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**Lander County Combined Sewer and Water GID #2
Right-of-Way Authorization
Town of Austin
Water Improvement and Pipeline Project
ENVIRONMENTAL ASSESSMENT**

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LIST OF ACRONYMS AND ABBREVIATIONS

ARPA	Archaeological Resources Protection Act
BLM	Bureau of Land Management
BMPs	Best Management Practices
CEQ	Council on Environmental Quality
CESA	Cumulative Effects Study Area
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
EA	Environmental Assessment
EIS	Environmental Impact Statement
FEMA	Federal Emergency Management Administration
FLPMA	Federal Land Policy and Management Act
FONSI	Finding of No Significant Impact
MDBM	Mount Diablo Base and Meridian
MLFO	Mount Lewis Field Office
NAC	Nevada Administrative Code
NAGPRA	Native American Graves Protection and Repatriation Act
NDEP	Nevada Division of Environmental Protection
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NDWR	Nevada Division of Water Resources
NEPA	National Environmental Policy Act
NNHP	Nevada Natural Heritage Program
NRCS	Natural Resources Conservation Service
NRS	Nevada Revised Statutes
PGH	Preliminary General Habitat
PRV	pressure reducing valve
PVC	Polyvinyl chloride
RMP	Resource Management Plan
ROW	Right-of-Way
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VRM	Visual Resource Management

1.0 INTRODUCTION

1.1 INTRODUCTION

The Safe Drinking Water Act Amendments of 1996 directed the U.S. Environmental Protection Agency (EPA) to update the maximum concentration of arsenic allowable in public drinking water systems. In 2001 the EPA issued the Final Rule for Arsenic in Drinking Water (Federal Register, Volume 66, page 6976), which set the updated, new maximum legal limit for arsenic in public drinking water at 10 parts per billion. The legal limit set by the Final Rule replaced the earlier standard of 50 parts per billion that had been set in 1975. The new arsenic standard became enforceable in 2006, but provisions were included allowing states to grant temporary exemptions from the standard if, for certain reasons, a water system was unable to comply in 2006. The Nevada Division of Environmental Protection (NDEP) has adopted the federal arsenic standard of 10 parts per billion as the state standard for arsenic in public water systems.

The drinking water supplied by the public water system of the town of Austin, Lander County, Nevada (Austin), contains an average arsenic concentration that exceeds the new standard of 10 parts per billion. In order to comply with the legally-required standard, the existing water system must be improved to incorporate water from a source with lower arsenic concentrations. Accordingly, the Lander County Combined Sewer and Water GID #2 (Lander County) has submitted a request to the Bureau of Land Management (BLM), Mount Lewis Field Office (MLFO) for a right-of-way (ROW) authorization to construct, operate, and maintain improvements to the existing water system on BLM-administered public lands.

1.2 AGENCY PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to grant Lander County the ability to provide drinking water supplies to Austin that is compliant with federal and state drinking water standards. The drinking water supplied to Austin by the public water system in its current condition contains arsenic at an average concentration greater than the federal and state maximum concentration level of 10 parts per billion.

A need for the Proposed Action is to respond to the Standard Form 299 Application and the accompanying Plan of Development that Lander County submitted to the BLM, MLFO during December 2011. The application requested that ROW authorization NVN-090693 be granted to permit the construction and subsequent operation and maintenance of proposed improvements to the municipal water supply system on BLM-administered public lands. The Plan of Development that accompanied it described the improvements that would be constructed and the methods and materials that would generally be used to construct them.

The BLM must assure that authorization of the Proposed Action avoids undue or unnecessary degradation of public lands and has prepared this Environmental Assessment (EA) as part of the decision process in consideration of the requested ROW grant. Through this decision process,

the BLM would meet obligations under the National Environmental Policy Act (NEPA), the Federal Land Policy and Management Act (FLPMA) of 1976, and other public land acts. Based on this environmental documentation, the BLM will determine whether a Finding of No Significant Impacts (FONSI) can be signed or whether an Environmental Impact Statement (EIS) must be prepared.

The Standard Form 299 Application and Plan of Development also described proposed improvements to Marshall Springs and Pony Springs, two existing spring sites that supply drinking water to Austin. Both spring sites are located on National Forest System land located south and southeast of Austin that is managed by the U.S. Forest Service, Austin Ranger District. The proposed improvements to the springs were later withdrawn from the application. Lander County would submit a separate application to the U.S. Forest Service for authorization to perform the improvements to these spring sites.

1.3 RELATIONSHIP TO PLANNING AND CONFORMANCE WITH PLANS

Public lands administered by the BLM within the proposed ROW area and surrounding vicinity are managed in accordance with the Shoshone-Eureka Resource Management Plan (RMP) (BLM 1984). The BLM-administered public lands in these areas are also managed in accordance with the Record of Decision for the Shoshone-Eureka Resource Area (BLM 1986a). The RMP complies with the FLPMA of 1976, as amended. Although the Proposed Action is not specifically addressed in the RMP, it is consistent with the Management Actions and Objectives stated in the RMP Record of Decision.

The construction, operation, and maintenance of the proposed improvements to the water system requiring the proposed ROW grant (Proposed Action) does not conflict with any known state or local planning and zoning ordinances or codes. Section 202(c)(9) of FLPMA governs BLM planning and requires that BLM land use plans be consistent with state and local land use plans.

1.4 SCOPING

The project was internally scoped by the BLM Interdisciplinary Team from January 2012 to May 2012. The BLM Interdisciplinary Team identified the supplemental authority elements and other resources to be addressed in this document as outlined in Section 3.2.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

The Proposed Action is to grant authorization of the requested ROW (NVN-090693) in order to permit Lander County to improve the Austin municipal water system such that it supplies drinking water that is compliant with all federal and state drinking water standards. The proposed ROW area is located in the Reese River Valley, west of Austin and south of U.S. Highway 50 (Figure 1). Authorization of the requested ROW would specifically allow Lander County to construct, operate, and maintain the components of the proposed project that would occur on public lands administered by the BLM. This includes a new groundwater well site, new water storage tank site, and approximately 33,245 linear feet of new buried pipeline between the new well and tank sites. The ROW area associated with the proposed pipeline would be 50 feet in width and roughly centered on the pipeline. The ROW areas associated with the proposed well site and water storage tank site would correspond to the proposed dimensions of each area, as summarized in Table 1. The total ROW area would be approximately 39.01 acres in size. The proposed ROW is shown on Figure 2; a detailed description of the proposed ROW is provided in Section 2.1.5.

The Plan of Development also described the improvements that would be constructed on private land, including areas located within the county fairgrounds. These improvements include a new booster pumping station, new buried pipeline, and relocation of an existing pressure reducing valve (PRV) station in Austin. These improvements are also summarized in Table 1. The "project area", as referred to in this EA, includes approximately 46.66 acres and consists of the approximately 39.01 acres that would be contained within the proposed ROW and the approximately 7.65-acre area of private land summarized in Table 1. Accordingly, the project area represents the maximum limits of surface disturbance that would result from the proposed project. The project area is shown on Figure 2.

Table 1 Proposed Improvements and Project Area Configuration

Proposed Improvement	Project Area Description ¹	Surface Area ¹	Township, Range, and Section (Mount Diablo Base and Meridian)
BLM-Administered Public Lands			
Groundwater Well	100-foot-wide by 225-foot-long area	0.51 acres	Township 18 North (T18N), Range 43 East (R43E), Section 7
Water Storage Tank	100-foot-wide by 150-foot-long area	0.34 acres	T19N, R43E, Section 24; T19N, R44E, Section 19
Buried Pipeline	50-foot-wide by 33,245-foot-long corridor centered on pipeline	38.16 acres	T18N, R43E, Section 4, 5, 6, & 7; T19N, R43E, Sections 23, 24, 26, 27, 33, & 34; T19N, R44E, Section 19
Total:	--	39.01 acres	--

Private Land			
Buried Pipeline	50-foot-wide by 6,610-foot-long corridor centered on pipeline ²	7.59 acres	T18N, R43E, Sections 6 & 7; T19N, R43E, Section 24
Booster Pumping Station	45-foot-wide by 45-foot-long area	0.05 acre	T19N, R43E, Section 24
PRV Station	20-foot-wide by 20-foot-long area	0.01 acre	T19N, R44E, Section 19
Total Private Land:	--	7.65 acres	--

¹Approximate values

²A total of approximately 7,610 linear feet of pipeline would be constructed on private land, however some sections of pipeline would be located within the same 50-foot-wide corridor. Thus the total length of the pipeline corridor on private land is estimated to less than the total length of proposed pipeline.

Implementation of the Proposed Action would meet the purpose of the project: to provide adequate volumes of municipal water that is compliant to all federal and state drinking water standards. According to the Plan of Development, construction of the proposed improvements would provide water from a new source location where the arsenic concentration has been measured below 10 parts per billion in water samples collected from existing groundwater wells in the area and from exploratory drilling in the area during 2010. Per the Plan of Development, the proposed improvements would also provide an additional benefit of alleviating hydraulic problems associated with the existing booster pump station, specifically overheating of the booster pump motors.

2.1.1 Proposed Project

The proposed project includes the construction of a new groundwater well and well site, water storage tank and booster pump station, and new buried water pipeline. The majority of new pipeline would be constructed between the proposed well site and the site of the proposed water storage tank, which is at the county fairgrounds. Pipeline would also be constructed to connect the tank to the proposed booster pump station, and the booster pump station to the existing water main into Austin. An existing municipal well north of U.S. Highway 50 would be connected to the tank with new buried pipeline as well. The proposed project includes abandonment of the existing booster pump station north of U.S. Highway 50 and relocation of an existing PRV station in Austin. The existing location of the PRV station is within the travel-way of 6th Street. The proposed relocation would move it to the shoulder of 6th Street. The approximate locations where each of the described improvements would be constructed are shown on Figure 3. Preliminary site plans that were included in the Plan of Development that Lander County submitted are provided in Appendix A.

Access to the proposed well site, water storage tank site, booster pump station, and PRV relocation site is provided from existing roads. The proposed well site would be accessed from Gold Ventures Road, which is a county road that begins at an intersection with State Route 722. The proposed water storage tank would be accessed by an existing road that begins at an

intersection with Big Creek Road near the fairgrounds. The existing road is approximately 8 feet wide, but would be widened to approximately 12 feet wide by Lander County for construction access. The proposed buried pipeline would be accessed during construction from Big Creek Road and other existing roads, or from an existing utility corridor in areas where roads do not occur.

2.1.2 Surface Disturbance Details

Surface disturbance during construction of the proposed project would be kept to a minimum while maintaining efficient and safe construction conditions. Lander County and/or its construction contractors would implement Best Management Practices (BMPs) at all times during construction. BMPs are defined by the NDEP in the State Handbook of Best Management Practices (1994).

The proposed well and well site, water storage tank site, and sections of the proposed buried pipeline would be constructed on BLM-administered public lands. Surface disturbance from construction on BLM-administered public lands would be contained within the proposed ROW area, which is described in detail in Section 2.1.5. Accordingly, the maximum potential surface disturbance that would occur on BLM-administered public lands is 39.01 acres (see Table 1). Approximately 8.25 acres of the maximum 39.01 acres of potential disturbance would occur within areas where disturbance has already taken place. Approximately 6.77 acres of the existing disturbance within the ROW area is associated with existing Big Creek Road. Approximately 0.35 acre of the existing disturbance is associated with other unpaved roads in the project area near the proposed groundwater well and water storage tank sites. The remaining approximately 1.13 acres of existing disturbance within the ROW area is associated with areas of the existing utility corridor immediately adjacent to the proposed ROW area.

Most surface disturbance resulting from the proposed project would be temporary for the duration of construction and establishment of reclamation following construction. Approximately 38.37 acres of the potential 39.01 acres of impacts on public land would be temporary. Permanent disturbances would be associated with areas that would be occupied by above-ground improvements, such as the area occupied by the proposed water storage tank and well site. Areas that are temporarily disturbed during construction would be reclaimed to their pre-construction contours, scarified, and seeded with a weed-free, erosion control seed mix approved by the BLM.

A maximum of 7.65 acres of private land could also potentially be disturbed by construction of the proposed project. Construction-related surface disturbance on private land would be associated with the proposed booster pump station, sections of the buried water pipeline, and the relocation of the PRV station in Austin. A 50-foot-wide construction corridor would be maintained for construction of the pipeline across private land. Approximately 2.1 acres of the maximum potential disturbance of 7.65 acres would occur in areas of existing disturbance associated with roads, utility corridors, and the county fairgrounds. Most of the surface disturbance on private land would be temporary for the duration of construction. Temporary

disturbances would be reclaimed according to the same methods and terms as reclamation described above for public lands administered by the BLM.

The "project area", as referred to in this EA, includes the approximately 39.01 acres of BLM-administered public lands that would be included in the proposed ROW and the approximately 7.65-acre area of private land. Accordingly, the project area represents the maximum limits of surface disturbance that would result from the proposed project. The project area is shown on Figure 2.

2.1.3 Construction Details

Groundwater Well

The proposed well and the associated well equipment (e.g., pumps, pressure gauges, building, etc.) would be contained within a 100-foot-wide by 225-foot-long (approximately 0.51-acre) ROW area, also referred to as the well site area. The well site area would be located adjacent to the west side of an unpaved road in Reese River Valley, approximately 8 miles west of Austin, in section 7, Township 18 North, Range 43 East, Mount Diablo Base and Meridian (MDBM). Chain link security fencing with a locked gate for maintenance access would be installed around the perimeter of the well site area. Gold Ventures Road, an unpaved road that intersects State Route 722, would be used for access to the well site.

The proposed well would be 12 inches in diameter, steel-cased, and drilled to a depth of approximately 500 feet below ground surface. The pumping equipment would include an 8-inch vertical turbine pump and 6-inch drop pipe with a 100-horsepower motor. The well would also include 10-inch ductile-iron discharge piping, pressure gauges, isolation valves, a propeller meter, and a bypass for purging the well prior to start-up and shutdown. The pumping capacity of the new well would be approximately 0.58 million gallons per day. The pump discharge head and motor would be mounted on a 3-foot by 3-foot concrete pedestal.

All well equipment and piping would be housed inside a new, 24-foot-wide by 30-foot-long, wood frame building with a concrete slab floor and metal roofing. The building would include insulation, sheetrock, power, lighting, heat, air conditioning, ventilation, telemetry and controls. The telemetry would consist of an antenna, radio receiver and a remote terminal unit. A chemical feed system for disinfection of water with sodium hypochlorite would be provided within the building. The building exterior would be painted a BLM-approved standard environmental color, which would be specified in the ROW stipulations. Electrical power would be provided from an existing 3-phase power line. A drop off an existing power pole and a transformer would be required for the necessary 480 volts. New power pole structures would not be required. A diesel-driven, standby power generator would also be included as an emergency power source during power failures.

Water Storage Tank

In order to provide necessary booster pump suction supply, the proposed project would include constructing a new welded steel, ground-level, water storage tank within an approximately 0.34-

acre ROW area, also referred to as the tank site area. The tank site area includes a 100-foot-wide by 150-foot-long area that would surround the proposed tank and its approximately 55-foot-long drain pipe. The tank site area would be located adjacent to the county fairgrounds in section 24 of Township 19 North, Range 43 East, and section 19 of Township 19 North, Range 44 East, MDBM.

The tank design would follow American Water Works Association guidelines for steel tanks: approximately 16 feet high, measured from ground surface, and approximately 57 feet in diameter. The storage capacity of the new tank would be approximately 250,000 gallons, with 3 feet of freeboard maintained. The tank appurtenances would include shell man-ways, roof hatch, roof vents, interior and exterior ladder, site gauge board and float, overflow, and telemetry. The telemetry would include a small antenna mounted to the exterior ladder near the roof hatch, radio transmitter, and battery. The tank would include 12-inch epoxy-coated, steel inlet/outlet piping from the new well and existing well to the new booster pump station, and 12-inch steel overflow pipe. The interior of the tank would be coated with an epoxy paint approved by NSF International for potable water storage tanks. The tank exterior would be coated with an epoxy alkyd paint of BLM-approved standard environmental color.

The tank would be located on native material. Site grading will include 2:1 cut and fill slopes, with a block retaining wall on the cut slopes. The anticipated maximum height of cut and fill slopes would be approximately 8 feet. The tank pad would be graded to slope toward a v-ditch located at the toe of the cut slope to divert natural stormwater runoff away from the tank. The 12-inch tank drain would be piped down the hill and daylight toward a natural drainage feature beyond the existing Austin shooting range. Approximately 20 feet of clearance would be provided around the storage tank. Security fencing and a 20-foot locked gate would be included for site protection. Any excess soil material suitable for reuse would be used onsite while unsuitable soil or other debris would be removed and disposed of offsite at a permitted landfill facility. All disturbance associated with construction of the tank would be contained within the tank site area, including any temporary staging of equipment and materials.

Water Pipeline

Approximately 38,520 linear feet of buried water pipeline would be constructed between the proposed well in Reese River Valley and the proposed water storage tank next to the county fairgrounds. The majority of the pipeline, approximately 26,315 linear feet, would be constructed next to and parallel with an existing utility corridor that contains an overhead power line and a buried fiber optic cable. The pipeline would be installed approximately 35 feet north of the overhead transmission line. Approximately 11,645 linear feet of the pipeline would be constructed beneath existing Big Creek Road, an unpaved road intersected by the existing utility corridor west of the proposed water storage tank site. The remaining 560 linear feet of the pipeline would follow an unimproved road between Big Creek Road and the proposed water storage tank.

The pipeline would be constructed of 12-inch ductile-iron and DR 14 polyvinyl chloride (PVC) pipe, and include 12-inch mechanical joint gate valves and air release valves. Warning tape and locator wire would be installed on the pipeline alignment and valve markers would be installed at all in-line valves for easy identification and location from ground surface. Installation of the underground water pipeline would consist of first excavating a trench to a depth of at least 5.5 feet below ground surface. The trench would typically be between 3 feet and 4 feet wide; however, site conditions may require the width of the trench to extend to a maximum of 9 feet wide (3 feet wide at the base of the trench). The water pipeline would be placed in the trench at a minimum depth of 48 inches below ground surface, measured from the top edge of the pipe. The pipe would rest on at least 6 inches of bedding material and be surrounded by at least 12 inches of bedding material on both sides. At least 12 inches of bedding material would be placed on top of the pipe, and the trench would be backfilled, thereby providing a minimum of 4 feet of cover. The compaction density of the bedding and backfill material would meet requirements of Nevada Standard Details for Public Works Construction and Lander County.

Approximately 33,245 linear feet of the total pipeline length would be constructed on BLM-administered public land and would be contained within a 50-foot-wide ROW corridor centered on the pipeline. Construction of the pipeline may impact the entire ROW width, but would most likely impact the areas immediately adjacent to the pipeline trench. A detailed description of the proposed ROW is provided in Section 2.1.5. Some segments of the pipeline would occur on private land. Construction disturbance associated with installation of these private land portions of the pipeline would be restricted to a 50-foot width.

In addition to the pipeline between the proposed groundwater well and the water storage tank, several shorter sections of connecting pipeline would be constructed between other components of the proposed project and components of the existing water supply system. Connecting pipeline sections would be located on private land or land within an existing Nevada Department of Transportation (NDOT) ROW. All pipelines crossing U.S. Highway 50 would be installed inside 16-inch steel sleeves. The sections of connecting pipeline that would be constructed include the following:

- approximately 800 linear feet of 12-inch PVC pipe between the proposed water storage tank and the proposed booster pump station;
- approximately 925 linear feet of 8-inch ductile iron pipe between the discharge at the proposed booster pump station to the connection with an existing water pipeline north of U.S. Highway 50;
- approximately 925 linear feet of PVC pipe from an existing well north of U.S. Highway 50 to the proposed water storage tank site. The pipe diameter would be 8 inches between the existing well and proposed booster pump station and 12 inches between the booster pump station and the proposed water storage tank; and
- 6-inch ductile iron pipe from the existing well around the existing booster pumping station that would be abandoned to a connection with the existing discharge pipe that goes to Austin.

The existing county fairgrounds would be used for an equipment and materials staging/laydown area for construction of all water pipeline and as a refueling area for construction equipment. Surface disturbances resulting from construction would be reclaimed to preconstruction contours as closely as possible, scarified, and seeded for erosion and weed control.

Booster Pumping Station

The proposed project includes the construction of a new booster pumping station on private land within the county fairgrounds, adjacent to the existing restroom facility in section 24, Township 19 North, Range 43 East, MDMB. The booster pumping station is required to boost water from the proposed well and water storage tank to the existing town water storage tank and would be capable of pumping approximately 0.36 million gallons per day. The proposed pumping station would replace the existing pumping station that is located near the northwest corner of the intersection of U.S. Highway 50 and State Route 305.

The booster pumping station would include a 24-foot-wide by 30-foot-long block building, constructed to closely resemble the appearance of the existing restroom facility. The floor would be concrete, and the roof would be made of composition shingles to match the roof of the restroom facility. The floor drain would daylight at an existing drainage feature. The block walls would be furred out to include insulation and sheetrock. The building would also include power, lighting, heat, air-conditioning, ventilation, telemetry and controls, and stand-by power. The booster pumping station would include 75 horsepower, dual, horizontal split-case booster pumps rated at 250 gallons per minute at 610 feet of head. The horizontal split-case pump motors would be located on concrete pedestals inside the building and would be accessible for easy removal if they need to be replaced or repaired. A small rolling crane, similar to an automobile engine hoist, would be provided to assist in lifting the motors off the concrete pedestal and onto a flatbed truck. The pump suction pipe would be a 6-inch, epoxy-coated, ductile iron pipe, and the discharge pipe would be an 8-inch diameter, epoxy-coated, ductile iron pipe. Consistent with the existing restroom facility, no fencing would be installed around the booster pump station.

PRV Station Relocation

The proposed project would include relocating the existing town PRV station from the pavement section at 6th Street and Bateman Street to the road shoulder, out of the travel lane. The proposed relocation would eliminate the need for traffic control when the PRV station is accessed and would reduce the weight of the vault access hatch. The buried concrete vault and heavy manhole cover on the traffic-rated lid would be abandoned in place. The existing valve components would be salvaged to the District. A 6-inch hot-tap tie-in to the existing 6-inch pipe in the street would be constructed and piped over to the new PRV station located off the pavement section in the road shoulder. The new PRV station would include a buried concrete vault and include 6-inch, flanged, epoxy-coated, cement-mortar lined, CL 350 ductile iron pipe, valve, fittings, and pressure gauges. The vault access hatch would be a spring-assisted lid, and the vault will include a ladder and sump. A block retaining wall would be required, as the vault would be located in an existing slope. Bollards would be installed to protect the facility.

Surface disturbance would be minimal and limited to the existing road surface and associated road shoulder.

2.1.4 Construction Schedule

Construction of the proposed project would be anticipated to occur in two phases: Phase 1 and Phase 2. Drilling, constructing, and testing the new groundwater well would occur during Phase 1. Phase 2 would consist of constructing the well building, pipeline, booster pumping station, and water storage tank, and relocating the PRV station. Depending on the timeline for obtaining permits and easements, Phase 1 would be anticipated to start during late October 2012 and be completed during November 2012. It is anticipated that Phase 2 would start during the summer of 2013 and be completed during the fall of 2013. Construction would typically occur Monday through Friday, from 7:00 AM to 4:00 PM. No construction would typically occur between sunset and sunrise or at any time on Saturdays or Sundays. All project-generated wastes would be removed from the project area and properly disposed of at permitted off-site facilities upon completion of construction.

