expected to increase. Healthy native vegetation is better able to resist the negative effects of yearly fluctuations in available effective precipitation and invasion by other non-native plant species.

The immediate surface disturbance caused by project implementation is negligible in this pasture grazing system, so livestock will not need to be removed from the area to allow for vegetation regrowth.

4.2.2. Impacts from Alternative 1

Impacts from this action would be similar to the proposed action. More localized use would occur due to the distances from one water source to the next but overall distribution within the area would increase.

4.2.3. Impacts from Alternative 2: No Action

No new impacts to rangeland health would occur. The potential for negative impacts would continue to exist in the area due to livestock grazing. The vegetation community immediately adjacent to Harris Well would be more susceptible to drought and invasion from non-native species.

4.3. Soils

4.3.1. Impacts from Proposed Action

Pipeline and trough installation activities would directly compact and displace soils and indirectly alter water holding characteristics. Compaction is expected to result along areas where heavy equipment is used to transport, place, and install pipeline and other proposed works. The degree of compaction is directly related to soil texture and number of passes the heavy equipment would make over the soil surface. Soil texture is sandy and equipment passing is expected to be limited to one by the bulldozer, the degree of compaction expected from the proposed action is slight in areas not previously disturbed and immeasurable along the existing road.

Soil displacement within the existing road bed would occur in areas previously disturbed or displaced. As such trenching and pipeline burial actions are not expected to increase levels of soil disturbance or displacement that could result in an increase in potential erosion from the existing road. New disturbance associated with placement and burial of pipeline to new trough locations would result in new soil displacement effects. New trough locations and pipelines would use existing road locations as practicable. Thus displacement would be limited to areas where existing roads could not be used. Effects would be minimal and not expected to result in increased rates of erosion.

Any slight or immeasurable change in compaction or displacement may affect localized water infiltration or percolation rates. Effects are expected to be localized to the pipeline track only and are not expected to affect other soil resources.

No effects from trough placement are expected due to placement in existing gravel pit locations where soil was previously altered or removed.

4.3.2. Impacts from Alternative 1

Potential compaction and displacement effects are identical to those described for the proposed action but are limited to the pipeline location proposed in Alternative 1. Infiltration or percolation rates would be expected to be less than for the proposed action and would be immeasurable.

No effects from trough placement are expected due to placement in existing gravel pit locations where soils were previously altered or removed.

4.3.3. Impacts from Alternative 2: No Action

The soil disturbance from installation of pipeline and troughs would not occur. Soil compaction, displacement, and water retention characteristics would not change from existing conditions.

4.4. Special Status Animal Species

4.4.1. Impacts from Proposed Action

The 75% Greater Sage Grouse breeding density polygon was the scale used in the following analysis. The impacts to the different seasonal habitats within the polygon were analyzed. Sage grouse habitats that fall within the 75% breeding density polygon would be temporarily or permanently lost. Temporary disturbance due to the construction of the pipeline would be approximately 5.1 acres. This represents <0.01% of the 75% breeding density polygon that overlaps with the project area. The actual temporary disturbance would be less because the pipeline will be installed within the existing county road right-of-way when possible, which is not likely sage grouse habitat.

Permanent disturbance would cause habitat loss through both the placement of troughs and the changes in vegetation that resulted from increased livestock use around new troughs. Cattle distribution would change within pastures because of an increased number of water sources. Use would be concentrated around the troughs and could change the vegetation community and structure in surrounding areas. De-vegetating occurs in areas directly adjacent to troughs and vegetation community changes have been found to extend out to distances much further (Andrew 1988, Nash et al. 1999). The size of the area that would be affected is dependent on a complex set of environmental and biological factors, including stocking rate, soil type and the existing vegetation communities. In the Mojave Desert, significant perennial vegetation effects (cover, species richness, structure) were found to be concentrated within 50-200 m of point water sources (Brooks et al. 2006). In arid and semiarid sagebrush systems, differential grazing due to point water sources decreased grass production at distances greater than 1 km from water sources, while shrub production increased closer to water sources (Adler and Hall 2005). In the following analysis, because of the variation in the size of possible impact areas around point water sources, two sized radii were considered, 50 m and 1 km. Impact areas were modified according to fence lines and allotment boundaries to calculate the area that would be affected by the placement of troughs. In order to analyze only new disturbance, the existing impact area (1 km) around the Harris Well Trough was subtracted from the possible future impact areas. For each impact radii, the percent nesting, summer, and winter habitats within the 75% breeding density polygon that could be impacted was calculated.

