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TONOPAH PUBLIC UTILITIES
RIGHT-OF-WAY AUTHORIZATION
WATER SYSTEM IMPROVEMENT PROJECT

ENVIRONMENTAL ASSESSMENT

File Number: NVN 90168
(Permanent Right-Of-Way)

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Tonopah Field Office

TABLE OF CONTENTS

page

1.0 INTRODUCTION 1
1.1 BACKGROUND INFORMATION 1
1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION 3
1.3 BLM DECISION TO BE MADE 4
1.4 RELATIONSHIP TO PLANNING AND CONFORMANCE WITH LAND USE PLANS 4
1.5 RELATIONSHIP TO OTHER STATUTES, REGULATIONS, POLICIES, AND PLANS 5
1.6 SCOPING, PUBLIC INVOLVEMENT AND ISSUES 6

2.0 PROPOSED ACTION AND ALTERNATIVES 7
2.1 PROPOSED ACTION 7
2.1.1 Right-of-Way Configuration 8
2.1.2 Project Description 9
2.1.3 Construction Schedule and Workforce 14
2.1.4 Operation and Maintenance 14
2.1.5 Permits and Approvals 15
2.1.6 Reclamation 15
2.1.7 Public Safety 16
2.1.8 Environmental Protection Measures 17

2.2 ALTERNATIVES TO THE PROPOSED ACTION 21
2.2.1 Alternatives Considered but Eliminated from Detailed Analysis 21
2.2.2 No Action Alternative 22

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES 23
3.1 INTRODUCTION 23
3.1.1 General Setting 26

3.2 LAND USE AUTHORIZATIONS 26
3.2.1 Affected Environment 26
3.2.2 Environmental Consequences of the Proposed Action 27
3.2.3 Environmental Consequences of the No Action Alternative 27

3.3 CULTURAL AND HISTORIC RESOURCES 27
3.3.1 Affected Environment 27
3.3.2 Environmental Consequences of the Proposed Action 28
3.3.3 Environmental Consequences of the No Action Alternative 29

3.4 MINERALS 29
3.4.1 Affected Environment 29
3.4.2 Environmental Consequences of the Proposed Action 30
3.4.3 Environmental Consequences of the No Action Alternative 30

3.5 SOCIO-ECONOMICS 31
3.5.1 Affected Environment 31
3.5.2 Environmental Consequences of the Proposed Action 31
3.5.3 Environmental Consequences of the No Action Alternative 32

3.6 VISUAL RESOURCES 33
3.6.1 Affected Environment 33
3.6.2 Environmental Consequences of the Proposed Action 33
3.6.3 Environmental Consequences of the No Action Alternative 34

3.7 VEGETATION AND SOILS 34
3.7.1 Affected Environment 34
3.7.2 Environmental Consequences of the Proposed Action Alternative 36
3.7.3 Environmental Consequences of the No Action Alternative 37

3.8 NOXIOUS WEEDS AND INVASIVE, NON-NATIVE SPECIES 37
3.8.1 Affected Environment 37
3.8.2 Environmental Consequences of the Proposed Action 38
3.8.3 Environmental Consequences of the No Action Alternative 38

3.9 MIGRATORY BIRDS 39
3.9.1 Affected Environment 39
3.9.2 Environmental Consequences of the Proposed Action 40
3.9.3 Environmental Consequences of the No Action Alternative 40

3.10 THREATENED AND ENDANGERED AND SPECIES-SPECIAL STATUS SPECIES 41
3.10.1 Affected Environment 41
3.10.2 Environmental Consequences of the Proposed Action 43
3.10.3 Environmental Consequences of the No Action Alternative 44

3.11 WILDLIFE 44
3.11.1 Affected Environment 44
3.11.2 Environmental Consequences of the Proposed Action 45
3.11.3 Environmental Consequences of the No Action Alternative 46

3.12 WASTES – HAZARDOUS AND SOLID 46
3.12.1 Affected Environment 46
3.12.2 Environmental Consequences of the Proposed Action 46
3.12.3 Environmental Consequences of the No Action Alternative 47

3.13 WATER QUALITY (SURFACE/GROUND) 47
3.13.1 Affected Environment 47
3.13.2 Environmental Consequences of the Proposed Action 51
3.13.3 Environmental Consequences of the No Action Alternative 54

4.0 CUMULATIVE IMPACTS, INTERDEPENDENT, AND INTERRELATED IMPACTS 55
4.1 CUMULATIVE EFFECTS STUDY AREA 55
4.2 OTHER PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS..... 56
4.2.1 Past and Present Actions 56
4.2.2 Reasonably Foreseeable Future Actions 57

4.3 EVALUATION OF THE PROPOSED ACTION AND NO ACTION CUMULATIVE IMPACTS 57
4.3.1 Cultural Resources 57
4.3.2 Minerals 58
4.3.3 Socio-Economics 58
4.3.4 Visual Resources 59
4.3.5 Vegetation and Soils 59
4.3.6 Wildlife and Migratory Birds 59
4.3.7 Threatened and Endangered, and Special Status Species 60
4.3.8 Water Quality (Surface/Ground) 60

