

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

Environmental Assessment

**Cattle Drive Right-of-Way
DOI-BLM-NV-E020-2016-0004-EA; NVN092421**

July 2016



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Prepared by
U.S. Department of the Interior
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Chapter 1. Introduction

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1.1. Introduction

The City of Elko (City) proposes to construct transportation, utility, and related utility facilities in the northwest part of Elko, Nevada in Section 18, Township 34 North (T34N), Range 55 East (R55E), Mount Diablo Base and Meridian (Map B.1, “General Location”). City Ordinance Number 604 annexed Section 18 into city limits on July 8, 2003. In the powers granted to the State of Nevada by the United States of America, the State has developed legally defined standards and procedure for extension of incorporated (city) limits. One such section of code is found in Nevada Revised Statutes (NRS) Chapter 268. This particular section addresses the standards of a territory to be annexed, and describes a circumstance in which annexation of land owned by another governmental entity may be annexed. The requirements are that the governing body indicates ownership of the territory and does not object to the annexation in writing (NRS 268.580 6.b). The extensions of the boundaries of an incorporated city or township do not include a change of ownership, but rather an extension of the jurisdiction of that entity.

The City applied for a transportation and utility right-of-way (ROW) from the Bureau of Land Management (BLM) Tuscarora Field Office on May 20, 2013. The BLM determined the ROW application was complete on October 30, 2013. The total disturbance area would be approximately 45.31 acres and consist of two access roads, two water storage areas, and utility ROWs. The proposed project would be located on public lands administered by the BLM Tuscarora Field Office.

One area aligned generally north to south would be utilized as a roadway with utility service extending from the State Route 225 (also known as Mountain City Highway) corridor to the Interstate 80 (I-80) corridor. This area would be developed as the Cattle Drive roadway with buried water infrastructure. This area would also have a water storage facility development pad. The second area would be aligned generally west to east and would be developed as an access road with buried water infrastructure. This area would also have an area for water storage facility development.

Installation of the water line is anticipated to be a short term project of approximately five to 10 years, and is dependent on the water supply needs as the general northwest area of the community develops. Road development other than grading for the water line and other utilities would occur over a period of 10 to 20 years, depending on need and funding.

This Environmental Assessment (EA) was prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) and in compliance with applicable regulations and laws passed subsequently, including the President's Council on Environmental Quality regulations (40 Code of Federal Regulations (CFR) parts 1500-1509), United States Department of Interior requirements, and guidelines listed in the BLM National Environmental Policy Handbook H-1790-1 (BLM, 2008a).

1.2. Purpose and Need for Action

The purpose of the Proposed Action is to provide the City with legal access across public land managed by the BLM to support additional transportation and utility infrastructure in the northwest portion of Elko. The City is experiencing rapid urban growth and expansion, thus there is a need for additional transportation and utility infrastructure in the northwest portion of Elko. The Cattle Drive roadway would serve as a loop road for the city, connecting the northwest and west areas of the community. The roadway would be considered a minor arterial road in the City

of Elko Master Plan. Traffic using the roadway would be typical of a municipal environment. The extension of water service along the proposed ROW in Section 18 would provide connectivity between existing water infrastructure to potential future infrastructure development on private property annexed into the city in the Section 19 area.

The need for the action is established by the BLM's responsibilities under Section 302 of the Federal Land Policy Management Act (FLPMA) and BLM's ROW regulations at 43 CFR 2801.

The federal action under consideration by the BLM is whether to grant, grant with modification, or deny the requested ROW, in perpetuity, to the City for the construction, operation, and maintenance of the roadways and water infrastructure.

1.3. Land Use Plan Conformance Statement

The Proposed Action is in conformance with the Elko Resource Management Plan (RMP) dated March 1987 (BLM, 1987) and with the BLM's mission statement regarding multiple use of the public lands. The Proposed Action is in conformance with the RMP Record of Decision objectives (BLM, 1987):

- Allow disposals, land tenure adjustments, and land use authorizations to accommodate the overall goal of this alternative (Pg. 9).

The multiple use mission of the BLM includes authorizing and managing activities such as mineral development, energy production, utility development, recreation, and grazing while conserving natural, historical, cultural, and other resources on public lands. The BLM's objective is to meet public needs for use authorizations such as ROWs, permits, leases, and easements, while avoiding or minimizing adverse impacts to other resource values. The Proposed Action would be in accordance with these objectives.

The Proposed Action is in conformance with the City of Elko Master Plan (CRSA, 2011) goals and objectives, as follows:

- Land Use Goal: Promote orderly, sustainable growth and efficient land use to improve quality of life and ensure new development meets the needs of all residents and visitors.
 - Objective 5: Encourage development that strengthens the core of the city, and ensure all new annexations are logical and orderly and do not promote sprawl.
 - Objective 8: Ensure that new development does not negatively impact county-wide natural systems, or public/federal lands such as waterways, wetlands, drainages, floodplains, etc., or pose a danger to human health and safety.
- Transportation Goal: Provide a comprehensive transportation system that facilitates the safe, efficient movement of people, goods, and services and contributes to the city's quality of life.
 - Objective 1: Provide a balanced transportation system that accommodates vehicles, bicycles, and pedestrians, while being sensitive to, and supporting the adjacent land uses.
 - Objective 2: Provide a backbone of arterial roadways to emphasize regional vehicle travel and provide adequate capacity to move large traffic volumes, including truck traffic, safely and efficiently.

- Objective 6: Coordinate with other local and regional jurisdictions to enhance transportation services/facilities for the region.

The Proposed Action is also consistent with the Elko County Public Land Use & Natural Resource Management Plan (Elko County, 2010), which supports the concept of multiple-use management of public lands. Specifically, Directives 2 and 3 (pg. 62 to 68) of the plan address management of public lands and federally managed public land transactions.

The Proposed Action is consistent with the Nevada Statewide Plan for Public Lands (and associated goals adopted in 1986) (Nevada Division of State Lands, 1985). The Proposed Action would specifically serve the following goals:

- Retain existing access to public lands and provide new means of access where necessary (pg. 11);
- Manage and utilize public lands on the basis of multiple use and sustained yield and in a manner that will conserve, protect, and preserve resources. Protect and preserve wildlife habitat and certain lands in their natural condition. Provide for the long-term benefit of residents and future generations (pg. 10); and
- Growth and increasing demands for energy within Nevada and the nation call for the provision of corridors for transportation, utilities, and communications to be planned in harmony with other resources on public lands (pg. 11).

The Proposed Action is further consistent with other federal, state and local laws, regulations and plans to the maximum extent possible.

The project would also take into account required design features (RDFs) from Appendix C of the Nevada and Northeastern California Greater Sage-Grouse Approved Resource Management Plan Amendment (ARMPA) (BLM, 2015a). The project is within the General Habitat Management Area (GHMA) and Other Habitat Management Area (OHMA) habitat categories for greater sage-grouse. GHMA is defined as BLM-administered lands where some special management applies to sustain greater sage-grouse populations; these are areas of occupied seasonal or year-round habitat outside of Priority Habitat Management Areas. OHMA is defined as BLM-administered lands identified as unmapped habitat in the Draft Land Use Plan Amendment EIS that are within the planning area and contain seasonal or connectivity habitat areas (BLM, 2015a). In GHMA and OHMA areas, authorized/permitted activities must adhere to the RDFs described in the ARMPA. If an RDF is not implemented, at least one of the following must be demonstrated:

- A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g., due to the site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or inapplicable;
- An alternative RDF is determined to provide equal or better protection for greater sage-grouse or its habitat; and
- A specific RDF would provide no additional protection to greater sage-grouse or its habitat (BLM, 2015a).

The project is in conformance with applicable RDFs for the GHMA/OHMA category set forth in Appendix C of the ARMPA as described in Table 1.1, “Required Design Features”.

Table 1.1. Required Design Features

Required Design Features	Comment
General RDFs	
RDF GEN 1: Locate new roads outside of greater sage-grouse habitat to the extent practical.	The majority of the project area is mapped as GHMA; and is therefore, unavoidable. The project area is located in the wildland/urban interface within incorporated City limits; therefore, habitat quality is poor.
RDF GEN 2: Avoid constructing roads within riparian areas and ephemeral drainages. Construct low water crossings at right angles to ephemeral drainages and stream crossings (note that such construction may require permitting under Sections 401 and 404 of the Clean Water Act).	This RDF does not apply as there are no riparian areas or ephemeral drainages in the project area.
RDF GEN 3: Limit construction of new roads where roads are already in existence and could be used or upgraded to meet the needs of the project or operation. Design roads to an appropriate standard, no higher than necessary, to accommodate intended purpose and level of use.	The Proposed Action is for development of a transportation and utility ROW. Development of a new road is required to meet the purpose and need of the project because there are no existing roads that may be upgraded for the project. The road for the project would be designed to an appropriate standard and no higher than necessary.
RDF GEN 4: Coordinate road construction and use with ROW holders to minimize disturbance to the extent possible.	Construction would be coordinated with the BLM.
RDF GEN 5: During project construction and operation, establish and post speed limits in greater sage-grouse habitat to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.	The developed roads would have posted speed limits.
RDF GEN 6: Newly constructed project roads that access valid existing rights would not be managed as public access roads. Proponents will restrict access by employing traffic control devices such as signage, gates, and fencing.	The Proposed Action would be developed for public use, which is required to meet the Purpose and Need for the proposed project.
RDF GEN 7: Require dust abatement practices when authorizing use on roads.	The City has committed to Design Features and Environmental Protection Measures (EPMs) that would limit fugitive dust by the use of water trucks during construction of the Proposed Action.
RDF GEN 9: Upon project completion, reclaim roads developed for project access on public lands unless, based on site-specific analysis, the route provides specific benefits for public access and does not contribute to resource conflicts.	Once constructed, the roadways and water infrastructure are expected to be maintained in perpetuity. However, the City would reseed areas disturbed during construction that are not scheduled to remain in-perpetuity with BLM-approved species from the seed list available in the City of Elko Construction Site Best Management Practices Handbook (Kennedy/Jenks Consultants, 2005).
RDF GEN 10: Design or site permanent structures that create movement (e.g., pump jack/ windmill) to minimize impacts on GRSG habitat.	This RDF does not apply as moving or permanent structures are not proposed.
RDF GEN 11: Equip temporary and permanent aboveground facilities with structures or devices that discourage nesting and perching of raptors, corvids, and other predators.	Permanent above ground facilities would be limited to water storage tanks, which do not encourage nesting of raptors, corvids, and other predators. Perching is limited to ladders and top vents on the water tanks. Tanks would be approximately 20 feet tall and not the most prominent feature on the landscape.

Required Design Features	Comment
RDF GEN 12: Control the spread and effects of nonnative, invasive plant species (e.g., by washing vehicles and equipment, minimize unnecessary surface disturbance; Evangelista et al. 2011). All projects would be required to have a noxious weed management plan in place prior to construction and operations.	The City has committed to Design Features and EPMS that would control the spread of non-native invasive plants and noxious weed species by washing vehicles and equipment and managing weeds in the ROW. The City has also developed a Weed Management Plan for the proposed project (Appendix A).
RDF GEN 13: Implement project site-cleaning practices to preclude the accumulation of debris, solid waste, putrescible wastes, and other potential anthropogenic subsidies for predators of greater sage-grouse.	The City has committed to Design Features and EPMS that would control the accumulation of debris by containing trash and other solid waste in appropriate receptacles on-site and disposing of them off-site. A portable toilet would be located on-site for human waste during the construction phase, and would be disposed of off-site.
RDF GEN 14: Locate project related temporary housing sites outside of greater sage-grouse habitat.	On-site temporary housing would not be allowed for the proposed project.
RDF GEN 15: When interim reclamation is required, irrigate site to establish seedlings more quickly if the site requires it.	Reseeding would occur during seasonal times when there is a greater chance of success. The City would reseed areas disturbed during construction with BLM-approved species from the seed list available in the City of Elko Construction Site Best Management Practices Handbook (Kennedy/Jenks Consultants, 2005).
RDF GEN 16: Utilize mulching techniques to expedite reclamation and to protect soils if the site requires it.	Reseeding would occur during seasonal times when there is a greater chance of success. The City would reseed areas disturbed during construction with BLM-approved species from the seed list available in the City of Elko Construction Site Best Management Practices Handbook (Kennedy/Jenks Consultants, 2005)
RDF GEN 17: Restore disturbed areas at final reclamation to the pre-disturbance landforms and desired plant community.	Once constructed, the roadways and water infrastructure are expected to be maintained in perpetuity. However, the City would reseed areas disturbed during construction that are not scheduled to remain in-perpetuity with BLM-approved species from the seed list available in the City of Elko Construction Site Best Management Practices Handbook (Kennedy/Jenks Consultants, 2005).
RDF GEN 18: When authorizing ground-disturbing activities, require the use of vegetation and soil reclamation standards suitable for the site type prior to construction.	Once constructed, the roadways and water infrastructure are expected to be maintained in perpetuity. However, the City would reseed areas disturbed during construction that are not scheduled to remain in-perpetuity with BLM-approved species from the seed list available in the City of Elko Construction Site Best Management Practices Handbook (Kennedy/Jenks Consultants, 2005).
RDF GEN 19: Instruct all construction employees to avoid harassment and disturbance of wildlife, especially during the GRSB breeding (e.g., courtship and nesting) season. In addition, pets shall not be permitted on site during construction.	All construction employees would be instructed against the harassment and disturbance of wildlife, and pets would not be permitted on-site during construction.
RDF GEN 20: To reduce predator perching in greater sage-grouse habitat, limit the construction of vertical facilities and fences to the minimum number and amount needed and install anti-perch devices where applicable.	Vertical facilities would be limited to ladders on the tanks which would be reduced to the minimal amount needed. Anti-perch devices could be installed where practical, and where it does not cause a safety issue to humans.
RDF GEN 21: Outfit all reservoirs, pits, tanks, troughs or similar features with appropriate type and number of wildlife escape ramps.	This RDF does not apply as reservoirs, pits, troughs or similar features are not proposed. The tanks proposed are closed top and would therefore not be accessible to wildlife.
RDF GEN 22: Load and unload all equipment on existing roads to minimize disturbance to vegetation and soil.	The City would load and unload all equipment in staging areas.
Lands and Realty	

Required Design Features	Comment
RDF LR-LUA 1: Where new ROWs associated with valid existing rights are required, co-locate new ROWs within existing ROWs or where it best minimizes impacts in greater sage-grouse habitat. Use existing roads or realignments of existing roads to access valid existing rights that are not yet developed.	This RDF does not apply as there are no adjacent ROWs that would allow for co-location to meet the Purpose and Need of the proposed project.
RDF LR-LUA 2: Do not issue ROWs to counties on newly constructed energy/mining development roads, unless for a temporary use consistent with all other terms and conditions included in this document.	This RDF does not apply as this project is not for newly constructed energy or mining developments.
RDF LR-LUA 3: Where necessary, fit transmission towers with anti-perch devices in greater sage-grouse habitat.	This RDF does not apply as transmission lines are not proposed for this project.

1.4. Issues

An interdisciplinary team scoping record was completed on January 29, 2015. Supplemental authority concerns as well as other potential land and resource management issues identified during internal scoping are provided below:

- Potential loss and fragmentation of intact pronghorn antelope (*Antilocapra americana*) transitional and winter range habitat including ongoing cumulative impacts as a critical limiting factor for long-term herd maintenance and growth;
- Loss of migratory bird habitat;
- Seasonal restrictions to protect migratory bird nests and burrowing owl (*Athene cunicularia*) burrows;
- Noise created by the Proposed Action to the surrounding area;
- Recreational impacts as a result of the Proposed Action;
- Aesthetics and visual impacts as a result of development of the Proposed Action; and
- Impacts to soils.

Chapter 2. Proposed Action and Alternatives

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2.1. Proposed Action

The Proposed Action would be located in the northwest part of Elko, Nevada, within portions of Section 18, T34N, R55E, Mount Diablo Base and Meridian (Map B.1, “General Location”). The Proposed Action would include construction of two access roads, two water storage areas, and utility ROWs. The Proposed Action would disturb approximately 45.31 acres of public land within the project area. Approximate acreage for proposed disturbance is provided in Table 2.1, “Approximate Proposed Action Disturbance Acres”. For the purposes of this EA, the project area is all 634 acres of Section 18. Areas proposed for disturbance are shown on Map B.2, “Proposed Action”.

Table 2.1. Approximate Proposed Action Disturbance Acres

Proposed Action	Length (feet)	Proposed Disturbance (Acres)
Cattle Drive Roadway	5,575	24.23
North Access Roadway	4,105	9.42
Cattle Drive Roadway Water Storage Area	N/A	1.32
North Roadway Water Storage Area	N/A	10.34
Total	9,680	45.31
*Water line utility disturbance is included within the roadway disturbance areas.		

The Cattle Drive roadway would be a paved roadway aligned generally north to south and would be designed as follows: four 12-foot width travel lanes, one 12-foot width turn lane, two 6-foot width bike lanes, 2-foot curb and gutter, 5-foot width sidewalk, and associated slopes, drainage, and safety features. The proposed roadway would be constructed, other than initial grading with development of the water lines, as development occurs, or as need arises and funding is available over the next 10 to 20 years. Construction is anticipated to be completed within 10 to 15 years. The width of Cattle Drive would vary between 120 and 350 feet and be a total distance of approximately 5,575 feet. This area would have a buried waterline. Disturbance associated with the waterline is included in the disturbance calculated for the Cattle Drive roadway. This area also has a portion where water storage infrastructure, or water tanks, may be developed. The water storage infrastructure would be located in the NE $\frac{1}{4}$ of Section 18 with dimensions of approximately 215 feet by 260 feet (Map B.2, “Proposed Action”).

The north access roadway would be aligned generally west to east and vary between 50 and 100 feet and be a total distance of approximately 4,150 feet. The proposed roadway project also includes installation of buried waterline and water storage infrastructure. Disturbance associated with the waterline is included in disturbance calculated for the roadway. The water storage infrastructure would be located in the NW $\frac{1}{4}$ of Section 18, at the western end of the north access roadway with dimensions of approximately 560 feet by 800 feet. Installation of the water line would be developed in approximately five to 10 years, and is dependent on the water supply needs as the general northwest area of the community develops. These areas are shown on Map B.2, “Proposed Action”.

The origination of the proposed roadways would depend on property development, meaning that road development may originate on the north end of the ROW and develop southward, or vice versa. Road development could also begin at both ends and meet in the middle. However, the entire length of the proposed roadways would likely be graded at one time to accommodate water infrastructure being installed first, with road construction occurring over an extended period of time, as the area develops. Development of water storage infrastructure would also occur as

needed; however, the City anticipates that the water tank along the Cattle Drive roadway ROW would likely be installed first, and the tank(s) in along the north ROW would be installed second. Water tank size would be determined based on demand and is subject to change, but tanks would be approximately 20 feet tall and painted to reduce visual contrast with the surrounding landscape.

2.1.1. Reclamation

Once constructed, the roadways and water infrastructure are expected to be maintained in perpetuity. However, the City would reseed areas disturbed during construction that are not scheduled to remain in-perpetuity with BLM-approved species from the seed list available in the *City of Elko Construction Site Best Management Practices Handbook* (Kennedy/Jenks Consultants, 2005). These areas may include disturbed areas around the water tanks and areas graded adjacent to the roadways. Reseeding would occur as the Proposed Action is developed, as needed.

Should the City relinquish the ROW back to the BLM, the area will be ripped, contoured, and reseeded with a BLM-approved seed mix.

2.1.2. Design Features and Environmental Protection Measures

The City would utilize the most current *Standard Specifications for Public Works Construction* manual, as well as the *City of Elko Construction Site Best Management Practices Handbook* (Kennedy/Jenks Consultants, 2005). The City would also utilize the latest design manuals pertaining to roadway design to accommodate traffic loads and best match existing topography. Additionally, road grades would not exceed seven percent. Once constructed, the roadways would be maintained in perpetuity, in accordance with standard maintenance practices for the type of road.

The following is a list of resource specific design features and EPMs that would be implemented during construction of the Proposed Action to minimize impacts to each associated resource.

Access

- Access to public lands would not be restricted.
- ROW access would be controlled as the Proposed Action is developed.

Air Quality

- Water trucks would be used to minimize fugitive dust during construction of the Proposed Action.
- An air quality permit from the State of Nevada would be obtained, as necessary.

Cultural Resources

- Although not anticipated, the construction permit holder would cease work and immediately notify the appropriate BLM personnel if any cultural, paleontological, or archaeological resource was encountered during construction.

- The construction permit holder would train workers and individuals involved in the construction of the Proposed Action in the proper procedures in the event that cultural items are encountered, prohibitions on artifact and fossil collection, and prohibitions on disclosing the location of culturally sensitive areas.

Fire Management

- Spark arrestors would be properly installed and maintained on all vehicles and equipment prior to use in the project area between May 1 and October 1.
- The City would do everything reasonable to prevent and suppress fires on or in the immediate vicinity of the ROW.

Noise

- Sound muting devices, which are provided standard on equipment by the construction equipment manufacturer, would be kept in good working order.

Non-Native Invasive Plants and Noxious Weed Species

- To prevent the introduction and spread of non-native invasive plants and noxious weed species, all construction vehicles and equipment (including transport trailers) would be cleaned of mud, dirt, and plant parts with high-pressure water spray prior to entering the ROW. Cleaning efforts shall concentrate on tracks, feet, or tires, and the undercarriage, with special emphasis on axles, frames, cross members, motor mounts, the underside of running boards, and front bumper/brush guard assemblies. Equipment shall be washed at a BLM-approved cleaning area preferably on a gravelly or rocky site that is not located near a water source. The designated cleaning area shall be monitored and treated for weeds by the City. Additionally, traveling through and staging in areas of known non-native invasive plants and noxious weed species infestations, especially during seed set, would be avoided.
- The City would conduct annual weed treatment within the ROW to minimize future spread and establishment of non-native invasive plants and noxious weed species. Weed treatment would include those methods identified in the Elko Field Office *Programmatic Environmental Assessment of Integrated Weed Management on Bureau of Land Management Lands* (BLM, 1998), *Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States*, *Programmatic Environmental Impact Statement* (BLM, 2007), and any relevant updates. Control methods may include mechanical and manual removal, coupled with chemical application.