Using a 50 m impact radii, 0.03% (nesting), 0.04% (summer), and 0.04% (winter) of seasonal habitats within the 75% breeding density polygon could be impacted. When an impact area with a 1 km radius was considered, 1.7% (nesting), 3.7% (summer), and 2.8% (winter) of seasonal habitats could be impacted. The decrease in grass and forb production would have a negative impact on nesting and brood-rearing habitats. Increases in shrub cover could potentially improve or increase available winter habitat. There would be an increased risk of nest trampling by livestock and nest desertion by sage grouse because of livestock use in areas that were previously unused.

Temporary disturbance would not occur within pygmy rabbit habitat because a majority of the pipeline will fall within the county road right-of-way. Permanent disturbance to pygmy rabbit habitat due to the placement of troughs would also not occur. Three of five troughs will be located in abandoned gravel pits and do not have the appropriate soil characteristics to support pygmy rabbits. The remaining two troughs will be placed in the Patterson Seeding. While a new seeding would not be suitable pygmy rabbit habitat because of the lack of big sagebrush cover, an

older seeding, such as the Patterson Seeding, has sagebrush returning and could provide suitable habitat. However, the actual areas where the troughs will be located in the pasture have few sagebrush plants and do not have the cover needed to support pygmy rabbits.

A change in livestock distribution can be expected to have similar effects on pygmy rabbit habitat as on sage grouse habitat, although any vegetation changes due to grazing would be less detrimental to pygmy rabbits than sage grouse because they are less reliant on forbs and grasses. Additionally, grazing within the seeding could increase shrub cover and, if big sagebrush increased, pygmy rabbit habitat in this area could improve. A model of potential pygmy rabbit habitat was used to calculate the impact area due to changes in vegetation because of alterations in grazing distribution. Impact areas were calculated for pygmy rabbit habitat as for sage grouse habitat. The amount of potential pygmy rabbit habitat that would be affected under the proposed action would be 0.02% and 4% of the potential pygmy rabbit habitat within Cave Valley for 50 m and 1 km impact areas, respectively. An increased distribution of livestock across the area would increase the risk of burrows being collapsed by livestock.

The six troughs that would be added under the proposed action could provide additional water sources to sensitive bat species. However, structures across and around the troughs would reduce the availability of these water sources to bats that drink during flight (Taylor and Tuttle 2007) and could cause an increase in bat mortality through collisions with structures.

4.4.2. Impacts from Alternative 1

Temporary ground disturbance in the 75% sage grouse breeding density polygon (<0.0003%) would be less than in the proposed action. Permanent impacts to seasonal sage grouse habitats falling within the 75% breeding density polygon would be less than in the proposed action (50 m impact area: 0.02% [nesting], 0.02% [summer], 0.04% [winter]; 1 km impact area: 0.7% [nesting], 1.4% [summer], 1.02% [winter]). The risk of nest trampling and nest abandonment across pastures due to livestock use would be less than in the proposed action.

Temporary disturbance of potential pygmy rabbit habitat due to the construction of the pipeline and permanent disturbance due to the placement of the troughs would be negligible, as under the proposed action. Potential pygmy rabbit habitat that could be impacted due to increased distribution of livestock would be less than under the proposed action. Analyzing 50 m and 1 km impact areas indicated that 0.01% and 2% of potential habitat pygmy rabbit habitat in Cave Valley could be affected. The risk of pygmy rabbit burrows being collapsed by livestock would be lower than under the proposed action.

There would be fewer available water sources to bats under alternative 1 than under the proposed action. However, there would potentially be a reduction in bat mortality due to collisions with structures around and over water troughs.

4.4.3. Impacts from Alternative 2: No Action

Under the no action alternative, there would be no additional disturbance to sage grouse habitat within the 75% breeding density polygon. Across the area considered, the risk of nest trampling and nest desertion because of livestock would be lower than under either the proposed or alternative actions, except around the existing well, which would have an increased risk compared to other actions.