5.0 CONSULTATION AND COORDINATION 64
5.1 PERSONS, GROUPS, AND AGENCIES CONSULTED 64
5.2 INTENSITY OF PUBLIC INTEREST AND RECORD OF CONTACT 65
5.3 LIST OF PREPARERS/REVIEWERS 65

6.0 REFERENCES AND LITERATURE CITED 67

LIST OF TABLES

page

Table 1 **Previously Authorized Rights-of-Way for the Existing Water System 1**
Table 2 **Maximum Potential Surface Disturbances Attributed With Proposed Project..... 9**
Table 3 **Authorizations, Permits, Reviews and Approvals..... 15**
Table 4 **Supplemental Authority Elements Considered for Analysis..... 23**
Table 5 **Other Resources Considered for Analysis 25**
Table 6 **Existing Right-of-Way Authorizations..... 26**
Table 7 **Existing TPU Well Diversion Rates 49**
Table 8 **Groundwater Arsenic Content – Existing Water System Wells 50**
Table 9 **Theoretical Drawdown of Aquifer Based on Testing At Test Well 77A 52**
Table 10 **Past, Present, and Reasonably Foreseeable Future Actions..... 57**
Table 11 **Environment Assessment Preparers..... 65**

LIST OF FIGURES

Figure 1 Project Location Map
Figure 2 Proposed Action Configuration
Figure 3 Land Administration/Ownership
Figure 4 Vegetation Communities
Figure 5 Soils Map
Figure 6 Groundwater Resources Map
Figure 7 Cumulative Effects Study Areas

LIST OF APPENDICES

Appendix A Right-of-Way Stipulations
Appendix B Noxious Weeds Management Plan
Appendix C Agency Correspondence
Appendix D Special Status Species Table
Appendix E Visual Contrast Rating Worksheet
Appendix F Nevada Division of Water Resources State Engineer Orders

LIST OF ACRONYMS

BLM United States Bureau of Land Management
CFR Code of Federal Regulations
NEPA National Environmental Policy Act of 1969
TPU Tonopah Public Utilities

1.0 INTRODUCTION

This Environmental Assessment is prepared pursuant to Section 102 of the National Environmental Policy Act of 1969 (NEPA), as implemented by the regulations promulgated by the President's Council on Environmental Quality in 1978, and the Bureau of Land Management (BLM) NEPA Handbook (BLM 2008). Since the United States Department of Agriculture Office of Rural Development would be providing funds for the implementation of the proposal, it also has been prepared pursuant to Title 7 of the Code of Federal Regulations (CFR), Part 1794 (7 CFR 1794). The objective of NEPA is to ensure that the federal decision-making process recognizes natural and cultural resources and considers the potential environmental impacts of proposed actions before decisions are made and actions are taken. Therefore, this Environmental Assessment contains an explanation of the proposed action, an evaluation of the natural and cultural resources present, a description of alternative actions, and an estimate of the environmental impacts of the proposed action and all alternative actions. Also, it provides sufficient evidence and analysis to determine whether or not to prepare an Environmental Impact Statement or a Finding of No Significant Impact (40 CFR 1508.9).

This Environmental Assessment tiers to and incorporates by reference the Tonopah Resource Management Plan and Final Environmental Impact Statement prepared by the BLM Battle Mountain District (BLM 1994).

1.1 BACKGROUND INFORMATION

Tonopah Public Utilities (TPU) is a municipal organization within the government system of the Town of Tonopah, Nye County, Nevada. TPU maintains the Tonopah Public Water System (water system) and provides public water and sewer services to two distinct service areas. The larger of the two is the Town of Tonopah and the other is the Airport Industrial area east of Tonopah. The total service area within Tonopah is approximately 6 square miles. The complete service area is approximately 32 square miles. The number of customers served by TPU was last estimated at 2,904 in 2009 (TPU 2009). The TPU water system is located on private land and on public land that is administered by the BLM Tonopah Field Office, Battle Mountain District. The BLM has granted several rights-of-way for the existing system occurring on public land. Previously authorized rights-of-way are summarized in Table 1.

Table 1 Previously Authorized Rights-of-Way for the Existing Water System

Right-of-Way Serial Number	Right-of-Way Holder	Right-of-Way Length (+/- feet)	Right-of-Way Width (+/- feet)	Right-of-Way Area (+/- acres)
Nev 005451	TPU	63,360	100	145.5
NVCC 22018	Town of Tonopah	6,900	90	14.0
NVN 29397	TPU	43,032	40	39.5
NVN 40979	Town of Tonopah	277.75	100	0.64
NVN 53312 (includes linear area and polygonal area)	TPU	Linear: 1,531.24 Polygonal: 200	Linear: 20 Polygonal: 200	Linear: 0.70 Polygonal: 0.92 Total Area: 1.62
NVN 89473	TPU	Unknown	Unknown	0.91
NVN 89563	TPU	Unknown	Unknown	0.05

Note: Dimensions listed in Table 1 for the right-of-way length, width, and acres of area are approximate.