Survey Monuments

- Should any survey monuments be disturbed or removed during construction, the City would use a registered land surveyor or BLM cadastral surveyor to restore the disturbed monument(s) and references.

Vegetation and Soils

- Seeding of bare soil after construction would consist of BLM-approved species from the seed list available in the *City of Elko Construction Site Best Management Practices Handbook*

(Kennedy/Jenks Consultants, 2005) to use for seeding of disturbed or newly created bare soil areas. All seed would be certified weed-free. Areas would continue to be reseeded until accepted by an authorized officer of BLM as successfully revegetated.

- Fertilizer would be applied in appropriate areas to increase seeding success, although the benefits of use would be weighed against weed prevalence.
- Construction vehicles and equipment would not be fueled in the ROW.

Visual Resources

- Water tanks would be painted one shade darker than the surrounding dominant vegetation color in order to blend in with the existing landscape and reduce contrast with the surrounding features. Paint color selection may be assisted by the use of the Standard Environmental Color Chart (BLM, 2008b).

Waste Material and Disposal

- A portable toilet would be located on-site for human waste during the construction phase, and all waste would be disposed of off-site.
- Trash and other solid waste would be contained in an appropriate receptacle on-site, which would be disposed of off-site by a certified contractor.

Wildlife and Migratory Birds

- Construction would occur outside of the migratory bird breeding and nesting season, April 1 through July 31, when possible. If construction is needed during this time, clearance surveys for migratory birds would be required for the ROW and a 300-foot buffer. Surveys would be conducted up to two weeks prior to disturbance, and are adequate for two weeks. If active nests are found, proposed activities would be postponed until the young have fledged unless a 300-foot buffer can be provided around the nest. Additionally, the buffered nest must be tied to contiguous habitat and not remain as an “island”.
- Unnecessary fencing within the project area (Section 18) would be removed by the City, as needed. If applicable, needed fencing within the project area would be modified and/or repaired to facilitate wildlife movement. These types of fencing are typically a three-strand, 40-inch fence with the top and middle wires barbed and the bottom wire smooth.
- Clearance surveys would be required if construction occurs during the burrowing owl nesting season from March 1 through August 31. Surveys would be conducted within disturbance associated with the ROW and a 150-meter buffer. Surveys would be conducted up to two weeks prior to disturbance, and would be adequate for two weeks. Buffers would occur for an approximate 0.25 mile distance around active burrows located during surveys.
- Any functional and viable fencing removed as a result of the Proposed Action would be replaced and rebuilt to BLM specifications.

2.2. No Action Alternative

Under the No Action Alternative, the City would not construct the Cattle Drive roadway, the north access roadway, water storage infrastructure, and utilities. The area is currently used for vehicular and pedestrian recreation activities, which would continue to occur in this area. Development of the surrounding area would be hampered by the lack of municipal water and transportation infrastructure. The No Action Alternative would not meet the objectives of the City of Elko Master Plan (CRSA, 2011) or the Elko RMP Record of Decision (BLM, 1987) of managing the land for multiple-use and promoting efficient and safe transportation and growth in the city.

2.3. Alternatives Considered but Eliminated From Detailed Analysis

NEPA directs the BLM and other federal agencies to rigorously explore a range of reasonable alternatives, including those not within the jurisdiction of the agency. Due to existing infrastructure locations and topographic limitations within the section, alternative routes were deemed not feasible or practical. The proposed route was deemed feasible based on the location of existing infrastructure and terrain.

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Chapter 3. Affected Environment and Environmental Consequences

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3.1. Introduction

This chapter describes the existing environment and resources that would be affected by the alternatives. This chapter also describes the predicted environmental consequences (impacts) of the alternatives, by resource.

To comply with the NEPA, the BLM is required to address specific elements of the environment that are subject to requirements specified in statute or regulation or by executive order (BLM, 2008a; CEQ, 2005). Table 3.1, “Potentially Applicable Supplemental Authority Concerns” outlines the elements that must be addressed in all environmental analyses, as well as other resources deemed appropriate for evaluation by the BLM.

Table 3.1. Potentially Applicable Supplemental Authority Concerns

Element / Resource	Not Present	Present / Not Affected	Present / May be Affected	Comments
Human Concerns				
Air Quality		X		The project area is located in an Unclassified area for all criteria pollutants and therefore would be considered in attainment with the National Ambient Air Quality Standards. Design features would limit any fugitive dust created during implementation of the Proposed Action; therefore air quality would not be affected.
Cultural Resources	X			The Class III cultural resource inventory of the project area did not find any eligible National Register of Historic Places sites. Therefore, no historic properties would be affected by the Proposed Action (Summit Envirosolutions, 2014).
Environmental Justice		X		The EPA (EPA, 2015) identified that 31 to 34 percent of the population within five miles of the project area is considered minority; however, no concerns have been identified and no disproportionate effects to these populations are anticipated to occur from the Proposed Action.
Human Health and Safety	X			There are no human health and safety concerns present within the project area.
Native American Religious Concerns	X			BLM consulted with Native American tribal officials. No locations of religious, traditional, or cultural importance within the project area were identified during this process.
Wildlife / Animal Concerns				
Migratory Birds			X	Section 3.3

Element / Resource	Not Present	Present / Not Affected	Present / May be Affected	Comments
Threatened / Endangered Species	X			Inquiry with the United States Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) listed two species with potential to occur in the project area. No habitat for the threatened Lahontan cutthroat trout is present within the project area. The gray wolf is proposed endangered, although no confirmed sightings have been recorded in Nevada (Freese, 2015). Additionally, the Nevada Natural Heritage Program (NNHP) and Nevada Department of Wildlife (NDOW) did not identify any threatened or endangered species within the project area (NNHP, 2015; NDOW, 2015). Candidate species are addressed in Section 3.11.
Other Concerns				
Areas of Critical Environmental Concern (ACEC)	X			None present within the project area.
Farmland – Prime / Unique	X			None present within the project area.
Floodplains	X			The National Flood Insurance Program has designated the project area as Other Area, which is outside the 0.2% annual chance floodplain (500 year flood) or flood hazards are undetermined (FEMA, 2013).
Forests and Rangelands (HFRA)	X			This is not considered a Healthy Forest Restoration Act (HFRA) project.
Non-native Invasive Plants and Noxious Weed Species			X	Section 3.4
Waste, Hazardous and/or Solid			X	Section 3.5
Water Quality			X	Section 3.6
Wetlands / Riparian Zones	X			None present within the project area.
Wild and Scenic Rivers	X			None present within the project area.
Wilderness / Lands with Wilderness Characteristics	X			None present within the project area.
EPA = Environmental Protection Agency				

Elements present are analyzed beginning in Section 3.3. Those elements listed under the supplemental authorities that do not occur in the project area and are not affected by the Proposed Action are not evaluated further in this EA, based on the rationale provided in Table 3.1, “Potentially Applicable Supplemental Authority Concerns”.

Other elements of the human environment that have been considered for this EA are listed in Table 3.2, “Other Potential Land and Resource Management Issues”. Resources that may be affected by the Proposed Action are further described in the EA. Rationales for those resources that would not be affected by the Proposed Action are listed in Table 3.2, “Other Potential Land and Resource Management Issues”.

Table 3.2. Other Potential Land and Resource Management Issues

Element / Resource	Not Present	Present / Not Affected	Present / May be Affected	Comments
Human Concerns				
Access, Realty, and Land Use			X	Section 3.7
Engineering	X			Not Applicable
Fire Management	X			Not Applicable
Mining / Minerals	X			Not Applicable
Noise			X	Section 3.8
Recreation			X	Section 3.9
Social or Economic		X		Construction of the Proposed Action would require an estimated total of 25 workers, as funding becomes available. This temporary influx of workers would provide a temporary income to the local establishments for services provided (trailer space rental, restaurants, grocers, etc.); however, it would be short-term and negligible. Current City employees would maintain the site once installed; no new City employees would be required.
Visual Resources			X	See Section 3.10
Wildlife / Animal Concerns				
Livestock Grazing		X		Project area is within the Blue Basin Allotment; however, the area exhibits minimal livestock utilization due to a lack of a water source.
Special Status Species			X	Section 3.11
Wildlife			X	Section 3.12
Wild Horses	X			No herd management area within the project area.
Other Concerns				
Climate Change (GHG, Wildfire, Disease, etc.)			X	Section 3.13
Energy (Gas, Oil, Wind)	X			Not Applicable
Soils			X	Section 3.14
Vegetation			X	Section 3.15
GHG = Greenhouse Gas				

Other potential land and resource management resources that are present and may be affected are discussed and analyzed beginning in Section 3.7. Those other resources listed that do not occur in the project area and would not be affected by the Proposed Action are not evaluated further in this EA, based on the rationale provided in Table 3.2, “Other Potential Land and Resource Management Issues”.

3.2. Analysis Of Affected Resources

As identified in Table 3.1, “Potentially Applicable Supplemental Authority Concerns” and Table 3.2, “Other Potential Land and Resource Management Issues”, the resources that are present and have the potential to be affected by the Proposed Action are described and analyzed in the following subsections. The description of the existing condition and analysis of potential direct, indirect, and cumulative impacts are provided within the same subsections.

When applicable, potential impacts are described in terms of duration and intensity. Temporary impacts last less than one year, short-term impacts generally last between one and five years, and long-term impacts last beyond five years. The thresholds of change for the intensity of a potential impact are defined as follows:

- No Impact – There is no detectable impact.
- Negligible – The impact is at the lowest level of detection.
- Minor – The impact is slight, but detectable.
- Moderate – The impact is readily apparent.
- Major – The impact is a severe or adverse impact or benefit.

Additionally, “Beneficial” effects would have a positive effect on the resource. In this document, the terms “effect” and “impact” are used synonymously. The Proposed Action for each resource includes implementation of the EPMs identified in Section 2.1.1.

3.2.1. Direct and Indirect Impacts

Effects to each resource that would be caused by the Proposed Action and No Action Alternative are analyzed in this section. The environmental impact analysis describes the direct and indirect environmental consequences that would result from authorization of the Proposed Action and the No Action Alternative.

Direct effects are those that are caused by the action and occur at the same time and place. Indirect effects are those impacts that are caused by the action and occur later in time or further removed in distance; however, they are still reasonably foreseeable. Indirect impacts may include growth-inducing effects such as changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems. Effects resulting from actions may have beneficial or detrimental effects, even if on balance, the agency believes that the effect would be beneficial (40 CFR 1508.8).

3.2.2. Cumulative Impacts

This chapter also analyzes the potential cumulative impacts that would result from the Proposed Action and No Action Alternative. Cumulative effects (i.e., cumulative impacts) are defined in 40 CFR 1508.7 as “the impact which results from the incremental impact of the action, decision, or project when added to the other past, present, and reasonably foreseeable future actions (RFFAs), regardless of what agency (federal or non-federal) or person undertakes such actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place

over a period of time.” In accordance with this definition, this section addresses the potential cumulative effects that would result from the implementation of the Proposed Action and the No Action Alternative when combined with other past, present, and RFFAs within the cumulative effects study areas (CESA).

Information utilized in the cumulative impacts assessment was gathered from the following sources: BLM’s Land and Mineral Legacy Rehost 2000 System (LR2000); the Nevada Atlas and Gazetteer; the United States Forest Service (USFS) Schedule of Proposed Actions; and aerial photography. The BLM LR2000 database was queried for authorized and pending multiple land use activities, ROW grants, mineral and non-mineral exploration and mining permits. Aerial photography was used to locate potential disturbances not within the LR2000 data base (i.e. development on private land) and to confirm disturbance acreages from the LR2000 query. The USFS Schedule of Proposed Actions was used to determine action on USFS-administered land.

Cumulative impacts would include both direct and indirect impacts resulting from the Proposed Action. These impacts are additive and may compound the degree of effect when combined with past, present, and RFFAs. The significance of effects was determined based on context (i.e., the setting of the CESAs) and intensity (i.e., severity of the effect). Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment (40 CFR 1508.27(b)(7)). Factors that could be used to define the intensity of effects include the magnitude (relative size or amount of an effect), geographic extent, temporal extent, and frequency of the effects.

Cumulative effects and the geographic area to be analyzed for cumulative effects vary by the type of resource and impact. To determine the size of the CESAs, each environmental resource was analyzed to determine the geographic extent to which the environmental effect from the Proposed Action would be reasonably detected. However, for simplicity, ease of cumulative effects analysis, and in an attempt to avoid having only slightly different CESAs for a number of resources, CESA boundaries were left identical for multiple resources where it seemed reasonable and conservative to do so. Table 3.3, “Cumulative Effects Study Area by Resource” details the different CESAs that have been developed for the various resources. The timeframe for the cumulative assessment assumes 15 years, which is the minimum time period expected for full development of the roadway. Table 3.4, “Past, Present, and Reasonably Foreseeable Future Actions by CESA” summarizes the past, present, and RFFAs acres by CESA.

Table 3.3. Cumulative Effects Study Area by Resource

Resource	CESA Boundary	Approximate Acres	Description	Map Number
Big Game	NDOW Management Areas 6 and 7 and Hunt Units 061, 062, 064, 071 and 073	061 – 212,751 062 – 497,676 064 – 314,491 071 – 259,700 073 – 798,541 Total: 2,083,159	Summer, transitional spring and fall, crucial winter ranges, and migration corridors.	Map B.7, “CESA Boundaries – Greater Sage-grouse and Big Game”
Noise, Vegetation, and Non-native Invasive Plants and Noxious Weed Species	T34N, R55E, Section 18	634	The Township, Range and Section the Proposed Action is located within.	Map B.6, “CESA Boundaries – Noise, Vegetation, and Non-native Invasive Plants and Noxious Weed Species; General Wildlife, Special Status Species, and Migratory Bird; Water Quality, Land Use, Access, and Realty, Recreation, Soils and Visual”
Water Quality, Land Use, Access, and Realty, Recreation, Soils, and Visual	Dry Susie Creek-Humboldt Watershed (Hydrologic Unit Code [HUC] 10)	165,752	The immediate watershed that the Proposed Action is located within.	Map B.6, “CESA Boundaries – Noise, Vegetation, and Non-native Invasive Plants and Noxious Weed Species; General Wildlife, Special Status Species, and Migratory Bird; Water Quality, Land Use, Access, and Realty, Recreation, Soils and Visual”
General Wildlife, Special Status Species, and Migratory Birds.	Blue Basin Allotment-Airport Pasture and Adjoining Section 19, T34N, R55E	51,035	Intact sagebrush habitat in the vicinity of the project area. The CESA also includes the private land (T34N, R55E, Section 19) adjacent to the project area.	Map B.6, “CESA Boundaries – Noise, Vegetation, and Non-native Invasive Plants and Noxious Weed Species; General Wildlife, Special Status Species, and Migratory Bird; Water Quality, Land Use, Access, and Realty, Recreation, Soils and Visual”
Greater Sage-grouse	North Fork Greater Sage-grouse Population Management Unit (PMU)	1,734,064	Lekking (breeding-courtship display), nesting, early brood-rearing, summer/late brood-rearing, and fall winter habitat.	Map B.7, “CESA Boundaries – Greater Sage-grouse and Big Game”

The following resources were not carried through to cumulative impacts after being analyzed, and determined not to be impacted by the Proposed Action: Wastes, Hazardous and/or Solid and Climate Change.

Table 3.4. Past, Present, and Reasonably Foreseeable Future Actions by CESA

CESA	Types of Activity ^{1,2}												
	ROW-Railroads	ROW Roads and Hwys ³	Mineral Material Sites	Mining	NOIs ⁴	R&PP Sites	ROW Power Lines ⁵	ROW Telephone, Fiber Optic Lines and Comm. Sites ⁵	ROW Water and Irrigation Facilities	Oil and Gas Pipelines	ROW Fences and Cattle Guards	Wildland Fires (2000-2013)	Urban Development
Past and Present Actions – Surface Disturbance Acres													
Non-native Invasive Plants and Noxious Weed Species, Vegetation, and Noise	0	15	0	0	0	0	0	0	0	0	0	98	0
Big Game	516	16,518	1,307	360	15	431	2,629	2,265	119	298	99	669,239	5,604
Wildlife	11	123	210	0	0	0	464	1,465	1	190	5	25,847	5
Greater Sage-grouse	0	10,397	1,428	450	13	430	3,298	2,109	129	298	81	629,646	5,064
Water Quality, Land use, Access, and Realty, Recreation, Soils, and Visual	3,076	4,175	330	198	4	1,378	729	2,090	14	190	14	74,582	3,195
Reasonably Foreseeable Future Actions – Surface Disturbance Acres													
Non-native Invasive Plants and Noxious Weed Species, Vegetation, and Noise ⁶	0	0	0	0	0	80	0	0	0	0	0	0	0
Big Game	0	179	2	341	4	713	1	0	0	121	0	0	0
Wildlife	0	1	0	0	0	622	0	0	0	0	0	0	0
Greater Sage-grouse	0	10	2	383	0	713	1	0	0	121	0	0	0

CESA	Types of Activity ^{1,2}												
	ROW- Railroads	ROW Roads and Hwys ³	Mineral Material Sites	Mining	NOIs ⁴	R&PP Sites	ROW Power Lines ⁵	ROW Telephone, Fiber Optic Lines and Comm. Sites ⁵	ROW Water and Irrigation Facilities	Oil and Gas Pipelines	ROW Fences and Cattle Guards	Wildland Fires (2000- 2013)	Urban Development
Water Quality, Land use, Access, and Realty, Recreation, Soils, and Visual	0	1	0	0	4	1,429	11	0	0	0	0	0	0
<ol style="list-style-type: none"> All disturbances are based on data collected in LR2000 or the USFS Schedule of Proposed Actions, except urban development, which was calculated using aerial photography. According to LR2000, geothermal and oil and gas leases occur throughout most of the CESAs. This table does not include past and present geothermal and oil and gas leases, past wind development, or solar test site leases because LR2000 shows the size of the lease rather than proposed surface disturbance. The LR2000 database was queried on April 23, 2015 and May 5, 2015 for all CESAs. Any newly approved ROWs or land use authorizations that have been added to the LR2000 database after this date are not included in the analysis. All road disturbances were calculated using Geographic Information Systems and aerial photographs. The following road widths were assumed for the calculation: I-80 was assumed to be 200 feet wide; State and county/local roads were assumed to be 50 feet wide; and all other roads were assumed to be 25 feet wide. Past closed Notices of Intent (NOIs) were not included in the above disturbance calculations because all disturbances associated with closed NOIs should have been reclaimed with no residual cumulative disturbance impact. Power lines, telephone and fiber optic line disturbance acreages were based off of an LR2000 search for BLM authorized ROW applications within the Township, Range and Section of each CESA. Because these types of disturbances are linear and often cross several counties, it is difficult to estimate an exact disturbance for these authorizations. The above disturbance acreage estimates are likely greater than actual ground disturbance within the CESAs. Although the Noise has the same CESA boundary as other resources, acres of disturbance are not relevant; therefore, were not used for the analysis of cumulative impacts to Noise. 													

3.3. Migratory Birds

3.3.1. Affected Environment

Migratory birds are those listed in 50 CFR 10.13 and include all native birds commonly found in the United States with the exception of native resident game birds. Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) (16 United States Code 701-718h), which prohibits the taking of migratory birds, their parts, nests, eggs, and nestlings without a permit. Federal agencies are directed to protect migratory birds by integrating bird conservation principles, measures, and practices under Executive Order 13186, signed January 10, 2001.

Additional direction comes from the Memorandum of Understanding (MOU) between the BLM and the USFWS, signed April 12, 2010. This MOU has management objectives and recommendations to avoid or minimize potential impacts to high priority migratory bird species. The purpose of the MOU is to strengthen migratory bird conservation through enhanced collaboration between the BLM and USFWS in coordination with state, tribal, and local governments.

All migratory bird species, including those that are special status species, are discussed in this section. Additional Special Status Species are discussed in Section 3.11. Migratory birds include those species of birds that breed and nest in the project area and then migrate south prior to the onset of winter. A variety of other migratory bird species may also pass through the project area during migration. Migratory songbirds are found in virtually every habitat in the Great Basin, and usually half or more of the breeding birds in any sampled area are migratory (Robinson, 1997). In general, avian diversity is lowest in Great Basin cold desert habitats during the winter season. Different times of year would yield different amounts and species of migratory birds. Table 3.5, “Migratory Bird Species with Potential to Occur in the Project Area” includes a list of migratory bird species that have potential to occur in the project area, based on observation in the vicinity or by habitat type (GBBO, 2010; Neel, 1999; NDOW, 2015). Bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) are further protected under the Bald and Golden Eagle Protection Act of 1940 (as amended) (BGEPA). The BGEPA also prohibits the take or possession of bald and golden eagles, with limited exceptions. Take is defined in the BGEPA as “to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.”