2.1.5 ROW Configuration

Approximately 39.01 acres of public land administered by the BLM would be contained within the proposed ROW area. The ROW would include approximately 38.16 acres of 50-foot-wide corridor containing the approximately 33,245 linear feet of proposed pipeline crossing BLM-administered public lands; approximately 0.51 acre of ROW surrounding the proposed well site area; and approximately 0.34 acre surrounding the proposed water storage tank site. During construction, all impacts on BLM-administered public land would be contained within the ROW and would not exceed 39.01 acres. A summary of the proposed ROW authorization is provided in Table 1, and the proposed ROW area is shown on Figure 2.

Portions of the proposed project occurring on private land would be contained within the necessary easements, ROWs, or other appropriate authorizations as needed for construction and operation of the project. All sections of proposed pipeline, with the exception of approximately 33,245 linear feet of the pipeline that would be constructed between the proposed well and water storage tank on BLM-administered public lands, would be constructed on private land. The proposed booster pump station would be located entirely on approximately 0.05-acre of private land. The relocated PRV station would also be located entirely on private land and require approximately 0.01 acre of disturbance during construction. Lander County would obtain the appropriate ROWs, easements, and authorizations as necessary for construction in these areas.

2.1.6 Operation and Maintenance

Lander County would operate and maintain the project in order to provide drinking water for consumers that are supplied by the Austin municipal water system. Lander County would routinely monitor the operation and functionality of the system as preventive maintenance and to identify components in need of repair. Regular monitoring, inspection, and repairs would ensure the integrity of the system, as is currently performed on the existing water system.

2.2 ENVIRONMENTAL PROTECTION MEASURES

The following Environmental Protection Measures are incorporated into the Proposed Action in order to avoid or minimize potential adverse effects.

1. All surface-disturbing activities would be limited to the project area. Disturbed areas that would not be utilized for operation or maintenance of the system would be reclaimed to their pre-construction contours and seeded with a BLM-approved, weed-free, erosion control seed mix.
2. Lander County and/or its contractors would implement BMPs at all times during construction. BMPs are defined by NDEP in the State Handbook of Best Management Practices (1994).
3. Equipment and vehicle idling times would be minimized. Construction equipment idling for more than 15 minutes would be shut off.
4. Lander County and/or its contractors would minimize the potential for the establishment of noxious weeds and spread of invasive species. The proposed project area, including the ROW and areas of private land disturbed during construction, would be reseeded with a BLM-approved, weed-free erosion control seed mix. Prior to entering the project area, construction equipment would be washed to remove weed seeds, roots, other vegetative debris, and soil capable of transporting weeds. Only certified weed-free straw or hay would be used if bales are used for erosion control.
5. Lander County and/or its contractors shall implement precautionary measures in order to prevent wildfires during construction of the Proposed Action. Adequate firefighting equipment shall be kept onsite at all locations where construction is occurring. Firefighting equipment shall include shovels, Pulaski axes, fire extinguishers, water supplies, or similar pieces of equipment. Any construction-required welding shall be conducted in an area free from or mostly free from vegetation. Construction personnel, in addition to the welder operator, shall be assigned to monitor the welding area for fires. A shovel and water supply shall be kept near the welder to immediately extinguish any fires that may result from welding sparks. All vehicles associated with the Proposed Action shall receive frequent catalytic converter inspections and shall be cleared of all brush and grass debris. All vehicles shall be equipped with fire extinguishers. Lander County and/or its contractors shall report all wildfires to the BLM Central Nevada Interagency Dispatch Center immediately. In the event that the Proposed Action generates a fire, Lander County could be liable for suppression costs.
6. Any evergreen trees that exist within the proposed water storage tank site would be salvaged and then transplanted around the perimeter of the proposed water storage tank to act as a visual screen once construction is completed.
7. The water storage tank and the 24-foot by 30-foot well building would be painted with a BLM-approved standard environmental color to minimize visual contrast.

2.3 PERMITS AND APPROVALS

Lander County and/or its contractors are responsible for obtaining valid permits and approvals from all relevant federal, state, and local agencies to construct the proposed project. Lander County has transferred a portion of their existing groundwater rights to the proposed well site under permit 81358. This project would disturb more than 1 acre; therefore, Lander County would need to apply for a Stormwater Permit for construction sites from NDEP, Bureau of Water Pollution Control. Prior to construction, a notice of intent and filing fee would be submitted, and a Storm Water Pollution Prevention Plan would be prepared. Because the project would disturb more than 5 acres, Lander County would obtain a Surface Area Disturbance permit from NDEP Bureau of Air Pollution Control. Portions of the Proposed Action that intersect or coincide with the existing ROW for U.S. Highway 50 would adhere to the occupancy permit 2006981 that has been issued by the NDOT for the project. Additionally, Lander County would obtain the necessary ROW authorization and approval from private landowners prior to commencement of construction on private land.

2.4 ALTERNATIVES TO THE PROPOSED ACTION

The NEPA directs the BLM and other federal agencies to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources” (42 United States Code [USC] 4332). Alternatives to the proposal should meet the purpose and need of the Proposed Action. Alternatives should be practical or feasible from a technical and economic standpoint, and reasonably accomplished. According to the Code of Federal Regulations (CFR), Title 40, Sections 1500 through 1508 (40 CFR 1500-1508), the Council on Environmental Quality (CEQ) requires the "No Action" alternative be considered in the NEPA analysis. The No Action Alternative is discussed in Section 2.4.1. Alternatives that were considered but eliminated from detail analysis are discussed in Section 2.4.2. The alternatives discussed in Section 2.4.2 either failed to meet the purpose and need of the Proposed Action, or were determined to be impractical or unfeasible from a technical or economical standpoint.

2.4.1 No Action Alternative

Under the No Action Alternative, the BLM would not authorize the ROW grant that Lander County has requested. Without the ROW authorization, the proposed improvements to the existing water system would not be constructed, and the arsenic concentration in the water supply would continue to exceed the federal and state arsenic standard. However, Lander County would still be legally required to achieve compliance with the federal and state arsenic standard.

An exploration drilling project was performed during preliminary engineering of the proposed improvements that involved testing water quality of samples taken from exploratory and existing wells in the vicinity of Austin. Testing results indicated that the nearest source of acceptable

groundwater was in the Reese River Valley. Public lands administered by the BLM separate Austin and the existing municipal water system from the Reese River Valley. Consequently, construction of a new system or improvements to the existing system capable of delivering compliant water to Austin is not possible without authorization to construct improvements across public land managed by the BLM. Under the No Action Alternative Austin's municipal water supply would remain noncompliant with the federal and state arsenic standard. The purpose and need of the Proposed Action would not be met by implementation of the No Action Alternative.

2.4.2 Alternatives Considered but Eliminated from Detailed Analysis

As stated in Section 1.2, the purpose of the Proposed Action is to grant Lander County the ability to provide a drinking water supply to Austin that is compliant with federal and state drinking water standards. The drinking water supplied to Austin by the public water system in its current condition contains arsenic at an average concentration greater than the federal and state maximum concentration level of 10 parts per billion. In order to become compliant with the arsenic standard, there are essentially three possible approaches: 1) treat the existing municipal water supply to remove arsenic; 2) develop a new municipal drinking water supply with an arsenic concentration below 10 parts per billion (Proposed Action); or, 3) develop a new municipal drinking water supply with arsenic concentration low enough to mix with the existing supply and reduce the total arsenic concentration to less than 10 parts per billion.

According to the Plan of Development that Lander County submitted with the Standard Form 299 Application, several alternatives to the proposed project that utilized one or more of these approaches to mitigate the arsenic concentration in the water supply were initially considered. These alternatives included the following:

- providing bottled drinking water in place of the municipal drinking water supply system;
- conveying water from another water purveyor;
- treatment of arsenic at the point of use;
- treatment of arsenic at the existing municipal well; and,
- blending existing municipal water supply with water from spring sources.

According to the plan of development, these alternatives were eliminated because they were either infeasible or would not reduce arsenic concentrations to less than 10 parts per billion. Specifically, the bottled drinking water alternative was eliminated because it is not considered a long-term solution pursuant with EPA guidelines. Obtaining water from another water purveyor was eliminated as an alternative because there are no nearby water purveyors to consider for water conveyance. Treatment at the point of use was eliminated as an alternative because it would require 100 percent participation among the customers served by the water system since treatment would occur on private property. Treatment at the existing municipal well was eliminated because it would result in substantial increases in operations and maintenance costs that would require user rates to increase substantially. The increased rates would not be reasonable for small, generally low-income, rural towns with a relatively small customer base.

The blending alternative was eliminated because the arsenic concentration would not be reduced to less than 10 parts per billion, and because uranium is present in the spring water supply.

The Plan of Development also describes several alternatives in which one or more components of the proposed project would be constructed at a location different than that described under the Proposed Action Alternative. According to the Plan of Development, several potential sites for the proposed groundwater well were selected during an extensive groundwater exploration project, including a site at the existing fairgrounds, a site near the existing well, and three sites in the Reese River Valley. One of the potential sites in the Reese River Valley was eventually selected as the approximate location where the proposed groundwater well would be constructed under the Proposed Action Alternative. The other two sites in the Reese River Valley were not selected as viable locations for the new well because they are located on private land that would require a private land purchase, whereas the third, selected site is located on BLM-administered public lands. Locating the new well on BLM-administered public lands would not require a private land purchase, and thus project costs would be reduced. Additionally, the NDEP, Bureau of Safe Drinking Water requires public facilities to be located on public lands with easements for maintenance access purposes. The potential sites at the existing fairgrounds and near the existing municipal well were not selected as a viable location for a new groundwater well because unfavorable water quality results were returned from analysis of groundwater samples collected at each site. The sample collected at the fairgrounds site was compliant with the federal and state maximum concentration level for arsenic, but was not compliant with uranium standards. The sample from the site near the existing well contained arsenic in excess of 10 parts per billion.

The initial site selected for the construction of the proposed water storage tank was located on the north side of U.S. Highway 50 because the existing well and booster pump station are also located north of the highway. However, the site was determined to be too congested for the proposed water storage tank due to the presence of numerous existing utilities, various structures, and State Route 305, and an alternate site was selected. The alternate site is located on BLM-administered public lands that are adjacent to the existing fairgrounds and south of U.S. Highway 50. This alternate site was the final selection and is the location where the proposed water storage tank site would be constructed under the Proposed Action Alternative. Constructing the proposed water storage tank at a site on Lander County property within the fairgrounds area was not considered because adequate elevations could not be achieved.

The initial alignment selected for the proposed pipeline would have connected the proposed groundwater well to the existing booster pumping station, which is located northeast of the intersection of U.S. Highway 50 and State Route 305. Beginning at the proposed groundwater well, the pipeline would have followed Gold Ventures Road north to State Route 722. The pipeline would then turn east and follow State Route 722 to its intersection with U.S. Highway 50. The pipeline would have briefly followed U.S. Highway 50 east to the point of connection with the existing booster pumping station. However, it was determined that the cost to construct the proposed pipeline would have been considerable due to the NDOT trenching, traffic-control,

and permitting requirements associated with the initial alignment. Additionally, continued use of the existing booster pumping station was considered less than optimal because Lander County has had to replace the booster pumps regularly. After the alternate site for the water storage tank was selected south of U.S. Highway 50, as mentioned above, it was determined that a new booster pumping station should also be constructed south of the highway. Following this determination, an alternate alignment was selected to connect the proposed groundwater well to the proposed water storage tank and booster pumping station sites south of U.S. Highway 50. The alternate alignment was the final selection and is the alignment that the proposed pipeline would be constructed to follow under the Proposed Action Alternative. The alternate alignment eliminates almost all the NDOT trenching, traffic-control, and permitting requirements associated with the initial alignment, and reduces encroachment with U.S. Highway 50.

3.0 AFFECTED ENVIRONMENT

3.1 GENERAL SETTING

The general setting for the Proposed Action project area, originating in the Reese River Valley approximately 8 miles west of Austin and terminating in Austin, is rural to rural/suburban and characterized by flat to gently rolling topography. Common vegetation in these areas is predominantly desert shrubs; commonly occurring species include black greasewood (*Sarcobatus vermiculatus*), shadscale (*Atriplex confertifolia*), and rubber rabbitbrush (*Ericameria nauseosa* spp. *consimilis*), with infrequent and isolated stands of big sagebrush (*Artemisia tridentata*) and/or Wyoming sagebrush (*Artemisia tridentata* spp. *wyomingensis*). Scattered black greasewood (*Sarcobatus vermiculatus*), and saltbush (*Atriplex* spp.) are present in some areas. The highest portion of the project is in Austin, where the PRV station relocation would occur, and is approximately 6,720 feet above mean sea level. This is approximately 985 feet higher than the lowest portion of the project area, which is approximately 5,735 feet above mean sea level. The lowest portion of the project area occurs along the proposed pipeline, approximately 4,500 feet north of the new well site.

According to data collected and compiled by the Western Regional Climate Center (2010), the average high and low temperatures in Austin over the last approximately 20 years have been 62.0 and 35.5 degrees Fahrenheit, respectively. July is the warmest month, with the average high temperature reaching 86.8 degrees Fahrenheit. The coldest month is December, with an average low temperature of 20.9 degrees Fahrenheit. The average annual precipitation over the last approximately 20 years has been 12.7 inches, with most precipitation falling during the winter months (Western Regional Climate Center 2010). Precipitation at higher elevations surrounding Austin can be much greater due to snowfall.

The area surrounding the project is sparsely populated, with most of the population living in Austin. The economy of the area is dominated by mining and ranching. Austin is the only town in the general vicinity of the project area; the next closest town is Battle Mountain, located about 85 miles north. Surrounding the commercial core of Austin are primarily residential land uses with other mixed uses interspersed. Major features in the immediate vicinity of the project area include Austin, U.S. Highway 50, State Routes 305 and 722, the county fairgrounds, and the Reese River Valley. The proposed pipeline would follow an existing utility corridor and an existing unpaved road, Big Creek Road. The road and the overhead power line within the utility corridor are also prominent features near and within the project area.

3.2 RESOURCES/ISSUES CONSIDERED FOR ANALYSIS

To comply with the NEPA, BLM and other federal agencies are required to address specific elements of the environment that are subject to requirements specified in statute or regulation or by executive order (BLM 2008). Table 2 outlines the elements that must be addressed in all environmental analyses. Table 2 also denotes if either the Proposed Action or No Action

Alternative affect those elements. Supplemental Authority elements determined to be Not Present or Present/Not Affected need not be carried forward for analysis or discussed further in the document. Supplemental Authority elements determined to be Present/May Be Affected must be carried forward for analysis in the document.

Table 2 Supplemental Authority Elements Considered for Analysis

Supplemental Authority Element	Not Present*	Present/Not Affected*	Present/May Be Affected**	Rationale
Air Quality		X		See Section 3.2.16.
Area of Critical Environmental Concern	X			Resource is not present.
Cultural Resources			X	See Section 3.2.5.
Environmental Justice and Socio-Economics			X	See Section 3.2.4.
Farm Lands (Prime or Unique)	X			Resource is not present.
Fish Habitat***	X			Resource is not present.
Noxious Weeds/Invasive Non-Native Species			X	See Section 3.2.10.
Native American Religious Concerns			X	Section 3.2.6.
Floodplains			X	See Section 3.2.14.
Wetlands/Riparian Zones	X			Resource is not present. Wetlands and riparian zones were not observed within the project area during a site investigation (JBR Environmental Consultants, Inc. 2012)
Threatened, Endangered Species			X	See Section 3.2.11.
Migratory Birds			X	See Section 3.2.13.
Wastes, Hazardous and Solid			X	See Section 3.2.8.
Water Quality (Surface/Ground)			X	See Section 3.2.15.
Wild & Scenic Rivers	X			Resource is not present.
Wilderness	X			Resource is not present.
Forests and Rangelands (Healthy Forests Restoration Act only)	X			Resource is not present.

*A Supplemental Authority element determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document.

A Supplemental Authority element determined to be Present/May Be Affected **must be carried forward in the document.

***This fish habitat is related to specific Congressional acts protecting marine and commercial fish habitat. It does not apply to common aquatic habitats and fisheries.

Other resources of the human environment that have been considered for the EA are listed in Table 3. Elements that may be affected are further described in the EA. The rationale for each element that would not be affected by the Proposed Action and No Action alternatives is listed in the table.

Table 3 Other Resources/Concerns Considered for Analysis

Other Resources	Not Present*	Present/ Not Affected*	Present/ May Be Affected**	Rationale
Grazing Management		X		Resource is present, but project area would not reduce the quantity of animal unit months that are currently provided in the grazing allotment.
Land Use			X	See Section 3.2.1.
Minerals	X			Resource is not present.
Paleontological Resources	X			Project area is located in Quaternary-aged alluvial fill. Quaternary-aged alluvium is not conducive to fossil creation or preservation. Resource is not present.
Recreation			X	See Section 3.2.3.
Special Status Species			X	See Section 3.2.11.
Soils			X	See Section 3.2.7.
Vegetation			X	See Section 3.2.9.
Visual Resources and Esthetics			X	See Section 3.2.2.
Wild Horses and Burros	X			There are no wild horses, wild burros, or Herd Management Areas within the project area.
Wildlife and Fisheries			X	See Section 3.2.12.

*Resources or uses determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document.

Resources or uses determined to be Present/May Be Affected **must be carried forward in the document.

As noted in the tables above, the following resources will not be brought forward for further analysis in this EA because they are not present within the project area or are not affected by the Proposed Action: Areas of Critical Environmental Concern, Farm Lands (Prime or Unique), Fish Habitat, Wetlands/Riparian Zones, Wild and Scenic Rivers, Wilderness, Forest and Rangelands (Healthy Forests Restoration Act only), Grazing Management, Minerals, Paleontological Resources, and Wild Horses and Burros.

The following resources have been determined to be present and potentially affected by the Proposed Action: Air Quality, Cultural Resources, Environmental Justice and Socio-Economics, Noxious Weeds/Invasive Non-Native Species, Native American Religious Concerns, Floodplains, Migratory Birds, Wastes (Hazardous and Solid), Water Quality (Surface/Ground),

Land Use, Recreation, Special Status Species, Soils, Vegetation, Visual Resources and Esthetics, and Wildlife and Fisheries.

The following sections describe the affected environment for resources that are present in the project area and potentially affected by the Proposed Action. The information is derived from baseline field surveys of the area, and from interviews and correspondence within the BLM and with other federal, state, and local agency resource personnel.

3.2.1 Land Use

The project area consists of approximately 7.65 acres of private land and approximately 39.01 acres of public land (Figure 2). Private land within the project area is predominantly part of the properties that comprise the county fairgrounds west of Austin and south of U.S. Highway 50. Private land within the project area near the proposed well site is used for agricultural purposes. The public lands within the project area comprise the proposed ROW and are managed by the BLM, MLFO, Battle Mountain District in accordance with the RMP (BLM 1984) and the Record of Decision for the Shoshone-Eureka Resource Area (BLM 1986a) for multiple uses, such as range and grazing, recreation, and wildlife habitat. General land uses on other private land and BLM-administered public lands in the vicinity of the project area include grazing, agriculture, wildlife habitat, utility and transportation corridors, dispersed recreation, and open space. The existing ROWs that BLM has authorized that would be crossed by the project area are listed and summarized in Table 4.

Table 4 Existing Right-of-Way Authorizations

Serial Number	Right-of-Way Holder	Description of Right-of-Way
NVN 011441	Sierra Pacific Power Company	Overhead power line
NVN 007189	Shoshone Telephone Corporation	Communications line
NVN 041922	Lander County	Overhead power line
NVN 077508	Nevada Bell	Buried Fiber Optic Cable
NVN 005702	Nevada Bell	Communications line
NVN 006057	Lander County and Standard Oil of California	Color-Of-Title: Class 1 & 2 claims
NVN 007222	U.S. Forest Service	Forest road

Note: Table 4 describes the existing ROWs that have been authorized by the BLM. There may be other easements, ROWs, or agreements of any kind not listed in Table 4 that coincide with the portions of the project area comprised of private land.

3.2.2 Visual Resources and Esthetics

The BLM initiated the Visual Resource Management (VRM) process to manage the quality of landscapes on public land it administers and to evaluate the potential impacts to visual resources resulting from development and land utilization activities. The VRM class designations are determined by assessing the scenic value of the landscape, viewer sensitivity to the scenery, and the distance between the viewer and the subject landscape. The VRM classes identify various permissible levels of landscape alteration while protecting the overall visual quality of the region. There are four levels of VRM classes: Classes I, II, III, and IV. Class I is the most restrictive or protective of the existing landscape, and Class IV is the least restrictive (BLM 1986b). Standards for analyzing and evaluating projects are provided by VRM objectives that

correspond with the various VRM classes. Projects are evaluated using a Contrast Rating System described in BLM Manual 8431 (1986c). The Contrast Rating System provides a systematic way to evaluate a proposed project to determine if it meets VRM objectives, as they have been established by the BLM.

At present, a VRM classification for the proposed right of way is not designated in the RMP (BLM 1984) or the Record of Decision for the Shoshone-Eureka Resource Area (BLM 1986a); however, the area is managed as Class IV. The Class IV objectives provide for (1) management activities that require major modifications to the existing character of the landscape and may dominate the view of the casual observer or attract attention and, (2) a level of change that can be high. Every attempt should be made to minimize impacts of activities by carefully locating activities and repeating the basic elements found in the natural features (form, line, color, and texture) of the landscape (BLM 1986b).

In general, the visual character of the majority of the project area and the foreground areas surrounding the project area can be described as an altered landscape typical of many rural areas in central Nevada. The foreground landscape consists of large, open spaces dominated with mixed desert shrubs. The continuity of the vegetation cover is broken linearly by unpaved and paved roads, overhead and buried utility lines, and fences. Miscellaneous other clearings also interrupt the vegetation cover present within most of the foreground. The proposed tank site and areas surrounding it include vegetation cover dominated by mixed desert shrubs and taller evergreen trees. The intensity of disturbance and alteration to the natural landscape sharply increase between the tank site and portions of the project area north of it. Unpaved and paved roads are more common, as are miscellaneous clearings and disturbances that are attributed to the area's proximity to Austin. The portion of the project area where the PRV station would be relocated and the foreground area surrounding it are characterized by a highly developed and urban setting in Austin. Paved roads and residential structures are common in this area.

The middle-ground and more distant background views from the project area are also typical of central Nevada. The middle-ground is generally a continuation of large expansive areas of mixed desert shrubs across a relatively flat valley floor. South of the tank site, the middle-ground view includes rolling to steep hills that are covered with shrubs and evergreen trees. Occasional roads and utility lines bisect vegetation cover across much of the middle-ground view. Background views are dominated by tall, rugged, mountain peaks and ridges. Roads and other linear alterations are less obvious than they are in the foreground and middle-ground.

3.2.3 Recreation

There are no developed recreation facilities, recreational attractions, or other unique natural features that occur within the project area. In the absence of recreation facilities and attractions, most recreational activities within the project area are likely to occur intermittently, such as uses incidental to hunting or overland hiking. There are numerous mountain bike trails established in the mountains located east of the project area and south of Austin. Unpaved roads that occur

within or cross the project area, particularly the eastern half of the project area closest to the mountains, may occasionally be travelled by mountain bikers.

The segment of Big Creek Road within the portion of the project area generally in the northeast quarter of section 24, Township 19 North, Range 43 East, MDBM is part of the network of roads and off-highway vehicle trails that collectively form the Gold Venture Driving Excursion. The Gold Venture Driving Excursion allows motorized and non-motorized travel through a representative cross-section of the high-desert ecosystem typical of northern Nevada. The network of roads also provides access to developed campgrounds, mountain bike trails, scenic vista points, historical sites, and other similar points of interest. Other unpaved roads and trails within or crossing the project area are probably also used by off-highway vehicles.