Under the no action alternative, there would be no new impacts to potential pygmy rabbit habitat. The no action alternative would not provide bats with additional water sources in Cave Valley.

4.5. Transportation

4.5.1. Impacts from Proposed Action

The pipeline installation would improve public safety by removing the need for the wire gate across the Cave Valley Road.

4.5.2. Impacts from Alternative 1

The pipeline installation would improve public safety by removing the need for the wire gate across the Cave Valley Road.

4.5.3. Impacts from Alternative 2: No Action

Since the pipeline would not be constructed, the need would remain for the wire, drop—down gate across the Cave Valley Road, which could potentially negatively impact traffic.

4.6. Cumulative Effects

4.6.1. Introduction

As required under NEPA and the regulations implementing NEPA, this section analyzes potential cumulative impacts from past, present, and reasonably foreseeable future actions combined with the Proposed Action or alternatives. A cumulative impact is defined as “the impact which results from the incremental impact of the action, decision, or project when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions.”

The comprehensive analyses of cumulative impacts are included in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007). For the purpose of this analysis the cumulative impact area is limited to the Cave Valley Ranch Allotment.

4.6.2. Past and Present Actions

4.6.2.1. Livestock Grazing

Livestock grazing has been a land use in this region since the 1800's. Several range improvement projects were completed in support of the livestock operation. In 1967, the Patterson Pass Seeding was completed to improve cattle forage in the Cave Valley Ranch Allotment. In 1968, the Harris Well was completed to supply water to the seeding and the allotment. A reservoir was constructed in the Patterson Pass Seeding to catch ephemeral flows from the Cave Valley Wash. Several other water improvement projects were constructed in the immediate vicinity; however, they receive limited use by livestock due to pinyon pine and juniper encroachment.

4.6.2.2. Minerals

The gravel pits located along Cave Valley Road are shown on Map 2.1, “Harris Well Pipeline and Troughs — Proposed Action” (p. 13) as trough locations and likely were used in the construction and maintenance of the surrounding roads.

4.6.2.3. Recreation Activities

Dispersed recreation occurs throughout this area and includes wildlife viewing, hunting, camping, and off highway vehicle use. Several wilderness areas have been designated in the area, including the Far South Egans Wilderness Area in January, 2004 and the Mount Grafton and the South Egan Range Wilderness Areas in December, 2006.

4.6.3. Reasonably Foreseeable Future Actions

Many of the past and present actions discussed above are expected to persist; however, the relative intensity of these actions could vary depending on a variety of social and economic factors. Some activities such as hunting, recreation, and off-road vehicle use will likely continue and/or increase over time. Livestock operations will continue into the foreseeable future, including maintenance of range improvement projects. Also, there is a watershed restoration plan being prepared for the Cave Valley and Lake Valley watersheds that will include multiple vegetation treatments for fuels reduction and habitat improvement, pipeline reconstructions, reservoir reconstructions, fence replacements, a well reconstruction, and a management plan for prior Crested wheatgrass seedings.

4.6.4. Cumulative Impacts to Affected Resources

This section of the EA considers the nature of the cumulative effect and analyzes the degree to which the proposed action and alternatives contribute to the collective impact. For impacts regarding the proposed action and alternatives refer to Chapter 4.

4.6.4.1. Noxious and Invasive Non-Native Species

Proposed Action – In the long term, there should be an incremental impact from the improvement in ecological condition over an extended period of time which would allow plant communities to be more resilient to infestation by invasive species. Mitigation measures in the Weed Risk Assessment provide for monitoring and treatment of infestation possibly introduced by this action.

Alternative 1. Pipeline and Permanent Water Haul Locations – Impacts would be similar to the proposed action. Livestock distribution would be improved although not as greatly as the proposed action. The risk of new infestations would be reduced proportionally with the reduced ground disturbance.

Alternative 2. No Action – Impacts to vegetation ecological condition would continue to decline due to livestock use concentration. Ecological condition over time may be reduced in the area adjacent to the only water source in the area making the area less resistant to colonization of noxious and invasive species.