Table 3.5. Migratory Bird Species with Potential to Occur in the Project Area

Species	Scientific Name	Nevada Wildlife Action Plan Species of Conservation Priority ¹	BLM Elko District Special Status Species ²	BLM Statewide Special Status Species ²
American kestrel	<i>Falco sparverius</i>			
American redstart	<i>Setophaga ruticilla</i>			
American robin	<i>Turdus migratorius</i>			
Arizona Bell’s vireo	<i>Vireo belli arizonae</i>	X		
Bald eagle	<i>Haliaeetus leucocephalus</i>	X		X
Barn owl	<i>Tyto alba</i>			
Black rosy-finch	<i>Leucostricte atrata</i>	X	X	
Boat-tailed grackle	<i>Quiscalus major</i>			
Bobolink	<i>Dolichonyx oryzivorus</i>	X		

Species	Scientific Name	Nevada Wildlife Action Plan Species of Conservation Priority ¹	BLM Elko District Special Status Species ²	BLM Statewide Special Status Species ²
Bohemian waxwing	<i>Bombycilla garrulus</i>			
Brewer's sparrow	<i>Spizella breweri</i>	X		X
Burrowing owl	<i>Athene cunicularia</i>	X		X
Cedar waxwing	<i>Bombycilla cedrorum</i>			
Common nighthawk	<i>Chordeiles minor</i>	X		
Common poorwill	<i>Phalaenoptilus nuttallii</i>			
Downy woodpecker	<i>Picoides pubescens</i>			
Ferruginous hawk	<i>Buteo regalis</i>	X		X
Franklin's gull	<i>Leucophaeus pipixcan</i>			
Golden eagle	<i>Aquila chrysaetos</i>	X	X	X
Gray flycatcher	<i>Empidonax wrightii</i>			
Great horned owl	<i>Bubo virginianus</i>			
Great-tailed grackle	<i>Quiscalus mexicanus</i>			
Loggerhead shrike	<i>Lanius ludovicianus</i>	X	X	X
Long-eared owl	<i>Asio otus</i>			
Merlin	<i>Falco columbarius</i>			
Northern saw-whet owl	<i>Aegolius acadicus</i>			
Osprey	<i>Pandion haliaetus</i>			
Pinyon jay	<i>Gymnorhinus cyanocephalus</i>	X		X
Prairie falcon	<i>Falco mexicanus</i>	X		
Red-tailed hawk	<i>Buteo jamaicensis</i>			
Rough-legged hawk	<i>Buteo lagopus</i>			
Sagebrush sparrow	<i>Artemisiospiza nevadensis</i>			
Sage thrasher	<i>Oreoscoptes montanus</i>	X	X	
Sharp-shinned hawk	<i>Accipiter striatus</i>			
Short-eared owl	<i>Asio flammeus</i>	X		
Swainson's hawk	<i>Buteo swainsoni</i>		X	X
Turkey vulture	<i>Cathartes aura</i>			
Vesper sparrow	<i>Pooecetes gramineus</i>			
¹ NDOW, 2012				
² BLM, 2011				

NDOW documented 85 raptor nests within 10 miles of the project area. Of these 85 nests, 43 have been documented as previously active by one of the following species: burrowing owl, corvid, hawk, eagle, falcon, owl, turkey vulture, goshawk, and ferruginous hawk. The remaining 42 nests were documented as not active; however, they were thought to likely have been constructed and/or previously used by one of the following species: hawk, corvid, eagle, falcon, and ferruginous hawk (NDOW, 2015).

The project area is lacking in suitable nesting habitat for most raptors (i.e., cliffs, trees, power line infrastructure, etc.); however, the entire area serves as potential foraging.

The project area provides potential burrowing owl nesting habitat. Burrowing owls are considered sensitive species by the BLM. Burrowing owls inhabit open, dry grasslands, deserts, and scrublands characterized by low-growing vegetation. Burrowing owls are subterranean nesters

that typically use burrows made by small mammals or desert tortoises (in southern portions of their range). Burrowing owls begin nesting in April and the young typically fledge by August.

During field surveys conducted in April 2015, one active burrowing owl burrow was identified in the center of the project area approximately 0.3 miles away from disturbance associated with the Proposed Action.

3.3.2. Proposed Action

3.3.2.1. Environmental Consequences

Construction of the Proposed Action would permanently disturb 45.31 acres of migratory bird habitat. However, displaced individuals would have similar habitat available within the project area and in surrounding areas. Although, some individuals may not assimilate into adjoining habitats as nesting pairs, and may be displaced from the area due to nesting territory competition.

Habitat fragmentation may occur with development of a portion, approximately 0.65 miles, of the Proposed Action that would not be directly adjacent to existing disturbance. However, this area is approximately 0.25 miles from existing housing developments to the east and numerous two-track dirt roads. The remaining portions of the ROW would be located directly adjacent to existing development. An unknown distance of intact habitat on both sides of the ROW may not be utilized by some bird species due to sensitivity to the close distance to traffic. Other bird species may be attracted to the ROW for foraging on carrion or wind-blown seeds. Collisions with vehicles, while in flight or foraging along the road would occur with vehicles travelling along the roadway.

The potential breeding and nesting territorial areas for migratory birds may be affected. Some bird species such as Brewer's sparrow, sage sparrow, sage thrasher, green-tailed towhee, and gray flycatcher, which nest within sagebrush habitat, collectively have an approximate 260-foot average territorial radius. Loggerhead shrikes have an approximate 350-foot territorial radius. Road construction and adjacent grading resulting in permanent loss of shrub cover would impact these territories in the event that they are present. It would also indirectly affect other bird species that would avoid disturbances associated with construction and post-construction activities for an unknown distance from the Proposed Action.

Should fencing be constructed for the Proposed Action, it may result in a collision hazard to birds in flight. However, any fencing would be constructed to BLM specifications which with "safety" yellow t-post tops and single flight diverter on top fence wire at mid span on each line section between posts.

Successful reclamation with low-statured perennial grass seeding efforts on linear or blocked areas where soils have been disturbed would help to provide fuel breaks that would slow down or stop potential wildfires from spreading onto adjoining intact migratory bird habitat from the ROW.

Construction activities could potentially affect nesting birds, depending on the time of year that construction occurs. To comply with the MBTA, EPMs for the Proposed Action would require migratory bird nesting surveys and burrowing owl surveys prior to construction activities during the appropriate breeding seasons (April 1 through July 31 for migratory birds and March 1 through August 31 for burrowing owls). Therefore, incidental take of birds or nests would not be anticipated to occur from implementation of the Proposed Action. If active nests are found during pre-construction surveys, a buffer would be established until the birds have fledged.

The BLM recommends that during construction activities a 0.25-mile buffer around active burrowing owl burrows between March 1 and August 31 or until young have fledged. This buffer is intended to avoid disrupting nesting and feeding activities as adults care for young. The City has agreed to implement this protective buffer on any active burrows identified. The BLM has further recommended that a 50-meter, no-activity buffer be placed around active burrows for the duration of construction the Proposed Action as well as during any associated maintenance periods. This buffer is intended to avoid changes to the character of the burrow location to facilitate owls utilizing the burrows in future years.

With the EPMs previously described in Section 2.1.1 and the 0.25-mile buffer of all active burrowing owl burrows during construction, the Proposed Action would have long-term, negligible impacts to migratory birds.

3.3.2.2. Cumulative Impacts

The Wildlife CESA, which includes Migratory Birds, is approximately 51,035 acres in size and consists of the Blue Basin Allotment and the adjoining private lands in T34N, R55E, Section 19.

Past and Present Disturbances

Past and present BLM authorizations within the CESA include various ROWs and land uses. The primary past and present ROWs and land use authorizations within the CESA include a portion of I-80 and numerous paved and unpaved roads; portions of the Paiute Pipeline (gas pipeline); portions of several overhead power transmission and distribution lines; communication facilities; several miles of water pipelines; and portions of several underground telephone and fiber optic lines. BLM authorizations within the CESA also include mineral material sites (i.e. sand and gravel operations). The CESA includes minimal urban development (residential development) outside Elko. Livestock grazing, and dispersed recreation also occurs throughout the CESA. The largest disturbance to the CESA has occurred as a result of wildland fire; however, wildfire stabilization and rehabilitation efforts, including reestablishment of shrubs and perennial species have been successful on thousands of acres of wildlife habitat on separate burn areas within the CESA.

Reasonably Foreseeable Future Actions

RFFAs within the CESA include pending authorizations for recreation and public purpose sites. The pending recreation and public purpose sites within the CESA include the West Elko Riding and Racing Complex and the Elko Institute for Academic Achievement Charter School, as well as the conveyance of the Elko County Motocross site to Elko County. Livestock grazing, dispersed recreation, and wildland fires would also continue within the CESA. There is also likely to be additional growth of the City on private land within the CESA.

Cumulative Impacts

The past, present, and RFFAs within the CESA have the potential to impact migratory birds and their habitat. Disturbance associated with the mineral materials sites and utilities (i.e. oil and gas pipelines, power infrastructure, telecommunication infrastructure, and water infrastructure) within the CESA may result in indirect impacts to migratory birds from removal of potential nesting and foraging habitat associated with vegetation clearing, and the possible introduction and spread

of non-native invasive plants and noxious weed species. Direct impacts from past, present, and RFFAs may include vehicle collisions, impacts to potentially viable nests from machinery, or impacts to ground nests by machinery. However, pre-construction clearance surveys would prevent these direct impacts during the nesting season. Projects on public administered land would also be required to comply with the MBTA and/or the BGEPA, so direct impacts resulting from a nest taking from past, present, and RFFAs would be unlikely.

Depending on the type of public purpose site and urban development, these areas may no longer be available for migratory bird nesting and foraging habitat. Dispersed recreation activities such as off-highway vehicle (OHV) use may result in habitat disturbance and potential nest flushing. Indirect impacts from past, present, and RFFAs on migratory birds may also result from increased human presence and operation of machinery which may result in avoidance and/or flushing/abandonment of nests. Impacts from livestock grazing may include reduction in grass understory which may impact nesting success for some species. However, proper livestock rotation and stocking rates help to reduce impacts from livestock grazing. In addition, reclamation of the present and future actions would assist with reducing impacts to migratory birds and their habitat. Since state and federal regulations require reclamation, it is reasonable to assume that some of the disturbed areas within the CESA have been reclaimed, or have become naturally revegetated over time which would reduce the overall cumulative impact to migratory birds.

Wildland fire is likely to continue to directly remove migratory bird nesting and foraging habitat. Wildland fire can also result in the spread of non-native invasive plants and noxious weed species if revegetation of desirable vegetation is not accomplished after the fire. Over time, these areas revegetate (naturally or by reseeding efforts) and continue to provide potential habitat for migratory birds.

Approximately 28,944 acres of disturbance are associated with past, present, and RFFAs within the CESA, which is a disturbance of approximately 57 percent of the CESA. Wildfire accounts for 25,847 acres of this disturbance. Because disturbance associated with wildfire is temporary, removing this acreage from the total overall cumulative acres results in total of 3,097 past, present, and RFFA disturbance acres, or approximately six percent of the CESA. The Proposed Action would increase the disturbance within the CESA by approximately 45.31 acres, which would result in an incremental impact of approximately 0.09 percent. The proponent has committed to the EPMs in Section 2.1.1, which include seasonal restrictions to protect migratory birds, measures to prevent the spread and establishment of non-native invasive plants and noxious weed species, seasonal clearance surveys for migratory bird nests and burrowing owl burrows, and modifying required fencing to facilitate wildlife movement. As a result of the EPMs associated with the Proposed Action, and the minor disturbance increase associated with the Proposed Action within the CESA, the Proposed Action, in combination with past, present, and RFFAs, would result in minor cumulative impacts to migratory birds and their habitat.

3.3.3. No Action Alternative

3.3.3.1. Environmental Consequences

Under the No Action Alternative, no additional impacts to migratory birds would be anticipated because no habitat would be disturbed and no construction would occur. OHV travel would continue to occur within the project area, which may disturb migratory birds during the migratory bird breeding and nesting season.

3.3.3.2. Cumulative Impacts

Because there would be no additional impacts as a result of the No Action Alternative, cumulative effects have not been analyzed.

3.4. Non-Native Invasive Plants and Noxious Weed Species

3.4.1. Affected Environment

Non-native invasive plants and noxious weed species are species that are highly competitive, highly aggressive, and spread easily. Noxious weed species have been defined as pests by law or regulation. The BLM defines a noxious weed as, “a plant that interferes with management objectives for a given area of land at a given point in time” (BLM, 2009). The BLM Elko District recognizes the current noxious weed list designated by the State of Nevada Department of Agriculture statute, found in Nevada Administrative Code (NAC) 555.010. An "invasive species" is defined as a species that is non-native to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health (EO 13112, signed February 3, 1999).

The BLM’s policy relating to the management and coordination of noxious weed and invasive plant species is set forth in the BLM Manual 9015-Integrated Weed Management (BLM, 1992). The BLM’s primary focus is “providing adequate capability to detect and treat smaller weed infestations in high-risk areas before they have a chance to spread.” Noxious weed control would be based on a program of “...prevention, early detection, and rapid response” (BLM, 2015b).

During the May 2015 field surveys for the project area, two noxious weed species and six invasive weed species were identified (Stantec, 2015a). These species are listed in Table 3.6, “Non-native Invasive Plants and Noxious Weed Species Identified within the Project Area”. Noxious weed species were more concentrated in the previously burned area, as well as along drainages and areas previously disturbed. Noxious weed locations are shown on Map B.3, “Vegetation Communities and Noxious Weed Locations”.

Table 3.6. Non-native Invasive Plants and Noxious Weed Species Identified within the Project Area

Species		Status (Noxious or Invasive)
Common Name	Scientific Name	
Hoary cress	<i>Cardaria draba</i>	Category C Noxious Weed
Scotch cottonthistle	<i>Onopordum acanthium</i>	Category B Noxious Weed
Curvseed butterwort	<i>Ceratocephala testiculata</i>	Invasive
Cheatgrass	<i>Bromus tectorum</i>	Invasive
Russian thistle	<i>Salsola kali</i>	Invasive
Saltlover	<i>Halogeton glomeratus</i>	Invasive
Clasping pepperweed	<i>Lepidium perfoliatum</i>	Invasive
Tall tumble mustard	<i>Sisymbrium altissimum</i>	Invasive

Scotch cottonthistle is a Category B noxious weed. Category B noxious weeds are those weeds that are generally established in scattered populations in some counties of the State. Such weeds are subject to active exclusion where possible and active eradication from the premises of a dealer

of nursery stock (NDA, 2015). This species was primarily observed in areas that have previously burned. Occurrences varied from a single, isolated plant to clusters of approximately 50 plants.

Hoary cress is a Category C noxious weed. Category C noxious weeds are those weeds that are generally established and generally widespread in many counties of the State. Such weeds are subject to active eradication from the premises of a dealer of nursery stock (NDA, 2015). This species was primarily observed in the previously burned areas of the South Slope 8-12" P.Z.; however, there were a few small clusters of the weed within the Loamy 8-10" P.Z. and Loamy Fan 8-10" P.Z.

The six invasive, non-native weed species were observed throughout the project area. Russian thistle, saltlover, and tall tumble mustard were more prevalent in the previously burned area in the diagonal strip in the northern half of the project area. Cheatgrass, clasping pepperweed, and curvseed butterwort were observed in varying densities throughout the project area.

3.4.2. Proposed Action

3.4.2.1. Environmental Consequences

The Proposed Action would result in surface disturbance of approximately 45.31 acres within the project area, which may increase the potential for the spread and establishment of non-native invasive plants and noxious weed species. These impacts would be reduced based on implementation of the EPMs outlined in Section 2.1.1. These EPMs include: operator control; washing heavy equipment prior to entering the project area; and avoiding areas of known non-native invasive plants and noxious weed species during periods when the weeds may be spread by vehicles.

The City would continually monitor areas within the ROW to reduce the potential for the spread or establishment of noxious weeds. In addition, the City would monitor and treat any noxious weed infestations that resulted from ground-disturbing activities as a result of the Proposed Action. Should a population of noxious weeds be detected, the City would coordinate with the BLM on methods for weed management. Impacts from non-native invasive plants and noxious weed species from the Proposed Action would occur during the Proposed Action. Additionally, the City coordinated with the BLM on the development of a Weed Management Plan that will be utilized for the Proposed Action. With the establishment of EPMs outlined in Section 2.1.1, impacts associated with non-native invasive plants and noxious weed species would be long-term and negligible.

3.4.2.2. Cumulative Impacts

The Non-native Invasive Plants and Noxious Weed Species CESA is approximately 634 acres in size, and consists of T34N, R55E, Section 18.

Past and Present Disturbances

Past and present disturbances within the CESA include numerous miles of unpaved roads. Past and present actions also include livestock grazing, wildland fire, and dispersed recreation. The LR2000 data base was queried for this CESA, and there were no authorized ROWs or land use authorizations within the CESA.

Reasonably Foreseeable Future Actions

RFFAs within the CESA include a pending authorization for the Elko Institute for Academic Achievement Charter School.

Cumulative Impacts

Past, present, and RFFAs have the potential to impact the spread of non-native invasive plants and noxious weed species. Impacts from existing disturbance within the CESA have potentially assisted in the spread and establishment of non-native invasive plants and noxious weed species. Roads increase surface water run-off and can create impervious surfaces (depending on the surfacing type of the road) that concentrate runoff and spread non-native invasive plants and noxious weed species. Indirect impacts may include increased potential to spread non-native invasive plants and noxious weed species which is increased by OHV traffic. Areas affected by roads are often slower to reestablish because of soil compaction.

Impacts to non-native invasive plants and noxious weed species from the pending Elko Institute for Academic Achievement Charter School may include permanent vegetation removal, as well as temporary vegetation disturbance associated with any construction activities, and the potential for spreading non-native invasive plants and noxious weed species. However, reclamation would likely be required for all disturbed areas associated with the action, so long-term impacts would be minimized. Additionally, most projects within the CESA would require erosion and sediment control measures to reduce impacts from erosion and sedimentation. Non-native invasive plants and noxious weed species can travel via water; therefore, these measures help prevent the spread of these species.

Wildland fire has previously removed vegetation within the CESA and converted these areas from their existing vegetation communities. Wildland fire can also result in the spread of non-native invasive plants and noxious weed species if revegetation of desirable vegetation is not accomplished after the fire. Over time, these areas revegetate; however, this can take many years.

Approximately 193 acres of disturbance are associated with past, present, and RFFAs within the CESA, which is a disturbance of approximately 30 percent of the CESA. Wildfire accounts for approximately 98 acres of this disturbance. Because disturbance associated with wildfire is temporary, removing this acreage from the total overall cumulative acres results in total of 95 past, present, and RFFA disturbance acres, or approximately 15 percent of the CESA. The Proposed Action would increase the disturbance within the CESA by approximately 45.31 acres, which would result in an incremental impact of approximately seven percent. However, this incremental percentage increase is relative to both the small size of the CESA, and the limited amount of existing disturbance within the CESA, which is solely from existing unpaved roads. The proponent has committed to the EPMs in Section 2.1.1, which includes requirements to use Best Management Practices (BMPs). As a result of the EPMs associated with the Proposed Action, in combination with past, present, and RFFAs, would result in minor cumulative impacts to non-native invasive plants and noxious weed species.

3.4.3. No Action Alternative

3.4.3.1. Environmental Consequences

Under the No Action Alternative, the proposed project would not occur, and there would be no additional impacts to non-native invasive plants and noxious weed species. Current activities would continue to occur within the project area, such as dispersed recreation and OHV travel, which could result in spread of non-native invasive plants and noxious weed species.

3.4.3.2. Cumulative Impacts

Because there would be no additional impacts as a result of the No Action Alternative, cumulative effects have not been analyzed.

3.5. Waste – Hazardous and/or Solid

3.5.1. Affected Environment

Wastes within the project area are generally related to illegal dumping of household items, such as tree trimmings, grass clippings, wood, concrete, furniture, appliances, auto parts, used motor oil, and target shooting waste. Although the City and County have a yearly clean-up within the project area, illegal dumping is continuously occurring. The following types of waste were found within the project area during a 2015 survey: tree trimmings, tires, concrete, rocks, animal carcasses, and barrels for target practice (Stantec, 2015b). Map B.4, “Visual Resources Class and Illegal Dump Locations” provides locations of illegal dump sites within the project area identified during the 2015 surveys (Stantec, 2015b).

3.5.2. Proposed Action

3.5.2.1. Environmental Consequences

During the construction phase, illegal dumping may be reduced due to the presence of construction personnel. As the Proposed Action progresses and road use/traffic increases, illegal dumping may also be reduced due to increased traffic presence on the Cattle Drive roadway and better visibility of the project area. The area would be more visible by law enforcement, likely deterring dumping as well. However, the roadways may improve access to the project area, which could potentially increase illegal dumping and littering within the project area. Significant changes from impacts that currently exist are not anticipated.

During construction of the Proposed Action, toxic and hazardous materials, primarily petroleum fuel and hydraulic fluids, may be used in construction equipment. Spills of hazardous waste would be reported and cleaned up in accordance with federal HAZMAT regulations (40 CFR part 302).

3.5.2.2. Cumulative Impacts

Cumulative impacts to wastes, hazardous and/or solid are not anticipated; therefore, a cumulative analysis for this resource was not conducted.

3.5.3. No Action Alternative

3.5.3.1. Environmental Consequences

Under the No Action Alternative, no changes to the amount, type, or frequency of illegal dumping would be expected.

3.5.3.2. Cumulative Impacts

Because there would be no additional impacts as a result of the No Action Alternative, cumulative effects have not been analyzed.

3.6. Water Quality

3.6.1. Affected Environment

The United States Geological Survey (USGS) and the Nevada Division of Water Resources, Department of Conservation and Natural Resources, have divided Nevada into discrete hydrologic units for water planning and management purposes (NDWR, 2015). The Proposed Action is located in Hydrographic Basin 49 (Elko Segment). The project area is within the Dry Susie Creek-Humboldt Watershed HUC 10 Watershed (165,752 acres).

The area is dependent upon seasonal precipitation for water, as there are no surface water features within the project area. According to climate data from the Elko Regional Airport located approximately one mile east of the project area, annual precipitation around the project area for the period of record from 1888 to 2015 ranged from four to 18 inches, with an average precipitation of 9.56 inches annually and an average snowfall of 28.7 inches annually. Average summer (June through August) temperatures are approximately 66 degrees Fahrenheit (°F) and average winter (December through February) temperatures are approximately 27°F (WRCC, 2015).