An existing shooting and target range is located on private land adjacent to the west side of the proposed water storage tank site area, in section 24, Township 19 North, Range 43 East MDBM. Portions of the project area in section 24 that are located on private land are within or next to the existing county fairgrounds, which are used for special events that often include a recreational component.

3.2.4 Environmental Justice and Socio-Economics

Environmental Justice

In accordance with the *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses* (EPA 1998), minority populations should be identified when either:

- the minority population of an affected area exceeds 50 percent; or
- the minority population of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

The 2010 Census Summary File 1 was prepared by the U.S. Census Bureau to describe population characteristics collected from all people during the 2010 census for the entire United States, as well as for each of the 50 states and the District of Columbia (U.S. Census Bureau 2012a). Data from the 2010 Census Summary File 1 for Nevada (U.S. Census Bureau 2011a) that pertains to environmental justice indicators of minority populations are summarized in Table 5 for the populations of Austin, Lander County, and the state of Nevada. According to the census data, the total population of Lander County was 5,775 persons in 2010. The U.S. Census Bureau data (2011a) indicates that the population of Austin in 2010 consisted of 193 of these persons. The percentage of the total population of Austin that is comprised of a minority population is less than 50 percent. The percentage of the total population of Austin that is comprised of a minority population is not meaningfully greater than the percentage of the total population of Lander County that is comprised of a minority population.

Additionally, as shown in Table 5, the percentage of the population comprised of a minority population is noticeably less than the percentage of the entire population of the state that is comprised of minority populations.

Table 5 Environmental Justice Indicators: Minority Populations

Indicator	Austin		Lander County		State of Nevada	
	Number	Percent	Number	Percent	Number	Percent
Total Population	193	100	5,775	100	2,700,551	100
White Persons	184	95.3	4,853	84.0	1,786,688	66.2
Black Persons	0	0	20	0.3	218,626	8.1
Native Americans	0	0	242	4.2	32,062	1.2
Asian Persons	2	1.0	21	0.4	195,436	7.2
Pacific Islanders	0	0	1	0.0	16,871	0.6
Other Races	4	2.1	496	8.6	324,793	12.0
Two or More Races	2	1.0	142	2.5	126,075	4.7
Hispanic or Latino (of any race) ¹	18	9.3	1,219	21.1	716,501	26.5
Total Minority Population ²	26	13.5	1,516	26.3	1,238,470	45.9

Source: (U.S. Census Bureau 2011a)

¹Persons who identify their origin as Spanish, Hispanic or Latino may be of any race or combination of races; therefore, the number and percentage of all the race groups may total more than the total population (100 percent).

²Minority population includes persons of any race or combination of races who identify origin as Hispanic or Latino, and persons of minority races or combination of races not of Hispanic or Latino origin. More complete data showing race categories for persons of Hispanic or Latino origin and persons of other origins separately are also available.

Final guidance from the EPA (1998) recommends that, pursuant with CEQ guidance (CEQ 1997), low-income populations in an affected area should be identified using annual poverty thresholds from the U.S. Bureau of the Census Current Population Reports. In conjunction with U.S. Census data, final guidance from the EPA (1998) indicates that state and regional low-income and poverty definitions should be considered, as appropriate. In identifying low-income populations, agencies may consider as a community a group of individuals living in geographic proximity to one another or set of individuals where either type of group experiences common conditions of environmental exposure.

The 2006-2010 American Community Survey for the State of Nevada (U.S. Census Bureau 2011b) was used to determine the percentage of persons below the poverty level within the populations of Lander County and the state of Nevada. U.S. Census data is not provided for the percentage of persons below the poverty level specifically within the population of Austin. However, data is provided for the Austin Census County Division area, which consists of roughly the southern half of Lander County, including Austin. According to the census data (U.S. Census Bureau 2011b), there were no persons below the poverty level in the Austin Census County Division area during 2010. The data is qualified by a margin of error of 12.6 percent, so it is possible that 12.6 percent or less of the population of the area is actually below the poverty level. The percentage of persons below the poverty level in Lander County during 2010 was reported to be 12.2 percent, while 11.9 percent was reported for the state of Nevada (U.S. Census

Bureau 2011b). Table 6 summarizes the poverty data reported in the 2006-2010 American Community Survey (U.S. Census Bureau 2011b) for the Austin Census County Division area, Lander County, and the entire state of Nevada. The per capita income and median household income reported in the 2006-2010 American Community Survey (U.S. Census Bureau 2011b) is also summarized in Table 6.

Table 6 Environmental Justice Indicators: Low-Income Populations

Indicator	Austin Census County Division Area	Lander County	State of Nevada
Persons Below Poverty Level (percent)	0.0	12.2	11.9
Per Capita Income (U.S. dollars)	25,231	25,287	27,589
Median Household Income (U.S. dollars)	24,115	66,525	55,726

Source: (U.S. Census Bureau 2011b)

The U.S. Census Bureau defines a poverty area as a census tract or other area where at least 20 percent of residents are below the poverty level (U.S. Census Bureau 2012b). Census data (U.S. Census Bureau 2011b) indicates that the Austin Census County Division area is not a poverty area since the percent of the population of the area that is below the poverty level is less than 20 percent. As an entire geographic area, Lander County would also not be considered a poverty area since the percentage of persons below poverty level is only 12.2 percent. Specific regions or communities in Lander County may be poverty areas since persons who are below the poverty level may reside in geographic proximity to one another.

Socio-Economics

Lander County is a predominantly rural county in north-central Nevada encompassing approximately 5,621 square miles of land. The county has been dependent on the mining industry since it was first founded in late 1862. In addition to mining, agriculture has been an important part of the county’s socio-economics and includes cattle and sheep ranching and hay farming. The trend of strong mining and agriculture industries has continued to present day, as U.S. Census Bureau data (2011b) indicates that 37.2 percent of Lander County's population was employed in the agriculture, forestry, fishing and hunting, and mining industries between 2006 and 2010. Much of Lander County socio-economics are also influenced by the federal government, which is due to federal agencies managing more than 85 percent of the total land area within the county.

Austin is an unincorporated town in the southern part of the county and was once the county seat for local government. U.S. Census data (2011b) indicates that 83.7 percent of the population of the Austin Census County Division area was employed in the agriculture, forestry, fishing and hunting, and mining industries between 2006 and 2010. Travel and tourism also contribute to the socio-economics of Austin. The Toiyabe Mountain Range at the edge of town provides mountain biking, hiking, and similar recreational uses that attract outdoor enthusiasts and tourists. U.S. Highway 50, the historic center street in Austin, has lodging accommodations, restaurants, service stations, and unique shops that cater to tourists (Greater Austin Chamber of

Commerce 2012a). U.S. Highway 50, an east-west travel way across the entire United States, passes through Austin. The section of the highway through Nevada has been named the "Loneliest Road in America" and marketed as a travel-tourism attraction by the state and the towns it passes through, including Austin (Greater Austin Chamber of Commerce 2012b).

3.2.5 Cultural Resources

Kautz Environmental Consultants, Inc. has completed a Class III cultural resource inventory in compliance with Section 106 of the National Historic Preservation Act and its implementing regulations (Spidell and Kautz 2012). The survey area, which is referred to as the Area of Potential Effect, included all areas within the boundaries of the project area.

During the course of the cultural resource inventory, a total of 14 sites were encountered. Of the 14 sites, 13 are recommended non-significant and therefore not eligible for inclusion on the National Register of Historic Places. These 13 non-significant, not eligible sites require no further cultural resources management considerations prior to proposed construction (Spidell and Kautz 2012). The final site, the Austin Cemetery, is listed on the National Register of Historic Places (CrNV-62-10177 / La5872). Construction of the project, proposed to occur immediately outside the defined boundary of the Austin Cemetery, would be monitored by a qualified Cultural Resources Specialist during implementation to assure no adverse effect occurs to the site. Further, given the historic nature of the town of Austin, it has been recommended that construction activities at the location of the PRV station near 6th and Bateman be monitored (Spidell and Kautz 2012).

3.2.6 Native American Religious Concerns

Various Native American tribes and bands have stated that federal projects and land actions can have widespread effects to their culture and traditional practices, as they consider the landscape as sacred and as a provider. Various locations throughout the BLM, MLFO administrative area continue to host traditional, spiritual, and/or cultural use activities. Sites and resources considered sacred or beneficial to the continuation of tribal traditions include, but are not limited to: prehistoric and historic village sites, sources of water (hot and cold springs), pine nut gathering locations, sites of ceremony and prayer, prehistoric and ethno-historic archaeological sites, burial locations, "rock art" sites, medicinal/edible plant gathering locations, areas associated with creation stories, or any other tribally designated Traditional Cultural Property.

The BLM provided written descriptions with attached maps of the proposed project to the Yomba Shoshone Tribe, Fallon Paiute-Shoshone Tribe, and the Duckwater Shoshone Tribe of the Duckwater Reservation on February 22, 2012. The BLM invited the Tribes to consult and attend field visits, and seeks their assistance in the identification of any potential issues/concerns, traditional/cultural properties, or participation opportunities during consideration of the requested ROW authorization. On March 29, 2012 the Duckwater Shoshone Tribe of the Duckwater Reservation requested a site visit to the project; the Yomba Shoshone Tribe and the Fallon Paiute-Shoshone Tribe were invited to the scheduled site visit on May 16, 2012. The Duckwater Shoshone Tribe of the Duckwater Reservation and the Yomba Shoshone Tribe accepted the

invitation to the site visit. During the site visit, the Tribes discussed that portions of the proposed ROW had been used for rendezvous by the various Shoshone Tribes and Bands. This was further identified by the possibility of finding beads around various locations surrounding the proposed ROW. The Tribes were interested in the location of the train and noted that Indians would ride the train from Battle Mountain to Austin for the rendezvous. While proceeding along the pipeline to the well, it was identified that there may be locations where pygmy rabbit may occur; the Tribes were interested in the biological survey that was to be conducted for the species.

An additional site visit was conducted on September 25, 2012, to discuss and identify concerns relating to biological resources. The Yomba Shoshone Tribe expressed concerns that ground disturbing activities would impact pygmy rabbit, owls, greater sage-grouse, and other wildlife. The Yomba Shoshone Tribe requested that the sections of the EA pertaining to biological resources include measures requiring tribal monitors to be present during ground-disturbing activities performed around the county fairgrounds area for the protection of the aforementioned wildlife. Concern that noxious weeds, invasive species, and other grass may colonize areas within the project area that are used by pygmy rabbit, owls, greater sage-grouse, and other wildlife as habitat was also expressed by the Yomba Shoshone Tribe during the site visit on September 25, 2012.

Additional meetings and coordination for the project have continued and will continue throughout the life of the project.

3.2.7 Soils

Soils occurring within the project area and surrounding areas are mapped and described by the Natural Resources Conservation Service (NRCS) in the *Soil Survey of Lander County, Nevada, South Part* (NRCS 2007). There are a total of seven soil map units that occur within the project area, and four of these map units are soil associations. Soil associations consist of soils from two or more soil series that occur together in a characteristic and repetitious manner. Accordingly, although the project area contains only seven soil map units, there are soils from 11 different soil series that occur within the area. The soil map units that NRCS has mapped (2007) as occurring within the project area are listed below and are shown on Figure 4. A brief description of the 11 soil series derived from information provided in the detailed description of the soil series prepared by the NRCS (2007) follows the list.

- Enko-Orovada association, gently sloping, Map Unit 491;
- Ocala-Sonoma-Paranat association, Map Unit 683;
- Wendane silt loam, frequently flooded, Map Unit 1140;
- Dumps and pits, mine, Map Unit 1600;
- Glyphs-Enko association, Map Unit 2015;
- Typic Argixerolls-Torripsammentic Haploxerolls-Glean association, Map Unit 3210; and,
- Kelk silt loam, saline, Map Unit 3740.

Enko Series

The Enko series consists of very deep, well-drained soils that formed mainly in loamy alluvium derived primarily from various rock types and includes some volcanic ash and loess. Enko soils are on fan aprons, fan skirts, and inset fans. Slopes range from flat to 8 percent. Mean annual precipitation is about 9 inches, and mean annual temperature is about 48 degrees Fahrenheit.

Glean Series

The Glean series consists of deep, well-drained soils that formed in residuum and colluviums derived from various types of rock. Glean soils are found on side slopes of mountains where slopes range from 15 percent to 75 percent. Mean annual precipitation is about 14 inches, and mean annual temperature is about 45 degrees Fahrenheit.

Glyphs Series

The Glyphs series consists of very deep, well-drained soils that formed mainly in mixed alluvium derived primarily from volcanic rock, but also includes some volcanic ash and loess. Glyphs soils are on fan piedmont remnants. Slopes range from flat to 30 percent. Mean annual precipitation is about 10 inches, and mean annual temperature is about 45 degrees Fahrenheit.

Kelk Series

The Kelk series consists of very deep, well-drained soils that formed in loess, but includes some volcanic ash and mixed silty alluvium derived from mixed rock sources. Kelk soils are found on inset fans and alluvial plains. Slopes range from flat to 4 percent. Mean annual precipitation is about 7 inches, and mean annual temperature is about 48 degrees Fahrenheit.

Ocala Series

The Ocala series consists of very deep, somewhat poorly drained soils that formed from silty alluvium derived from various kinds of rock and also includes some volcanic ash. Ocala soils are found on alluvial flats and lake plains. Slopes range from flat to 2 percent. Mean annual precipitation is about 7 inches, and mean annual temperature is about 50 degrees Fahrenheit.

Orovada Series

The Orovada series consists of very deep, well-drained soils that formed in loess with a very high content of volcanic ash over alluvium derived from various types of rocks. Orovada soils are found on fan aprons, fan skirts, and inset fans. Slopes range from flat up to 8 percent. Mean annual precipitation is about 8 inches, and mean annual temperature is about 47 degrees Fahrenheit.

Paranat Series

The Paranat series consists of very deep, poorly drained soils that formed from silty fluvial deposits. Drainage in some areas has been altered by stream entrenchment or channel realignment. Paranat soils are found on flood plains, where slopes are flat to 2 percent. Mean annual precipitation is about 8 inches, and mean annual temperature is about 48 degrees Fahrenheit.

Sonoma Series

The Sonoma series consists of very deep, poorly drained soils that formed in silty alluvium of some volcanic ash but mainly of mixed rocks. In some areas stream channel entrenchment has altered drainage. Sonoma soils are on flood-plains and basin floor remnants. Slopes are flat to 2 percent. Mean annual precipitation is about 7 inches, and mean annual temperature is about 50 degrees Fahrenheit.

Torripsammentic Haploxerolls

The Torripsammentic Haploxerolls series consists of very shallow to moderately deep, well-drained soils that formed in residuum derived from granite. Torripsammentic Haploxerolls soils are found on side slopes of mountains where slopes range from 30 percent to 50 percent. Mean annual precipitation is about 15 inches, and mean annual temperature is about 44 degrees Fahrenheit.

Typic Argixerolls

The Typic Argixerolls series consists of shallow and moderately deep, well-drained soils that formed in residuum derived from granite. Typic Argixerolls soils are found on side slopes of mountains where slopes range from 15 percent to 50 percent. Mean annual precipitation is about 14 inches, and mean annual temperature is about 43 degrees Fahrenheit.

Wendane Series

The Wendane series consists of very deep, somewhat poorly drained soils that formed in silty alluvium derived from volcanic rocks, tuff, loess, and volcanic ash. Wendane soils are on alluvial flats. Slopes are flat to 2 percent. Mean annual precipitation is about 7 inches, and mean annual temperature is about 48 degrees Fahrenheit.

3.2.8 Wastes, Hazardous and Solid

Envirofacts is a service of the EPA that provides searchable access to multiple environmental databases which may include data such as toxic chemical releases, water discharge permit compliance, hazardous waste handling processes, and Superfund status. The EPA EnviroMapper for Envirofacts is an online mapping tool that allows a specific geographic location or area to be identified as the area in which records should be searched for using Envirofacts. The geographic area and search results are displayed on an interactive map.

The entire project area was searched for records of environmental information using the EPA EnviroMapper for Envirofacts on July 25, 2012. Results indicate that, within the project area, there are no known records of sites contaminated with hazardous wastes or materials, or any sites where such materials are stored in quantities requiring reporting. No obvious indications of hazardous waste or contamination within the project area were identified during informal observations of the general conditions during a biological baseline survey performed during May 2012 and June 2012.

3.2.9 Vegetation

An ecological site is a distinctive type of land with specific soil and physical characteristics that differ from other kinds of land in its ability to produce a distinctive kind and amount of vegetation (NRCS 2012). The NRCS reference document in which the information and data pertaining to an ecological site is organized is referred to as an Ecological Site Description.

According to the NRCS (2012), ecological sites are directly linked to soil types, specifically the soil map units of the National Cooperate Soil Survey.

Based on the soil descriptions provided in the *Soil Survey of Lander County, Nevada, South Part* (NRCS 2007), the soil map units that occur within the project area are linked to one of the following four possible ecological sites:

- Loamy 8-10" P.Z. R028BY010 (loamy ecological site)
- Sodic Terrace 8-10" P.Z. R024XY022 (sodic terrace ecological site)
- Saline Meadow R024XY009 (saline meadow ecological site)
- Saline bottom R024XY007 (saline bottom ecological site)

The Ecological Site Description for each ecological site was reviewed to determine the potential vegetation community that would be expected to occur within the portions of the project area corresponding to each ecological site. Table 7 lists the approximate acres of the project area that each ecological site comprises, and thus the acres that each corresponding expected vegetation community comprises. The table also summarizes the potential native vegetation composition in terms of grasses, forbs, and shrubs that would be expected based on the Ecological Site Descriptions. Figure 5 shows the location where each ecological site occurs within the project area. Ecological sites within 4 miles of the project area are also shown on Figure 5.

Table 7 Ecological Sites and Potential Vegetation Communities

Ecological Site	Acres Within Project Area*	Potential Native Vegetation Composition	Potential Vegetation Community
Loamy ecological site (R028BY010)	29.0	50 percent grasses 5 percent forbs 45 percent shrubs and trees	Wyoming big sagebrush, Indian ricegrass and needle and thread
Sodic terrace ecological site (R024XY022)	4.3	25 percent grasses 5 percent forbs 70 percent shrubs	Black greasewood and big sagebrush
Saline meadow ecological site (R024XY009)	7.9	70 percent grasses 5 percent forbs 25 percent shrubs	Alkali saccaton with lesser but significant amounts of alkali muhly
Saline bottom ecological site (R024XY007)	3.6	70 percent grasses 5 percent forbs 25 percent shrubs	Basin wildrye and black greasewood

*Ecological sites are not linked to soil map unit 1600, Dump and pits. There are approximately 2 acres of soil map unit 1600 mapped within the project area (Figure 4) and thus ecological sites have not been mapped for this portion of the project area.

A baseline biological survey was performed by JBR Environmental Consultants, Inc., during May 2012 and June 2012. Vegetation communities were delineated during the survey, and all vegetation species that were observed were recorded. The survey area for vegetation consisted of the entire project area. The vegetation cover within the survey area was delineated into two communities. One community roughly corresponded with the extent of the loamy and sodic terrace ecological sites within the project area. The other community roughly corresponded with the extent of the saline meadow and saline bottom ecological sites within the project area. The species composition of the communities delineated within the survey area were generally less varied than the expected species composition described in the Ecological Site Descriptions (JBR Environmental Consultants, Inc. 2012).

The vegetation community delineated within the portion of the project area corresponding with the loamy and sodic terrace ecological sites was generally in agreement with the expected vegetation community for the loamy ecological site. The vegetation community was composed primarily of Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), which is also listed as the expected dominant shrub species in the loamy site. The Ecological Site Description also lists Douglas' rabbitbrush as an expected common shrub species. Scattered yellow rabbitbrush (*Chrysothamnus viscidiflorus*) and rubber rabbitbrush (*Ericameria nauseosa*) were also observed throughout the vegetation community (JBR Environmental Consultants, Inc. 2012). While the Ecological Site Description for the loamy ecological site does not describe either of these as an expected shrub species, it does list Douglas' rabbitbrush as a species secondary to Wyoming big sagebrush. While this vegetation community also roughly corresponded with the extent of the sodic terrace ecological site within the project area, it lacked the expected dominant species listed for the ecological site (JBR Environmental Consultants, Inc. 2012).

Although the second vegetation community delineated within the project area during the baseline survey roughly corresponded with the extent of the saline meadow and saline bottom ecological sites, it lacked a distinct saline-alkali vegetation cover that would be expected for these ecological sites. Instead of a saline-alkali vegetation communities dominated by black greasewood (*Sarcobatus vermiculatus*) and alkali saccaton, the community was dominated by rubber rabbitbrush and Great Basin wildrye (*Leymus cinereus*) (JBR Environmental Consultants, Inc. 2012).

The transition from a shrub community dominated by Wyoming big sagebrush to a community dominated by rubber rabbitbrush coincides with the light colored substrate shown on aerial photography (U.S Department of Agriculture 2011) and the break between fan piedmont and the Reese River Valley land forms described by the NRCS (2007). The transition between the two communities like corresponded roughly to the boundary between the saline meadow and sodic terrace ecological sites, because ecological sites are directly linked to soil types (NRCS 2012), and thus landforms as well.

There are several evergreen trees within the portion of the project area that would contain the proposed water storage tank site that appear on regional aerial photography (U.S. Department of Agriculture 2011). The *Baseline Biological Survey Report: Town of Austin Water System Improvements: Lander County, Nevada* (JBR Environmental Consultants, Inc. 2012) indicates that pinyon pine (*Pinus monophylla*) and Utah juniper (*Juniperus osteosperma*) were observed during the baseline biological survey.

Both of these are evergreen species, and either or both are like the species of trees visible on the aerial photography (U.S. Department of Agriculture 2011).

Many areas within the boundaries of the project area coincide with existing unpaved roads, existing disturbance associated with the current water system, or other areas of miscellaneous existing surface disturbance largely associated with the county fairgrounds. Within these areas, vegetation cover is generally absent, but invasive species and noxious weeds are described as having colonized some areas (JBR Environmental Consultants, Inc. 2012). Invasive species and noxious weeds are discussed in detail in Section 3.2.10 of this EA.

3.2.10 Noxious Weeds/Invasive Non-Native Species

A noxious weed is a plant species that has been defined as a pest by law or regulation. The list of the species that are designated as noxious weeds within Nevada is found in the Nevada Administrative Code (NAC), Chapter 555, Section 010 (NAC 555.010). When considering whether to add a species to the list, the Nevada Department of Agriculture makes a recommendation after consulting with outside experts and a panel composed of Nevada Weed Action Committee members. Per NRS 555.005, if a species is found probable to be "detrimental or destructive and difficult to control or eradicate", the Nevada Department of Agriculture, with approval of the Board of Agriculture, designates the species as a noxious weed. The species is then added to the noxious weed list at NAC 555.010.

Upon listing, the Nevada Department of Agriculture will also assign a rating of "A", "B", or "C" to the species. The rating reflects the Nevada Department of Agriculture's view of the statewide importance of the noxious weed, the likelihood that eradication or control efforts would be successful, and the present distribution of noxious weeds within the state (Nevada Department of Agriculture 2005). Species are arranged on the noxious weed list within categories corresponding to the three possible ratings that may be assigned to a species once listed.

The noxious weeds species that were observed within the project area during a baseline survey performed in June 2012 (JBR Environmental Consultants, Inc. 2012) are listed below.

- Nodding thistle (aka musk thistle) (*Carduus nutans*)
- Poison hemlock (*Conium maculatum*)
- Russian knapweed (*Acroptilon repens*)
- Tall whitetop (*Lepidium latifolium*)

A review of the BLM noxious weeds infestation and treatment records indicate that hoary cress (*Lepidium draba*) also occurs within the project area. The location(s) within the project area where hoary cress infestations occur, and where other noxious weeds species were observed during the survey in June 2012 are shown on Figure 6.