4.6.4.2. Rangeland Health

Proposed Action. – Rangeland health is expected to improve by distributing authorized livestock numbers over a wider area. Negative impacts associated with the installation of the pipeline should be short in duration and minimal due to the pipeline installation methods and location of the pipeline along the county road.

Alternative 1. Pipeline and Permanent Water Haul Locations – Rangeland health is still expected to improve with this alternative. Negative impacts although small and short in duration from the installation of the pipeline, would be further reduced.

Alternative 2. No Action – No impacts would occur due to the installation of the pipeline. The potential for negative effects of limited livestock dispersal would continue to exist for the foreseeable future.

4.6.4.3. Soils

Proposed Action – New effects would be immeasurable. Installation of the pipeline and placement of troughs would mostly occur in areas previously disturbed by actions of similar or greater effects.

Alternative 1. Pipeline and Permanent Water Haul Locations – New effects would be immeasurable. Installation of pipeline and placement of troughs would mostly occur in areas previously disturbed by actions of similar or greater effects.

Alternative 2. No Action – No new effects would occur.

4.6.4.4. Special Status Animal Species

Proposed Action – All of the 75% sage grouse breeding density polygon that intersects with the project area is open to grazing, as is potential pygmy rabbit habitat in Cave Valley. Past grazing management and associated rangeland improvements have removed and degraded sage grouse and pygmy rabbit habitats. Rangeland improvements that improve distribution allow livestock to use and impact areas that were previously not accessible to livestock. There are a number of water sources added to Cave Valley as range improvement projects. While an increase in the number of water sources could benefit bats, many of the troughs are not built to wildlife friendly specifications which can lead to fatalities.

Alternative 1. Pipeline and Permanent Water Haul Locations – The cumulative impacts to sage grouse and pygmy rabbit habitats would be slightly less than in the proposed action. Although there would be fewer water sources for bats, the cumulative impacts to bats would be similar to those under the proposed action.

Alternative 2: No Action – There would be no change from current conditions.

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Chapter 5. Tribes, Individuals, Organizations, or Agencies Consulted:

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Table 5.1. List of Persons, Agencies and Organizations Consulted

Name	Agency or Organization	Findings & Conclusions
Dana Johnson	Cave Valley Ranch (Permittee)	Verbal support for the project
Steve Chouquer	Lincoln County Road Superintendent	Written concurrence with the project and no permits are needed
Alvin S. Marques	Ely Shoshone Tribe	No comments received
Virginia Sanchez	Duckwater Shoshone Tribe	Letter received — request for a field trip to the project area — tour date still to be arranged
Tonia Means	Las Vegas Paiute Tribe	No comments received
William Anderson	Moapa Band of Paiutes	No comments received
Amos Murphy	Confederated Tribes of the Goshute Reservation	No comments received
Jeanine Borchardt	Paiute Indian Tribe of Utah	Letter received — no concerns
Lori Bear Skiby	Skull Valley Band of Goshutes	No comments received
Bryon Cassadore	Te-Moak Tribes of Nevada	No comments received

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Chapter 6. List of Preparers

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Table 6.1. List of Preparers/Reviewers:

Name	Title	Responsible for the Following Section(s) of this Document
Ken Vicencio	Rangeland Management Specialist	Author, Project Lead, Vegetation, Range, Noxious and Invasive Non-native Species
Andrea J. Cox	Rangeland Management Specialist	Co-Author
Dave Davis	Geologist	Minerals
Amanda Thimmayya	Wildlife Biologist	Wildlife, Migratory Birds, Special Status Species
Gloria Tibbetts	Planning and Environmental Coordinator	Environmental Justice, Socioeconomics
Emily Simpson	Outdoor Recreation Planner, Wilderness	Wilderness Values, ACEC/Special Designations
Ben Noyes	Wild Horse & Burro Specialist	Wild Horse & Burro
Melanie Peterson	Environmental Protection Specialist	Wastes, Hazardous & Solid
Ken Humphrey	Archeologist	Archeological/Historic Paleontological, Cultural Needs Assessment & Review
Mark D'Aversa	Hydrologist	Water Quality, Flood Plains, Soils, Watershed, Water Resources, Air Quality
Elvis Wall	Native American Coordinator	Native American Religious Concerns, Tribal Coordination
S. Gus Malon	Outdoor Recreation Planner	Recreation/VRM
Erica Husse	Range Technician	Emergency Stabilization and Rehabilitation
Cindy Longinetti	Realty Specialist	Lands — Disposal
Mary D'Aversa	Schell Field Office Manager	Approval
Matthew Rajala	Fire Management Specialist	Fuels
Larry Martin	Civil Engineering Technician	Support Services — Engineering