Three intermittent drainages occur within the project area, and there are no perennial drainages or springs in the area. The three intermittent drainages were dry during baseline surveys conducted in 2014 and 2015. Surface water runoff from the project flows southeast toward the Humboldt River, which is approximately one mile to the southeast of the project area. This portion of the Humboldt River is mapped by the USGS as an intermittent river (USGS, 1975) and as a freshwater forested/shrub and freshwater emergent wetland by the USFWS (USFWS, 2015). The three intermittent drainages are not mapped as connecting to the Humboldt River and end on the north side of I-80. No wetlands, springs, or riparian areas classified by the USFWS National Wetland Inventory were identified within the project area.

One inactive USGS groundwater well (ID 405030115500001) is located approximately 0.2 miles north of the northwest corner of the project area at an elevation of approximately 5,462 feet above mean sea level (AMSL). This groundwater well was last sampled in 2010 with a depth of water of approximately 420 feet below ground surface (bgs) (USGS, 2015). The elevation of the project area ranges between 5,443 feet AMSL and 5,140 feet AMSL. According to this, depth to groundwater from the lowest elevation is approximately 98 feet bgs. Depth to groundwater from the highest elevation in the project area is approximately 401 feet bgs.

3.6.2. Proposed Action

3.6.2.1. Environmental Consequences

The Proposed Action would not impact known surface water features, as there are none present within the project area. Two of the three intermittent drainages would be crossed by the Proposed Action. Construction techniques would follow the *City of Elko Construction Site Best Management Practices Handbook* (Kennedy/Jenks Consultants, 2005). Established BMPs would be followed to minimize the surface disturbance and erosion potential. Erosion control measures would be used during construction to limit impacts from stormwater runoff. Sediment control structures would include straw bale filter fences, siltation or filter berms, and downgradient drainage channels. Because the Proposed Action would be limited to surface and immediate subsurface disturbance, it is not anticipated that the proposed project would result in any reduction to surface water or groundwater within or adjacent to the project area as a result of aquifer drainage. The Proposed Action would have long-term, negligible impacts on water resources.

3.6.2.2. Cumulative Impacts

The Water Quality CESA is approximately 165,752 acres in size, and consists of the Dry Susie Creek-Humboldt Watershed (HUC 10).

Past and Present Disturbances

Past and present BLM authorizations within the CESA include various ROWs and land uses. The primary past and present ROWs and land use authorizations within the CESA include numerous miles of I-80, State Route 225, State Route 278, State Route 227, county/city roads, and various unpaved roads; portions of Southwest Gas Corporation's Paiute Pipeline (natural gas pipeline), as well as portions of other natural gas pipelines; portions of several overhead power transmission and distribution lines; numerous miles of water pipelines, water wells and irrigation facilities; fences and cattle guards; communication facilities; and portions of several underground fiber optic lines and telephone lines. BLM authorizations within the CESA also include mineral material sites (i.e. sand and gravel operations); mining development and exploration operations including operations associated with Newmont Mining Corporation's Rain Mine and Woodruff Creek Project; and recreation and public purpose sites including the Elko Rifle and Pistol Range and the Elko Sewage Treatment Facility. Urban development within the CESA is primarily located in Elko and Carlin. Livestock grazing, wildland fire, and dispersed recreation also occur throughout the CESA.

Reasonably Foreseeable Future Actions

RFFAs within the CESA include pending authorizations for recreation and public purpose sites including the West Elko Riding and Racing Complex, the Elko Institute for Academic Achievement Charter School, conveyance of the Elko County Motocross site to Elko County, and expansion of the Elko Sewage Treatment Facility. RFFAs also include mining exploration operations including proposed operations from Evolving Gold Corporation and Premier Gold Mines USA, Incorporated. Livestock grazing, wildland fires, and dispersed recreation would also continue within the CESA.

Cumulative Impacts

Past, present, and RFFAs have the potential to impact water quality. Impacts from existing roads within the CESA have potentially increased erosion. Roads increase surface water run-off and can create impervious surfaces (depending on the surfacing type of the road) that concentrate runoff and increase soil erosion and sedimentation potential. Impacts from existing utilities (e.g. gas pipelines, water pipelines, and power lines) removed vegetation during construction, and increased soil compaction which may increase erosion and sedimentation within the CESA. However, surface reclamation was likely completed on existing utilities, and natural vegetation species have likely re-established to some degree which would increase soil stability and erosion prevention. Since these projects have likely been revegetated to varying degrees, continued impacts on water quality is likely negligible and would be primarily resulting from any maintenance activities required for these utilities.

Mineral material sites and mining and exploration operations within the CESA include the removal of vegetation, which may increase soil erosion potential resulting in an increase of run-off and sediment traveling to downstream surface waters. However, mineral materials sites and mining and exploration operations likely include design features, EPMs and BMPs, as well as reclamation requirements, to reduce run-off and to reduce the likelihood of sediment traveling to downstream surface waters. Urban development and public purpose sites result in increased impervious surfaces and soil compaction within the CESA (e.g. roads, parking areas, sidewalks, etc.) which increase surface run-off, potentially increasing impacts to water quality. However, properly planned urban design likely includes appropriate drainage provisions (e.g. storm drain system) to reduce impacts from run-off. There are no data to provide quantifiable impacts to water quality from livestock grazing, wildland fire, and dispersed recreation; however, these uses may increase runoff and sedimentation within the CESA.

Approximately 91,420 acres of disturbance are associated with past, present, and RFFAs within the CESA, which is a disturbance of approximately 55 percent of the CESA. The Proposed Action would increase the disturbance within the CESA by approximately 45.31 acres, which would result in an incremental impact of approximately 0.03 percent. Wildfire accounts for 74,582 acres of this disturbance. Because disturbance associated with wildfire is temporary, removing this acreage from the total overall cumulative acres results in total of 16,838 past, present, and RFFA disturbance acres, or approximately 10 percent of the CESA. The Proposed Action would increase the disturbance within the CESA by approximately 45.31 acres, which would result in an incremental impact of approximately 0.3 percent. Because areas that have previously been impacted by wildland fire have likely revegetated, these disturbance acres have not been included in the disturbance calculation. The Proposed Action would result in a negligible disturbance increase within the CESA, but would result in vegetation removal, increased compaction and increased impervious surface area within the CESA. The proponent has committed to the EPMs in Section 2.1.1, which includes requirements to use BMPs. As a result of the EPMs associated with the Proposed Action, and the proposed project disturbance resulting in less than one percent disturbance increase within the CESA, the Proposed Action, in combination with past, present, and RFFAs, would result in minor cumulative impacts to water quality.

3.6.3. No Action Alternative

3.6.3.1. Environmental Consequences

Under the No Action Alternative, the ROW would not be granted, and development would not occur within the project area. The two intermittent drainages would not be crossed, and there would be no impacts to water quality.

3.6.3.2. Cumulative Impacts

Because there would be no additional impacts as a result of the No Action Alternative, cumulative effects have not been analyzed.

3.7. Access, Realty, and Land Use

3.7.1. Affected Environment

The project area consists of approximately 634 acres of BLM-administered land in the northwest part of the City. Access to the site is gained by traveling north on State Route 225, turning left onto Carriage Loop, or by traveling north on State Route 225, turning left on Sundance Drive, turn right on Tamarack Road.

The project area is located entirely on public land administered by the BLM Elko District Office, Tuscarora Field Office in Elko, Nevada. Section 18 has also been annexed into the corporate limits of Elko.

Major land uses in the project area include wildlife habitat and dispersed recreation, including OHV use and walking. The LR2000 was queried to determine ROWs and land use authorizations within the project area. There are no authorized ROWs and land use authorizations within the project area.

There are no BLM Wilderness Study Areas, herd management areas, or designated harvest areas (e.g., Christmas trees, pine nuts, etc.) within the project area. The surrounding area is a mix of BLM-administered land and private property (residential areas).

3.7.2. Proposed Action

3.7.2.1. Environmental Consequences

The proposed project would not restrict access to BLM-administered lands within the project area, although access points may change as the ROW is developed. Therefore, impacts to access would be long-term and negligible.

The Proposed Action would permanently disturb 45.31 acres of the project area, which would no longer be available for recreational use, wildlife habitat, and other land uses. However, the Proposed Action would not interfere with existing land uses in the remainder of the project area or surrounding areas. Therefore, the Proposed Action would have long-term negligible impacts on land use.

The project area lies within an area designated for sales for community expansion in the Elko RMP (BLM, 1987). Authorization of the ROW would be consistent with the Elko RMP (BLM, 1987) as the area would be used for needs of community expansion. Granting of the ROW may impact future realty actions of the project area; therefore, impacts to realty actions would be long-term and minor.

3.7.2.2. Cumulative Impacts

The Land Use, Access, and Realty CESA is approximately 165,752 acres in size, and consists of the Dry Susie Creek-Humboldt Watershed (HUC 10).

Past and Present Disturbances

Past and present BLM authorizations within the CESA include various ROWs and land uses. The primary past and present ROWs and land use authorizations within the CESA include numerous miles of I-80, State Route 225, State Route 278, State Route 227, county/city roads, and various unpaved roads; portions of Southwest Gas Corporation's Paiute Pipeline (natural gas pipeline), as well as portions of other natural gas pipelines; portions of several overhead power transmission and distribution lines; numerous miles of water pipelines, water wells and irrigation facilities; fences and cattle guards; communication facilities; and portions of several underground fiber optic lines and telephone lines. BLM authorizations within the CESA also include mineral material sites (i.e. sand and gravel operations); mining development and exploration operations including operations associated with Newmont Mining Corporation's Rain Mine and Woodruff Creek Project; and recreation and public purpose sites including the Elko Rifle and Pistol Range and the Elko Sewage Treatment Facility. Urban development within the CESA is primarily located in Elko and Carlin. Livestock grazing, wildland fire, and dispersed recreation also occur throughout the CESA.

Reasonably Foreseeable Future Actions

RFFAs within the CESA include pending authorizations for recreation and public purpose sites including the West Elko Riding and Racing Complex, the Elko Institute for Academic Achievement Charter School, conveyance of the Elko County Motocross site to Elko County, and expansion of the Elko Sewage Treatment Facility; and mining exploration operations including proposed operations from Evolving Gold Corporation and Premier Gold Mines USA Inc. Livestock grazing, wildland fire, and dispersed recreation would also continue within the CESA.

Cumulative Impacts

Past, present, and RFFAs have the potential to impact land use, access, and realty. Impacts from existing roads within the CESA may have indirect impacts through increased access to land uses within the CESA, which may increase the frequency and intensity of uses such a dispersed recreation within the CESA. Impacts from utilities (e.g. gas pipelines, water pipelines, and power lines) resulted in short-term direct impacts from access restrictions during construction of the utilities. However, construction activities for these actions are short-term and are likely no longer occurring with exception of the Paiute Pipeline, which was being constructed within the CESA during the development of this document. Additional access restriction may occur during maintenance operations, but access restrictions would be temporary and once maintenance operations cease, access restriction would likely no longer occur. However, the utilities within

the CESA have permanent easements (on private land) or ROWs (on public administered land) associated with them, which would restrict certain types of land uses within the ROW/easement area.

Mineral material sites and mining and exploration operations within the CESA likely have some level of restricted public access associated with them. In addition, these activities also prevent other land uses from occurring within the boundaries of the operations. However, once the mineral material sites, mining and exploration operations within the CESA are closed and reclaimed, this land would be open for other land uses, including livestock grazing and dispersed recreation. Urban development and public purpose sites often permanently restrict other types of land uses from occurring within the urban development or public purpose site boundary, such as mining and exploration operations, livestock grazing, and to a certain extent, dispersed recreation opportunities. Fencing associated with livestock grazing within the CESA may restrict land use access.

Wildfires can create impacts on land use and access, primarily for livestock grazing, agriculture, and recreation. These impacts are typically short-term until revegetation and/or restoration is complete.

Approximately 91,420 acres of disturbance are associated with past, present, and RFFAs within the CESA, which is a disturbance of approximately 55 percent of the CESA. The Proposed Action would increase the disturbance within the CESA by approximately 45.31 acres, which would result in an incremental impact of approximately 0.3 percent. Wildfire accounts for 74,582 acres of this disturbance. Because disturbance associated with wildfire is temporary, removing this acreage from the total overall cumulative acres results in total of 16,838 past, present, and RFFA disturbance acres, or approximately 10 percent of the CESA. The Proposed Action would result in a negligible disturbance increase within the CESA. The proponent has committed to the EPMS in Section 2.1.1, which includes requirements to not restrict access to public lands. As a result of the EPMS associated with the Proposed Action, and that the proposed project disturbance would result in less than one percent disturbance increase within the CESA, the Proposed Action, in combination with past, present, and RFFAs, would result in negligible cumulative impacts to land use, access, and realty.

3.7.3. No Action Alternative

3.7.3.1. Environmental Consequences

Under the No Action Alternative, no changes in access, realty, or land use would occur; therefore, no impacts would be expected. The project area would be available for other future land uses.

3.7.3.2. Cumulative Impacts

Because there would be no additional impacts as a result of the No Action Alternative, cumulative effects have not been analyzed.

3.8. Noise

3.8.1. Affected Environment

Sound is mechanical waves of pressure that propagate through compressible media such as air or water. Sound can be described using the following three variables: amplitude (loudness), frequency (pitch), and time pattern. Sound pressure is the amplitude of the difference between atmospheric pressure (no sound present) and total pressure (with sound present), which is measured in decibels (dB). The decibel scale is logarithmic, not linear, meaning that sounds are not additive. When sound becomes excessive, annoying, or unwanted, it is referred to as noise.

Construction activities within the ROW may affect overall noise in the project area. The ambient sound level of a region is defined by the total noise generated within the specific environment and is usually comprised of natural and manmade sounds. At any location, both the magnitude and frequency of environmental noise may vary considerably over the course of a day and throughout the week.

Two measurements used by some federal agencies to relate the time-varying quality of environmental noise to its known effects on people are the equivalent sound level (L_{eq}) and the day-night sound level (L_{dn}). The L_{eq} is an A-weighted sound level containing the same sound energy as the instantaneous sound levels measured over a specific time period. The A-weighted (dBA) scale is used because human hearing is less sensitive to low and high frequencies than mid-range frequencies. Noise levels are perceived differently, depending on length of exposure and time of day. The L_{dn} takes into account the duration and time the noise is encountered. Specifically, in the calculation of the L_{dn} late night and early morning (10:00 p.m. to 7:00 a.m.), 10 dB are added to noise levels to account for people's greater sensitivity to sound during the early morning hours. Table 3.7, "Sound Levels (dBA) and Relative Loudness" provides the relative dBA noise levels of common sounds measured in the environment and industry.

Table 3.7. Sound Levels (dBA) and Relative Loudness

Noise Source or Activity	Sound Level(dBA)	Subjective Impression	Relative Loudness
Jet aircraft takeoff from carrier (75 feet)	150	Eardrum rupture	N/A
Rock Concert	110-140	Threshold of pain (125 dB)	N/A
Thunder / Chainsaw	120	Threshold of Sensation	32 times as loud
Jet flyover (1,000 feet)	100	Very loud	8 times as loud
Garbage disposal (2 feet)	80	Loud	2 times as loud
Vacuum cleaner (10 feet)	70	Moderate	Reference loudness
Conversation in a restaurant	60	Fairly quiet	½ as loud
Light auto traffic (100 feet)	50	Quiet	¼ as loud
Quiet rural area	30	Very quiet	1/16 as loud
Whisper / Rustling leaves	20	Extremely quiet	N/A
Breathing	10	Barely audible	N/A

Source: Adapted from the following websites: National Institute on Deafness and Other Communication Disorders (<http://www.nidcd.nih.gov/staticresources/health/education/teachers/CommonSounds.pdf>), Noise Help (www.noisehelp.com/noise-level-chart.html), and Industrial Noise Control (<http://www.industrialnoisecontrol.com/comparative-noise-examples.htm>)

The EPA has determined that, in order to protect the public from activity interference and annoyance outdoors in residential areas, noise levels should not exceed an L_{dn} of 55 dBA. In

general, a 3 dB change in sound level is considered to be barely perceivable by the human ear. A 5 dB change in sound level is considered noticeable, while a 10 dB increase is perceived as if the sound intensity has doubled.

Other federal regulations that pertain to noise beyond the immediate work environment include the Noise Emission Standards for Construction Equipment in 40 CFR 204 and Noise Emission Standard for Transportation Equipment in 40 CFR 205. There are no State of Nevada or Elko County regulations regarding noise that are applicable to the Proposed Action.

Existing noise sources in the project area include all-terrain vehicles (ATVs), dirt bikes, automobiles, roadways (State Route 225 and I-80), lawnmowers, domestic animals, air traffic (jets, helicopters, and planes) and residential noises (vacuum cleaners, music, talking, children playing, etc.).

3.8.2. Proposed Action

3.8.2.1. Environmental Consequences

Noise would be generated during construction of the Proposed Action. Noise generation during construction activities would primarily be associated with the use of standard heavy equipment, such as excavators, bulldozers, and large trucks. The number of operating construction vehicles and equipment would vary over the life of the Proposed Action. While individuals and residences in the immediate vicinity of the construction activities would experience an increase in noise, the effect would be temporary. Noise EPMs that would be employed during construction include ensuring that the sound muffling devices, which are provided as standard equipment by the construction equipment manufacturer, are kept in good working order. Generally, nighttime noise is not expected to increase during construction because construction activities would be limited to daytime hours.

Once the Proposed Action is fully constructed, noise may increase due to traffic use on the Cattle Drive roadway. Many factors affect traffic noise, including volume, speed, types of vehicles, driver behavior, road condition, landscape, and weather. Reducing speed limits in residential areas would help to reduce traffic noise. As shown in Table 3.7, “Sound Levels (dBA) and Relative Loudness” above, light auto traffic creates about 50 dBA, which would still be under the 55 level suggested by the EPA as preventing activity interference and annoyance. The City of Vancouver reported that urban residential areas near an arterial road experienced a 24-hour average noise level of 55-60 dBA. The area surrounding the project area would be more typical of a suburban area which would be quieter than an urban area; therefore, exceedance of the 55 dBA threshold due to traffic noise is not anticipated. Additionally, the surrounding residential area currently experiences traffic noise from State Route 225 and I-80; therefore, noise from the proposed roadway would likely not differ or add to the current traffic noise. Noise may also indirectly impact wildlife by disrupting mating, nesting, migration, or feeding activities. However, noise impacts to wildlife are not well understood. Overall, the Proposed Action would be anticipated to have short-term, minor impacts to noise during the construction phase, and long-term, minor impacts after full build-out.

3.8.2.2. Cumulative Impacts

The Noise CESA is approximately 634 acres in size, and consists of T34N, R55E, Section 18.

Past and Present Disturbances

Past and present disturbances within the CESA include numerous miles of unpaved roads. Past and present actions also include livestock grazing and dispersed recreation. The LR2000 data base was queried for this CESA, and there were no authorized ROWs or land use authorizations within the CESA. Approximately one acre of the CESA has been documented as previously burned.

Reasonably Foreseeable Future Actions

RFFAs within the CESA include a pending authorization for the Elko Institute for Academic Achievement Charter School.

Cumulative Impacts

Past, present, and RFFAs have the potential to impact noise in the CESA boundary. Existing noise in the CESA is a result of OHV vehicles, shooting, wildlife (songbirds), livestock, conversational talking, and dog barking within the CESA. Areas adjacent to the CESA are also heard while within the CESA, such as road noise from I-80, State Route 225, and adjacent urban infrastructure and housing. RFFA's would increase noise in the CESA through an increased number of vehicles present within the CESA and potential future development within and around the CESA.

The creation of the road would create an opportunity to introduce vehicles and other users (pedestrians, cyclists, etc.) into the area. The noise generated by the road and people using it would be consistent with the noises currently generated in the CESA as well as the surrounding area. As shown in Table 3.7, "Sound Levels (dBA) and Relative Loudness", light auto traffic creates about 50 dBA, which would still be under the 55 level suggested by the EPA as preventing activity interference and annoyance.

The Proposed Action would contribute additional noise within the CESA boundary; however, the proponent has committed to the EPMS in Section 2.1.1. These include requirements to use sound muffling devices on applicable machinery during construction of the Proposed Action. These EPMS would reduce impacts to noise during construction within the CESA. As a result of the EPMS associated with the Proposed Action, in combination with past, present, and RFFAs, would result in moderate cumulative impacts to noise.

3.8.3. No Action Alternative

3.8.3.1. Environmental Consequences

Under the No Action Alternative, no change in existing noise levels would be expected.

3.8.3.2. Cumulative Impacts

Because there would be no additional impacts as a result of the No Action Alternative beyond those which are currently occurring, cumulative effects have not been analyzed.

3.9. Recreation

3.9.1. Affected Environment

The project area is designated for dispersed recreation activities and has no OHV restrictions (BLM, 1987). There are no Special Recreation Management Areas designated within the project area. As such, the project area offers many recreational opportunities, such as OHV use, picnicking, horseback riding, general leisure, and bird watching. Although target shooting has been conducted within the project area, this is considered an illegal activity according to City Code 5-9-1 because the project area is location within city limits.

3.9.2. Proposed Action

3.9.2.1. Environmental Consequences

Construction of the Proposed Action may reduce the amount of recreational use within the project area due to the presence of workers and construction equipment. Additionally, the Proposed Action would impact a small portion of the project area. Dispersed recreation opportunities are abundant around Elko and in close proximity to the project area; therefore, impacts to recreation would be long term and negligible. Access is discussed in Section 3.7. Implementation of the Proposed Action may also reduce the amount of illegal activity in the project area (e.g., target shooting and dumping).

3.9.2.2. Cumulative Impacts

The Recreation CESA is approximately 165,752 acres in size, and consists of the Dry Susie Creek-Humboldt Watershed (HUC 10).