Nodding thistle and Russian knapweed are Category B weed species, while poison hemlock, tall whitetop, and hoary cress are Category C weeds. According to NAC 555.010, Category B weeds are species that are established in scattered populations in some counties of the state and are subject to active exclusion where possible and active eradication from nursery stock dealer premises. Per Nevada Department of Agriculture (2012) direction, control of Category B weeds is required by the state in areas where populations are not well established or previously unknown to occur. Category C weeds are species that are currently established and generally widespread in many counties of the state and are subject to active eradication from nursery stock dealer premises (NAC 555.010). Abatement of Category C weeds is at the discretion of the state quarantine officer (Nevada Department of Agriculture 2012).

The following list of invasive non-native species were observed within the project during the baseline survey performed during June 2012 (JBR Environmental Consultants, Inc. 2012):

- African mustard (*Malcomia africana*)
- Cheatgrass (*Bromus tectorum*)
- Claspig pepperweed (*Lepidium perfoliatum*)
- Fillarie (*Erodium cicutarium*)
- Fivehord smotherweed (*Bassia hyssopifolia*)
- Halogeton (*Halogeton glomeratus*)
- Mat amaranth (*Amaranthus blitoides*)
- Pale madwort (*Alyssum alyssoides*)
- Prickly lettuce (*Lactuca serriola*)
- Prickly Russian thistle (*Salsola tragus*)
- Prostrate pigweed (*Amaranthus albus*)
- Shepards purse (*Capsella bursa-pastoris*)
- Tansy mustard (*Descurainia sophia*)
- Tumble mustard (*Sisymbrium altissimum*)
- Small tumbleweed mustard (*Sisymbrium loeselii*)
- Yellow salsify (*Tragopogon dubius*)

3.2.11 Special Status Species

Special Status Species include species listed or proposed for listing under the Endangered Species Act as threatened or endangered, candidate species, and species included on the BLM's sensitive species list for Nevada and for the Battle Mountain District. Candidate species are those species or subspecies (i.e., taxa) that may warrant listing as threatened or endangered; there is sufficient information on biological vulnerability and threat(s) to support listing them as threatened or endangered, but the issuance of a proposed rule to list is precluded by higher listing priorities. Proposed species are taxa for which a proposal to list the species as threatened or endangered is in the Federal Register.

The BLM Nevada State Office identifies sensitive species that occur or have the potential to occur throughout Nevada. BLM Manual 6840.06.2 states that species designated as BLM-sensitive must be 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 recently 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 (6840.2A).

The BLM affords these species the same level of protection as federal candidate species. The BLM's policy for sensitive species is to avoid authorizing actions that would contribute to listing a species as threatened or endangered.

Agency Consultation

Consultation was performed with the Nevada Department of Wildlife (NDOW), Nevada Natural Heritage Program (NNHP), and the U.S. Fish and Wildlife Service (USFWS) to determine what special status species are known to occur or potentially occur within the project area and the surrounding region. The consultation letters sent from each of the agencies are provided in Appendix B. The NDOW and USFWS were also consulted to determine what general wildlife species occur or potentially occur within the project area. Discussion of general wildlife species is provided in Section 3.2.12 of this EA; migratory birds are discussed in Section 3.2.13.

3.2.11.1 Special Status Species: Wildlife

Greater Sage-Grouse

Consultation with the USFWS indicated that greater sage-grouse (*Centrocercus urophasianus*), a candidate species, may occur within the project area. NDOW consultation indicated that greater sage-grouse summer distribution exists throughout the entire project area and throughout the entire area within 3 miles of the project area (3-mile buffer area). NDOW indicated that winter distribution exists in the Reese River Valley in the western portion of the project area and 3-mile buffer area, as well as in the northeastern portion of the 3-mile buffer area. Consultation with NDOW also indicated that sage-grouse nesting habitat exists in the Reese River Valley in the western portion of the project area and the southwestern portion of the 3-mile buffer area. NDOW consultation indicated that there were no known greater sage-grouse core breeding habitat or lek sites in the vicinity of the project area. The proposed project would occur within greater sage-grouse habitat that has been identified by the BLM in collaboration with NDOW as Preliminary General Habitat (PGH). The BLM defines PGH as areas of occupied seasonal or year-round habitat outside of priority habitat.

A preliminary assessment of potential sage-grouse winter, nesting and breeding, and brood rearing habitat within the project area and within a surrounding 4-mile area was performed by JBR Environmental Consultants, Inc. The preliminary assessment included evaluating each of the habitat types by using Ecological Site Inventories. Data from the Ecological Site Inventories indicated that the majority of the project area provides suitable sage-grouse wintering habitat and marginal sage-grouse nesting habitat. Habitat within the project area was identified as unsuitable

brood rearing habitat. A detailed account of the methodology and results of the preliminary assessment of potential sage-grouse habitat is provided in the *Baseline Biological Survey Report: Town of Austin Water System Improvements: Lander County, Nevada* (JBR Environmental Consultants, Inc. 2012).

JBR Environmental Consultants, Inc. performed a sage-grouse lek listening survey to attempt to detect any unrecorded leks that may exist in the project area or surrounding areas. The survey was performed during the sage-grouse strutting season, specifically on the mornings of May 4 and May 5, 2012. No leks were detected during the survey, nor were greater sage-grouse observed. A single group of 20 old white sage-grouse pellets was found approximately 3.4 miles south of the southern end of the project area (i.e., south of the well site) during the May site visit. During later baseline surveys performed in June 2012, a group of 11 old white pellets and a single white pellet were found west of the section of the project area that coincides with existing Big Creek Road. Observations made during the lek listening survey tended to confirm the results of the preliminary assessment of habitat performed using Ecological Site Descriptions. A detailed description of the lek listing survey methodology and results of the lek listening survey, and observations of sage-grouse sign during the survey and any subsequent visits to the area are provided in the *Baseline Biological Survey Report: Town of Austin Water System Improvements: Lander County, Nevada* (JBR Environmental Consultants, Inc. 2012).

Pygmy Rabbit

Consultation with NNHP indicated that occurrence of pygmy rabbit (*Brachylagus idahoensis*) has been recorded within 1.5 miles of the project area. JBR Environmental Consultants, Inc. performed a transect-survey for pygmy rabbit in June 2012. All areas of habitat suitable for pygmy rabbit were included in the survey area, which generally included most of the project area coinciding with the existing transmission line corridor and along drainages that cross the project area (JBR Environmental Consultants, Inc. 2012).

Pygmy rabbit and sign of pygmy rabbit were observed during the survey. Observations were made in tall dense sagebrush habitat on the Pony Canyon drainage west of the project area; in the Marshall Canyon drainage, both up- and down-gradient of the project area; and on a drainage north of the portion of the project area where the proposed booster pump station would be constructed. Pygmy rabbits and pygmy rabbit sign were also observed in denser sagebrush habitat found within portions of the project area located next to the existing transmission line corridor. Old burrows, including sites covered with cobwebs, collapsed or excavated by predators, or showing no evidence of use, were fairly common south of a fence line located on the section line between Sections 27 and 34, T19N, R43E, MDBM. Evidence of pygmy rabbits was present but less common north of this fence line. A detailed description of the survey methodology and results is provided in the *Baseline Biological Survey Report: Town of Austin Water System Improvements: Lander County, Nevada* (JBR Environmental Consultants, Inc. 2012).

Burrowing Owl

NDOW consultation indicated that burrowing owl (*Athene cunicularia*) was known to reside in the vicinity of the project area. Accordingly, a transect-survey of suitable habitat within and surrounding the project area was performed by JBR Environmental Consultants, Inc. during June 2012. A single burrowing owl was observed on a mound approximately 0.45 mile west of the project area during an earlier site visit in May 2012. The mound was investigated further, but no burrow was observed. An old burrowing owl site was found south of an access road to a gravel pit located east of the project area. However, no evidence of recent activity was observed at the site. The results of the survey described above are summarized in the *Baseline Biological Survey Report: Town of Austin Water System Improvements: Lander County, Nevada* (JBR Environmental Consultants, Inc. 2012). The report provides a detailed account of the survey results, as well as a detailed description of the survey methodology.

Eagles

Consultation with NDOW indicated that golden eagles (*Aquila chrysaetos*) have been directly observed within the vicinity of the project area and that the project area and 3-mile buffer area are within the distribution range of golden eagles.

Consultation with the USFWS indicated that the proposed project is subject to the provisions of the federal Bald and Golden Eagle Protection Act, and the potential impacts of the proposed project on eagle nests occurring within 10 miles of the project area should be considered. NDOW consultation also indicated that it reviewed the area within 10 miles of the project area for records of known golden eagle nest sites and known bald eagle (*Haliaeetus leucocephalus*) nest sites. There are 2 known golden eagle nest sites located within 10 miles of the project area, and no known bald eagle nest sites located within 10 miles of the project area. Both golden eagle nests are located more than 5 miles away from the project area.

Bald eagles and bald eagle nest sites were not observed within the project area or within areas subject to baseline biological surveys performed by JBR Environmental Consultants, Inc. during May 2012 and June 2012 (JBR Environmental Consultants, Inc.). Bald eagles would not be expected to occur within 10 miles of the project area due to an absence of suitable habitat. Golden eagles and golden eagle nest sites were not observed during surveys either. Suitable golden eagle nesting habitat does not occur within the project area for golden eagles, but the project area represents potential foraging habitat.

The Toiyabe Range, located east of the project area, contains rock outcrops, bluffs, and other cliff-like areas that represent suitable golden eagle nesting habitat. The section of the Toiyabe Range from approximately 5 miles north of Austin to approximately 14 miles south of Austin is located within approximately 10 miles of the project area. The entire project area is located within 3 miles of the Toiyabe Range. The portion of the project area that would contain the proposed water storage tank site, and the section of pipeline that would be located between the tank site and Big Creek Road is located within 0.1 mile of the Toiyabe Range. The section of pipeline that would coincide with Big Creek Road is located within 1 mile of the Toiyabe Range.

Aerial photography (U.S. Department of Agriculture 2011) was reviewed for the section of the Toiyabe Range within 1 mile of the project area to determine if rock outcrops, bluffs, or other cliff-like areas representing golden nesting habitat were present. These types of features were not observed within 1 miles of the project area on aerial photography. Accordingly, although the Toiyabe Range within 1 mile of the project represents golden eagle nesting habitat, it is generally less optimal than other areas where rock outcrops, bluffs and other cliff-like areas occur.

Suitable golden eagle nesting habitat is also found in rock outcrops and cliff-like areas associated with Vigus Butte. The southern end of Vigus Butte is located approximately 5 miles north of the project area. Cliff-like areas representing suitable nesting habitat also occur at Mount Airy Mesa. Mount Airy Mesa is located on the north side of U.S. Highway 50, approximately 9 miles west-northwest of the project area. Golden eagles that use nesting habitat in any of these areas would be likely to use the project area and surrounding areas for foraging.

Bat Species

The NNHP also noted that Townsend's big eared bat (*Corynorhinus townsendii*) and western small footed bat (*Myotis ciliolabrum*) are known to occur within 5 kilometers (approximately 3.1 miles) of the project area. Both of these species are BLM sensitive species.

Townsend's big eared bat is reported to occur throughout Nevada, from low desert to high mountain habitats (NDOW 2012). Habitat associations of the species include coniferous forests, mixed meso-phytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types (Western Bat Working Group 2005b). Townsend's big eared bat generally requires spacious cavern-like structures for roosting (Pierson et al. 1999) during all stages of its life-cycle (i.e., maternity roosts, day and night roosts, and hibernacula). The Western Bat Working Group (2005b) reports that distribution of Townsend's big-eared bat is strongly correlated with the availability of caves and cave-like roosting habitat, including abandoned mines. The same source indicates that the species has also been reported to utilize buildings, bridges, rock crevices, and hollow trees for roost sites.

Western small-footed bat occurs throughout most of the western United States. Some of the common habitat associations of the species include montane forest, juniper woodlands, and sagebrush steppe (Finley, Caire, & Wilhelm 1983). During a study in west central Nevada, Western small-footed bats are reported to have been captured over water sources surrounded by desert shrubs or by pinyon-juniper, and over streams lined with deciduous trees (Kuenzi, Downard & Morrison 1999). Bradley, O'Farrell, Williams, and Newmark (2006) describe reports of caves, mines, and trees being used as roost sites for Western small-footed bat, and indicate roosting preferences of the species is expected to be similar to the preferences for California myotis (*Myotis californicus*). Day roosts reported for the California myotis include caves, mines, rock crevices, hollow trees, and areas behind or beneath the bark of trees (Bradley et al. 2006).

Mines, caves, and cave-like areas representing roosting habitat for both species does not occur within the project area. The portion of the project area that would contain the proposed water

storage tank site contains several evergreen trees. These trees would represent potential day roost sites for the Western small-footed bat. If any of these trees contain large hollow cavities, the tree would represent a potential roosting site for Townsend's big eared bat. The entire project area and surrounding vicinity represents suitable foraging habitat for both species.

Other Species

NDOW consultation identified known raptor nest locations and a list of various raptor species known to reside in the vicinity of the project area. None of the known nest locations occur within the project area or within 1 mile of the project area. The project area represents potential foraging habitat for many of the raptor species listed in the consultation letter. The letter, including the complete list of raptor species, is provided in Appendix B. An active red-tailed hawk nest was observed in a pinyon pine tree located approximately 0.6 mile east of the project area during a survey performed by JBR Environmental Consultants, Inc. during June 2012 (JBR Environmental Consultants, Inc. 2012). Accordingly, suitable nesting habitat for raptors is located within 1 mile of the project area.

Consultation with NDOW also indicated that desert tortoise (*Gopherus* sp.) has been observed in the vicinity of the project area. Desert tortoise is listed as a threatened species by the USFWS. Based on the website of the Desert Tortoise Recovery Office within the USFWS, Nevada Office (2012), there are two species of desert tortoise in the Western United States: Mojave desert tortoise (*Gopherus agassizii*) and Sonoran desert tortoise (*Gopherus morafkai*). Sonoran desert tortoise occurs south of the Colorado River, in Arizona and Mexico (USFWS 2012). Mojave desert tortoise occurs throughout the Mojave and Colorado deserts of California, Nevada, Arizona, and Utah, north and west of the Colorado River (USFWS 2012). The project area is not located in or near the Mojave or Colorado deserts, and is not located near or south of the Colorado River. The Great Basin desert, particularly as far north as the town of Austin, would not be suitable for desert tortoise. It is highly unlikely that desert tortoise occurs within the project area or within many miles of the project area.

According to the *Baseline Biological Survey Report: Town of Austin Water System Improvements: Lander County, Nevada* (JBR Environmental Consultants, Inc. 2012), other BLM sensitive species on the statewide list and/or Battle Mountain District list of sensitive species were observed during baseline surveys of the project area and surrounding areas. These species included pinyon jay (*Gymnorhinus cyanocephalus*), sage thrasher (*Oreoscoptes montanus*), loggerhead shrikes (*Lanius ludovicianus*), and Brewer's sparrow (*Spizella breweri*). Four Brewer's sparrow nests were found within the central portion of the project area that coincides with the existing overhead transmission line while the baseline survey was being performed in June 2012 (JBR Environmental Consultants, Inc. 2012). Two of the nests contained eggs, one contained downy young, and the other nest contained two recently hatched chicks and a single egg (JBR Environmental Consultants, Inc. 2012).

Lewis's woodpecker (*Melanerpes lewis*) is associated with open forests area where a robust population of flying-insect population is present for foraging (Floyd, Elphick, Chisholm, Mack,

Elston, Ammon, & Boone 2007). According to Floyd et al. (2007), within Nevada the species is most commonly associated with oak trees in riparian zones. Oak trees or other tree species in riparian zones were not observed within the project area during the baseline biological survey. Lewis's woodpecker was also not observed during the survey (JBR Environmental Consultants, Inc. 2012). However, riparian areas near the project area, such as areas in Pony Canyon, may provide suitable habitat. Given the proximity of these areas to the project area, it is possible the Lewis's woodpecker may forage or otherwise occur intermittently within the project area.

Other BLM special status species that may occur within the project area include the dark kangaroo mouse (*Microdipodops megacephalus*) and the following species of bats:

- big brown bat (*Eptesicus fuscus*)
- Brazilian free-tailed bat (*Tadarida brasiliensis mexicana*)
- California myotis
- fringed myotis (*Myotis thysanodes*)
- hoary bat (*Lasiurus cinereus*)
- pallid bat (*Antrozous pallidus*)
- silver-haired bat (*Lasionycteris noctivagans*)
- spotted bat (*Euderma maculatum*)

The known distribution range of the dark kangaroo mouse includes southeastern Oregon, northeastern and east-central California, the entire state of Nevada, and west-central Utah (Idaho Museum of Natural History 2000). According to *Mammals of California* (Ingles 1974), the species is known to occur in sandy soils where sagebrush or rabbitbrush is present. The Idaho Museum of Natural History reports (2000) that the dark kangaroo mouse is found in loose sand and gravel where shadscale scrub, sagebrush scrub, and alkali-sink plant communities occur.

Based on the soil descriptions provided in the *Soil Survey of Lander County, Nevada, South Part* (NRCS 2007), the soils mapped within the project area with sand or gravel to depths adequate for burrowing include:

- Enko-Orovada association, gently sloping, Map Unit 491;
- Glyphs-Enko association, Map Unit 2015;
- Typic Argixerolls-Torripsammentic Haploxerolls-Glean association, Map Unit 3210; and,
- Kelk silt loam, saline, Map Unit 3740.

These soils, collectively, are mapped across approximately 33.3 acres of the project area. However, approximately 6.77 acres of these soils are mapped within the portion of the project area coinciding with Big Creek Road. Areas coinciding with Big Creek Road are not representative of suitable habitat for dark kangaroo mouse because the road is well established, and the road surface is compacted. The compacted road surface, combined with the absence of

vegetation cover, would prevent the area from being used for burrowing. Accordingly, it is assumed that there are approximately 26.2 acres of suitable dark kangaroo habitat within the project area. This is the area of suitable soils with the approximately 6.77 acres coinciding with Big Creek Road subtracted. A map of the soils units within the project area is provided on Figure 4.

Species accounts provided by the Western Bat Working Group (2005a; 2005c; 2005d; 2005e; 2005f; 2005g; 2005h; 2005i) indicate that each of the bat species listed above have relatively broad distribution ranges that would include the state of Nevada. Based on the species accounts, all of these bats may forage in a variety of habitat types that includes, among others, xeric shrub-scrub, forests, and open fields and other areas. Accordingly, the entire project area represents potential foraging habitat for all of the bat species listed above.

The Western Bat Working Group indicates that the California myotis may use hollow trees and the areas behind or beneath the bark of trees as day roost sites (2005g). The fringed myotis is also reported (Western Bat Working Group 2005h) to roost in decadent trees and snags, particularly larger trees. According to the Western Bat Working Group (2005f), the hoary bat roosts primarily in the foliage near the ends of branches of coniferous and deciduous trees. The portion of the project area that would contain the proposed water storage tank site contains several evergreen trees. These coniferous trees located in the portion of the project area that would contain the proposed water storage tank site represent potential day roost sites for the California myotis and the hoary bat. The trees within the project area would likely be too small in diameter to be used by the fringed myotis as roost sites, but if any contain large hollow cavities it may potentially be used as a roosting site by the species.

According to the Western Bat Working Group (2005c, 2005i, & 2005d), the big brown bat, Brazilian free-tailed bat, and spotted bat are reported to use cracks and rock crevices on cliffs and caves as roost sites. The big brown bat and Brazilian free-tailed bat are also reported to utilize mines, tunnels, bridges, buildings, and other anthropomorphic structures as roost sites. Cliffs, caves, and other cavernous areas such as mines and tunnels do not occur within the project area. Buildings and other anthropomorphic structures suitable for roost sites also do not occur within the project area. Thus, the project area does not represent potential roosting habitat for the big brown bat, Brazilian free-tailed bat, or spotted bat.

The reported (Western Bat Working Group 2005a) roosts for the pallid bat includes cliffs, caves, mines, anthropomorphic structures, and trees. The roost sites in trees are reported to be basal hollows in coast redwood (*Sequoia sempervirens*) and giant sequoia (*Sequoiadendron giganteum*) trees, bole cavities in oaks, behind exfoliating ponderosa pine and oak bark, in deciduous trees in riparian areas, and in fruit trees in orchards. The trees that occur within the project area are either pinyon pine or Utah juniper, or both. Neither of these tree species are included in the tree roosting sites described for the pallid bat.

Maternity roosts used by the silver-haired bat almost exclusively in trees, especially inside cavities and natural hollows or beneath loose bark of large-diameter snags (Western Bat Working Group 2005e). Roosting sites are generally at least 50 feet above the ground. The silver-haired bat changes roosts frequently, and uses multiple roosts within a limited area throughout the summer season. This suggests that clusters of large trees are necessary for roosts during summer (Western Bat Working Group 2005e). The trees that occur within the project area are less than 50 feet in height, and do not occur in groups or clusters. Accordingly, potential roosting sites for the silver-haired bat do not occur within the project area.

3.2.11.2 Special Status Species: Vegetation

Eastwood Milkvetch

The only special status vegetation species identified as potentially occurring within or near the project area through agency consultation was Eastwood milkvetch (*Asclepias eastwoodiana*). Specifically, the NNHP indicated that habitat for Eastwood milkvetch may occur within the project area. A survey for Eastwood milkvetch was performed by JBR Environmental Consultants, Inc. during June 2012. No potential habitat or occurrences of the plant were observed within the survey area (JBR Environmental Consultants, Inc. 2012).

Other Species

Additional target species were identified based on review of the BLM Statewide and Battle Mountain District lists of sensitive species (JBR Environmental Consultants, Inc. 2012). The NNHP database of plant species was also reviewed to determine if any additional special status plant species may potentially occur within or near the project area. As a result, it was determined that Lahontan beardtongue (*Penstemon palmeria* var. *macranthus*), a special status plant species, may occur within the project area (JBR Environmental Consultants, Inc. 2012). Accordingly, the species was included as a target species during a survey performed by JBR Environmental Consultants, Inc. during June 2012. No potential habitat or occurrences of the plant were observed within the project area (JBR Environmental Consultants, Inc. 2012).

3.2.12 Wildlife and Fisheries

Consultation with NDOW (Appendix B) indicated that occupied mule deer (*Odocoileus hemionus*) distribution exists in the Toiyabe Range in the eastern portions of the project area and 3-mile buffer area (as defined in Section 3.2.11.1). NDOW indicated that pronghorn antelope (*Antilocapra americana*) distribution exists in Reese River Valley in the western portions of the project area and 3-mile buffer area. A pronghorn antelope distribution map accompanying the consultation letter shows that pronghorn antelope distribution occurs in nearly the entire project area and 3-mile buffer area, with the only exception being the far-eastern portion of the project area and 3-mile buffer area (Appendix B).