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Chapter 7. References

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7.2. Acronyms

BLM-Bureau of Land Management

CFR-Code of Federal Regulations

DR-Decision Record

EA-Environmental Assessment

EIS-Environmental Impact Statement

FLPMA-Federal Land Policy and Management Act

FMUD-Final Multiple Use Decision

FONSI-Finding of No Significant Impact

GIS-Geographic Information System

ID-Interdisciplinary

IM-Instructional Memorandum

NEPA-National Environmental Policy Act

NRCS-Natural Resource Conservation Service

RFFA-Reasonably Foreseeable Future Action

RMP-Resource Management Plan

USDA-United States Department of Agriculture

Appendix A. Risk Assessment for Noxious and Invasive Weeds

Harris Well Pipeline and Trough

Lincoln County, Nevada

On July 21, 2011, a Noxious & Invasive Weed Risk Assessment was completed for the Harris Well Pipeline project. See attached map for project location. The proposed action is to place a pipeline from the Harris Well across the county road to a new trough approximately 300 yards to the west in the Patterson Pass Seeding. The pipeline would then head north for approximately two miles and south approximately 3.5 miles along the valley bottom (Map 2). The north branch of the pipeline will terminate at a new trough in an undocumented borrow pit. The south branch would have three troughs along it. The first trough would be placed west of the county road in the southern end of the Patterson Pass Seeding. The second and third troughs would be placed east of the county road and would also be located at undocumented borrow pits.

Construction of pipelines require new surface disturbance. In an effort to minimize the impacts to affected resources the pipeline would be placed within the existing county road right of way when possible. Vegetation would be crushed from construction equipment but is expected to recover with no additional treatments.

No field weed surveys were completed for this project. Instead the Ely District, weed inventory data was consulted. Although no weeds were found within the required three mile radius in the district weed inventory data, non-native thistle was observed along the county road during a project planning field visit. Cheatgrass (*Bromus tectorum*) is present in the area although the cover is estimated to be less than ten percent. Bur buttercup (*Ceratocephala testiculatus*), Saltlover (*Halogeton glomeratus*), and Russian thistle (*Salsola kali*) are also likely to be scattered along roads in the area. The area was last inventoried for noxious weeds in 2006.

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

None (0)	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.
Low (1-3)	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)	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.
High (8-10)	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 Moderate (4) at the present time due to the observation of non-native thistle within the project area. As a result of the heavy machinery use associated with this project and ground disturbance, it is likely that the project activities would result in the

introduction of new weed infestations to the area and/or the increase of non-native, invasive weeds such as cheatgrass.

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 (4) at the present time. Expansion of noxious weeds within the project area has the ability to affect native plant communities along the county road. The public vehicle traffic on the county road serves as a vector for the introduction of noxious and invasive weeds within the project and surrounding areas. New infestations are not likely to establish in the area as a result of the construction of the project if measures are taken to control the introduction of invasive weeds from the construction equipment. However, introductions from public traffic on the road are possible.

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

None (0)	Proceed as planned.
Low (1-10)	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.
High (50-100)	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 Moderate (16). This indicates that the project can proceed as planned as long as the following measures are followed:

- Monitoring will be conducted for a period no shorter than three years and where the spread of noxious weeds is noted, appropriated weed control procedures will be determined in consultation with BLM personnel and will be in compliance with the appropriate BLM handbook sections and applicable laws and regulations.
- 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. 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 Ely District Weed Coordinator or designated contact person.

- 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.)

Reviewed by:	/s/ Ken Vicencio	07/21/2011
	Ken Vicencio	Date
	Rangeland Management Specialist	