Past and Present Disturbances

Past and present BLM authorizations within the CESA include various ROWs and land uses. The primary past and present ROWs and land use authorizations within the CESA include numerous miles of I-80, State Route 225, State Route 278, State Route 227, county/city roads, and various unpaved roads; portions of Southwest Gas Corporation's Paiute Pipeline (natural gas pipeline), as well as portions of other natural gas pipelines; portions of several overhead power transmission and distribution lines; numerous miles of water pipelines, water wells and irrigation facilities; fences and cattle guards; communication facilities; and portions of several underground fiber optic lines and telephone lines. BLM authorizations within the CESA also include mineral material sites (i.e. sand and gravel operations); mining development and exploration operations including operations associated with Newmont Mining Corporation's Rain Mine and Woodruff Creek Project; and recreation and public purpose sites including the Elko Rifle and Pistol Range and the Elko Sewage Treatment Facility. Urban development within the CESA is primarily located in Elko and Carlin. Livestock grazing, wildland fire, and dispersed recreation also occur throughout the CESA.

Reasonably Foreseeable Future Actions

RFFAs within the CESA include pending authorizations for recreation and public purpose sites including the West Elko Riding and Racing Complex, the Elko Institute for Academic Achievement Charter School, conveyance of the Elko County Motocross site to Elko County, and expansion of the Elko Sewage Treatment Facility. RFFAs also include mining exploration operations including proposed operations from Evolving Gold Corporation and Premier Gold Mines USA Inc. Livestock grazing, wildland fire, and dispersed recreation would also continue within the CESA.

Cumulative Impacts

Past, present, and RFFAs have the potential to impact recreation. Impacts from existing roads within the CESA may have indirect impacts on recreation through increased access to dispersed recreation opportunities within the CESA, which may increase the frequency and intensity of recreational uses within the CESA. In addition, the roads within the CESA may be used for recreational enjoyment (e.g. scenic driving). For those seeking solitude and a primitive outdoor experience, roads may impact the recreation experience by increasing human presence and the number of man-made features within the CESA. Impacts from utilities (e.g. gas pipelines, water pipelines, and power lines) resulted in short-term direct impacts from access restrictions during construction of the utilities. However, construction activities for these actions are short-term and are likely no longer occurring. Additional access restrictions may occur during maintenance operations, but these restrictions would be temporary and once maintenance operations cease, access restrictions would likely no longer occur. Existing above ground utilities (e.g. power lines) may affect the recreation setting by altering the natural appearing environment to one which includes additional man-made features.

Mineral material sites and mining and exploration operations within the CESA likely have some level of restricted public access associated with them, which may result in recreationists being displaced to other areas outside of the CESA. Mineral materials sites and mining operations may reduce the available recreation opportunities within the CESA for the life of the operations. These activities also affect the recreation setting by increasing human presence and noise within the CESA, thus reducing the feeling of solitude and isolation for those seeking a more primitive recreation experience. Once these operations are closed and reclaimed, recreation activities would likely resume with little or no impact. However, reclaimed areas may continue to have visual impacts to the recreation setting for several years. Urban development and public purpose sites may result in a permanent loss of area available for dispersed recreational activities. Some of the public purpose sites within the CESA include recreation facilities such as the Elko Rifle and Pistol Range. This may increase certain recreational opportunities within the CESA; however, these areas will also no longer be available for other dispersed recreation opportunities. Livestock grazing has likely had negligible impacts to recreation activities unless fencing associated with livestock grazing has restricted recreational activities. Wildland fire can change the existing landscape; however, past wildland fire disturbances do not typically prevent recreation access or enjoyment.

Approximately 91,420 acres of disturbance are associated with past, present, and RFFAs within the CESA, which is a disturbance of approximately 55 percent of the CESA. The Proposed Action would increase the disturbance within the CESA by approximately 45.31 acres, which would result in an incremental impact of approximately 0.3 percent. Wildfire accounts for 74,582 acres of this disturbance. Because disturbance associated with wildfire is temporary, removing

this acreage from the total overall cumulative acres results in total of 16,838 past, present, and RFFA disturbance acres, or approximately 10 percent of the CESA. The Proposed Action would result in a negligible disturbance increase within the CESA. The proponent has committed to the EPMs in Section 2.1.1, which includes requirements to not restrict access to public lands. As a result of the EPMs associated with the Proposed Action, and that the proposed project disturbance would result in less than one percent disturbance increase within the CESA, the Proposed Action, in combination with past, present, and RFFAs, would result in negligible cumulative impacts to recreation resources within the CESA. In addition, there are many areas adjacent to the CESA which allow for similar recreation opportunities as those offered within the CESA.

3.9.3. No Action Alternative

3.9.3.1. Environmental Consequences

Under the No Action Alternative, no changes in recreational opportunities would be anticipated within the project area.

3.9.3.2. Cumulative Impacts

Because there would be no additional impacts as a result of the No Action Alternative beyond those which are currently occurring, cumulative effects have not been analyzed.

3.10. Visual Resources

3.10.1. Affected Environment

The Visual Resource Management (VRM) system designates classes for BLM-administered lands in order to identify and evaluate scenic values to determine the appropriate levels of management during land use planning (Table 3.8, “BLM Visual Resource Management Classes”). Each management class portrays the relative value of the visual resources and serves as a tool that describes the visual management objectives (BLM, 1986).

Table 3.8. BLM Visual Resource Management Classes

Class	Description
I	The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.
II	The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any change must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
III	The objective of this class is to partially retain the existing character of the landscape. The level of change to the character should be moderate. Management activities may attract attention, but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Class	Description
IV	The objective of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. Management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.
Source: BLM, 1986	

Approximately 603 acres of the project area are currently designated as VRM Class II, and 33 acres are currently designated as VRM Class IV (Map B.4, “Visual Resources Class and Illegal Dump Locations”). The objective of Class II is to retain the existing character of the landscape, and the level of change to the character landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. The objective of Class IV is to provide for management activities that allow for major modification of the existing character of the landscape, while making every attempt to minimize the visual impact of the activities through careful location, minimal disturbance and repeating the basic elements of form, line, color, and texture (BLM, 1986).

A majority of the proposed project area is within the I-80 low visibility corridor. The I-80 corridor was designated as a low visibility corridor in the Elko and Wells Resource Management Plans in order to minimize visual impacts along 1.5 miles on either side of the interstate (BLM, 1986). Within this three-mile wide low visibility corridor, the objective for visual resources is for management actions not to be evident in the characteristic landscape. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape (BLM, 1986).

There are two major topography changes in the section which include a drop off in the center of the section and a second drop off in the southwest corner of the section. These topography changes create smooth, rolling features. The soil in the section is light tan and appears bright where exposed. There is no surface water in the project area.

Vegetation within the project area is described in Section 3.13, and consists of sagebrush dominated communities and an area previously burned. Vegetation is sage-green and dense where communities are intact. In areas previously burned, the soil surface is the dominate color, as annual vegetation species present in this area are sparse and change colors throughout the year: green and soft in spring and early summer to golden and crisp in the fall and winter.

There are currently no structures within the project area; however, the northern side and portions of the eastern side of the project area run adjacent to housing developments, and the southern and western sides run adjacent to open land. The structures associated with these developments consist of housing structures, barns, garages, and livestock corrals. Colors of these developments vary.

There are no major travel ways within the project area; however, there are multiple two-track and off road trails. There are numerous paved and dirt roadways in the developed areas adjacent to the project area.

A Key Observation Point survey was conducted on May 1, 2015 and no locations could be identified where the casual motorist traveling on I-80 could see the project area. Contributing factors limiting visibility included the posted speed limit of 65 miles per hour and the topographic variation in the area.

3.10.2. Proposed Action

3.10.2.1. Environmental Consequences

The Proposed Action would change the existing scenic quality of the landscape. Development of the ROW would increase the number of horizontal and linear forms within the landscape. There would be additional areas of exposed, light tan soil that was once vegetation. Eventually, these areas would become pavement and concrete. Construction of the more flat areas that would be developed for future tank installation would add regular, flat forms with a uniform, smooth texture from vegetation removal which would contrast with the existing irregular, coarse texture of the existing vegetated landscape. However, these features would be consistent with development of the adjacent sections. The topography of the project area may reduce some of the visual impacts resulting from the Proposed Action by breaking up a direct line-of-sight to the disturbances with various topographic features and varying grade changes.

Because dispersed recreation occurs throughout the project area, the development of the Proposed Action, including roadways and tanks, would likely be visible to recreationists using the project area from certain viewpoints. In addition, the Proposed Action may be visible outside of the project area where the elevation is higher than where activities are occurring. The Proposed Action may be visible from certain viewpoints at higher elevations. However, the Proposed Action would not attract attention to the casual observer due to the varied elevations and previous disturbances adjacent to the project area.

Vegetation removal may create additional areas of patchy texture as compared to vegetated areas of the surrounding landscape. However, this would mimic the surroundings developments and adjacent to the project area and existing roads within the project area.

The development of the roadways would create additional linear, sinuous features to the project area. This would initially be a light tan dirt road that is developed to a gray or black paved roadway. Road grades would not exceed seven percent. Development of water storage infrastructure would introduce smooth, flat, regular shaped structures to the project area. The storage tanks would be painted one shade darker than the surrounding vegetation. As described in Section 2.1.2, paint color selection may be assisted by the use of the BLM's Standard Environmental Color Chart (BLM, 2008b).

The Proposed Action activities would modify the landscape characteristics, and would deviate from the form, line, color, texture, and pattern common with the existing landscape character. However, the Proposed Action is consistent with the management objectives for Classes III and IV. The Proposed Action would not dominate the view of the casual observer, and would be consistent with surrounding development. Long-term, moderate visual impacts would occur as the roadways and water tanks are developed; however, this is consistent with existing disturbance in the surrounding area.

3.10.2.2. Cumulative Impacts

The Visual Resources CESA is approximately 165,752 acres in size, and consists of the Dry Susie Creek-Humboldt Watershed (HUC 10).

Past and Present Disturbances

Past and present BLM authorizations within the CESA include various ROWs and land uses. The primary past and present ROWs and land use authorizations within the CESA include numerous miles of I-80, State Route 225, State Route 278, State Route 227, county/city roads, and various unpaved roads; portions of Southwest Gas Corporation's Paiute Pipeline (natural gas pipeline), as well as portions of other natural gas pipelines; portions of several overhead power transmission and distribution lines; numerous miles of water pipelines, water wells and irrigation facilities; fences and cattle guards; communication facilities; and portions of several underground fiber optic lines and telephone lines. BLM authorizations within the CESA also include mineral material sites (i.e. sand and gravel operations); mining development and exploration operations including operations associated with Newmont Mining Corporation's Rain Mine and Woodruff Creek Project; and recreation and public purpose sites including the Elko Rifle and Pistol Range and the Elko Sewage Treatment Facility. Urban development within the CESA is primarily located in Elko and Carlin. Livestock grazing, wildland fire, and dispersed recreation also occur throughout the CESA.

Reasonably Foreseeable Future Actions

RFFAs within the CESA include pending authorizations for recreation and public purpose sites including the West Elko Riding and Racing Complex, the Elko Institute for Academic Achievement Charter School, conveyance of the Elko County Motocross site to Elko County, and expansion of the Elko Sewage Treatment Facility; and mining exploration operations including proposed operations from Evolving Gold Corporation and Premier Gold Mines USA Inc. Livestock grazing, wildland fire, and dispersed recreation would also continue within the CESA.

Cumulative Impacts

Impacts from past, present, and RFFAs may impact the form, line, color and texture of the landscape within the CESA. Roads and utilities, particularly above ground utilities such as power lines, increase the presence of prominent, linear features throughout the CESA which may contrast with less distinct features of the natural landscape. Roads, utilities, mineral materials sites, and mining and exploration operations result in direct impacts to visual resources by removing vegetation which may impact the texture, color and form of the existing landscape by adding areas of bare soil which contrasts with undisturbed areas covered with vegetation. Mining operations use equipment which may result in indirect impacts by increasing glare within the CESA. Mineral material sites and mining and exploration operations may impact the form and line of the CESA by adding linear features (e.g. roads and power lines), and both regular (i.e. exploration pads) and irregular (i.e. gravel pits) shapes. These operations may result in the addition of patchy, smooth (e.g. areas cleared of vegetation) textures throughout the CESA as opposed to undisturbed areas with a more medium to coarse gradation.

Wildland fires can result in the loss of vegetation, which would impact the form, color, and texture of the existing landscape. Burned areas, if occurring as a natural wildland event, are noticeable, yet typically are not perceived as a human-caused or intrusive development. There are no specific data to quantify impacts to visual resources as a result of continued dispersed recreation and livestock grazing, or potential wildland fires.

Urban development and public purpose sites within the CESA may directly impact the form, line, color and texture of the CESA by the addition of prominent, uniform, solid, geometric features

within the CESA, and urban development may indirectly increase glare from buildings while adding colors more consistent with urban areas rather than the earth tones characteristic of the natural environment. Livestock grazing and dispersed recreation are visually a very small part of the landscape within the CESA and generally are less visible than other actions within the CESA. Visual impacts from livestock grazing primarily result from fences which may impact the visual texture and form of the landscape by adding contrasting, linear features to the landscape. Primary impacts from dispersed recreation may include visual impacts associated with OHV use. Reclamation and natural vegetation of portions of the ground disturbance associated with past, present, and RFFAs has likely occurred, or would likely be required in some disturbed areas, which would reduce overall cumulative visual impacts.

Approximately 91,420 acres of disturbance are associated with past, present, and RFFAs within the CESA, which is a disturbance of approximately 55 percent of the CESA. The Proposed Action would increase the disturbance within the CESA by approximately 45.31 acres, which would result in an incremental impact of approximately 0.03 percent. Wildfire accounts for 74,582 acres of this disturbance. Because disturbance associated with wildfire is temporary, removing this acreage from the total overall cumulative acres results in total of 16,838 past, present, and RFFA disturbance acres, or approximately 10 percent of the CESA. The Proposed Action would increase the disturbance within the CESA by approximately 45.31 acres, which would result in an incremental impact of approximately 0.3 percent. Because wildland fires are often naturally occurring on the landscape, disturbance acres associated with these past actions have not been included in the disturbance calculations. The Proposed Action would have long-term visual impacts within the CESA. However, the proponent has committed to the EPMs in Section 2.1.1, which includes requirements to paint water tanks in a manner to reduce visual impacts with the surrounding area, and to put trash within an appropriate on-site receptacle. As a result of the EPMs associated with the Proposed Action, and that the proposed project disturbance would result in less than one percent disturbance increase within the CESA, the Proposed Action, in combination with past, present, and RFFAs, would result in minor cumulative impacts to visual resources.

3.10.3. No Action Alternative

3.10.3.1. Environmental Consequences

Under the No Action Alternative, no changes in visual resources would occur. The project area would continue to be used for off-road and dispersed recreation. The area would also continue to be used for illegal dumping.

3.10.3.2. Cumulative Impacts

Because there would be no additional impacts as a result of the No Action Alternative beyond those which are currently occurring, cumulative effects have not been analyzed.

3.11. Special Status Species

3.11.1. Affected Environment

The project area occurs in habitat for terrestrial wildlife designated as special status species. Nevada BLM policy is to provide Nevada BLM Sensitive or Special Status Species with the same

level of protection as is provided for candidate species in BLM Manual 6840.06C. BLM's Special Status Species Policy (6840) states that "... the BLM shall implement management plans that conserve candidate species and their habitats and shall ensure that actions authorized, funded, or carried out by BLM do not contribute to the need for the species to become listed" (section 6840.06C). The policy also states that "...the protection provided by the policy for candidate species shall be used as the minimum level of protection for BLM sensitive species" (section 6840.06E). In the BLM Instruction Memorandum No. NV-98-013, Nevada-protected animals that meet BLM's 6840 policy definition are those species of animals occurring on BLM-managed lands in Nevada that are: (1) 'protected' under authority of NACs 501.100 - 503.104; (2) have been determined to meet BLM's policy definition of "listing by a State in a category implying potential endangerment or extinction," and (3) are not already included as a federally listed, proposed, or candidate species. Definitions of special status species are as follows:

- Federally Threatened or Endangered Species: Any species the USFWS has listed as an endangered or threatened species under the ESA throughout all or a significant portion of its range;
- Proposed Threatened or Endangered Species: Any species the USFWS has proposed for listing as a federally endangered or threatened species under the ESA;
- Candidate Species: Plant and animal taxa under consideration for possible listing as threatened or endangered under the ESA;
- Delisted species: Any species delisted in the last five years;
- BLM Sensitive Species: Native species found on BLM-administered lands for which the BLM has the capability to significantly affect the conservation status of the species through management, and either: 1) there is information that a species has undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range; or 2) the species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk (BLM, 2008c); and
- State of Nevada Species of Conservation Priority: State-protected animals that have been listed in the Nevada Wildlife Action Plan.

The listing of Nevada BLM Special Status Species is based on input provided by BLM, NDOW, and USFWS in BLM Instruction Memorandum No. IM-NV-2011-059-A01. The listing of Nevada state-protected species is contained in NAC Chapter 503, Sections 030 (Mammals), 050 (Birds), 065 and 067 (Fish), 075 (Amphibians), and 080 (Reptiles). Migratory bird species, including those that are special status species, are discussed in Section 3.3.

A species record search and consultation was completed by obtaining information from NDOW, NNHP, and through the USFWS IPaC system.

NNHP reported that no at-risk taxa have been recorded in the project area or within a 3.1-mile buffer. However, NNHP did indicate that habitat may be available for the Nevada viceroy (*Limenitis archippus lahontani*) and the western small-footed myotis (*Myotis ciliolabrum*). Nevada viceroy habitat includes riparian areas and other areas where willow (*Salix* sp.) grows (NatureServe, 2014); therefore, this species is unlikely to occur in the project area due to a lack of

suitable habitat. Although known to occur throughout the state (Bradley et al., 2006), the western small-footed myotis is not likely to occur in the project area because it hibernates in mines and caves and raises young in cliff-face crevices and erosion cavities (BCI, 2015), none of which is present in the project area.

Another species on the Nevada BLM Sensitive Species List with potential to occur in the project area is pygmy rabbit (*Brachylagus idahoensis*). Although the project area provides some potential pygmy rabbit habitat in the southeast portion of the project area, the species has not been observed during field surveys in 2014 or 2015 (JBR, 2014; Stantec, 2015a and 2015b). The northeast and western portion of the project area is dominated by lower statured, sparse sagebrush (*Artemisia tridentata*), which is not typical pygmy rabbit habitat. The drainage running from the northwest to the southeast of the project area is steep and heavily used by OHV and ATV traffic, which makes this area unsuitable pygmy rabbit habitat. The southeast portion of the project area has dense, tall sagebrush that may support pygmy rabbits.

The project area is mapped as approximately 606 acres of GHMA and approximately 28 acres of OHMA by the Nevada Sagebrush Ecosystem Program (Map B.5, “Greater Sage-grouse Mapped Habitat”). NDOW habitat characterization and field visits did not identify viable habitat in the project area. NDOW (2015) reported one lek in the proximity of the project area. This lek is approximately 3.5 miles from the northwest corner of the project area and was determined to be inactive during the 2014 NDOW lek survey.

3.11.2. Proposed Action

3.11.2.1. Environmental Consequences

Initial queries indicated a potential for several special status species to occur within the project area. Further analysis determined that suitable habitat for those species is lacking or very limited within the project area; therefore, impacts to special status species would be long-term and negligible. The Proposed Action would have long-term negligible impacts on greater sage-grouse and their habitat. Although occurring within GHMA and OHMA, suitability of the project area for use by greater sage-grouse is decreased because the project area lies within the wildland-urban interface. Additionally, there was no evidence of greater sage-grouse use in the project area during baseline surveys. Environmental Consequences as a result of the Proposed Action for migratory bird special status species are discussed in Section 3.3.2.

3.11.2.2. Cumulative Impacts

The Wildlife CESA, which includes Special Status Species, is approximately 51,035 acres in size and consists of the Blue Basin Allotment and the adjoining private lands in T34N, R55E, Section 19.

The Greater Sage-grouse CESA is approximately 1,734,064 acres in size, and consists of the North Fork Greater Sage-grouse PMU. The CESA consists of Core (High), Priority (Moderate), General (Low) and Non-habitat categories.

Past and Present Disturbances

Special Status Species: Past and present BLM authorizations within the CESA include various ROWs and land uses. The primary past and present ROWs and land use authorizations within the CESA include a portion of I-80 and numerous unpaved roads; portions of the Paiute Pipeline (gas pipeline); portions of several overhead power transmission and distribution lines; communication facilities; several miles of water pipelines; and portions of several underground telephone and fiber optic lines. BLM authorizations within the CESA also include mineral material sites (i.e. sand and gravel operations). The CESA includes minimal urban development (residential development) outside Elko. Livestock grazing, wildland fire, and dispersed recreation also occur throughout the CESA.

Greater Sage-grouse: Past and present BLM authorizations within the CESA include various ROWs and land uses. The primary past and present ROWs and land use authorizations within the CESA include numerous miles of State Route 225, State Route 226, State Route 11A (Maggie Summit Road), county/city roads and various unpaved roads (including USFS roads and trails); portions of Southwest Gas Corporation's Paiute Pipeline (natural gas pipeline), as well as portions of other natural gas pipelines; portions of several overhead power transmission and distribution lines; numerous miles of water pipelines, water wells, irrigation facilities, and a flood control dam north of Elko; fences and cattle guards; communication facilities; and portions of several underground telephone and fiber optic lines. BLM authorizations within the CESA also include mineral material sites (i.e. sand and gravel operations); mining development and exploration operations including Newmont Mining Corporation's HD Exploration Project and Chevas Project, and Western Exploration's Wood Gulch Project on USFS administered land in the Humboldt-Toiyabe National Forest, Mountain City Ranger District; and recreation and public purpose sites including the Elko Golf Course, the Wildhorse Campground, the Elko Fire Barracks and the East Elko Transportation Complex. Urban development within the CESA is primarily located in Elko and Mountain City. Livestock grazing, wildland fire, and dispersed recreation also occur throughout the CESA.