A list of additional wildlife species that have been observed in the vicinity of the project area was included in the NDOW consultation. These species include:

American robin (<i>Turdus migratorius</i>)	MacGillivray's warbler (<i>Geothlypis tolmiei</i>)
blue grouse (<i>Dendragapus obscurus</i>)	mountain quail (<i>Oreortyx pictus</i>)
California quail (<i>Callipepla californica</i>)	northern rubber boa (<i>Charina bottae</i>)
chukar (<i>Alectoris chukar</i>)	orange-crowned warbler (<i>Oreothlypis celata</i>)
cliff chipmunk (<i>Neotamias dorsalis</i>)	Ord's kangaroo rat (<i>Dipodomys ordii</i>)
gopher snake (<i>Pituophis catenifer</i> sp.)	red-breasted sapsucker (<i>Sphyrapicus ruber</i>)
gray partridge (<i>Perdix perdix</i>)	violet-green swallow (<i>Tachycineta thalassina</i>)
Great Basin pocket mouse (<i>Perognathus parvus</i>)	warbling vireo (<i>Vireo gilvus</i>)
house wren (<i>Troglodytes aedon</i>)	western fence lizard (<i>Sceloporus occidentalis</i>)
long-tailed weasel (<i>Mustela frenata</i>)	yellow-rumped warbler (<i>Dendroica coronata</i>)

NDOW consultation also describes raptors that have distribution ranges that include the project area and the 3-mile buffer area, including some which have been directly observed in the vicinity of the project area. The locations of 4 known raptor nests are also provided in NDOW consultation. None of the known nest sites occur within the project area or within 1 mile of the project area.

A baseline biological survey was performed by JBR Environmental Consultants, Inc. during May 2012 and June 2012, during which vegetation communities (i.e. wildlife habitat types) were delineated. Eastern portions of the project area, including the proposed well site and the first approximately 2 miles of proposed pipeline from the well site are located on alkali-affected soils. The vegetation cover (i.e. wildlife habitat) on these soils is dominated by rubber rabbitbrush (*Ericameria nauseosa*) and Great Basin wildrye (*Leymus cineris*) (JBR Environmental Consultants, Inc. 2012). The remaining portions of the project area contain wildlife habitat dominated by Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*). Both yellow rabbitbrush (*Chrysothamnus viscidiflorus*) and rubber rabbitbrush commonly occur throughout this habitat type (JBR Environmental Consultants, Inc. 2012). As discussed in Section 3.2.9, Vegetation, several pinyon pine and/or Utah juniper trees occur within the portion of the project area that would contain the proposed water storage tank.

Areas within the project area that coincide with existing roads, the existing water system, or other areas of miscellaneous existing surface disturbance have displaced vegetation cover and thus wildlife habitat as well. Existing roads have contributed to some fragmentation of wildlife habitat in the area. However, because many of the existing roads are narrow, unpaved, and travelled relatively infrequently, many wildlife species would be expected to cross them in order to move between habitat areas.

Wildlife and sign observed during the baseline biological survey were recorded and are described in the *Baseline Biological Survey Report: Town of Austin Water System Improvements: Lander County, Nevada* (JBR Environmental Consultants, Inc. 2012). Antelope tracks were observed in the central portion of the project area during the survey. Coyotes (*Canis latrans*) were heard in the surrounding area. Diggings and excavation by coyotes, foxes, and badgers (*Taxidea taxus*) were observed in the area of the existing transmission line corridor adjacent to a portion of the project area. A short-tailed weasel (*Mustela erminea*) was observed at an occupied

pygmy rabbit burrow. Other mammals observed included least chipmunks (*Tamias minimus*), mountain cottontail rabbits (*Sylvilagus nuttallii*), and black-tailed jackrabbits (*Lepus californicus*). Observations of general wildlife and sign in the area described in this EA are summarized from the detailed account of the survey results provided in the *Baseline Biological Survey Report: Town of Austin Water System Improvements: Lander County, Nevada* (JBR Environmental Consultants, Inc. 2012). Other wildlife species were observed during the survey that are considered either special status species or migratory bird species. Special status species are discussed in Section 3.2.11.1 of this EA; migratory birds are discussed in Section 3.2.13.

Fish and habitat capable of supporting any species of fish do not occur within the project area.

3.2.13 Migratory Birds

A “migratory bird” means any bird listed by the U.S. Fish and Wildlife Service in 50 CFR 10.13. All native birds found commonly in the United States, with the exception of native resident game birds, are protected under the Migratory Bird Treaty Act (16 USC 703711). The Migratory Bird Treaty Act prohibits taking of migratory birds, their parts, nests, eggs, and nestlings. Executive Order 13186, signed January 10, 2001, directs federal agencies to protect migratory birds by integrating bird conservation principles, measures, and practices.

Additional direction comes from a January 17, 2001, Memorandum of Understanding between the BLM and the USFWS, which strengthens migratory bird conservation through enhanced collaboration between the two agencies, in coordination with state, tribal, and local governments. The Memorandum of Understanding identifies management practices that could impact populations of high priority migratory bird species, including migratory bird nesting, migration, and overwintering habitats, and develops objectives and recommendations that would avoid or minimize these impacts.

A baseline biological survey was performed within the project area and surrounding BLM-administered public land during May 2012 and June 2012 by JBR Environmental Consultants, Inc. All wildlife observed during the surveys were noted, including migratory bird species and their nests. Migratory bird species commonly observed within the project area during the baseline survey included sage sparrow (*Amphispiza belli*), black-throated sparrow (*Amphispiza bilineata*), Brewer’s sparrow, and western meadowlark (*Sturnella neglecta*) (JBR Environmental Consultants, Inc. 2012). Other species observed during the survey included horned larks (*Eremophila alpestris*), spotted towhees (*Pipilo maculatus*) in denser brush habitat in Pony Canyon, and Brewer’s blackbirds (*Euphagus cyanocephalus*) foraging in the area. Brown-headed cowbirds (*Molothrus ater*) and common nighthawks (*Chordeiles minor*) were observed in the area in early June, and a western kingbird (*Tyrannus verticalis*) foraged in Pony Canyon. Northern flickers (*Colaptes auratus*), mountain bluebirds (*Sialia currucoides*), blue-gray gnatcatchers (*Polioptila caerulea*) and Cassin’s finches (*Carpodacus cassinii*) were observed in pinyon-juniper habitats near the northern end of the project area (JBR Environmental Consultants, Inc. 2012).

Four Brewer's sparrow nests were found within the central portion of the project area that coincides with the existing overhead transmission line while the baseline survey was being performed in June 2012. Two of the nests contained eggs, one contained downy young, and the other nest contained two recently hatched chicks and a single egg (JBR Environmental Consultants, Inc. 2012). Three common raven (*Corvus corax*) nests were observed on the existing overhead transmission line located adjacent to the central portion of the project area during the baseline survey (JBR Environmental Consultants, Inc. 2012). Only the northern nest was active when the survey was being performed, in May 2012. During a later visit in June, the young were found dead from apparent gun-shot, in and below the nest (JBR Environmental Consultants, Inc. 2012).

Migratory bird species other than those observed during baseline survey would be expected to use the habitat types within the project area for breeding and foraging. In general, avian species composition and density within the project area varies with season and habitat type. Species diversity is highest during the spring and summer months, when migrant species are present in the area. Species diversity decreases markedly during the fall and winter season, when many nesting species move south, out of the project area. Some species of migratory birds that may utilize the project area are also special status species, including special status raptor species. Special status species are discussed in Section 3.2.11.1.

3.2.14 Floodplains

Flooding hazards are characterized by the Federal Emergency Management Agency (FEMA) and portrayed on Flood Insurance Rate Maps. The relevant map for the project area, by panel number, is: Lander County, Nevada (Unincorporated Areas) Community-Panel 320013-1075-C (as revised July 15, 1988). The great majority of the proposed alignment is within area mapped as Zone X, which are areas determined to be located outside of the 500-year floodplain. Approximately 2,000 linear feet of the proposed pipeline that would be constructed on private land within the project area would be located within area mapped as Zone A, which designates areas inundated by the 100-year flood event. This floodplain area is associated with Pony Canyon Creek, a tributary of the Reese River. The proposed well site, tank site, and the remaining sections of proposed water pipeline are not located within a floodplain.

3.2.15 Water Quality (Surface/Ground)

Surface Water

There are no surface waters that regularly exist within the project area. Several ephemeral drainages do cross the corridor-portion of the project area that would contain the proposed pipeline. Surface runoff flows may be carried in these drainages as a direct result of precipitation events and runoff of snow melt.

The Reese River is the principal drainage in the general region, and it drains northward to the Humboldt River. The Humboldt River is an intrastate stream that flows across the northern portion of Nevada, from east to west. The Humboldt River ends at the Humboldt Sink, approximately 132 miles west of the confluence of the Reese and Humboldt Rivers.

Ground Water

The project area is located in the Upper Reese River Valley Hydrographic Area (Hydrographic Area 56), as shown on Figure 7. The Upper Reese River Valley Hydrographic Area has an area of 1,138 square miles (Eakin, Moore, & Everett 1965). The existing municipal well is also located in the Upper Reese River Valley Hydrographic Area. Lander County has transferred a portion of their existing appropriated water rights for groundwater use at the existing municipal well to the location of the proposed well site under NDWR permit 81358.

According to Eakin et. al. (1965), precipitation falling within the upper part of Reese River Valley is the source of virtually all groundwater in the Hydrographic Area. The precipitation that falls in the mountains at the margin of the valley contribute the most to groundwater recharge. Most of the precipitation in the mountains falls in the form of snow and contributes to groundwater recharge when the snowpack melts. The precipitation may percolate directly to groundwater or may have an intermediate stage as surface flow in ephemeral drainages prior to reaching the groundwater reservoir (Eakin et.al. 1965). Whether percolating directly as groundwater or flowing intermediately as surface water, water in the mountains moves down-gradient towards the lower part of the upper Reese River Valley (Eakin et.al. 1965). After reaching the lower part of the valley, groundwater movement is northward, generally parallel with the north-south axis of the upper Reese River Valley.

The perennial yield of a groundwater reservoir is the maximum amount of groundwater that can be salvaged each year over the long term without depleting the groundwater reservoir (Nevada Department of Conservation and Natural Resources). Accordingly, the perennial yield of a reservoir cannot be more than the natural recharge of the groundwater reservoir. The Nevada Division of Water Resources indicates that the perennial yield of the Upper Reese River Valley Hydrographic Area is 37,000 annual acre-feet. The groundwater basin is reported to have 36,037.91 annual acre-feet per year of committed, existing, underground water rights (Nevada Division of Water Resources 2012). The same source also indicates that an additional 200.01 annual acre-feet of water rights are pending within the basin.

Under normal conditions, most groundwater in the Upper Reese River Valley Hydrographic Area is discharged by evapo-transpiration processes from the upper portion of Reese River Valley (Eakin, et.al. 1965). According to Berger (2000), nearly all of the outflow from the Upper Reese River Valley Hydrographic Area is from evapo-transpiration. Eakin, et.al. (1965) reported that groundwater withdrawn from wells had been relatively minor until a few years prior to 1965. Well irrigation farming on lands withdrawn under the Desert Land Act, beginning within a few years prior to 1965, increased the quantity of groundwater withdrawn from wells.

State groundwater law allows the Nevada State Engineer to manage groundwater basins for protection against overdraft of the groundwater reservoir. The State Engineer may order a groundwater basin or any portions of it as designated. When designated, the State Engineer has effectively identified the preferred uses of the groundwater within the designated area (Red Lodge Clearinghouse 2010). According to the Nevada Division of Water Resources (2011), the

Upper Reese River Valley Hydrographic Area has not been designated by the Nevada State Engineer.

The quantity of groundwater stored in the valley fill of upper Reese River Valley is many times the average annual recharge to and discharge from the groundwater reservoir (Eakin, et.al. 1965). The exact total volume of storage was reported to be unknown by Eakin, et.al. (1965), but an estimate was provided that an area of at least 80,000 acres of the Hydrographic Area is underlain by more than 100 feet of saturated valley fill. The very large volume of groundwater in storage provides a considerable reserve for sustained withdrawal during periods of drought (Eakin, et.al. 1965).

The quality of groundwater in upper Reese River Valley varies from place to place. In general, however, the dissolved-solids content is low in the recharge areas in the mountains and increases at discharge areas in the low parts of the valley (Eakin, et.al. 1965). Based on data provided in the Plan of Development submitted for the proposed project, the concentration of arsenic in the groundwater aquifer generally increases north of the proposed well site and decreases south of the proposed well site. The arsenic concentration measured in a sample collected from the Racetrack Ranch well was 44 parts per billion. The Racetrack Ranch well is located approximately 4 miles north of U.S. Highway 50 and approximately 7.75 miles north of the proposed well site. The existing Austin municipal water well is located approximately 0.3 mile north of U.S. Highway 50 and approximately 3.7 miles south of the Racetrack Ranch well. The arsenic concentration measured in the groundwater from the Austin municipal well ranges from 13 to 15 parts per billion. The Big Creek well is located approximately 10.6 miles south of the existing Austin municipal water well and approximately 6 miles south of the proposed well site. The arsenic concentration measured in groundwater collected from the Big Creek well measured less than 3 parts per billion.

The Racetrack Ranch well, existing Austin municipal water well, and the Big Creek well represent, respectively, the northernmost, approximate mid-range, and southernmost of the wells in which arsenic concentrations were measured and reported in the Plan of Development. There are numerous other existing wells from which groundwater samples were collected and analyzed to determine arsenic concentration that are described in the Plan of Development. Appendix C of this EA includes an exhibit from the Plan of Development that shows the approximate location of the existing wells at which groundwater samples were collected and analyzed. The exhibit also shows the location of exploratory wells created as part of the groundwater exploratory drilling program during 2010. The well depth, depth to water, and the arsenic concentration are listed for each well, when such information is available.

3.2.16 Air Quality

The EPA Office of Air Quality Planning and Standards and the NDEP have set ambient air quality standards for the following criteria pollutants: nitrogen dioxide, sulfur dioxide, carbon monoxide, particulate matter smaller than 2.5 and 10 microns in aerodynamic diameter, ozone, and lead. The NDEP has also established ambient air quality standards for hydrogen sulfide.

Minimum ambient air quality standards are provided in NAC 445B.22097. An airshed or area is considered to be in attainment when monitoring data shows that the concentrations of criteria air pollutants in the airshed or area are less than the minimum allowable concentrations specified in the ambient air quality standards. Conversely, an airshed or area is considered to be in nonattainment for a pollutant if concentrations of a criteria pollutant is in excess of the ambient air quality standard. An airshed or area is considered unclassifiable if no monitoring has been performed to determine its classification status and violations of ambient air quality standards would not otherwise be expected (NDEP 2011). In the state of Nevada, airsheds correspond with the Hydrographic Area boundaries as established in 1979 (NDEP 2011). The project area is located in the Upper Reese River Valley Hydrographic Area (Hydrographic Area 56), as shown on Figure 7.

Air quality monitoring stations are not operated in the Upper Reese River Valley Hydrographic Area, or anywhere nearby. Therefore, the attainment status of the project area is considered unclassifiable. However, the area within the surrounding vicinity of the project area is generally rural, with minimal sources of air pollutant emissions. The largest and most persistent source of emissions in the area is likely the operation of motor vehicles. The operation of motor vehicles produce combustion emissions, and travel on existing paved and unpaved roads generate fugitive dust emissions (i.e., particulate matter emissions). As the major road in the area, U.S. Highway 50 is the probable location of most combustion emissions related to the operation of vehicles. Travel on unpaved roads generally produce greater fugitive dust emissions than travel on paved roads due to the loose soil and gravel road surface. However, fugitive dust emissions are also generated by travel on paved roads, and from vehicle brake dust when travelling on any road type. Other intermittent sources of air pollutant emissions in the general area include aircraft landing and taking off at the Austin Airport, agricultural activities such as tilling or plowing soils, and operations at an existing mineral material site. Aircraft at the Austin Airport may produce greater combustion emissions than fugitive dust emissions given the relatively short length of runways versus the large engines powering the aircraft. However, the fugitive dust emissions from agricultural activities and operations at the mineral material site would be expected to be substantially larger than the combustion emission from these sources.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter identifies and describes the environmental consequences, or effects, that would result from implementation of the Proposed Action Alternative and the No Action Alternative. The cumulative impacts that would result from implementation of the Proposed Action Alternative and No Action Alternative are also discussed in later sections of this chapter.

4.2 EFFECTS ANALYSIS

According to 40 CFR 1508.8, the terms "effect" and "impact" are synonymous. The regulation continues, stating that effects may refer to adverse or beneficial ecological, aesthetic, historical, cultural, economic, social, or health-related phenomena that may be caused by the Proposed Action or alternatives. Effects are identified as being either direct or indirect in nature in 40 CFR 1508.8. A direct effect occurs at the same time and place as the action, while an indirect effect occurs later in time or farther removed in distance from the action, but is still reasonably foreseeable. In this EA, direct and indirect effects are discussed in combination. Per 40 CFR 1508.8, the terms "effect" and "impact" are used interchangeably, in both their singular form and their plural form.

The impacts of the Proposed Action and No Action alternatives described in this EA are primarily derived through the analysis of the expected changes that implementation of each alternative would have on the existing conditions of the resources identified in Tables 2 and 3 as "present/may be affected". The existing conditions for these resources are described in Chapter 3.

Effects on resources resulting from surface disturbance associated with the construction of the proposed project were analyzed under the assumption that the entire project area would be disturbed. This includes the portion of the project area consisting of the proposed ROW, which would be the maximum allowable extent of surface disturbance on BLM-administered public lands. It also includes an approximately 50-foot-wide construction corridor across private land within the project area. Actual disturbance would likely be less than the entire project area, as most construction disturbance within the portion that would contain the proposed water pipeline would be near the trench that would be excavated for placement of the water pipeline.

4.3 DIRECT AND INDIRECT EFFECTS

4.3.1 Land Use

4.3.1.1 Proposed Action Alternative

The public lands within the project area comprising the proposed ROW would contain sections of the proposed water pipeline, the proposed well site, and the proposed tank site.

Several existing ROW authorizations would be crossed by the proposed water pipeline, including the ROWs for existing overhead power line and buried fiber optic cable.

Some sections of the proposed pipeline that would be constructed on the private land portions of the project area would be constructed beneath the travel surface of existing Big Creek Road and Gold Ventures Road, which is a county road south of the Austin Airport. Sections of pipeline would also cross beneath other unnamed roads or minor roads and U.S. Highway 50. Motorists travelling on Big Creek Road, Gold Ventures Road, or any of the other minor roads crossing the project area may experience traffic delays during construction of the proposed project. Construction of the pipeline would occur during Phase 2 of the project, which is anticipated to begin during the summer of 2013 and end during the autumn of 2013. Therefore, disturbance to the existing roads within the project area, and thus any traffic delays resulting from this disturbance, would be temporary for the duration of construction. Maintenance or repair of the proposed project may also require disturbance of the roads within the project area, which would also result in travel disruptions. However, disruptions would be temporary, and would typically occur at isolated places where repairs are specifically necessary. There are existing below-surface casings beneath U.S. Highway 50 that allow for passage of utility lines beneath the road surface. The proposed pipeline would be placed within these casings and not require disturbance to the road surface of U.S. Highway 50. Portions of the proposed project that intersect or coincide with the existing ROW for U.S. Highway 50 would adhere to the occupancy permit 2006981 that has been issued by the NDOT for the project.

Implementation of the Proposed Action would not restrict, prohibit, or alter existing ROW authorizations or land uses within the project area. The BLM would notify all existing and pending ROW grantees of the Proposed Action prior to implementation. Lander County would obtain all the necessary ROWs, easements, and approvals from private landowners prior to construction. Impacts to land use would not be anticipated.

4.3.1.2 No Action Alternative

Under the No Action Alternative, the BLM would not authorize the proposed ROW and construction of the proposed project would not be permissible within the 39.01 acre ROW area. Construction on private land within the project area would also not occur since the effectiveness and success of the improvements to the water supply system depend on the construction and operation of the entire proposed project. Accordingly, land use within the entire project area would not be affected under this alternative, and there would be no impacts.

4.3.2 Visual Resources and Esthetics

4.3.2.1 Proposed Action Alternative

Visual impacts resulting from implementation of the Proposed Action would be anticipated to be minimal and are in conformance with the objectives of VRM Class IV. The existing landscape contains an overhead power line, U.S. Highway 50, State Routes 305 and 722, numerous unpaved roads, fences, the county fairgrounds, and several components of the existing water supply system.

The proposed project would contribute similar elements to the landscape that would result in unnoticeable to minimal changes in the visual appearance. Permanent elements of the visual landscape that would be contributed by implementation of the Proposed Action would include the proposed water storage tank, proposed groundwater well facilities, proposed booster pump station, and the proposed drop from an existing power line to power the proposed well site. The exterior of the proposed water storage tank and the wood building at the groundwater well site would be painted a BLM-approved standard environmental color. Since there are components of the existing water system present in the current landscape, including a booster pump station and groundwater well facility, the addition of the permanent impacts from the proposed project would add little to no contrast.

Temporary short-term impacts would be visible from U.S. Highway 50, State Routes 305 and 722, and other minor roads in the surrounding vicinity. The temporary short-term impacts would include visual alteration of the landscape resulting from the removal of existing vegetation cover, soil stockpiles, and the presence of construction crews and equipment. However, construction-related surface disturbance would be short-term and temporary and would be reclaimed and reseeded once construction is completed. All construction equipment, materials, and wastes would be removed from the project area. Temporary short-term impacts on visual resources would be anticipated to be minimal.

4.3.2.2 No Action Alternative

Under the No Action Alternative, the BLM would not authorize the proposed ROW and construction of the proposed project would not occur. The existing foreground, middle-ground, and background views of the landscape in the area would not be altered under this alternative. The No Action Alternative would have no impacts on visual resources and esthetics.

4.3.3 Recreation

4.3.3.1 Proposed Action Alternative

Recreational use of the project area is likely minimal based on the fragmentation of public land and lack of established facilities and natural features that attract substantial numbers of recreational visitors. The proposed ROW portion of the project area consists of approximately 39.01 acres of BLM-administered public lands. These public lands would be unavailable for recreational use during construction of the proposed project. The proposed groundwater well site and water storage tank site would be fenced and remain unavailable for the life of the project. However, the proposed well site and water storage tank site comprise approximately 0.85 acre of the total 39.01 acres within the proposed ROW and are the only areas within the ROW that would remain unavailable for recreational use after construction is completed.

There is substantial public land in the surrounding vicinity that is readily available to recreationists that can provide similar conditions to those found within the proposed ROW. This public land area would effectively offset any temporary or permanent losses of recreational area within the proposed ROW.

The abundance of similar recreational opportunities nearby, combined with the short-term duration of most effects on recreational use, would minimally impact recreation.

4.3.3.2 No Action Alternative

Under the No Action Alternative, the ROW authorization would not be granted, and the construction and operation of the proposed project would not occur. The existing recreational uses and conditions within the project area would not be impacted.

4.3.4 Environmental Justice and Socio-Economics

4.3.4.1 Proposed Action Alternative

As defined by the EPA and the U.S. Census Bureau, there are no minority populations or low income populations within the project area. The municipal water supply system currently provides drinking water to the population of Austin, as a collective whole, without regard to recipient's race, ethnicity, religion, economic status, or other social and demographic indicators. The proposed project would improve the municipal water supply by reducing the arsenic content to comply with federal and state standards, which would be beneficial for all of Austin's population. Since the existing water main between the project area and Austin would continue to be utilized for delivery of the water supply into Austin for consumption, the entire population of Austin, as a collective whole, without regard to social or demographic indicators, would benefit from the project equally, as all persons would receive water of the same quality.

Implementation of the Proposed Action would not be expected to result in any impacts on environmental justice because there are no minority populations or low-income populations within the project area or any areas potentially affected by project impacts, and because benefits of the project would be experienced by all persons equally.

Direct impacts to socio-economics would not be expected to result from the implementation of the Proposed Action. The proposed project would not be expected to directly generate a substantial amount of employment opportunities. The minimal employment opportunities that may be generated, if any, would be temporary for the duration of construction. The Proposed Action would not increase population in the area served by the water system or generate any demand for housing and community services. However, the proposed improvements to the water supply system would be capable of meeting some portion of the expected water demand of an increased future population.