Reasonably Foreseeable Future Actions

Special Status Species: RFFAs within the CESA include pending authorizations for recreation and public purpose sites. The pending recreation and public purpose sites within the CESA include the West Elko Riding and Racing Complex and the Elko Institute for Academic Achievement Charter School, as well as the conveyance of the Elko County Motocross site to Elko County. Livestock grazing, wildland fire, and dispersed recreation would also continue within the CESA.

Greater Sage-grouse: RFFAs within the CESA include pending authorizations for a mineral material site; recreation and public purpose sites including the West Elko Riding and Racing Complex, the Elko Institute for Academic Achievement Charter School, conveyance of the Elko County Motocross site to Elko County, and a permit to use an area for snowmobile riding and racing events. RFFAs also include an eight-inch diameter oil and gas pipeline proposed by the Paiute Pipeline Company; power transmission and distribution lines; and mining operations including the proposed Patsy Ann Mine (barite mining), Haliburton Energy Services' Heavy Spar Project (barite mining) and the Anova Metals, LLC Big Springs Gold Mine Project which is located on USFS administered land in the Humboldt-Toiyabe National Forest, Mountain City Ranger District. Livestock grazing, wildland fire, and dispersed recreation would also continue within the CESA.

Cumulative Impacts

Special Status Species: The past, present, and RFFAs within the CESA have the potential to impact individuals directly from collision with vehicles along travel routes within the CESA and/or destruction of burrows, or indirectly through impacts to habitat used for forage, cover, reproduction, and brood rearing. Disturbance associated with the mineral materials sites and utilities within the CESA (i.e. oil and gas pipelines, power infrastructure, telecommunication infrastructure, and water infrastructure) may result in vegetation removal which may affect habitat availability and forage area within the CESA. Above ground infrastructure (including roads and overhead power lines) may result in habitat fragmentation. Buried natural gas lines and fiber optic/telephone lines within the CESA remove vegetation during initial construction, but after reclamation is completed for these actions, disturbed areas would be revegetated and cumulative impacts would be reduced if seeding efforts are successful and maintained for the life of the project including treatments for any annual or invasive weeds. Mineral material sites may result in habitat fragmentation and displacement to surrounding habitat. Depending on the wildlife species, fencing within the CESA may result in habitat fragmentation if the fencing restricts wildlife movement. Livestock grazing may increase competition for forage area and may change the structure or composition of native plant communities. Proper livestock rotation and stocking rates assist with reducing impacts from livestock grazing. Impacts from recreation and public purpose sites and urban development may include vegetation and habitat removal. Depending on the type of public purpose site and urban development, these areas may no longer be available for wildlife or special status species habitat. Some types of dispersed recreation activities, such as OHV use, may result in vegetation and wildlife habitat disturbance.

Special status species habitat has been impacted by wildland fires that have occurred in the area. Wildland fires often result in loss of forage area, establishment of invasive weeds, and loss of habitat. Reseeding and restoration activities after wildland fires occur may have positive results on special status species habitat although the effects from these activities are often not realized for many years until desirable plants have had an opportunity to become established.

Disturbances associated with past, present, and RFFAs within the CESA may result in the spread or establishment of non-native invasive plants and noxious weed species which may result in impacts to the quality and quantity of habitat and forage area. Most projects within Nevada are required to control the spread or establishment of noxious species through BMPs, EPMs, and/or reclamation which would reduce cumulative impacts to wildlife habitat from non-native invasive plants and noxious weed species. Reclamation of the present and future actions would assist with reducing impacts to wildlife and special status species individuals and their habitat. Since state and federal regulations require reclamation on most projects, it is reasonable to assume that some of the past and existing disturbed areas within the CESA have been reclaimed, or have become naturally revegetated over time, thus reducing overall cumulative impacts.

Approximately 28,944 acres of disturbance are associated with past, present, and RFFAs within the CESA, which is a disturbance of approximately 57 percent of the CESA. Wildfire accounts for 25,847 acres of this disturbance. Because disturbance associated with wildfire is temporary, removing this acreage from the total overall cumulative acres results in total of 3,097 past, present, and RFFA disturbance acres, or approximately six percent of the CESA. The Proposed Action would increase the disturbance within the CESA by approximately 45.31 acres, which would result in an incremental impact of approximately 0.09 percent. The proponent has committed to the EPMs in Section 2.1.1, which include seasonal restrictions to protect migratory birds, measures to prevent the spread and establishment of non-native invasive plants and noxious weed

species, seasonal clearance surveys for burrowing owls, the removal of unnecessary fencing and modifying required fencing to facilitate wildlife movement. As a result of the EPMs associated with the Proposed Action, and that the proposed project disturbance would result in a minor disturbance increase within the CESA, the Proposed Action, in combination with past, present and RFFAs, would result in minor cumulative impacts to Special Status Species and their habitat.

Greater Sage-grouse: Past, present, and RFFAs within the CESA may have impacted greater sage-grouse and its habitat. Past, present, and RFFAs may potentially result in indirect impacts to greater sage-grouse habitat from vegetation removal and the spread non-native invasive plants and noxious weed species within the CESA. Power lines may result in indirect impacts by increasing greater sage-grouse nest predation by predators because power lines offer increased perching areas for corvids and raptors preying on nests and chicks. Undergrounded utilities (i.e. water pipelines, gas pipelines, telephone and fiber optic lines) may result in indirect impacts from vegetation clearance during construction of the utilities, which likely includes sage brush removal, affecting greater sage-grouse habitat and forage area. However, after reclamation occurs on buried utilities, natural vegetation would gradually re-establish and reduce cumulative impacts from underground utilities.

Roads, mineral material sites, mining and exploration operations within the CESA may increase direct impacts from vehicle-related mortality, as well as indirect impacts resulting from increased noise from heavy equipment during road construction or during mining operations which may result in habitat avoidance, displacement to surrounding areas, fragmentation of greater sage-grouse habitat and disturbance of greater sage-grouse breeding, nesting, and brood rearing behavior. Surface disturbance associated with these activities may also result in the removal of potential forage area and habitat. Depending on the type of public purpose site and urban development, these areas may no longer be available for greater sage-grouse habitat and foraging area.

Dispersed recreation activities such as OHV use may result in vegetation and habitat disturbance, as well as increased noise within the CESA resulting in habitat avoidance or greater sage-grouse displacement to other areas. Impacts from livestock grazing may include competition for forage and water, habitat removal/conversion, and may potentially affect the quality of nesting and brood-rearing habitat. However, proper livestock rotation and stocking rates help to reduce impacts from livestock grazing.

Wildland fire directly removes greater sage-grouse habitat and potentially leads to conversion from sagebrush dominant vegetation cover types to invasive annual grassland monocultures in the long term, which have little or no value to the species. Wildfire fragments greater sage-grouse habitats and leads to increased direct and indirect mortalities of greater sage-grouse within their habitats. Reseeding and restoration activities after wildland fires occur may have positive results on greater sage-grouse habitats although the effects from these activities are often not realized for many years until desirable plants have had an opportunity to become established.

Approximately 654,573 acres of disturbance are associated with past, present, and RFFAs within the CESA, which is a disturbance of approximately 38 percent of the CESA. Wildfire accounts for 629,646 acres of this disturbance. Because disturbance associated with wildfire is temporary, removing this acreage from the total overall cumulative acres results in total of 24,927 past, present, and RFFA disturbance acres, or approximately one percent of the CESA. The Proposed Action would increase the disturbance within the CESA by approximately 45.31 acres, which would result in an incremental impact of approximately 0.01 percent. Past, present, and RFFAs

may have impacted all categories of greater sage-grouse habitat within the CESA to varying degrees. However, the Proposed Action would result in a negligible disturbance increase within the Priority (Moderate) Habitat category. Furthermore, the Proposed Action is located at the wildland-urban interface which would likely decrease greater sage-grouse use of this habitat due to its proximity to urban development. The proponent has committed to the EPMS in Section 2.1.1, which include measures to prevent the spread and establishment of non-native invasive plants and noxious weed species, and the removal of unnecessary fencing and modifying required fencing to facilitate wildlife movement. Since the proposed project disturbance would result in less than one percent disturbance increase within the CESA, and because the Proposed Action is located at the wildland-urban interface, the Proposed Action, in combination with past, present, and RFFAs, would result in negligible cumulative impacts to greater sage-grouse and its habitat.

3.11.3. No Action Alternative

3.11.3.1. Environmental Consequences

Under the No Action Alternative, no additional impacts to special status species or their habitat would be expected. The current level of OHV, ATV, and other recreational use would likely continue, which may deter the extended presence of any special status wildlife species.

3.11.3.2. Cumulative Impacts

Because there would be no additional impacts as a result of the No Action Alternative beyond those which are currently occurring, cumulative effects have not been analyzed.

3.12. Wildlife

3.12.1. Affected Environment

Information regarding any known or potential occurrences of wildlife within or near the project area was requested from NDOW. NDOW responded with a letter and maps focusing on the project area and a four-mile buffer for general wildlife (NDOW, 2015). Information regarding migratory birds is provided in Section 3.3 and special status species information is described in Section 3.11. Big game and general wildlife information is summarized below.

Big Game: Occupied pronghorn antelope distribution is present throughout much of the project area and surrounding four-mile buffer area (NDOW, 2015). The BLM has described the project area and its vicinity as pronghorn antelope winter and intermediate range (BLM, 2014). Elk (*Cervus elaphus*) distribution occurs throughout the entire project area and mainly north of I-80 in the four-mile buffer. Occupied mule deer (*Odocoileus hemionus*) habitat occurs throughout the entire project area and the four-mile buffer. No sign of these species was observed during baseline surveys in 2014 and 2015 (JBR, 2014; Stantec, 2015a and 2015b).

The project area is located within a continuous block consisting of 14 sections of public land. During periods of persistent snow cover, pronghorn antelope utilize a corridor north of I-80, part of which may consist of the project area (BLM, 2014); however, the project area is located adjacent to existing housing developments and near the Elko shooting range; therefore, use may be limited due to existing disturbances in the surrounding areas.

The area provides pronghorn antelope fall and spring transitional range with use also occurring during moderate to extreme winter conditions. Depending on variable periods of inclement weather, persistent snow accumulations and population levels, several hundred to over 2,000 pronghorn (e.g., Winter 2005-06) migrate from relatively large summer range areas located as far north as the Wild Horse Reservoir area, and areas to the west and east approximately 65 miles north of Elko, to a restricted crucial winter range areas in a narrow band north of the I-80 corridor from Carlin to Deeth. This narrow band has been incrementally developed in the last 25 to 30 years, including public lands that have been privatized as a result of BLM lands actions such as the foothills of the Adobe Range near the project area.

Pronghorn antelope were directly in the northern city of Elko limits and within, or in close proximity to, the outlying White Rock, Osino, and Ryndon subdivision housing areas during periods in, at least, the winters of 1992-93, 2002-03 and 2004-05. This was a survival effort to escape temporary to persistent heavy snow cover to 21 inches in depth, and seek thermal cover and foraging areas at the lowest elevation areas adjoining the north side of I-80. Otherwise, during mild winters such as 2013-14 and 2014-15, pronghorn antelope were documented remaining in summer range areas approximately 40 to 45 miles north of Elko during the relatively cold and potential heavy snowfall period in January. Antelope sign was not observed during baseline surveys conducted through 2014 and 2015 in the project area.

Big sagebrush canopy and an intact perennial grass/forb understory needed for forage and cover is present in portions of the project area, the surrounding blocked sections of public lands, and adjoining intact checkerboard private lands. The availability of lower elevation intermediate and winter range habitat with intact shrub cover is considered a critical limiting factor for the affected pronghorn antelope herd unit group. The 2008-09 NDOW Big Game Status report for the affected herd unit group states, “This antelope herd is within the estimated carrying capacity of the winter range. The objective of the 2009 harvest recommendations will be to maintain the population at approximately 750 to 800 antelope, which is compatible with their winter range.” This herd of antelope potentially utilize suitable summer habitat to the north on areas that collectively encompass over one million acres. Management efforts since 2009 by BLM, NDOW, and livestock permittees have resulted in an increase of winter range forage and cover diversity north of Carlin, Nevada on the Dry Gulch/Lower Susie Creek and have mitigated some of the effects of winter range habitat loss for the affected herd unit group.

While the project area is becoming congested due to increased human activities, with the exception of needed ongoing livestock control fence modifications, big game movements from upper elevations to lower elevations in the project area are generally unencumbered for big game use. Big game seek lower elevation areas, particularly, during extreme winter conditions when accumulated and persistent snow depths of 1.5 to 2 feet or more occur at elevations higher than the Proposed Action area. Interstate 80, associated fence/encumbrances, and urban development serve as barriers for big game movements to the south.

General Wildlife: Other species that have been observed in the vicinity of the project area and have potential to occur within the project area are presented in Table 3.9, “General Wildlife Observed in the Vicinity of the Project Area”.

Table 3.9. General Wildlife Observed in the Vicinity of the Project Area

Common Name	Scientific Name
American badger	<i>Taxidea taxus</i>
Bobcat	<i>Lynx rufus</i>

Common Name	Scientific Name
Cottontail	<i>Sylvilagus</i> sp.
Coyote	<i>Canis latrans</i>
Desert horned lizard	<i>Phrynosoma platyrhinos</i>
Great Basin fence lizard	<i>Sceloporus occidentalis longipes</i>
Ord's kangaroo rat	<i>Dipodomys ordii</i>
Striped skunk	<i>Mephitis mephitis</i>
Terrestrial garter snake	<i>Thamnophis elegans vagrans</i>
Source: NDOW, 2015	

3.12.2. Proposed Action

3.12.2.1. Environmental Consequences

General Wildlife: Wildlife may be displaced during construction, due to the increased human presence and use of heavy equipment. Impacts from displacement would be temporary, occurring during construction. However, similar habitat for potentially impacted species is present within the undisturbed portion of the project area and adjacent to the project area. Placement of the ROW within the project area is in close proximity to existing housing and would not bisect the project area. Placement of the ROW would negligibly impact movement of wildlife within the project area and between adjacent suitable habitats. The Proposed Action would have long-term, minor impacts to wildlife and their habitat due to the permanent construction of the roadways and water storage infrastructure.

Big Game: The Proposed Action would develop the ROW adjacent to existing disturbances, consolidating development within the city limits. The proximity to existing disturbance combined with the Proposed Action would limit use by big game in the area. It would also potentially inhibit wildlife from migrating through the project area. The Proposed Action would result in minor long-term impacts to big game; however, it could contribute to incremental cumulative developments into the 14 sections of BLM land.

3.12.2.2. Cumulative Impacts

General Wildlife: The Wildlife CESA is approximately 51,035 acres in size and consists of the Blue Basin Allotment and the adjoining private lands in T34N, R55E, Section 19.

Big Game: The Big Game CESA is approximately 2,083,159 acres in size, and consists of NDOW Management Areas 6 and 7, Hunt Units 061, 062, 064, 071, and 073.

Past and Present Disturbances

General Wildlife: Past and present BLM authorizations within the CESA include various ROWs and land uses. The primary past and present ROWs and land use authorizations within the CESA include a portion of I-80 and numerous unpaved roads; portions of the Paiute Pipeline (gas pipeline); portions of several overhead power transmission and distribution lines; communication facilities; several miles of water pipelines; and portions of several underground telephone and fiber optic lines. BLM authorizations within the CESA also include mineral material sites (i.e. sand and gravel operations). The CESA includes minimal urban development (residential development) outside the City of Elko. Livestock grazing, unknown number of livestock control fencing, wildland fire, and dispersed recreation also occur throughout the CESA.

Big Game: Past and present BLM authorizations within the CESA include various ROWs and land uses. The primary past and present ROWs and land use authorizations within the CESA include numerous miles of I-80, State Route 225, State Route 226, State Route 11A (Maggie Summit Road), county/city roads and various unpaved roads (including USFS roads and trails); portions of Southwest Gas Corporation's Paiute Pipeline (natural gas pipeline), as well as portions of other natural gas pipelines; portions of several overhead power transmission and distribution lines; numerous miles of water pipelines, water wells, irrigation facilities, and a flood control dam north of Elko; fences and cattle guards; communication facilities; and portions of several underground fiber optic lines and telephone lines. BLM authorizations within the CESA also include mineral material sites (i.e. sand and gravel operations); mining development and exploration operations including Western Exploration's Wood Gulch Exploration Project and Doby George Exploration Project on USFS administered land in the Humboldt-Toiyabe National Forest, Mountain City Ranger District; and recreation and public purpose sites including the Elko Golf Course, the Wildhorse Campground, the Elko Fire Barracks, the East Elko Transportation Complex, and conveyance of land for the Independence Valley Community Center. Urban development within the CESA is primarily located in Elko and Mountain City. Livestock grazing, and unknown number of miles of livestock control fencing, wildland fire, and dispersed recreation also occur throughout the CESA.

Reasonably Foreseeable Future Actions

General Wildlife: RFFAs within the CESA include pending authorizations for recreation and public purpose sites. The pending recreation and public purpose sites within the CESA include the West Elko Riding and Racing Complex and the Elko Institute for Academic Achievement Charter School, as well as the conveyance of the Elko County Motocross site to Elko County. Livestock grazing, wildland fire, and dispersed recreation would also continue within the CESA.

Big Game: RFFAs within the CESA include pending authorizations for a mineral material site; recreation and public purpose sites including the West Elko Riding and Racing Complex, the Elko Institute for Academic Achievement Charter School, conveyance of the Elko County Motocross site to Elko County, a pending permit to use an area for snowmobile riding and racing events ; an eight-inch diameter oil and gas pipeline proposed by the Paiute Pipeline Company; power transmission and distribution lines; and mining operations including the proposed Haliburton Energy Services' Heavy Spar Project (barite mining) and the Anova Metals, LLC Big Springs Gold Mine Project which is located on USFS administered land in the Humboldt-Toiyabe National Forest, Mountain City Ranger District. Livestock grazing, wildland fire, and dispersed recreation would also continue within the CESA.

Cumulative Impacts

General Wildlife: The past, present, and RFFAs within the CESA have the potential to impact individuals directly from collision with vehicles along travel routes within the CESA and/or destruction of burrows, or indirectly through impacts to habitat used for forage, cover, reproduction, and brood rearing. Disturbance associated with the mineral materials sites and utilities within the CESA (i.e. oil and gas pipelines, power infrastructure, telecommunication infrastructure, and water infrastructure) may result in vegetation removal which may affect habitat availability and forage area within the CESA. Above ground infrastructure (including roads and overhead power lines) may result in habitat fragmentation. Buried natural gas lines and fiber optic/telephone lines within the CESA remove vegetation during initial construction,

but after reclamation is completed for these actions, disturbed areas would be revegetated and cumulative impacts would be reduced if seeding efforts are successful and maintained for the life of the project including treatments for any annual or invasive weeds. Mineral material sites may result in habitat fragmentation and displacement to surrounding habitat. Depending on the wildlife species, fencing within the CESA may result in habitat fragmentation if the fencing restricts wildlife movement. Livestock grazing may increase competition for forage area and may change the structure or composition of native plant communities. Proper livestock rotation and stocking rates assist with reducing impacts from livestock grazing. Impacts from recreation and public purpose sites and urban development may include vegetation and habitat removal. Depending on the type of public purpose site and urban development, these areas may no longer be available for wildlife habitat. Some types of dispersed recreation activities, such as OHV use, may result in vegetation and wildlife habitat disturbance.

Wildlife habitat has been impacted by wildland fires that have occurred in the area. Wildland fires may often result in loss of forage area, establishment of invasive weeds, and loss of habitat. Reseeding and restoration activities after wildland fires occur may have positive results on wildlife habitat although the effects from these activities are often not realized for many years until desirable plants have had an opportunity to become established.

Disturbances associated with past, present, and RFFAs within the CESA may result in the spread or establishment of non-native invasive plants and noxious weed species which may result in impacts to the quality and quantity of habitat and forage area. Most projects within Nevada are required to control the spread or establishment of noxious weeds through BMPs, EPMs, and/or reclamation which would reduce cumulative impacts to wildlife habitat from noxious weeds. Reclamation of the present and future actions would assist with reducing impacts to wildlife and special status species individuals and their habitat. Since state and federal regulations require reclamation on most projects, it is reasonable to assume that some of the past and existing disturbed areas within the CESA have been reclaimed, or have become naturally revegetated by desirable shrubs, perennial grasses, and forbs over time, thus reducing overall cumulative impacts.

Approximately 28,944 acres of disturbance are associated with past, present, and RFFAs within the CESA, which is a disturbance of approximately 57 percent of the CESA.

The Proposed Action would increase the disturbance within the CESA by approximately 45.31 acres, which would result in an incremental impact of approximately 0.09 percent. The proponent has committed to the EPMs in Section 2.1.1, which include seasonal restrictions to protect migratory birds, measures to prevent the spread and establishment of non-native invasive plants and noxious weed species, seasonal clearance surveys for burrowing owls, the removal of unnecessary fencing and modifying required fencing to facilitate wildlife movement. As a result of the EPMs associated with the Proposed Action, and the fact that the proposed project disturbance would result in a minor disturbance increase within the CESA, the Proposed Action, in combination with past, present, and RFFAs, would result in minor cumulative impacts to general wildlife and their habitat.

Big Game: The past, present, and RFFAs within the CESA may impact individuals directly from collision with vehicles along travel routes within the CESA, or indirectly from impacts to big game habitat by removal of vegetation and/or the spread of non-native invasive plants and noxious weed species within the CESA. Utilities (i.e. power lines, water pipelines, gas pipelines, telephone and fiber optic lines) may result in temporary habitat disturbance and avoidance during construction operations, as well as potentially impacting forage area. However, after reclamation

occurs on these actions, natural vegetation would gradually re-establish and reduce cumulative impacts from these types of activities.

Roads, mineral material sites, mining and exploration operations within the CESA may increase direct impacts from vehicle-related mortality, as well as indirect impacts to habitat resulting from vegetation removal and increased noise from heavy equipment during road construction or during mining operations which may result in habitat avoidance or displacement to surrounding areas. Surface disturbance associated with these activities may result in the removal of potential forage area and potential fragmentation of habitat and/or restriction of typical migration movements or access to important seasonal habitat. Depending on the type of public purpose sites and urban development, these areas may no longer be available for big game habitat and forage area.

Dispersed recreation activities such as OHV use may result in vegetation and habitat disturbance, as well as increased noise within the CESA resulting in habitat avoidance or displacement to other areas. Impacts from livestock grazing may include competition for forage and water, and habitat removal/conversion. However, proper livestock rotation and stocking rates help to reduce impacts from livestock grazing. Disturbances from past, present, and RFFAs within the CESA may result in the spread of non-native invasive plants and noxious weed species which may result in impacts to the quality and quantity of habitat and forage area. Reclamation of the past and present actions would assist with reducing impacts to big game and its habitat. Since state and federal regulations require reclamation on most projects, it is reasonable to assume that some of the disturbed areas within the CESA have been reclaimed, or have become naturally revegetated over time, thus reducing overall cumulative impacts to big game and its habitat.

Big game habitat has been impacted by wildland fires that have occurred in the area. Wildland fires may often result in loss of forage area, establishment of invasive weeds, and loss of habitat. Reseeding and restoration activities after wildland fires occur may have positive results on big game habitats although the effects from these activities are often not realized for many years until desirable plants have had an opportunity to become established.

Approximately 700,761 acres of disturbance are associated with past, present, and RFFAs within the CESA, which is a disturbance of approximately 34 percent of the CESA. Wildfire accounts for approximately 669,239 acres of this disturbance. Because disturbance associated with wildfire is temporary, removing this acreage from the total overall cumulative acres results in total of 31,522 past, present, and RFFA disturbance acres, or approximately two percent of the CESA. The Proposed Action would increase the disturbance within the CESA by approximately 45.31 acres, which would result in an incremental impact of approximately 0.01 percent. The proponent has committed to the EPMs in Section 2.1.1, which include measures to prevent the spread and establishment of non-native invasive plants and noxious weed species, and the removal of unnecessary fencing and modifying required fencing to facilitate wildlife movement. As a result of the EPMs associated with the Proposed Action, and that the proposed project disturbance would result in less than one percent disturbance increase within the CESA, the Proposed Action, in combination with past, present, and RFFAs, would result in negligible cumulative impacts to big game and its habitat.

3.12.3. No Action Alternative

3.12.3.1. Environmental Consequences

Under the No Action Alternative, no impacts to wildlife would be anticipated because the ROW would not be developed and no water infrastructure would be installed.

3.12.3.2. Cumulative Impacts

Because there would be no additional impacts as a result of the No Action Alternative beyond those which are currently occurring, cumulative effects have not been analyzed.

3.13. Climate Change

3.13.1. Affected Environment

Climate represents the long-term statistical characterization of daily, seasonal, and annual weather conditions such as temperature, relative humidity, precipitation, cloud cover, solar radiation, and wind speed and direction. Climate is the composite of generally prevailing weather conditions of a particular region throughout the year, averaged over a series of years. A region's climate is affected by latitude, terrain, and altitude, as well as nearby water bodies and their currents.

Warmer and more arid conditions, coupled with a shorter snow season, have led to limited water supplies and severe drought in parts of the state. By 2100, the average temperature in Nevada is predicted to increase by 3°F to 4°F in the spring and fall and by 5°F to 6°F in the summer and winter. El Niño events are predicted to increase in frequency and duration as a result of global climate change. These temperature changes would affect evaporation and precipitation in the state, likely resulting in the decreased availability of water (National Conference of State Legislatures, 2008).

In the Central Basin and Range ecoregion, climate models suggest there is no strong trend toward either wetter or drier conditions either in the near future (through the 2020s) or in the long term (through the 2050s) (Comer et al., 2013). However, models show significant increases in maximum monthly temperatures by 2020, primarily in the summer months (July, August, and September). The highest maximum temperature increase projected is 6°F. These increases are predicted to occur mostly in the southern and northeastern edges of the ecoregion. Forecasts for 2060 predict substantial increases in maximum temperature for all months. Similar to forecasts for 2020, the greatest increases are predicted during the summer months and along the southern and northeastern edges of the ecoregion (Comer et al., 2013).

Data for precipitation suggest no strong trend toward either wetter or drier conditions in any month for the ecoregion. With the exception of a slight increase in summer monsoon rains toward the south and east, there were no significant forecasted trends in precipitation for any other months in either the near-term (2020s) or midcentury (2050s) projections (Comer et al., 2013).

Potential effects of these forecasts on the landscape may include increased fuel loads in higher elevations, increased frequency and duration of droughts, expansion of invasive species in higher elevations, increased wind erosion, and changes in wildfire regimes (Comer et al., 2013).

3.13.2. Proposed Action

3.13.2.1. Environmental Consequences

The Proposed Action would disturb approximately 45.31 acres of vegetation in the project area. The Proposed Action would result in no impact to global climate change; therefore, this resource has not been analyzed in further detail.

3.13.2.2. Cumulative Impacts

The Proposed Action would not result in direct or indirect impact to climate change, so there would be no cumulative impacts to climate change; therefore, a cumulative analysis for this resource was not conducted.

3.13.3. No Action Alternative

3.13.3.1. Environmental Consequences

Under the No Action Alternative, no additional impacts beyond those that are currently occurring to climate change are expected to occur.

3.13.3.2. Cumulative Impacts

Because there would be no additional impacts as a result of the No Action Alternative beyond those which are currently occurring, cumulative effects have not been analyzed.

3.14. Soils

3.14.1. Affected Environment

Soils present within the project area were identified using the Natural Resource Conservation Service (NRCS) Web Soil Survey (NRCS, 2015). The project area lies within the Elko County, Nevada, Central Part soil survey. One soil association, Hunnton-Weiland-Gance association (Map Unit 480), was mapped within the project area. This soil association composition is 35 percent Hunnton and similar soils, 35 percent Wieland and similar soils, 15 percent Gance and similar soils, and 15 percent other minor components. Soil textures range from loam to very gravelly clay in the upper profile. The dominant landform within this soil association is fan remnants.

3.14.2. Proposed Action

3.14.2.1. Environmental Consequences

The Proposed Action would have direct long-term impacts to approximately 45.31 acres of soil (seven percent of the project area). BMPs would be utilized during construction to reduce potential soil loss from wind and water erosion. Impacts to soils from the implementation of the Proposed Action are anticipated to be long-term and negligible.

3.14.2.2. Cumulative Impacts

The Soils CESA is approximately 165,752 acres in size, and consists of the Dry Susie Creek-Humboldt Watershed (HUC 10).

Past and Present Disturbances

Past and present BLM authorizations within the CESA include various ROWs and land uses. The primary past and present ROWs and land use authorizations within the CESA include numerous miles of I-80, State Route 225, State Route 278, State Route 227, county/city roads, and various unpaved roads; portions of Southwest Gas Corporation's Paiute Pipeline (natural gas pipeline), as well as portions of other natural gas pipelines; portions of several overhead power transmission and distribution lines; numerous miles of water pipelines, water wells and irrigation facilities; fences and cattle guards; communication facilities; and portions of several underground fiber optic lines and telephone lines. BLM authorizations within the CESA also include mineral material sites (i.e. sand and gravel operations); mining development and exploration operations including operations associated with Newmont Mining Corporation's Rain Mine and Woodruff Creek Project; and recreation and public purpose sites including the Elko Rifle and Pistol Range and the Elko Sewage Treatment Facility. Urban development within the CESA is primarily located in Elko and Carlin. Livestock grazing, wildland fire, and dispersed recreation also occur throughout the CESA.

Reasonably Foreseeable Future Actions

RFFAs within the CESA include pending authorizations for recreation and public purpose sites including the West Elko Riding and Racing Complex, the Elko Institute for Academic Achievement Charter School, conveyance of the Elko County Motocross site to Elko County, and expansion of the Elko Sewage Treatment Facility. RFFAs also include mining exploration operations including proposed operations from Evolving Gold Corporation and Premier Gold Mines USA, Incorporated. Livestock grazing, wildland fire, and dispersed recreation would also continue within the CESA.

Cumulative Impacts

Past, present, and RFFAs have the potential to impact soils. Impacts from existing roads within the CESA have potentially increased soil compaction. Roads increase surface water run-off and can create impervious surfaces (depending on the surfacing type of the road) that concentrate runoff and increase soil erosion potential of adjacent soils. Impacts from existing utilities (e.g. gas pipelines, water pipelines, and power lines) removed vegetation during construction, and increased soil compaction which may increase erosion within the CESA. However, surface reclamation was likely associated with existing utilities, and natural vegetation species have likely re-established to some degree which would increase soil stability and erosion prevention. Since these projects have likely been revegetated to varying degrees, continued impacts on soils is likely negligible and would be primarily resulting from any maintenance activities required for these utilities.

Mineral material sites and mining and exploration operations within the CESA likely include the removal of soils and the stockpiling of soils for future reclamation purposes. If the soils are not salvaged and stockpiled, existing soils may be buried. These operations may increase soil erosion potential which may increase run-off and sediment traveling to downstream surface

waters. However, mineral materials sites and mining and exploration operations likely include design features, EPMs and BMPs, as well as reclamation requirements, to reduce soil erosion and run-off and to reduce the likelihood of sediment traveling to downstream surface waters. Urban development and public purpose sites have increased impervious surfaces and soil compaction within the CESA (e.g. roads, parking areas, sidewalks, etc.) which may have increased surface run-off, potentially increasing erosion of adjacent soils. However, properly planned urban design likely includes appropriate drainage provisions (e.g. storm drain system) to reduce impacts from run-off. There are no data to provide quantifiable impacts to soils from livestock grazing, wildland fire, and dispersed recreation. Livestock grazing and dispersed recreation may increase soil compaction within the CESA and wildland fire may remove existing vegetation, resulting in an increased potential for soil erosion.

Approximately 91,420 acres of disturbance are associated with past, present, and RFFAs within the CESA, which is a disturbance of approximately 55 percent of the CESA. The Proposed Action would increase the disturbance within the CESA by approximately 45.31 acres, which would result in an incremental impact of approximately 0.03 percent. Wildfire accounts for 74,582 acres of this disturbance. Because disturbance associated with wildfire is temporary, removing this acreage from the total overall cumulative acres results in total of 16,838 past, present, and RFFA disturbance acres, or approximately 10 percent of the CESA. The Proposed Action would result in a negligible disturbance increase within the CESA, but would result in vegetation removal, increased compaction and increased impervious surface area within the CESA. The proponent has committed to the EPMs in Section 2.1.1, which includes requirements to use BMPs to reclaim areas disturbed temporarily. As a result of the EPMs associated with the Proposed Action, and that the proposed project disturbance would result in less than one percent disturbance increase within the CESA, the Proposed Action, in combination with past, present, and RFFAs, would result in minor cumulative impacts to soils.

3.14.3. No Action Alternative

3.14.3.1. Environmental Consequences

Under the No Action Alternative, no additional disturbance would occur within the project area. However, this area is used heavily used by recreationists, including OHV use both on and off designated roads. Current recreational activity has minor direct and indirect impacts to the soils from wind and water erosion and compaction.

3.14.3.2. Cumulative Impacts

Because there would be no additional impacts as a result of the No Action Alternative beyond those which are currently occurring, cumulative effects have not been analyzed.

3.15. Vegetation

3.15.1. Affected Environment

Field vegetation mapping was conducted within the project area on April 28 and 29, 2015.

Three distinct communities were identified in the field. General descriptions of the vegetation communities identified in the project area are included below. These vegetation communities as mapped in the field, are shown on Map B.3, “Vegetation Communities and Noxious Weed Locations”. Acres of each vegetation community, as mapped in the field, are provided in Table 3.10, “Vegetation Communities within the Project Area”.

Table 3.10. Vegetation Communities within the Project Area

Community	Acres within Project Area	Acres Affected by Proposed Action	Percent Affected by the Proposed Action
Wyoming Big Sagebrush Community	422	31.2	7.39
Wyoming Big Sagebrush and Basin Big Sagebrush Community	112	5.4	4.82
Annual Vegetation Community	101	8.7	8.16
Total	635	45.3	7.13%

Wyoming Big Sagebrush Community

This community was dominant throughout the project area with approximately 422 acres mapped in the field. This unit was identified in the northern terrace, a strip in the middle of the section, and the southern terrace. Within the project area, this site was dominated by intact stands of Wyoming big sagebrush (*Artemisia tridentata wyomingensis*). A detailed list of species identified within this site is provided in Table 3.11, “Plant Species and Associated Community within the Project Area”.

Wyoming Big Sagebrush and Basin Big Sagebrush Community

This community was present in the center of the section with approximately 112 acres mapped in the field. This site was dominated by Wyoming big sagebrush and basin big sagebrush (*Artemisia tridentata tridentata*). A detailed list of species identified within this community is provided in Table 3.11, “Plant Species and Associated Community within the Project Area”.

Annual Vegetation Community

This community is present as a diagonal strip in the northern half of the project area, and there is a small portion of this mapped in the southwest corner for a total of approximately 101 acres. The northern strip appears to have recently burned, and was dominated by cheatgrass. A detailed list of species identified in this community is provided in Table 3.11, “Plant Species and Associated Community within the Project Area”.

Table 3.11. Plant Species and Associated Community within the Project Area

Species		Status (Noxious, Invasive, Introduced, or Native)	Wyoming Big Sagebrush Community	Wyoming Big Sagebrush and Basin Big Sagebrush Community	Annual Vegetation Community
Common Name	Scientific Name				
Crested wheatgrass	<i>Agropyron cristatum</i>	Introduced	X	X	X
Onion species	<i>Allium</i> sp.	Native		X	
White sagebrush	<i>Artemisia ludoviciana</i>	Native		X	
Basin big sagebrush	<i>Artemisia tridentata tridentata</i>	Native			X

Species		Status (Noxious, Invasive, Introduced, or Native)	Wyoming Big Sagebrush Community	Wyoming Big Sagebrush and Basin Big Sagebrush Community	Annual Vegetation Community
Common Name	Scientific Name				
Wyoming big sagebrush	<i>Artemisia tridentata wyomingensis</i>	Native		X	
Arrowleaf balsamroot	<i>Balsamorhiza sagittata</i>	Native	X		
Cheatgrass	<i>Bromus tectorum</i>	Invasive	X	X	X
Hoary cress	<i>Cardaria draba</i>	Category C Noxious Weed	X	X	X
Indian paintbrush	<i>Castilleja</i> sp.	Native	X		
Curvseed butterwort	<i>Ceratocephala testiculata</i>	Invasive	X	X	X
Yellow rabbitbrush	<i>Chrysothamnus viscidiflorus</i>	Native		X	
Tapertip hawksbeard	<i>Crepis acuminata</i>	Native		X	
Rubber rabbitbrush	<i>Ericameria nauseosa</i>	Native		X	
Buckwheat species	<i>Eriogonum</i> sp.	Native	X		
Saltlover	<i>Halogeton glomeratus</i>	Invasive	X	X	X
Povertyweed	<i>Iva axillaris</i>	Native	X		
Clasping pepperweed	<i>Lepidium perfoliatum</i>	Invasive	X	X	X
Lupine species	<i>Lupinus</i> spp.	Native	X		
Scotch cottonthistle	<i>Onopordum acanthium</i>	Category B Noxious Weed	X		X
Phlox species	<i>Phlox</i> sp.	Native		X	
Antelope bitterbrush	<i>Purshia tridentata</i>	Native	X		
Russian thistle	<i>Salsola kali</i>	Invasive	X		
Tall tumble mustard	<i>Sisymbrium altissimum</i>	Invasive	X	X	X
Desert globemallow	<i>Sphaeralcea ambigua</i>	Native	X		

3.15.2. Proposed Action

3.15.2.1. Environmental Consequences

The Proposed Action would permanently disturb approximately 31 acres of the Wyoming Big Sagebrush Community, five acres of Wyoming Big Sagebrush and Basin Big Sagebrush Community, and nine acres of Annual Vegetation Community. However, these vegetation communities are prevalent in the surrounding area. Therefore, impacts to the vegetation resources from the Proposed Action are expected to be long-term and negligible due to the abundance of similar communities in the area.

3.15.2.2. Cumulative Impacts

The Vegetation CESA is approximately 634 acres in size, and consists of T34N, R55E, Section 18.

Past and Present Disturbances

Past and present disturbances within the CESA include numerous miles of unpaved roads. Past and present actions also include livestock grazing, wildland fire, and dispersed recreation. The LR2000 data base was queried for this CESA, and there were no authorized ROWs or land use authorizations within the CESA.

Reasonably Foreseeable Future Actions

RFFAs within the CESA include a pending authorization for the Elko Institute for Academic Achievement Charter School.

Cumulative Impacts

Past, present, and RFFAs have the potential to impact vegetation. Direct Impacts from existing roads within the CESA have resulted from the removal of vegetation and increased soil compaction. Indirect impacts may include increased potential to spread non-native invasive plants and noxious weed species which is increased by OHV traffic. Areas affected by roads are often slower to reestablish because of soil compaction. Livestock grazing, wildland fire, and dispersed recreation may result in trampling of vegetation. Past, present, and RFFAs within the CESA may result in vegetation disturbance that may alter the structure, composition, and ecology of plant communities within the CESA which may impact wildlife forage area and habitat. Impacts to vegetation from the pending Elko Institute for Academic Achievement Charter School may include permanent vegetation removal, as well as temporary vegetation disturbance associated with any construction activities, and the potential for spreading non-native invasive plants and noxious weed species. However, reclamation would likely be required for all disturbed areas associated with the action, so long-term impacts would be minimized.

Wildland fire has previously removed vegetation within the CESA and converted these areas from their existing vegetation communities. Wildland fire can also result in the spread of non-native invasive plants and noxious weed species if revegetation of desirable vegetation is not accomplished after the fire. Over time, these areas revegetate; however, this can take many years.

Approximately 193 acres of disturbance are associated with past, present, and RFFAs within the CESA, which is a disturbance of approximately 30 percent of the CESA. Wildfire accounts for approximately 98 acres of this disturbance. Because disturbance associated with wildfire is temporary, removing this acreage from the total overall cumulative acres results in total of 95 past, present, and RFFA disturbance acres, or approximately 15 percent of the CESA. The Proposed Action would increase the disturbance within the CESA by approximately 45.31 acres, which would result in an incremental impact of approximately seven percent. However, this incremental percentage increase is relative to both the small size of the CESA, and the limited amount of existing disturbance within the CESA, which is solely from existing unpaved roads. The proponent has committed to the EPMs in Section 2.1.1, which includes requirements to use BMPs, recycle grubbed vegetation for reuse of topsoil, to reclaim disturbed areas, and to enact measures to prevent the spread and establishment of non-native invasive plants and noxious weed species which would reduce long-term impacts to vegetation resources within the CESA. As a result of the EPMs associated with the Proposed Action, in combination with past, present, and RFFAs, would result in moderate cumulative impacts to vegetation.

3.15.3. No Action Alternative

3.15.3.1. Environmental Consequences

Under the No Action Alternative, no acres would be directly impacted from roadway and water infrastructure construction.

3.15.3.2. Cumulative Impacts

Because there would be no additional impacts as a result of the No Action Alternative beyond those which are currently occurring, cumulative effects have not been analyzed.

Chapter 4. Consultation And Coordination

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This EA was prepared at the direction of the BLM Tuscarora Field Office, Elko District, Nevada, by Stantec, under a contract with the City. The following is a list of persons, groups, and agencies consulted, as well as a list of individual responsible for the preparation of this EA.