4.3.4.2 No Action Alternative

Under the No Action Alternative, the ROW grant requested by Lander County would not be authorized, and the proposed project would not be constructed. The existing water system would not be improved, and the arsenic concentration in the Austin municipal water supply would likely remain above the federal and state maximum concentration level of 10 parts per billion.

According to the EPA, the maximum concentration level was set at 10 parts per billion in order to protect consumers served by public water systems from health problems associated with long-

term chronic exposure to arsenic (EPA 2012). The EPA reports that the effects arsenic may have on human health include thickening and discoloration of the skin; stomach pain; nausea and vomiting; diarrhea; numbness in hands and feet; partial paralysis; and blindness. The EPA also reports that arsenic has been linked to cancer of the bladder, lungs, skin, kidney, nasal passages, liver, and prostate (EPA 2012).

Because the arsenic concentration in the existing water supply would likely remain greater than 10 parts per billion under the No Action Alternative, consumers in the service areas would be exposed to increased risk of arsenic-related health problems. Accordingly, the risk for potential health problems would increase the longer the water system remained unimproved and arsenic concentrations remained in excess of 10 parts per billion. Some of the effects of long-term exposure to arsenic, as described by the EPA, would be disabling to some consumers and would be expected to reduce the quality of life for many, if not all, consumers who experience them. Affected consumers would likely be afflicted with increased medical costs and decreased income due to the inability to perform occupational duties at current standards or endurance. This would effectively reduce the disposable income of affected households and would collectively be expected to reduce the overall economic output of Austin.

Additionally, because compliance with the federal and state arsenic standard is a legal requirement, Lander County would still be required to reduce the arsenic concentration in the Austin municipal water supply, despite the requested ROW grant not being authorized. The general area of the proposed well site is the nearest known reliable source of groundwater that would reduce the overall arsenic concentration in the municipal water supply to levels compliant with the federal and state arsenic standard. Since there is virtually no configuration for a pipeline between this area and Austin or the existing water main to Austin that can be aligned to avoid BLM-administered public lands, compliance with the standard is not possible without authorization of a ROW grant across BLM-administered public lands. Once all possible extensions for achieving compliance with the arsenic standard have been exhausted, Lander County may be charged substantial fines for noncompliance.

The No Action Alternative would have a negative impact on socio-economics due to the financial burdens Lander County would experience from fines that would continue to accumulate until compliance with the standard is achieved. The impact would be minimal to moderate, depending on the amount of the fines. The impact may be intensified by potential reductions in workforce or economic output resulting from arsenic-related health problems. However, impacts to environmental justice would not be anticipated because every person that comprises the total population of Austin would consume municipal water supply from the same source with the same arsenic content. There would be no risk to persons of a minority race or ethnicity or of low-income status to be exposed to arsenic concentrations greater than any other individuals in the population.

4.3.5 Cultural Resources

4.3.5.1 Proposed Action Alternative

Cultural sites that are recommended as eligible for listing on the National Register of Historic Places were not found within the project area during the cultural resources inventory. The Austin Cemetery, which is currently listed on the National Register of Historic Places, is located immediately next to the project area (Spidell and Kautz 2012). Surface disturbance would be limited to the area within the project area boundary, and therefore, eligible cultural resource sites would not be affected by surface disturbance.

However, because the project area and Austin Cemetery are immediately adjacent, mitigation measures would be employed to ensure construction activities do not extend onto the cultural site. Mitigation measures would also be employed when construction associated with the relocation of the PRV station is performed. The Proposed Action Alternative, when employed with the mitigation measures described in Section 4.4, would not be expected to have any impact on cultural resource sites recommended as eligible for listing, or sites currently listed on the National Register of Historic Places.

4.3.5.2 No Action Alternative

If the No Action Alternative were implemented, the proposed right-of-way would not be authorized, and the proposed project would not occur. Impacts on cultural resources would not occur.

4.3.6 Native American Religious Concerns

4.3.6.1 Proposed Action Alternative

Artifacts relating to the rendezvous that once occurred between the various Shoshone Tribes and Bands, including beads, were not located within the project area of potential effect during the cultural resource survey (Spidell and Kautz 2012). Although specific issues/concerns or traditional/cultural properties were not identified by the Fallon Paiute-Shoshone Tribe, participation opportunities continue to be available for all Tribes.

If previously unknown traditional/cultural properties are encountered, Lander County would be required to employ the mitigation measures described in Section 4.4 of this EA. Although the possibility of disturbing Native American gravesites within the project area is extremely low, inadvertent discovery would also require Lander County to employ mitigation measures. Mitigation measures would be expected to prevent impacts.

4.3.6.2 No Action Alternative

If the No Action Alternative were implemented, the proposed right-of-way would not be authorized, and the proposed project would not occur. Impacts on Native American Religious Concerns would not occur.

4.3.7 Soils

4.3.7.1 Proposed Action Alternative

Approximately 46.66 acres of surface disturbance would occur during construction of the proposed project, assuming the entire project area is utilized for construction activities. Approximately 39.01 acres would consist of the proposed ROW, and thus, the maximum surface disturbance to public lands administered by the BLM. The other approximately 7.65 acres of surface disturbance would occur on the private land component of the project area. Surface disturbance would remove existing vegetation cover, and in areas where existing roads and other disturbances occur in place of vegetation, loosen the otherwise compacted soils. Consequently, soils would be vulnerable to increased potential for erosion and soil loss. Implementation of environmental control measures and BMPs during construction would reduce this potential and prevent soil loss from the project area. All construction-related surface disturbance would be reclaimed and planted with a BLM-approved seed mix at the time construction is completed. Accordingly, impacts to soils resulting from construction-related surface disturbance would be temporary and short-term for the duration of construction and establishment of reclamation vegetation.

Soils that occur within the areas that would be occupied by the above-ground components of the proposed project once they are constructed would be permanently impacted. Permanent impacts on soils within the portion of the project area consisting of private land would include the areas that would be occupied by the proposed booster pump station facilities.

Permanent impacts on soils within the proposed ROW portion of the project area (i.e., BLM-administered public lands portion) would include the areas that would be occupied by the proposed groundwater well and water storage tank and the facilities associated with each of them. A total of approximately 0.64 acre of the proposed ROW portion of the project area would be permanently occupied by above-ground components of the proposed project.

The relatively minor volume of soils that would be permanently impacted, combined with the environmental protection measures and reclamation that would reduce or prevent temporary impacts on soils, would result in the implementation of the Proposed Action Alternative having only minimal impacts on soils.

4.3.7.2 No Action Alternative

There would be no temporary or permanent impacts on soils as a result of implementation of the No Action Alternative. Soils would not be impacted under this alternative because the ROW grant requested by Lander County would not be authorized, and the proposed project would not be constructed. Since construction would not occur, the surface disturbance that would result from construction activities would also not occur.

4.3.8 Wastes, Hazardous and Solid

4.3.8.1 Proposed Action Alternative

Construction of the proposed project would comply with regulatory requirements in conjunction with all necessary permits to avoid any adverse effects. Further, all project-related waste would be disposed of properly at permitted off-site facilities. All equipment and machinery would be maintained free of oil or other fluid leaks. An emergency spill kit would be kept on site during construction, and construction personnel would be trained in its use. The project area is not known to contain any hazardous waste sites, based on the results of a search for records of environmental information using the EPA EnviroMapper for Envirofacts that was performed on July 25, 2012.

The Proposed Action Alternative would not directly or indirectly result in the creation of a hazardous waste site. Impacts to hazardous and solid wastes are not anticipated to occur as a result of implementation of the Proposed Action Alternative.

4.3.8.2 No Action Alternative

The No Action Alternative would preclude construction of the proposed project because the ROW requested by Lander County would not be authorized as a result of implementation of this alternative. Construction equipment or fuels and fluids used to power equipment would not be necessary since there would be no construction activity. There would not be any increased potential for spills of equipment fluids. In the absence of construction, any trash and litter, solid waste, biodegradable debris, surplus construction materials, and any other construction-related byproducts would not be generated. The No Action Alternative would not have any impacts to the existing environment as a result of solid or hazardous wastes.

4.3.9 Vegetation

4.3.9.1 Proposed Action Alternative

Surface disturbance related to construction of the proposed project would result in temporary and permanent removal of potentially all vegetation cover within the project area. Areas where surface disturbance occurs strictly for construction only would be reclaimed and seeded with a BLM-approved, weed-free seed mix once project construction is complete. Accordingly, impacts to vegetation in these areas would be temporary for the duration of construction and reclamation. However, seeded areas would require several years of growth before the vegetation would be of similar height and condition as the existing vegetation.

Permanent impacts on vegetation cover would occur in areas that would be occupied by the above-ground components of the proposed project, such as the water storage tank and the booster pump station. Approximately 0.64 acre of the ROW portion of the project area would be occupied by above-ground components of the proposed project, and thus vegetation cover in this area would be permanently impacted. It is estimated that approximately 0.2 acre of the private land within the project area would be occupied by above-ground components of the proposed project.

Accordingly, a total of approximately 0.84 acre of vegetation cover within the 46.66-acre project area would be permanently impacted. Impacts to vegetation cover within all other areas would be temporary.

4.3.9.2 No Action Alternative

The proposed ROW would not be authorized under the No Action Alternative, and consequently, construction of the proposed project would not occur. Without construction of the proposed project, surface disturbance would not occur and vegetation cover would not be displaced by project components. The No Action Alternative would have no adverse impacts on vegetation or soils.

4.3.10 Noxious Weeds/Invasive Non-Native Species

4.3.10.1 Proposed Action Alternative

The Proposed Action would result in disturbance on approximately 46.66 acres. Approximately 39.01 acres of this disturbance would occur on public lands administered by the BLM. The proposed surface disturbance would increase the risk of colonization by noxious and invasive weeds. Parts of the ROW are especially prone to colonization by weeds because they contain existing noxious weed populations. Other parts contain or are located adjacent to existing roads. The inadvertent transport of weed seeds by vehicle travel may be more frequent along roads.

Lander County would minimize the potential for the establishment of noxious weeds and spread of invasive species by steam cleaning or power washing equipment prior to use in the project area and by reclaiming disturbed areas. Temporary surface disturbances created for construction would be seeded with a BLM-approved, weed-free erosion control mix during reclamation. Only certified weed-free straw or hay would be used if bales are used for erosion control. The seed mix and application rates would be approved by the BLM. Implementation of the Proposed Action Alternative would not be anticipated to have any impacts on noxious weeds or invasive non-native species.

4.3.10.2 No Action Alternative

The proposed ROW would not be authorized under the No Action Alternative, and consequently, construction of the proposed project would not occur. Impacts on noxious weeds and invasive non-native species would not be anticipated.

4.3.11 Special Status Species

4.3.11.1 Proposed Action Alternative

Greater Sage-Grouse

Construction of the proposed project would disturb the entire 46.66-acre project area. Accordingly, implementation of the Proposed Action Alternative would result in loss of all greater sage-grouse habitats and distributions identified by NDOW as occurring within the project area boundaries. Additionally, the approximately 33.3 acres of suitable winter habitat and the approximately 33.3 acres of marginal nesting habitat identified within the project area during a preliminary habitat assessment and baseline biological surveys (JBR Environmental

Consultants, Inc. 2012) would also be removed during construction of the proposed project. Actual surface disturbance and resulting loss of habitats and distributions would be small because the maximum area of disturbance would be limited to the approximately 46.66-acre project area, and many areas within the project area have been developed with roads and other clearings. There are approximately 31,524.2 acres of suitable winter habitat and approximately 30,232.6 acres of marginal nesting habitat within 4 miles of the project that would not be disturbed by construction of the proposed project. Most surface disturbance would be necessary for the construction of the project and reclaimed afterwards. However, some sage-grouse habitats and distributions are dependent on mature sagebrush, so while most impacts would be temporary, some may persist for several years while reclamation seeding becomes established and grows into mature vegetation cover.

Construction of the proposed groundwater well site would impact approximately 0.51 acre of greater sage-grouse habitat that has been identified as PGH, and construction of the proposed pipeline would impact approximately 35 acres of PGH. Loss of the approximately 0.51 acre of PGH at the proposed well site would be permanent because the well site would be fenced, and thus likely to be utilized by sage-grouse. The portion of the project area containing the proposed pipeline would be reclaimed upon completion of construction. Thus, the loss of the approximately 35 acres of PGH associated with the construction of the pipeline would be short-term. Additionally, approximately 7.12 acres of the project area identified as PGH coincide with existing unpaved roads, and approximately 1.13 acres coincide with existing development associated with a utility corridor adjacent to much of the proposed pipeline alignment. Neither of these areas are likely to be used as sage-grouse habitat despite being identified as PGH.

Although temporary surface disturbances would be seeded with a BLM-approved weed-free erosion control mix during reclamation, and only certified weed-free straw or hay would be used if bales are used for erosion control, the spread of noxious weeds from the proposed surface disturbance and subsequent reclamation would still be possible. Therefore, there is potential for construction of the proposed project to reduce the quality of greater sage-grouse habitat within the project area through the introduction of noxious weeds and other undesirable plant species. A reduction in the quality of habitat within the project area from infestation of noxious weeds or other undesirable plant species would have only a negligible impact on greater sage-grouse considering the relatively small size of the project area.

Construction of the proposed project would also increase human activity and noise in the area, which in turn may deter use of sage-grouse habitats and distributions identified by NDOW. NDOW has indicated that surrounding areas within 3 miles of the project area include sage-grouse winter distribution, summer distribution, and nesting habitat. Increased human activity and noise would return to existing ambient levels once the proposed project is constructed. Therefore, the effects that the increased levels would have on sage-grouse would be temporary and short-term. Impacts would be minimal at most and are expected to affect individuals rather than local or regional sage-grouse populations.

Effects to greater sage-grouse in the form of habitat fragmentation resulting from project disturbance would be minimal because linear components of the proposed project (i.e., pipeline) would be located within or adjacent to existing roads or existing utility corridors.

Impacts on sage-grouse resulting from implementation of the Proposed Action Alternative would be anticipated to be minimal and affect individuals only. Impacts on local or regional sage-grouse populations would not be anticipated.

Pygmy Rabbit

Disturbance of sagebrush vegetation cover within the project area during construction would represent impacts to pygmy rabbit from removal of suitable habitat. Since the entire project area may be disturbed, all potential pygmy rabbit habitat would be removed, including areas of habitat where sign of pygmy rabbit were observed during baseline biological surveys performed in June 2012. Areas of habitat suitable for pygmy rabbit identified during the baseline biological survey included most of the project area adjacent to the existing power line corridor and along drainages that cross the project area (JBR Environmental Consultants, Inc. 2012). The portion of the project area adjacent to the power line corridor representing suitable habitat consists of approximately 19.1 acres. Based on aerial photography (U.S. Department of Agriculture 2011), the portion of the project area crossed by drainages outside of the aforementioned 19.1 acre area was estimated to be approximately 0.02 acres. Accordingly, there are approximately 19.12 acres of habitat suitable for pygmy rabbit that would be removed during construction of the proposed project.

The suitable habitat corresponds with portions of the project area where sections of the proposed pipeline would be constructed. Surface disturbance related to the proposed pipeline would be temporary for the duration of construction and establishment of reclamation seeding. While disturbed pygmy rabbit habitat would be reclaimed, it would likely require several years for reclamation vegetation to resemble the current vegetation and habitat conditions. Additionally, although temporary surface disturbances would be seeded with a BLM-approved, weed-free erosion control mix during reclamation, and only certified weed-free straw of hay would be used if bales are used for erosion control, the spread of noxious weeds from the proposed surface disturbance and subsequent reclamation would still be possible. Therefore, there is potential for construction of the proposed project to reduce the quality of pygmy rabbit habitat within the project area through the introduction of noxious weeds and other undesirable plant species. A reduction in the quality of habitat within the project area from infestation of noxious weeds or other undesirable plant species following reclamation would have only a negligible impact on pygmy rabbit considering the relatively small size of the project area.

Aerial photography (U.S. Department of Agriculture 2011) and Ecological Site Descriptions were reviewed for the NRCS ecological sites within 4 miles of the project area to determine the extent of suitable habitat for pygmy rabbit that exists within this area. Based on the Ecological Site Descriptions, it is estimated that there are approximately 24,610.5 acres of habitat that would be expected to be suitable for pygmy rabbit within 4 miles of the project area that are

located outside of the project area boundary. The approximately 19.12 acres of suitable pygmy rabbit habitat that would be removed as a result of the proposed project represents a relatively minor area relative to the approximately 24,610.5 acres of estimated habitat within 4 miles of the project area. Considering that only a relatively minor area of habitat suitable for pygmy rabbit that would be removed, the impacts on pygmy rabbit would be anticipated to be minor and affect only individuals. Impacts on the local population or any other larger populations of pygmy rabbit would not be anticipated as a result of habitat losses within the project area.

Direct effects to pygmy rabbit may include injury and mortality due to crushing of burrows during construction of the proposed project. To minimize the direct loss of pygmy rabbits from construction activities, mitigation measures would be implemented requiring a preconstruction survey for the species, and removal of habitat if the species is found during the survey. Mitigation measures are described in detail in Section 4.4 of this EA. When implemented in conjunction with mitigation measures, the Proposed Action Alternative would be anticipated to have a minor impact on individual pygmy rabbits, but would not be expected to impact local or regional pygmy rabbit populations.

Burrowing Owl

Surface disturbance within the portion of the project area that would contain the proposed groundwater well site and the first approximately 1.5 miles of pipeline from the well site would result in removal of potential burrowing owl habitat. This portion of the project area represents approximately 9.6 acres of the total 46.66-acre project area. Observations during baseline biological surveys reported that some areas within this portion of the project area were not representative of suitable burrowing owl habitat (JBR Environmental Consultants, Inc. 2012). No burrows or burrowing owl were observed within the project area during the survey.

Construction noise and activity may also deter burrowing owl from using the areas of suitable habitat within the project area and the surrounding areas of potential habitat. Deterrence of habitat use would be temporary, however, for the duration of construction and during any future maintenance activities in the project area coinciding with suitable habitat.

Impacts on burrowing owl resulting from implementation of the proposed project would be minimal. The area of suitable habitat that would be disturbed and removed would be minimal, as would the habitat which would be unavailable due to temporary deterrence of use of the area during construction. Impacts would not be expected to result in direct mortality of burrowing owl. Mitigation measures that would be employed to reduce the impacts of the Proposed Action Alternative on migratory birds would also be effective for reducing impacts on nesting burrowing owls and their nests. The mitigation measures are detailed in Section 4.4 of this EA.

Eagles

Disturbance of vegetation cover within the project area would remove potential habitat for various species that golden eagle typically prey upon, including numerous reptiles, small mammals, and nesting migratory birds. Accordingly, the approximately 46.66-acre project area

represents a loss of golden eagle foraging habitat. Approximately 45.82 acres of the habitat loss would be temporary for the duration of construction and reclamation. Once reclamation vegetation has been re-established in the area, prey species would be expected to resume use and effectively restore the golden eagle foraging habitat in this area. Permanent loss of foraging habitat would occur in the areas that would be occupied by above-ground components of the proposed project, such as the proposed water storage tank or the proposed building that would be located at the proposed well site. The total area of golden eagle foraging habitat that would be permanently lost is estimated at approximately 0.84 acre.

Although temporary surface disturbances would be seeded with a BLM-approved, weed-free erosion control mix during reclamation, and only certified weed-free straw of hay would be used if bales are used for erosion control, the spread of noxious weeds from the proposed surface disturbance and subsequent reclamation would still be possible. Therefore, there is potential for construction of the proposed project to reduce the quality of foraging habitat within the project area through the introduction of noxious weeds and other undesirable plant species. A reduction in the quality of foraging habitat within the project area from infestation of noxious weeds or other undesirable plant species would have only a negligible impact on golden eagle considering the relatively small size of the project area.

Noise and activity associated with construction of the water tank and facilities is expected to be commensurate with the existing noise and activity associated with the adjacent shooting range, fairgrounds, and U.S. Highway 50. However, construction noise would be generated almost constantly between 7:00 AM and 4:00 PM, Monday through Friday, through the Phase 1 and Phase 2 construction periods. The existing noise from shooting range, fairgrounds, and U.S. Highway 50 is produced intermittently with use of these areas, and is not a constant contributing noise within the general area. Thus project-related construction noise may occur in addition to existing noise from one or more of these sources, or alone, without noise produced by these sources.

Increased noise and human activity during construction of the proposed project may deter golden eagle use of the foraging habitat surrounding the project area. The areas that may be avoided would be expected to be limited to the area surrounding the portion of the project area containing active construction. Golden eagle use of the foraging habitat would be expected to resume once construction is completed.

Impacts on the 2 golden eagle nest sites that NDOW identified as occurring within 10 miles of the project area would not be anticipated. Both of these nest sites are more than 5 miles away from the project area, and construction noise would attenuate before reaching either site. The proposed project would not be anticipated to have any impact on potential golden eagle nests that may exist in areas representative of suitable nesting habitat within 10 miles of the project area. Most of these areas are farther than 5 miles away from the project area, but the project area is located within 3 miles of the Toiyabe Range, which represent suitable nesting habitat for golden eagle. As described in Section 3.2.11.1 of this EA, the portion of the project area that would

contain the proposed water storage tank site and the section of pipeline that would be located between the tank site and Big Creek Road is located within 0.1 mile of the Toiyabe Range. The section of pipeline that would coincide with Big Creek Road is located within 1 mile of the Toiyabe Range.

Noise generated during construction of the proposed project, particularly construction of those components within 1 mile of the Toiyabe Range may deter use of potential nesting habitat and affect any potential nest that may exist within this habitat. However, as described in Section 3.2.11.1 of this EA, golden eagle nesting habitat in the portion of the Toiyabe Range within 1 mile of the project area lacks rock outcrops, bluffs, or other cliff-like areas that represent optimal nesting habitat. Considering the relatively brief construction period between the summer through fall season of 2013, and that golden eagle nesting habitat in the Toiyabe Range within 1 mile of the project area is less than optimal quality, impacts on golden eagle would be expected to be negligible. Construction within portions of the project area farther than 1 mile from the Toiyabe Range would be expected to attenuate substantially due to distance and existing shrub vegetation cover between the project area and the Toiyabe Range. The foliage and stems of vegetation reflect and scatter sound waves (Aylor 1977), which contributes to the attenuation of the noise carried in those sound waves. With attenuation, and considering the relatively brief construction period, project-related noise generated farther than 1 mile from the Toiyabe Range would be expected to have a negligible impact on golden eagle and potential golden eagle nesting habitat.

Implementation of the Proposed Action Alternative would not be anticipated to impact any known golden eagle nests or previously undiscovered or unknown golden eagle nests. Impacts resulting in the mortality or injury of golden eagles would not be anticipated to occur as a result of the Proposed Action Alternative. Impacts on golden eagle related to loss of foraging habitat would be expected to be minimal and largely temporary. A reduction in the local or regional golden eagle population that forage in the area would not be expected. Due to absence of suitable habitat, bald eagle would not be expected to occur within or near the project area. Impacts to bald eagle would not be anticipated as a result of the Proposed Action Alternative.

Bats

There are no maternity or hibernacula roost sites within the project area and thus none that would be disturbed by the proposed project. The several trees that represent potential bat roost sites would be removed from their current location within the proposed water storage tank site area. The removed trees would be returned to the area as transplants that would surround the general perimeter of the tank structure once construction of the tank site is completed. Although transplanting would be expected to prevent a permanent loss of the trees, the activities associated with transplanting them would effectively result in the loss of any potential roosting site(s) they may currently provide. Due to the acres of pinyon-juniper habitat surrounding the project area, the loss of tree roosting sites from the construction of the water storage tank would be minimal and not expected to affect bat populations..