4.1. List of Preparers

Table 4.1. List of BLM Preparers, Reviewers, and Technical Specialists

Bureau of Land Management (Elko District Office; Tuscarora Field Office)	
Ryan Brown	Archeology
Samantha Cisney	Noxious Weeds
John Daniel	Air, Soil, Water
Jason Dobis	Visual Resources, Recreation, Lands with Wilderness Characteristics
Marissa Murphy	Initial Project Manager, Realty
Elisabeth Puentes	Project Manager, Realty
Joshua Robbins	Range Specialist
Tom Schmidt	Wastes, Hazardous and/or Solid
Ken Wilkinson	Wildlife, BLM Special Status Species, Migratory Birds
Terri Dobis	NEPA Compliance

Table 4.2. Project Operator

City of Elko	
Ryan Limberg	Utilities Director
Scott Wilkinson	Assistant City Manager

Table 4.3. Third Party Contractor

Stantec Consulting Services Inc.	
Kim Carter	NEPA Document Preparation Assistant
Diana Eck	Project Manager
Dulcy Engelmeier	NEPA Document Preparation Assistant
Erica Freese	Assistant Project Manager
Christine Johnson	GIS Specialist
Steve Morton, AICP	Cumulative Effects
Kristi Schaff	Senior Review

4.2. Persons, Groups, or Agencies Consulted

Federal Agencies

United States Fish and Wildlife Service – IPaC

State Agencies

Nevada Natural Heritage Program – Eric Miskow

Nevada Department of Wildlife – Timothy Herrick; Mathew Jeffress; MacKenzie Jeffress; Stephen Foree

Tribes

On March 27, 2015, BLM Tuscarora Field Office sent out a letter to initiated consultation and requested information, comment, issues, and concerns and shared information with the groups listed below:

- Bureau of Indian Affairs: Eastern Nevada Agency
- Wells Band Council
- South Fork Band Council
- Elko Band Council
- Te-Moak Tribe of the Western Shoshone Indians of Nevada
- Shoshone-Paiute Tribes of the Duck Valley Indian Reservation
- Yomba Shoshone Tribe
- Confederate Tribes of the Goshute Indian Reservation
- Ely Shoshone Tribe
- Duckwater Shoshone Tribe
- Battle Mountain Band Colony
- Western Shoshone Defense Project
- Western Shoshone Committee
- Western Shoshone Descendants of Big Smoky

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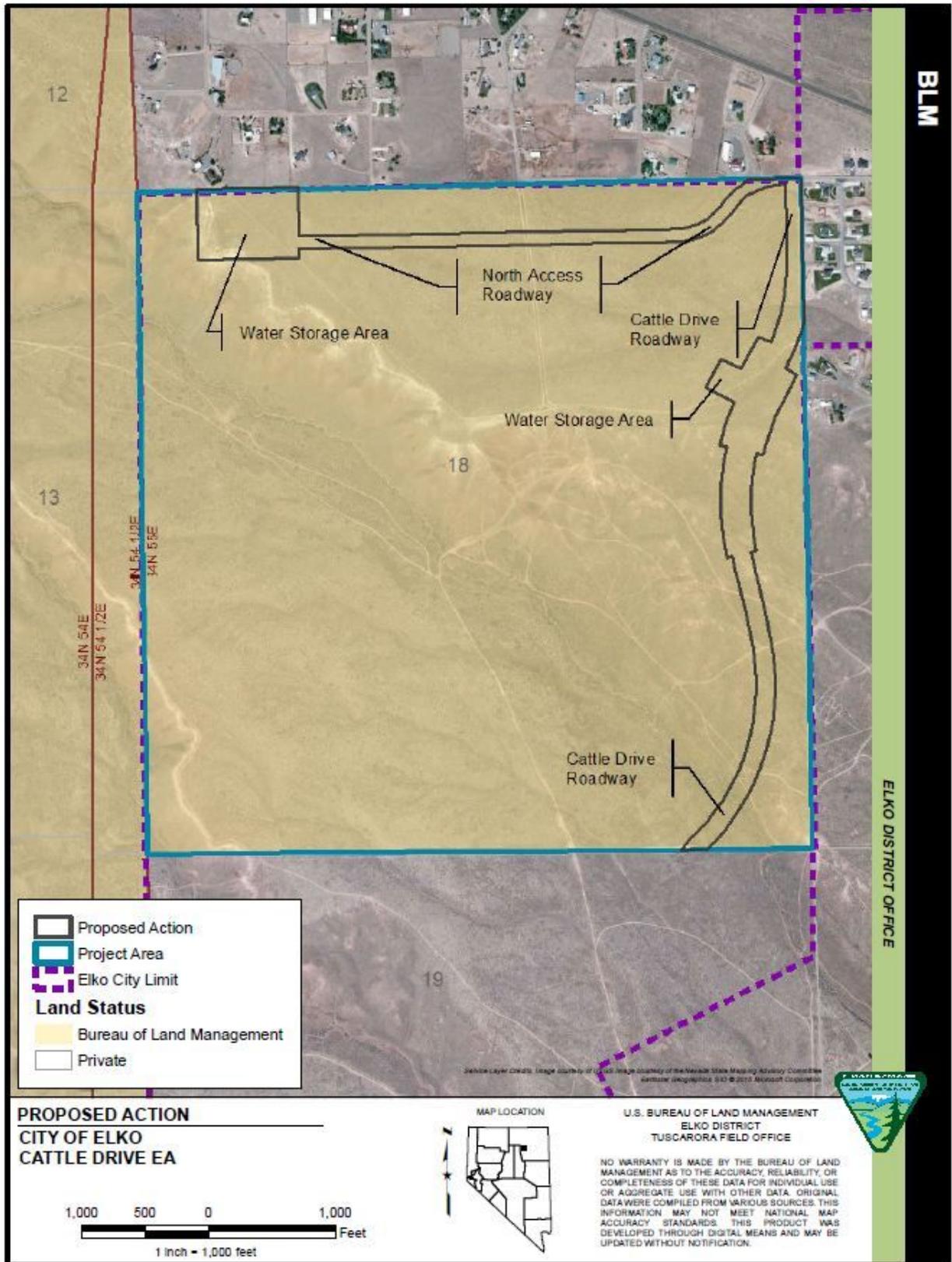
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Appendix A. Abbreviations

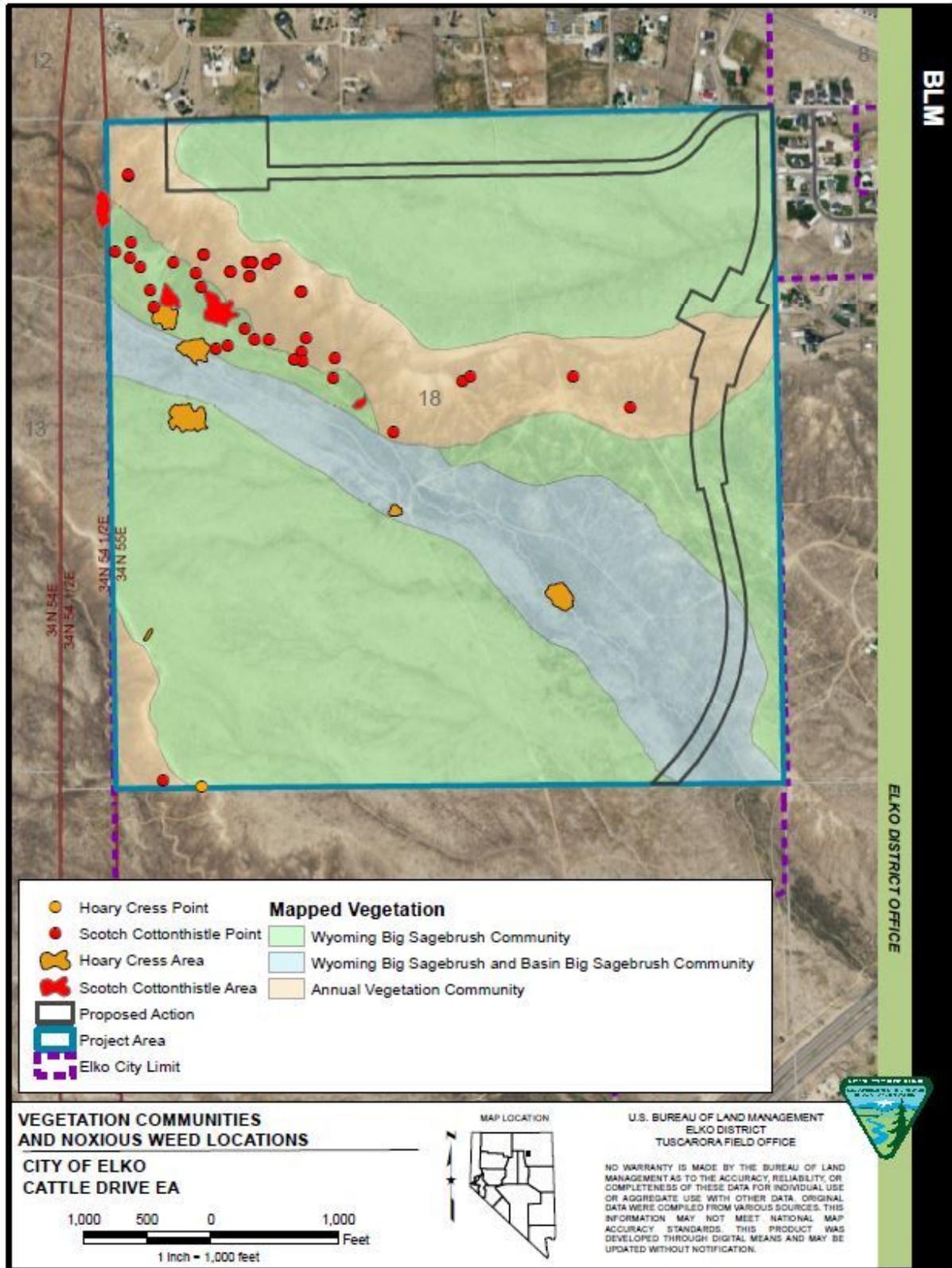
ABBREVIATIONS

°F	Degrees Fahrenheit
ACEC	Areas of Critical Environmental Concern
AMSL	Above Mean Sea Level
ARMPA	Nevada and Northeastern California Greater Sage-Grouse Approved Resource Management Plan Amendment
ATV	All-Terrain Vehicle
BGEPA	Bald and Golden Eagle Protection Act of 1940 (as amended)
bgs	Below Ground Surface
BLM	Bureau of Land Management
BMP	Best Management Practice
CESA	Cumulative Effects Study Area
CFR	Code of Federal Regulation
City	City of Elko
dB	Decibel
dBA	Decibel A-Weighted
EA	Environmental Assessment
EPA	Environmental Protection Agency
EPM	Environmental Protection Measure
ESD	Ecological Site Description
FLPMA	Federal Land Policy Management Act
GHG	Greenhouse Gas
GHMA	General Habitat Management Area
HFRA	Healthy Forest Restoration Act
HUC	Hydrologic Unit Code
I-80	Interstate 80
IPaC	Information, Planning, and Conservation System
Ldn	Day-Night Sound Level
Leq	Equivalent Sound Level
LR2000	BLM's Land and Mineral Legacy Rehost 2000 System
MBTA	Migratory Bird Treaty Act
MOU	Memorandum of Understanding
NAC	Nevada Administrative Code
NDOW	Nevada Department of Wildlife
NNHP	Nevada Natural Heritage Program
NRCS	Natural Resource Conservation Service
NRS	Nevada Revised Statutes
OHMA	Other Habitat Management Area
OHV	Off-Highway Vehicle
PMU	Population Management Unit
RDF	Required Design Features
R&PP	Recreation and Public Purpose
RFFA	Reasonably Foreseeable Future Action
RMP	Resource Management Plan
ROW	Right-of-Way
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VRM	Visual Resource Management

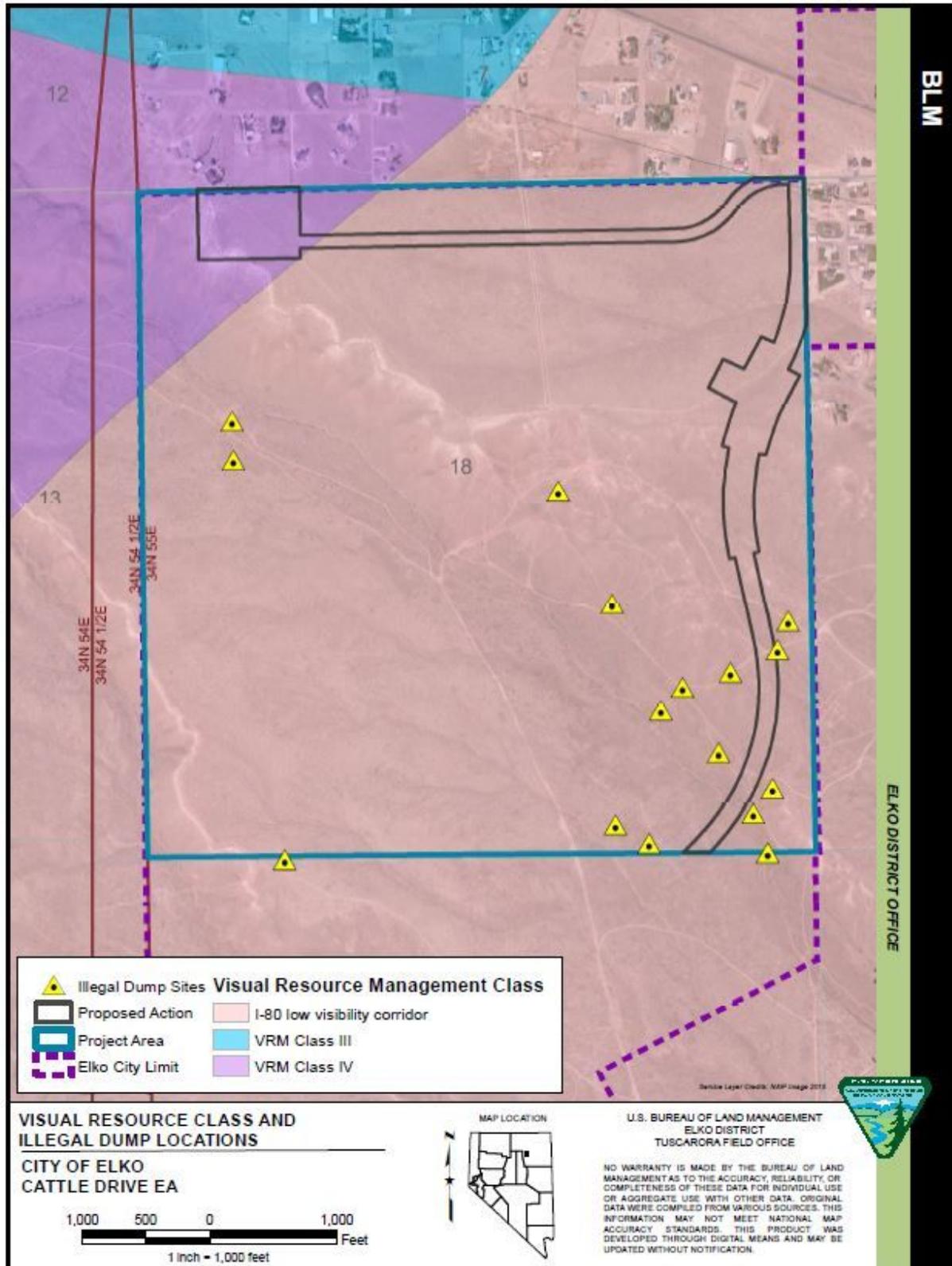
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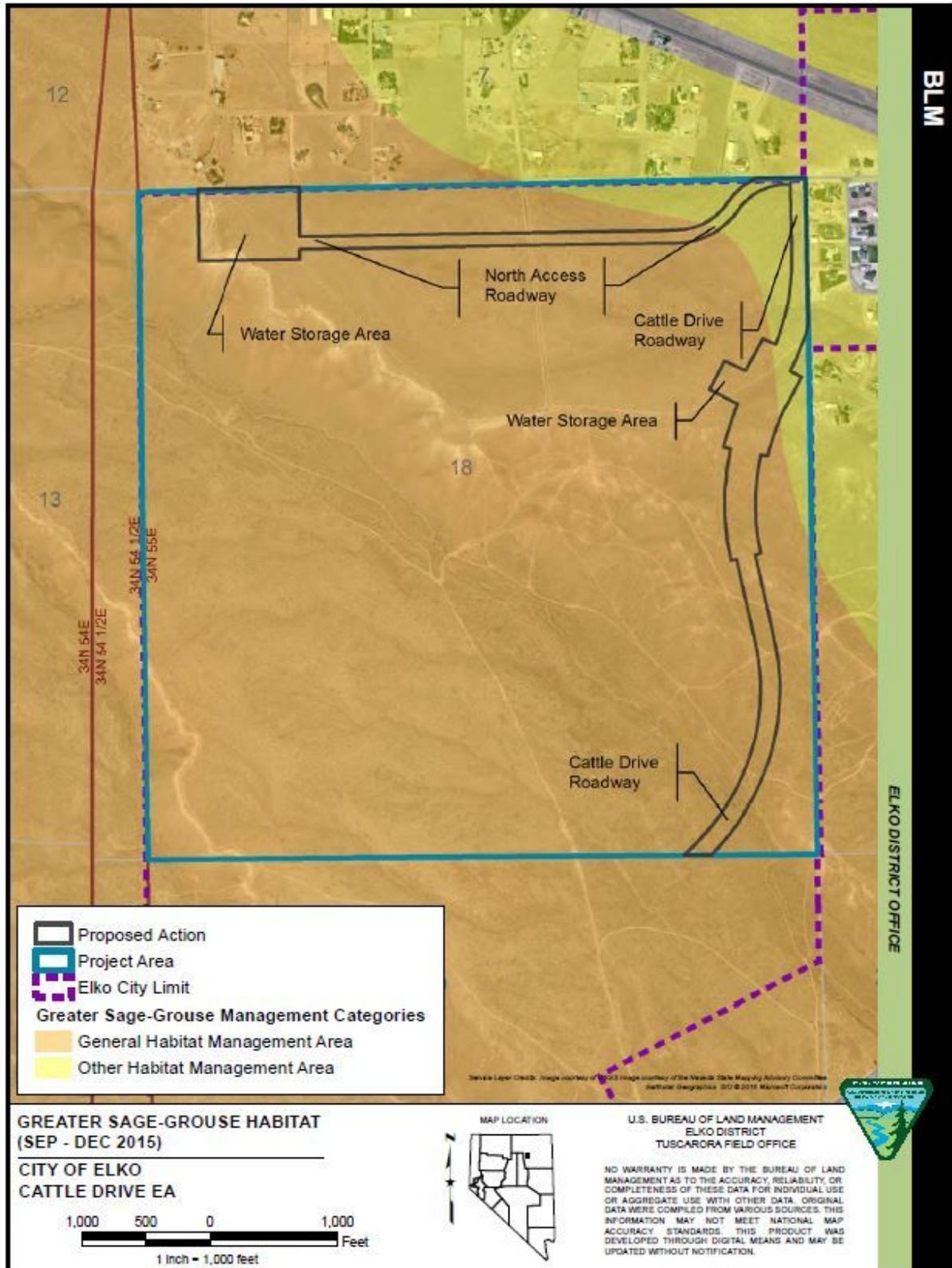
Map B.2. Proposed Action



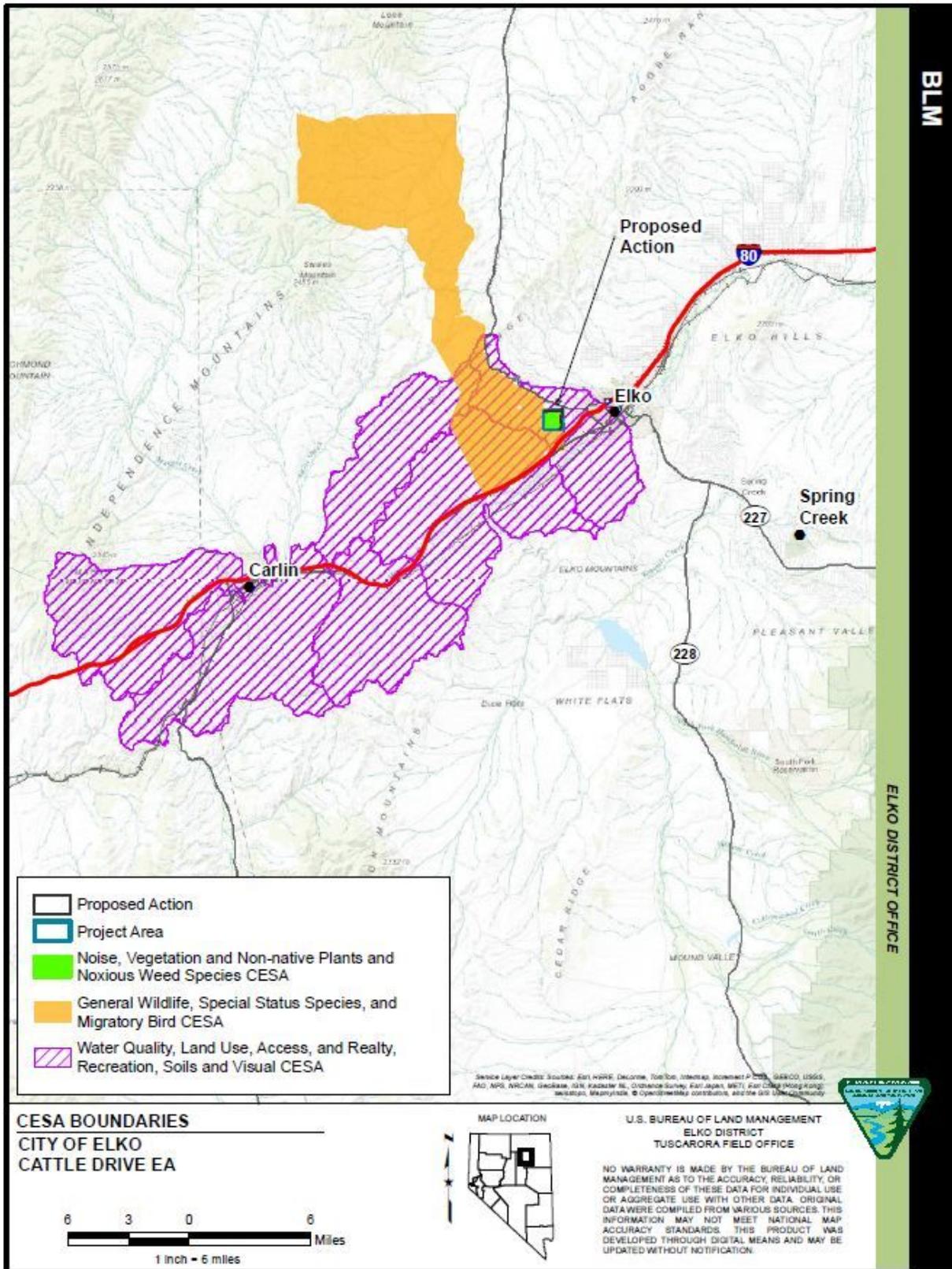
Map B.3. Vegetation Communities and Noxious Weed Locations



Map B.4. Visual Resources Class and Illegal Dump Locations



Map B.5. Greater Sage-grouse Mapped Habitat



Map B.6. CESA Boundaries – Noise, Vegetation, and Non-native Invasive Plants and Noxious Weed Species; General Wildlife, Special Status Species, and Migratory Bird; Water Quality, Land Use, Access, and Realty, Recreation, Soils and Visual
Appendix B Maps