Removal of vegetation cover within the project area would result in the loss of approximately 46.66 acres of potential foraging habitat for Townsend's big-eared bat and Western small-footed bat. Approximately 45.82 acres of the habitat loss would be temporary for the duration of construction and reclamation. Permanent loss of habitat would account for the remaining approximately 0.84 acre. Insects (i.e. forage) would still be likely to swarm or fly over the project area while construction is ongoing, because the majority of the area would generally be a linear corridor with a width of only 50 feet. Accordingly, temporary loss of foraging habitat would be anticipated to have negligible impacts on either bat species. Permanent loss of habitat would be minimal, and impacts would be expected to be negligible to minimal. Mortality or injury of bats of any species would not be expected to result from implementation of the Proposed Action Alternative.

Other Special Status Wildlife Species

Raptor nest locations identified by NDOW are located 2 miles or farther from the project area, and several topographic barriers (e.g., ridges, canyons, peaks, etc.) separate the project area from each nest location. The distance and topographic barriers would be expected to prevent the proposed project from having any impacts on these nest sites. An active red-tailed hawk nest was observed in a pinyon pine tree located approximately 0.6 mile east of the project area during a survey performed by JBR Environmental Consultants, Inc. during June 2012 (JBR Environmental Consultants, Inc. 2012). Accordingly, suitable nesting habitat for raptors is located within at least 1 mile of the project area. Noise associated with the construction of the proposed project, particularly the approximately eastern half of the pipeline and the water storage tank, may deter use of the nesting habitat. These components of the proposed project would be constructed during phase 2 of the project, which is estimated to occur between the summer and autumn seasons of 2013. Considering the relatively brief construction period and that the nearest observed nest to the project area is buffered by more than 0.5 mile, impacts on raptors and raptor nesting habitat from project-related construction noise would be minimal and temporary.

Impacts to raptor species listed in NDOW consultation (Appendix B), observed during biological baseline surveys (JBR Environmental Consultants, Inc. 2012), or that may utilize suitable nesting habitat within 1 mile of the project area that would occur in relation to loss of foraging habitat within the project area, and from increased noise and human activity during construction would be the same as the impacts described above for golden eagle. Impacts to nesting migratory birds, including raptors, would be avoided through implementation of mitigation measures requiring a migratory bird nesting survey, as described in Section 4.4. Thus, impacts on raptors species would also be expected to be minimal and largely temporary. A reduction in the local or regional population of any species of raptors that forage in the area would not be expected. Impacts resulting in the mortality or injury of raptor species would not be anticipated to occur as a result of the Proposed Action Alternative.

Impacts on pinyon jay, loggerhead shrike, sage thrasher, Brewer's sparrow, and Lewis's woodpecker include the reduction of foraging habitat due to construction, operation, and maintenance of the proposed project. With the exception of Lewis's woodpecker, impacts on

these species also include the reduction of potential nesting habitat due to construction, operation, and maintenance of the proposed project. Since all surface disturbance related to the proposed project would be limited to the proposed project area, the maximum area of foraging and potential nesting habitat that would be impacted would be approximately 46.66 acres. Approximately 39.01 acres of the project area consists of the proposed ROW, and thus impacts to habitat on BLM-administered public lands would also be approximately 39.01 acres. Most of the surface disturbance would be temporary and reclaimed once construction is complete. Impacts on these special status avian species from loss of habitat would therefore be short-term until reclamation vegetation is established and habitat is effectively restored.

Although temporary surface disturbances would be seeded with a BLM-approved, weed-free erosion control mix during reclamation, and only certified weed-free straw of hay would be used if bales are used for erosion control, the spread of noxious weeds from the proposed surface disturbance and subsequent reclamation would still be possible. Therefore, there is potential for construction of the proposed project to reduce the quality of foraging and nesting habitat within the project area through the introduction of noxious weeds and other undesirable plant species. A reduction in the quality of foraging and nesting habitat within the project area from infestation of noxious weeds or other undesirable plant species would have only a negligible impact on pinyon jay, loggerhead shrike, sage thrasher, Brewer's sparrow, and Lewis's woodpecker considering the relatively small size of the project area.

Direct mortalities or injuries during surface-disturbing activities are not expected due to the highly mobile nature of the pinyon jay, loggerhead shrike, sage thrasher, Brewer's sparrow, and Lewis's woodpecker. The proposed project would not restrict the migration of any of these species through Reese River Valley, thus no impact to migration is expected. The greatest impacts would be expected to occur during construction of the proposed project, when increased noise and human activity may deter birds from using the project area and its surrounding habitat. These impacts may displace some birds and/or reduce breeding success of pinyon jays, loggerhead shrike, sage thrasher, and Brewer's sparrow. Impacts would be expected to affect individual birds only, and not have any impact on regional or local populations of any of these species.

Impacts on dark kangaroo mouse would result from the loss of approximately 26.2 acres of potential habitat within the project area during construction. Loss of habitat would result from removal of vegetation cover and disturbance of soils. Approximately 0.35 acre of the affected habitat occur in areas where the vegetation cover would be permanently displaced by either the proposed water storage tank or the proposed booster pumping station. The soils in these areas would be excavated, graded and compacted, and then permanently buried beneath the project component associated with that area. Thus, approximately 0.35 acre of potential habitat for dark kangaroo mouse would be permanently impacted.

The impact on the remaining approximately 25.8 acres of potential dark kangaroo mouse habitat within the project area would be temporary. Soils compacted during construction would be

loosened and then seeded with a BLM-approved weed-free seed mix during reclamation. Reclamation would effectively replace the vegetation cover and soil structure otherwise lost during construction. It would likely require several years for reclamation vegetation to obtain heights and density preferred by the dark kangaroo mouse. Thus, while impacts to dark kangaroo habitat would be temporary and short-term. Permanent and temporary impacts would be expected to affect individuals only; impacts on regional or local populations of dark kangaroo mouse would not be expected.

There are no maternity or hibernacula roost sites for bats within the project area and thus none that would be disturbed by the proposed project. The several trees that represent potential bat roost sites for the California myotis, fringed myotis, and the hoary bat would be removed from their current location within the proposed water storage tank site area. The removed trees would be returned to the area as transplants that would surround the general perimeter of the tank structure once construction of the tank site is completed. Although transplanting would be expected to prevent permanent loss of the trees, the activities associated with transplanting them would effectively result in the loss of any potential roosting site(s) they may currently provide. Due to the acres of pinyon-juniper habitat surrounding the project area, the loss of tree roosting sites from the construction of the water storage tank would be minimal and not expected to affect bat populations.

Removal of vegetation cover within the project area would result in the loss of approximately 46.66 acres of potential foraging habitat for the big brown bat, Brazilian free-tailed bat, California myotis, fringed myotis, hoary bat, pallid bat, silver-haired bat, and spotted bat. Approximately 45.82 acres of the habitat loss would be temporary for the duration of construction and reclamation. Permanent loss of habitat would account for the remaining approximately 0.84 acre. Insects (i.e. forage) would still be likely to swarm or fly over the project area while construction is ongoing, because the majority of the area would generally be a linear corridor with a width of only 50 feet. Accordingly, temporary loss of foraging habitat would be anticipated to have negligible impacts on these bat species. Permanent loss of habitat would be minimal, and impacts would be expected to be negligible to minimal.

Although temporary surface disturbances would be seeded with a BLM-approved, weed-free erosion control mix during reclamation, and only certified weed-free straw or hay would be used if bales are used for erosion control, the spread of noxious weeds from the proposed surface disturbance and subsequent reclamation would still be possible. Therefore, there is potential for construction of the proposed project to reduce the quality of foraging habitat within the project area through the introduction of noxious weeds and other undesirable plant species. A reduction in the quality of foraging habitat within the project from infestation of noxious weeds or other undesirable plant species would have only a negligible impact on special status bat species considering the relatively small size of the project area. Mortality or injury of bats of any species would not be expected to result from implementation of the Proposed Action Alternative.

Direct or indirect impacts on any other special status wildlife species would not be anticipated to result from implementation of the Proposed Action Alternative.

Special Status Vegetation Species

Special status vegetation species were not observed within the project area during a baseline biological survey performed in June 2012 (JBR Environmental Consultants, Inc.). Impacts on special status vegetations species would not be anticipated to result from implementation of the Proposed Action Alternative.

4.3.11.2 No Action Alternative

Under the No Action Alternative, the proposed project would not be constructed or subsequently operated and maintained. Impacts to Special Status Species would not be anticipated.

4.3.12 Wildlife and Fisheries

4.3.12.1 Proposed Action Alternative

The surface disturbance required for construction of the proposed project and the operation of above-ground components of the proposed project would result in the loss of wildlife habitat and direct displacement of wildlife. Direct effects to wildlife may include injury and mortality during surface-clearing activities. More mobile species, such as game mammals and bird species, may avoid injury and mortality by vacating the project area prior to construction equipment reaching their locations. However, less mobile species, such as rodents, small mammals, and reptiles, especially species that are nocturnal or species that utilize burrows, may be injured or killed during surface-clearing activities. These impacts are expected to affect individuals, but would not be expected to impact local or regional wildlife populations.

The entire project area represents potential wildlife habitat, and thus approximately 39.01 acres of habitat on BLM-administered public lands and approximately 7.65 acres of habitat on private land would potentially be lost to construction. Loss of approximately 38.37 acres of wildlife habitat on BLM-administered public lands would be temporary during construction and establishment of reclamation seeding. Although temporary surface disturbances would be seeded with a BLM-approved, weed-free erosion control mix during reclamation, and only certified weed-free straw of hay would be used if bales are used for erosion control, the spread of noxious weeds from the proposed surface disturbance and subsequent reclamation would still be possible. Therefore, there is potential for construction of the proposed project to reduce the quality of wildlife habitat within the project area through the introduction of noxious weeds and other undesirable plant species. The remaining approximately 0.64 acre of potential wildlife habitat on BLM-administered public lands would be permanently lost. Permanent losses would result from displacement of habitat in areas that would be occupied with the above-ground components of the proposed project, such as the proposed water storage tank. It is estimated that approximately 0.2 acre of the total approximately 7.65 acres of potentially lost wildlife habitat on private land would be permanent. The loss of habitat would affect those individuals of various wildlife species using the habitat either temporarily or permanently.

It is also expected that noise and human activity generated during construction of the proposed project would deter some wildlife from using the area surrounding the project area. This noise and human activity would result in the disruption of normal behavioral patterns of some species of wildlife. This effect would generally be limited to construction, when surface disturbance and operation construction equipment is required, and thus the effect is expected to be temporary and short-term for the duration of construction. Potential future maintenance of the proposed project may require repairs that include construction equipment and surface disturbance in isolated and limited areas of the project area. Wildlife may be deterred from using the surrounding area, or exhibit disruption of normal behavioral patterns while repair and maintenance activities are being performed. However, any potential repair activities would be limited to very select areas within the project area, occur infrequently, and typically require only several days to complete. These impacts are expected to affect individuals and would not be expected to have any impact on local or regional wildlife populations.

4.3.12.2 No Action Alternative

Under the No Action Alternative, the proposed project would not be constructed or subsequently operated and maintained. Impacts to wildlife and wildlife habitat would not be anticipated.

4.3.13 Migratory Birds

4.3.13.1 Proposed Action Alternative

Impacts to migratory birds include the reduction of foraging and potential nesting habitat due to construction, operation, and maintenance of the proposed project. Since all surface disturbance related to the proposed project would be limited to the proposed project area, the maximum area of migratory bird habitat that would be impacted would be approximately 46.66 acres. Approximately 39.01 acres of the project area consists of the proposed ROW, and thus impacts to habitat on BLM-administered public lands would also be approximately 39.01 acres. Most of the surface disturbance would be temporary and reclaimed once construction is complete. Impacts to migratory birds from reduction of habitat would therefore be short-term until reclamation vegetation is established, effectively restoring habitats.

Although temporary surface disturbances would be seeded with a BLM-approved, weed-free erosion control mix during reclamation, and only certified weed-free straw of hay would be used if bales are used for erosion control, the spread of noxious weeds from the proposed surface disturbance and subsequent reclamation would still be possible. Therefore, there is potential for construction of the proposed project to reduce the quality of migratory bird nesting habitat within the project area through the introduction of noxious weeds and other undesirable plant species. A reduction in the quality of migratory bird nesting habitat within the project from infestation of noxious weeds or other undesirable plant species following reclamation would have only a minor to negligible impact on migratory birds considering the relatively small size of the project area.

Direct mortalities or injuries during surface-disturbing activities are not expected due to the highly mobile nature of migratory birds. The proposed project would not restrict bird migration through Reese River Valley, thus no impact to migration is expected. The greatest impacts

would be expected to occur during construction of the proposed project, when increased noise and human activity may deter migratory birds from using the project area and its surrounding habitat. These impacts may displace migratory birds and/or reduce breeding success of some birds, especially those most sensitive to disturbance. Impacts would be expected to affect individual migratory birds only, and not have any impact on regional or local populations.

While implementation of the Proposed Action would temporarily and permanently disturb migratory bird nesting habitat, impacts to migratory nesting birds, including burrowing owls, would be avoided through implementation of mitigation measures requiring a migratory bird nesting survey, as described in Section 4.4. Accordingly, when implemented in conjunction with mitigation measures, the Proposed Action Alternative would be anticipated to have no impacts to migratory bird individuals or their nests.

4.3.13.2 No Action Alternative

Under the No Action Alternative, the proposed project would not be constructed or subsequently operated and maintained. Impacts on migratory bird nesting and foraging habitat and their breeding success would not be anticipated. Mitigation measures would not be employed.

4.3.14 Floodplains

4.3.14.1 Proposed Action Alternative

Segments of the proposed water pipeline would be located within the existing 100-year floodplain identified by FEMA. However, the pipeline would be located below the ground surface and not occupy space that is otherwise currently available for flood storage capacity of the floodplain. The elevation of the existing floodplain would not be affected. A flood event would not be anticipated to damage or affect the proposed project. The Proposed Action Alternative would not be expected to have any impacts on floodplains.

4.3.14.2 No Action Alternative

Under the No Action Alternative, the proposed project would not be constructed or subsequently operated and maintained. There would be no impacts on floodplains.

4.3.15 Water Quality (Surface/Ground)

4.3.15.1 Proposed Action Alternative

Surface Water

There are no surface waters that regularly exist within the project area. The nearest regularly occurring surface water down-gradient of the project area is the Reese River. The BMPs incorporated into the proposed project would prevent erosion of soils and sedimentation of down-gradient waters, including the Reese River. Environmental protection measures pertaining to spill prevention and control would prevent contamination of surface waters down-gradient of the project area. Impacts on surface waters would not be anticipated to result from implementation of the Proposed Action Alternative.

Groundwater

The proposed new groundwater well site would be located approximately 5.6 miles south-southwest of the existing Austin municipal well (Figure 7) and would be drilled by a licensed well driller. Lander County has already submitted an application to change the point of diversion for a portion of the existing appropriated water rights at the existing municipal wells to NDWR, in accordance with Nevada Revised Statute 533.345. The existing appropriated water rights that Lander County requested the point of diversion be shifted to the proposed well site has been authorized and completed under NDWR permit 81358. Use of existing appropriated rights at the proposed well site would not impact the total duty designated for municipal use within the Upper Reese River Valley Hydrographic Area or the volume of groundwater withdrawal appropriated to Lander County or within the hydrographic area. The amount of groundwater pumped into the water supply system would be equal to what is currently pumped; thus no increased pumping withdrawal would occur. Impacts on groundwater quality would not be anticipated to result from implementation of the Proposed Action Alternative.

4.3.15.2 No Action Alternative

The proposed project would not be constructed, operated, or maintained under the implementation of the No Action Alternative. Impacts on water quality would not be anticipated. Existing appropriate water rights that Lander County has transferred for operation of the proposed well would either remain appropriated to, and unused at the proposed well site, or transferred back to the existing well or some other location of appropriation that is not currently known.

4.3.16 Air Quality

4.3.16.1 Proposed Action Alternative

Air quality would be impacted within the vicinity of the project area by temporary dust and combustion emissions during construction and any potential repairs of the proposed project. Depending on the timeline for obtaining permits and easements, Phase 1 of project construction would begin in late October 2012 and end during November 2012. Phase 2 would start during the summer of 2013 and be completed during the fall of 2013.

The proposed project would result in the approximately 46.66 acres of potential surface disturbance. Surface disturbance would increase fugitive dust emissions by removing vegetation cover and loosening and exposing soils. Operation of the project equipment on loosened soils, and wind would increase fugitive dust entrainment within the vicinity of the project area for the duration of construction of the proposed project and establishment of reclamation seeding. The majority of construction would occur during Phase 2, which is estimated to occur between the summer and fall seasons of 2013. Excavation of soils within the trench area for the proposed pipeline, and grading of soils at the tank site would also increase dust entrainment within the vicinity.

Surface disturbances over 5 acres in size require a Surface Area Disturbance Permit from the NDEP Bureau of Air Pollution Control. Accordingly, because the total surface disturbance

associated with construction of the proposed project would exceed 5 acres, Lander County would be required to obtain a Surface Area Disturbance Permit. The permit would require Lander County to develop a Dust Control Plan that includes a list of the best practical methods that would be implemented to control dust emissions. Impacts to air quality resulting from fugitive dust emissions would be minimal and temporary due to the require permit and associated Dust Control Plan, and the relatively brief construction period and limited disturbance area.

Combustion emissions would occur temporarily when internal combustion engines are actively powering construction equipment during the construction period. Phase 1 of construction would consist of drilling and testing the proposed groundwater well, and would require less equipment than Phase 2 when the majority of the proposed project would be constructed. Environmental protection measures described in Section 2.2 of this EA would require idling engines to be shut off when equipment would not be used for periods of more than 15 minutes. This would effectively reduce the period that combustion would occur during construction. Emissions would be anticipated to become dispersed within close proximity to the project area due to winds and the relatively minimal volume of emissions that would be expected. Potential maintenance of the proposed project would occur only occasionally and would require minimal equipment. Combustion emissions during maintenance activities would be negligible. Impacts to air quality resulting from combustion emissions would be minimal and temporary.

The impact on air quality from fugitive dust and combustion emissions as a result of the Proposed Action Alternative would be expected to be minimal and temporary.

4.3.16.2 No Action Alternative

The proposed ROW would not be authorized under the No Action Alternative, and consequently, construction of the proposed project would not occur. Without construction of the proposed project, surface disturbance and project equipment would not be operated. Consequently, fugitive dust and combustions emissions related to the proposed project would not occur. The No Action Alternative would have no adverse impacts on air quality.

4.4 MITIGATION MEASURES

The following mitigation measures would be implemented in conjunction with the Proposed Action Alternative. The measures are designed to avoid or reduce the impacts associated with the Proposed Action Alternative.

- Disturbance to nesting migratory birds would be avoided by conducting land-clearing activities outside the migratory bird nesting season (approximately March 1 to July 31). If land-clearing activities must be constructed during the migratory bird nesting season, a preconstruction survey for nesting migratory birds would be performed by a qualified wildlife biologist.

If active nests are located, the area would be avoided using a BLM-approved buffer, which would be developed in conjunction with USFWS recommendations, to prevent the destruction or disturbance of nests until the birds are no longer present.

- To minimize the direct loss of pygmy rabbits from project construction, the following mitigation measure would be required: Within two weeks prior to the water pipeline construction, a qualified wildlife biologist (either a BLM biologist or BLM-approved biologist) will survey the 50-foot-wide ROW to document the presence of occupied pygmy rabbit burrows. Survey efforts will focus on areas of suitable habitat within the water pipeline ROW that were identified in the 2012 Baseline Biological Survey Report (JBR Environmental Consultants, Inc. 2012). If occupied burrows are located within the ROW, sagebrush mowing will be required at these locations 48 to 96 hours before excavation or other earth work associated with the water pipeline construction commences. The mowing will create unsuitable pygmy rabbit habitat, and the 48 to 96 hours should give individuals sufficient time to vacate the area and locate new burrows outside of the ROW. This will minimize the direct loss of individuals from project construction.
- In order to ensure no adverse effect occurs to the Austin Cemetery site (CrNV-62-10177 /26La5872), proposed construction activities located within 30 meters of the Austin Cemetery site shall be performed only when a cultural resources monitor is present. Furthermore, because of the historic nature of the town of Austin, a monitor shall be present when construction activities at the location of the PRV station relocation area near 6th Street and Bateman Street are performed.
- Though the possibility of disturbing Native American gravesites is extremely low, should a Native American gravesite be found, Lander County would follow procedures in compliance with the Native American Graves Protection and Repatriation Act (NAGPRA). Section (3)(d)(1) of NAGPRA states that the discovering individual must notify the land manager in writing of such a discovery. If the discovery occurs in connection with an authorized use, the activity which caused the discovery is to cease, and the materials are to be protected until the land manager can respond to the situation.
- If any surface and/or subsurface cultural properties, items, or artifacts (e.g., stone tools, projectile points, etc.) are encountered, Lander County shall notify the BLM immediately. Personnel/employees involved in planning, construction, and maintenance are not to collect any previously identified or unidentified artifacts or cultural items encountered. All archaeological sites scheduled for avoidance must be avoided, including those located within close proximity to the project area. BLM Cultural Resource specialists, accompanied by any designated tribal observer/monitor, may periodically visit the project site(s) to ensure avoidance of identified cultural resources sites. Cultural resources are protected under the Archaeological Resources Protection Act (ARPA) and the FLPMA. The ARPA regulations are recorded in 16 USC 470II; the FLPMA regulations are recorded in 43 USC 1701.

The ARPA (codified at 43CFR 7), as well as the NAGPRA (codified at 43 CFR 10), provide protection for historic properties, cultural resources, and Native American funerary items and/or physical remains located on federal land. In addition, ARPA provides for the assessment of criminal and/or civil penalties for damaging cultural resources. Any unplanned discovery of cultural resources, human remains, items of cultural patrimony, sacred objects, or funerary items, requires that all activity in the vicinity of the find ceases, and notification be made to Christopher J. Cook, Field Manager, Mt. Lewis Field Office, 50 Bastian Way, Battle Mountain, NV, 89820 (775 – 635 – 4000), by telephone, with written confirmation to follow, immediately upon such discovery. The location of the find should not be publically disclosed, and any human remains must be secured and preserved in place until a Notice to Proceed is issued by the authorized officer.

4.5 CUMULATIVE IMPACTS

4.5.1 Introduction

Cumulative impacts due to the Proposed Action were analyzed in conjunction with the past, present, and reasonably foreseeable activities in the cumulative effects study area (CESA). Cumulative impacts have been defined 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 further actions, 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” (40 CFR 1508.7).

The CESA includes the entire project area and areas within 4 miles of the project area boundaries (Figure 8). This area was identified as the CESA because the Proposed Action is unlikely to have measurable effects outside this area.

4.5.2 Past, Present, and Reasonably Foreseeable Future Actions

Past and present actions within the CESA consist of administrative land uses including transportation systems, utility corridors, mineral materials sites, recreation, and wildlife habitat. Specific past and present administrative land uses related to transportation networks includes the construction and use of U.S. Highway 50, State Route 305 and State Route 722, and numerous minor paved and unpaved roads. Utility corridors include an overhead power line and buried fiber optic cable that the majority of the project area would be located next to, as well as approximately 15 miles of additional overhead lines elsewhere in the CESA. Other past and present actions within the CESA include the growth and development of the Austin urban area, the Austin Airport, Austin High School, agricultural activity, and the county fairgrounds. Notable recreation within the CESA includes the shooting range that the proposed water storage tank would be located next to and a network of trails generally located in the Toiyabe Range south of Austin. Dispersed recreation is generally available throughout the entire CESA.

Aerial photographs were used to measure the approximate surface area disturbance associated with specific past and present actions located within the CESA boundary. The approximate

acreages that were measured are listed below. The area of surface disturbance associated with roads was measured by calculating the total length of roadway within the CESA and multiplying the total by the approximate width of the roadways.

With the exception of U.S. Highway 50 and State Routes 305 and 722, roads were assumed to have an average width of 18 feet. The area of surface disturbance associated past and present actions in the CESA, including roads, is summarized in Table 8.

Table 8 Past and Present Actions: Approximate Surface Disturbance

Past and/or Present Action	Approximate Area of Surface Disturbance
U.S. Highway 50	84 acres
State Route 305	31 acres
State Route 722	12 acres
Other paved and unpaved roads	564 acres
Utility corridors	186 acres
Austin urban area	162 acres
Austin Airport	350 acres
Austin High School	16 acres
Mineral material pit	86 acres
County fairgrounds	49 acres
Recreational shooting range	1 acre
Agricultural activities	325 acres
Total:	1,866 acres

Reasonably foreseeable future actions within the CESA boundary include the continued operation of the past and present actions and the existence of the surface disturbance associated with their operation. Other than the proposed project, there are no other known reasonably foreseeable future actions proposed within the CESA.

4.5.3 Cumulative Impacts

4.5.3.1 Proposed Action Alternative

Past and present activities within the CESA boundary have resulted in approximately 1,866 acres of surface disturbance at the landscape level. The growth and development of the Austin urban area, Austin Airport, agricultural activities, and construction of the numerous roads comprising the transportation network were the primary contributors of surface disturbance. Aside from the Proposed Action and continued operation of present actions, no other known actions are reasonably foreseeable.

The Proposed Action would result in approximately 0.84 acre of permanent surface disturbance and approximately 45.82 acres of temporary surface disturbance. Temporary surface disturbance would be reclaimed to restore topography closely resembling conditions prior to construction, and to establish vegetative cover. Accordingly, temporary surface disturbance associated with the construction of the proposed project would not contribute to a continued downward trend of resource loss within the CESA that relates to surface disturbance.

Approximately 0.64 acre of the total area of permanent surface disturbance that would result from the proposed project would be located within portions of the project area consisting of BLM-administered public lands. The resources that would be affected by this surface disturbance include air quality, vegetation, wildlife, special status wildlife, migratory birds, soils, visual resources, and potentially noxious weeds and invasive non-native species. The incremental impact on any of these resources would be negligible when added to impacts other actions in the CESA have had. Additionally, a large portion of the project area would occur within portions of the CESA where existing surface disturbance from past and present actions currently exists. Most of the existing disturbance within the project area is associated with unpaved roads that have been constructed in the CESA.

Construction and maintenance of the proposed project would result in increased noise and human activity within the project area. Increased noise and human activity would temporarily deter wildlife use of the project area and surrounding area during these periods. The resources that would be affected include wildlife, special status wildlife, and migratory birds. Increased noise and human activity may also temporarily make the area less appealing for dispersed recreation. These impacts would be added to the impacts from increased noise and human activity associated with the other actions in the CESA. Other actions that either temporarily or permanently increase human activity and noise include the Austin urban area, Austin Airport, routine vehicle travel on U.S. Highway 50 and State Routes 305 and 722, operation of the mineral material pit, and recreational shooting at the existing shooting range. The Proposed Action would be located within or between one or more of these other actions, and in close proximity to several, such as the shooting range and well-travelled roads. Thus, the Proposed Action impacts would occur within a portion of the CESA where existing noise levels and human activity are already elevated. Other areas where noise and human activity are less common or generally absent are abundant elsewhere in the CESA and would not be impacted by the Proposed Action. Accordingly, the cumulative impact of the Proposed Action would be negligible.

4.5.3.2 No Action Alternative

Implementation of the No Action Alternative would not be expected to have any impacts on any of the resources analyzed in this EA except for socio-economics. The other past, present, and reasonably foreseeable future projects in the CESA have not had any known adverse impacts on socio-economics. Accordingly, the No Action Alternative would be expected to have no cumulative impacts.

4.6 RESIDUAL IMPACTS

With the successful implementation of the environmental protection measures that are incorporated into the Proposed Action, the proposed project would result in only minimal residual impacts. The construction of the above ground components of the proposed groundwater well site, the proposed water storage tank, widening of the existing roads to the proposed water storage tank, and construction of the proposed booster pump station represents a

permanent loss of approximately 0.84 acre of natural habitat. Approximately 0.64 acre of the permanent loss would occur within the ROW portion of the project area.

Above ground components of the proposed project would also have residual impacts on visual resources, as they would become additions to the landscape for the life of the project.

4.7 COMPLIANCE WITH FEDERAL LAWS AND REGULATIONS

Archaeological Resources Protection Act (43 CFR 7) and the Native American Graves Protection and Repatriation Act of 1990 (43 CFR 10). *Compliance.*

These acts both provide protection for historic properties, cultural resource, and Native American funerary items and/or physical remains located on federal land. In addition, ARPA provides for the assessment of criminal and/or civil penalties for damaging cultural resources. Should any unplanned discovery of cultural resources, human remains, items of cultural patrimony, sacred objects, or funerary items occur, all activity in the vicinity of the find shall cease. Immediately upon such discovery, Christopher J. Cook, Field Manager, Mt. Lewis Field Office, 50 Bastian Way, Battle Mountain, NV, 89820 (775-635-4000), should be notified by telephone, and provided with written confirmation immediately thereafter. The location of the find should not be publically disclosed, and any human remains must be secured and preserved in place until a Notice to Proceed is issued by the authorized officer.

Clean Air Act, as amended and re-codified (42 USC 7401 et seq.). *Compliance.*

The project is not expected to violate any federal or state air quality standards or hinder the attainment of air quality objectives in the local air basin. Lander County or its contractors would obtain a required Surface Area Disturbance permit from NDEP Bureau of Air Pollution Control. It is anticipated that the proposed project would have no significant effect on the future air quality of the area.

Section 176(c) of this act requires that federal agencies ensure that their activities are in conformance with federally approved State Implementation Plans for areas designated as "non-attainment" and "maintenance." The proposed project would not be located in either type of designated area and therefore is not subject to this provision of the act.

Clean Water Act (33 USC 1251 et seq.). *Compliance.*

The proposed project would not include fill or alteration of waters of the U.S., and there are no wetlands in the project area. Therefore, the project is not subject to the provisions of Section 404 of the Clean Water Act. Lander County or its contractors would obtain a National Pollutant Discharge Elimination System permit from the state of Nevada, since surface disturbance would exceed 1 acre of land.

Endangered Species Act (16 USC 1531 et seq.). *Compliance.*

In a letter dated March 26, 2012, the USFWS indicated that, to their knowledge, no listed or proposed species occur in the project area (Appendix B). The letter indicated that one candidate

species may occur in the project area: greater sage-grouse. Candidate species receive no legal protection under the Endangered Species Act, but may be proposed for listing in the near future.

Executive Order 11988, Floodplain Management. *Compliance.*

This order directs all federal agencies to avoid, to the extent possible, the adverse effects associated with the modification of floodplains and to avoid support of floodplain development wherever there is a practicable alternative. The Reese River 100-year floodplain is not anticipated to be adversely affected by the Proposed Action, as only pipeline buried beneath the ground surface would be located in the floodplain. All disturbed areas, including those in the floodplain, would be restored to conditions existent prior to construction (including elevation) once construction is completed. The proposed project does not include development of buildings, roads, or other structures that could introduce risks to human safety in the event of a flood. Further, the proposed project would not encourage future development of the floodplain, nor would it alter the Reese River.

Executive Order 11990, Wetlands. *Compliance.*

This order directs all federal agencies to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. Because wetlands are absent in the project area, the proposed project would have no effect on wetlands.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. *Compliance.*

The order directs all federal agencies to identify any disproportionate human health or environmental effects of their programs, policies, and activities on minority and low-income populations. The proposed project would not have any effects on populations identified as a minority or low-income population.

Farmland Protection Policy Act (7 USC 4201). *Compliance.*

The project would have no effect on prime farmland or farmland of statewide importance, because there is no such farmland located within the boundaries of the project area.

Federal Aviation Act of 1958, as amended (49 USC 1471 et seq.) *Compliance.*

The proposed project would have no significant effect on the physical facilities, operation, or air safety issues related to the Austin Airport. The proposed project does not include any structures that extend higher than existing structures and/or nearby natural terrain.

Fish and Wildlife Coordination Act (16 USC 661 et seq.) *Compliance.*

The proposed project would include the construction, operation, and maintenance of improvements to the Austin municipal water supply system to provide public drinking water compliant with all state and federal drinking water standards. Construction, operation, and maintenance of the proposed project would not divert, modify, impound, or otherwise control the Reese River or another waterway; this act does not apply to this project.

Migratory Bird Treaty Act (15 USC 701-18h). *Compliance.*

This act requires that the project avoid destruction of active bird nests or newly birthed young of migratory birds that breed in the area from March to July. Prior to commencement of construction activities, a qualified biologist would be required to survey the proposed areas of disturbance to ensure that there are no active nests or newly birthed young of migratory birds. If active nests or young are located, construction in those areas would not be initiated until the young birds have fledged.

National Environmental Policy Act (42 USC 4321 et seq.). *Compliance.*

Comments received during the public review period(s) would be carefully considered and incorporated into the final EA, as appropriate. The final EA, FONSI, if appropriate, and the Decision Record will be in full compliance with this act and complete the BLM's NEPA process. However, if there are significant impacts found during the EA process, then an EIS would need to be prepared.

National Historic Preservation Act of 1966, as amended (16 USC 470 et seq.). *Compliance.*

Kautz Environmental Consultants, Inc. performed a Class III cultural resources inventory of an area that included the entire project area during spring 2012. Kautz Environmental Consultants, Inc. found a total of 14 sites during the survey, 13 of which were recommended non-significant and therefore not eligible for inclusion on the National Register of Historic Places. The other site is the Austin Cemetery and it is currently listed on the National Register of Historic Places. In order to ensure no adverse effect occurs to the site, Kautz Environmental Consultants, Inc. recommended that proposed construction activities within 30 meters of the Austin Cemetery be monitored. Furthermore, because of the historic nature of the town of Austin, Kautz Environmental Consultants, Inc. suggested that construction activities at the location of the PRV relocation site near 6th Street and Bateman Street be monitored. The BLM will submit a letter to the Nevada State Historic Preservation Office, requesting concurrence with the determination of no effect on historic properties.

The BLM provided written descriptions with attached maps of the proposed project to the Yomba Shoshone Tribe, Fallon Paiute-Shoshone Tribe, and the Duckwater Shoshone Tribe of the Duckwater Reservation in February 2012. The BLM invited the Tribes to consult and attend field visits, and seeks their assistance in the identification of any potential issues/concerns, traditional/cultural properties, or participation opportunities during consideration of the requested ROW authorization. The Duckwater Shoshone Tribe of the Duckwater Reservation and the Yomba Shoshone Tribe accepted the invitation to the site visit. During the visit, the Tribes indicated that portions of the proposed ROW had been used for rendezvous by the various Shoshone Tribes and Bands. Tribes described the possibility of finding beads around various locations surrounding the proposed ROW. The Tribes expressed interest in the location of a trail between Battle Mountain and Austin that was used to commute to and from the rendezvous. During the meeting, the Tribes also identified that there may be locations where pygmy rabbit may occur, and were interested in the biological survey that was to be conducted for the species. Additional meetings and coordination for the project have continued and will continue

throughout the life of the project. Required mitigation measures (see Section 4.4) would be expected to prevent impacts on traditional cultural properties.

Wild and Scenic Rivers Act (16 USC 1271 et seq.). *Compliance.*

There are no rivers located within the project area. The only river near the project area is the Reese River. This river is not designated as a federal wild and scenic river under this act.

4.8 PUBLIC REVIEW AND COMMENT

The public has an important role in the NEPA process, particularly in commenting on a Federal agency's NEPA documents. As such, the draft EA will be circulated for a 15-day review period to agencies, organizations, and individuals known to have an interest in the project. The draft document will also be made available for review on the BLM's website. All comments received will be considered thoroughly and incorporated into the final EA, as appropriate.

5.0 TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED

5.1 CONSULTATION

The following tribes, individuals, organizations, or agencies were consulted during preparation of this EA:

Marty Ugalde, P.E.	Day Engineering
Barbara Malinky, M.A.	Kautz Environmental Consultants, Inc.
Eric Miskow	Nevada Natural Heritage Program
Edward Koch	U.S. Fish and Wildlife Service
Timothy Herrick	Nevada Department of Wildlife
Yomba Shoshone Tribe	
Fallon Paiute-Shoshone Tribe	
Duckwater Shoshone Tribe of the Duckwater Reservation	

6.0 LIST OF PREPARERS

6.1 LIST OF PREPARERS

Bureau of Land Management

Chuck Lane	Project Lead, Realty Specialist
Mike Wissenbach	Planning and Environmental Coordinator
Tim Coward	Native American Coordinator
Kat Russell	Archeologist
Ethan Arky	Outdoor Recreation Planner
Aldon Shallcross	Hydrologist
Leesa Marine	Land Law Examiner
David Djikine	Mining Engineer
Chris Kula	Wildlife Biologist
Casey Johnson	Range Management Specialist
Kent Bloomer	Weed Management Specialist
Dorothy Harvey	Information Technology Specialist

JBR Environmental Consultants, Inc.

Nancy Kang	Project Manager
David Worley	Senior Biologist
George Dix	Environmental Analyst
Tammy Odegard	Administrative Assistant

7.0 WORKS CITED

7.1 REFERENCES

- Aylor, Donald E. 1997. Proceedings of the Conference on Metropolitan Physical Environment 1977: *Some Physical and Psychological Aspects of Noise Attenuation by Vegetation*. Newtown Square, Pennsylvania.
- Berger, David L. 2000. *Water Budgets for Pine Valley, Carico Lake Valley, and Upper Reese River Valley Hydrographic Areas, Middle Humboldt River Basin, North-Central Nevada-Methods for Estimation and Results*. U.S. Geological Survey: Water-Resources Investigations Report 99-4272. U.S. Geological Survey and Nevada Division of Water Resources. 2000.
- Bradley, P.V., O'Farrell, M.J., Williams, J.A., and Newmark, J.E. (Eds.). 2006. The Revised Nevada Bat Conservation Plan. Nevada Bat Working Group. Reno, Nevada.
- Bureau of Land Management (BLM). 1984. Shoshone - Eureka Resource Management Plan, Environmental Impact Statement; Final. Battle Mountain, Nevada: U.S. Bureau of Land Management, Battle Mountain District Office. TIC: 241507.
- _____. 1986a. Shoshone - Eureka Resource Area Record of Decision. Battle Mountain, Nevada: U.S. Bureau of Land Management, Battle Mountain District Office.
- _____. 1986b. *BLM Manual H-8410-1: Visual Resource Inventory*. U.S. Bureau of Land Management. January 1986.
- _____. 1986c. *BLM Manual 8431: Visual Resource Contrast Rating*. U.S. Bureau of Land Management. January 1986.
- _____. 2008. BLM National Environmental Policy Act Handbook H-1790-1. U.S. Department of the Interior, Washington D.C.
- Council on Environmental Quality. 1997. *Environmental Justice: Guidance Under the National Environmental Policy Act*. Council on Environmental Quality, Executive Office of the President. December 1997.
- Eakin, T. E., Moore, D.O., and Everett, D. E. 1965. *Water Resources Appraisal of the Upper Reese River Valley: Lander and Nye Counties, Nevada*. Water Resources— Reconnaissance Series: Report 31. U.S. Geological Survey and Nevada Department of Conservation and Natural Resources. March 1965.
- Federal Emergency Management Administration. 1988. FIRM: Flood Insurance Rate Map: Lander County Nevada (Unincorporated Areas): Panel 1075 of 1425: Community-Panel Number: 320013 0175C.

- Finley R.B., Caire, W., & Wilhelm, D.E. 1983. Bats of Colorado oil shale region. *Great Basin Naturalist* 43:554-559.
- Floyd, T., Elphick, C. S., Chisholm, G., Mack, K., Elston, R., Ammon, E. M., & Boone, J.D. 2007. *Atlas of the Breeding Birds of Nevada*. Reno and Las Vegas, Nevada: University of Nevada Press.
- Greater Austin Chamber of Commerce. 2012a. Austin, Nevada: Travelling the "Loneliest Highway" has its rewards. Retrieved on July 24, 2012, from: <http://www.austinnevada.com/index.html>
- _____. 2012b. The Loneliest Road. Retrieved on July 24, 2012, from: <http://www.austinnevada.com/austin-nevada-loneliest.html>
- Idaho Museum of Natural History. 2000. *Microdipodops megacephalus: (Dark Kangaroo Mouse)*. Retrieved on September 28, 2012, from: <http://imnh.isu.edu/digitalatlas/bio/mammal/Rod/pcktmc/dkmo/dkmo.htm>
- Ingles, L.G. 1974. *Mammals of California*. Stanford, California: Stanford University Press.
- JBR Environmental Consultants, Inc. 2012. *Baseline Biological Survey Report: Town of Austin Water System Improvements: Lander County, Nevada*. Unpublished document. On file at the BLM Battle Mountain District Office.
- Kuenzi, A., Downard, G., and Morrison, M. 1999. Bat distribution and hibernacula use in west central Nevada. *Great Basin Naturalist* 59:213-220.
- Natural Resources Conservation Service (NRCS). 2007. *Soil Survey of Lander County, Nevada, South Part (Volume 1)*. Fort Worth, Texas: United States Department of Agriculture, Natural Resources Conservation Service.
- _____. 2012. Ecological Site Descriptions. Retrieved on October 4, 2012, from: <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=STELPRDB1043235>
- Nevada Department of Agriculture. 2005. Policy Statement Regarding Noxious Weed Abatement Statutes NRS 555.005-201. Nevada Department of Agriculture: Reno, Nevada. March 2005.
- _____. 2012. Noxious Weed List. Retrieved on August 22, 2012, from: http://agri.nv.gov/nwac/PLANT_NoxWeedList.htm
- Nevada Department of Conservation and Natural Resources. No Date. Nevada Water Law 101. Retrieved on July 6, 2012, from: <http://dcnr.nv.gov/documents/documents/nevada-water-law-101/>

- Nevada Department of Wildlife (NDOW). 2012. Wildlife & Habitat: Nevada Wildlife - Fact Sheets. Retrieved on August 22, 2012, from:
http://www.ndow.org/wild/animals/facts/bat_townsend.shtm
- Nevada Division of Environmental Protection (NDEP). 1994. State Handbook of Best Management Practices. November 1994.
- _____. 2011. *Nevada Air Quality Trend Report: 1998 - 2009*. Nevada Division of Environmental Protection, Bureau of Air Quality Planning. Carson City, Nevada..
- Nevada Division of Water Resources. 2011. Nevada Division of Water Resources: Hydrographic Area Summary. Retrieved on April 20, 2012, from:
<http://water.nv.gov/data/underground/printableSummary.cfm?basin=056&CFID=3295208&CFTOKEN=80739742>
- _____. 2012. Nevada Division of Water Resources: Hydrographic Basin Summary by Manner of Use. Retrieved on April 20, 2012, from:
<http://water.nv.gov/data/underground/mouSummary.cfm?basin=056&CFID=3295208&CFTOKEN=80739742>
- Pierson, E. D., M. C. Wackenhut, J. S. Altenbach, P. Bradley, P. Call, D. Genter, C. E. Harris, B. L. Keller, B. Lengus, L. Lewis, B. Luce, K. W. Navo, J. M. Perkins, S. Smith, and L. Welch. 1999. Species conservation assessment and strategy for Townsend's big-eared bat (*Corynorhinus townsendii townsendii* and *Corynorhinus townsendii pallescens*). Idaho Department of Fish and Game, Boise, Idaho, USA.
- Red Lodge Clearinghouse. 2010. Nevada Water Law. Retrieved on July 6, 2012, from:
<http://rlch.org/content/nevada-water-law>
- Spidell, J., & Kautz, R. 2012 *A Class III Inventory for Water System Improvements in Austin, Lander County, Nevada*. Kautz Environmental Consultants, Reno, Nevada. Submitted to USDI Bureau of Land Management, Battle Mountain District, Battle Mountain, Nevada, Report No. CR 6-3060-0(P).
- U.S. Census Bureau. 2011a. 2010 Census Summary File 1 [Nevada]. U.S. Department of Commerce, U.S. Census Bureau.
- _____. 2011b. 2006-2010 American Community Survey [Nevada]. U.S. Department of Commerce, U.S. Census Bureau.
- _____. 2012a. 2010 Census Summary File 1: 2010 Census of Population and Housing: Technical Documentation. U.S. Department of Commerce, U.S. Census Bureau. March 2012.
- _____. 2012b. Poverty: Definitions. Retrieved on July 24, 2012, from:
<http://www.census.gov/hhes/www/poverty/methods/definitions.html>

U.S. Department of Agriculture. 2011. National Agriculture Imagery Program Digital Ortho Photo Image [remote-sensing image]. U.S. Department of Agriculture, Farm Service Agency, Aerial Photography Field Office: Salt Lake City, Utah.

U.S. Environmental Protection Agency (EPA). 1998. *Final Guidance for Incorporating Environmental Justice Concerns in the U.S. Environmental Protection Agency's National Environmental Policy Act Compliance Analyses*. Washington D.C. Available at: http://www.epa.gov/compliance/resources/policies/ej/ej_guidance_nepa_epa0498.pdf

_____. 2012. Arsenic in Drinking Water. Retrieved July 24, 2012, from: <http://water.epa.gov/lawsregs/rulesregs/sdwa/arsenic/index.cfm>

U.S. Fish and Wildlife Service. 2012. U.S. Fish and Wildlife Service: Nevada Fish and Wildlife Office: Desert Tortoise Recovery Office. Retrieved on July 11, 2012, from: http://www.fws.gov/nevada/desert_tortoise/

Western Bat Working Group. 2005a. Proceedings from the Western Bat Working Group Biennial Meeting 2005: *Species Account: Antrozous pallidus: pallid bat*. Portland, Oregon.

_____. 2005b. Proceedings from the Western Bat Working Group Biennial Meeting 2005: *Species Account: Corynorhinus townsendii: Townsend's Big-Eared Bat*. Portland, Oregon.

_____. 2005c. Proceedings from the Western Bat Working Group Biennial Meeting 2005: *Species Account: Eptesicus fuscus: big brown bat*. Portland, Oregon.

_____. 2005d. Proceedings from the Western Bat Working Group Biennial Meeting 2005: *Species Account: Euderma maculatum: spotted bat*. Portland, Oregon.

_____. 2005e. Proceedings from the Western Bat Working Group Biennial Meeting 2005: *Species Account: Lasiurus noctivagans: silver-haired bat*. Portland, Oregon.

_____. 2005f. Proceedings from the Western Bat Working Group Biennial Meeting 2005: *Species Account: Lasiurus cinereus: hoary bat*. Portland, Oregon.

_____. 2005g. Proceedings from the Western Bat Working Group Biennial Meeting 2005: *Species Account: Myotis californicus: California myotis*. Portland, Oregon.

_____. 2005h. Proceedings from the Western Bat Working Group Biennial Meeting 2005: *Species Account: Myotis thysanodes: fringed myotis*. Portland, Oregon.

_____. 2005i. Proceedings from the Western Bat Working Group Biennial Meeting 2005: *Species Account: Tadarida brasiliensis mexicana: Brazilian free-tailed bat*. Portland, Oregon.

Western Regional Climate Center. 2010. Austin, Nevada (260507): 1981-2010 Monthly Climate Summary. Accessed April 18, 2012, at: <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?nv0507>

FIGURES

APPENDIX A

Preliminary Site Plans

APPENDIX B

Agency Correspondence

APPENDIX C

Existing Wells and Arsenic Content Exhibit