The groundwater supply delivered by the existing water system comes from eight groundwater wells situated in the Rye Patch well field in the Ralston Valley Hydrographic Area. The water is conveyed through approximately 13.5 miles of transmission main to the Tonopah service area and is boosted with two pump stations along the way. The current water supply contains an average arsenic concentration of approximately 11 to 12 parts per billion. The U.S. Environmental Protection Agency reduced the maximum concentration level for arsenic in public drinking water from 50 to 10 parts per billion. The Nevada Division of Environmental Protection adopted the U.S. Environmental Protection Agency arsenic maximum concentration level; thus, requiring the concentration of arsenic in municipal drinking water systems in Nevada to be 10 parts per billion or less. In order to reduce the average arsenic concentration of the water supply and achieve compliance with the federal and state arsenic concentration level, TPU is proposing the following actions, hereby referred to collectively as the "proposed project":

- construction of 2 new groundwater wells approximately 4 miles northeast of the existing Rye Patch well field;
- construction of new underground water pipeline between the 2 new groundwater wells and the existing pipeline at the Rye Patch well field;
- construction of a new access road between existing Belmont Road and the southernmost proposed new groundwater well;
- construction of new overhead power line from the existing overhead power line at the Rye Patch well field to the 2 new groundwater wells;
- deactivating Well #1, Well #2, Well #3, and Well #4 at the existing Rye Patch well field
- rehabilitating Well #5, Well #6, Well #7, and Well #8 at the existing well field;
- decommissioning and abandoning Booster Pump Station #1;
- decommissioning and abandoning a segment of existing pipeline located between Booster Stations #1 and #2, and a segment of existing pipeline located southwest of Booster Station #1; and,
- installing new, larger and upgraded pipeline in place of existing pipeline that would be decommissioned and abandoned.

The proposed project is located in Ralston Valley, northeast of the Town of Tonopah, in Nye County, Nevada (Figure 1). Construction of the 2 new well sites would occur in Township 5 North (T5N), Range 44 East (R44E), Section 16, Mount Diablo Base and Meridian. The proposed access roads would connect the southernmost proposed new well to Belmont Road, which is the nearest existing road to the new wells. The proposed underground water pipeline would begin at the most northerly of the 2 proposed wells and extend generally southeast until it intersects an existing unpaved road. The pipeline would continue southwest to south beneath the unpaved road until it turns sharply west beneath another unpaved road leading to the Rye Patch well field. The pipeline would connect to the existing pipeline at the Rye Patch well field. The new overhead power line would follow the same alignment as the underground water pipeline, but would be located next to the road rather than directly over it. The power line would be constructed and operated by NV Energy, within a separate right-of-way (NVN 90374) that would occur within the proposed right-of-way. With the exception of a segment of existing pipeline that would be replaced, the proposed project would occur on public land administered by the BLM. The proposed project configuration is shown on Figure 2.

TPU reports that significant volumes of water are lost to damaged or worn components of the existing water system. According to Lumos and Associates, water loss in the existing system is approximately 14 percent of the volume pumped (2010). TPU reports that recent losses may be approximately 17 percent of the total volume produced by the water system (personal communication with Susan Dudley, TPU, November 10, 2011). Additionally, the capacity of the existing pipeline between the Rye Patch well field and the Tonopah service area is limited and does not allow for adequate supplies to meet the fire flow requirements. While the proposed project would resolve the current arsenic issues, it would also improve the materials and structural integrity of the water system. The improvements would alleviate the water losses experienced with the existing water system. The upgrades to the segments of existing pipeline would increase the capacity of water conveyed to the service area, and would be capable of supply water flows meeting the fire flow requirements.

With the exception of a segment of existing pipeline decommissioned and abandoned, and replaced with new pipe, the proposed project would occur on public land administered by the BLM (Figure 3). The construction components of the proposed project would occur on public land where BLM has not previously authorized right-of-way grants to TPU. Therefore, TPU has filed a Plan of Development and an SF-299 Right-Of-Way Application with the Tonopah Field Office to construct, operate, and maintain the proposed additions to the existing water system. The application also requests that the BLM consolidate all of the previously granted rights-of-way that TPU currently holds for the existing water system and incorporate all of the rights and stipulations found in them into the proposed new right-of-way grant that TPU has requested. This would include incorporation of the right of ways for the portion of the existing water system that supplies the Tonopah Airport service area.

1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

Purpose of the Proposed Action

The BLM's purpose is to consider approval of an application for a grant of right-of-way for municipal water supply and distribution facilities as authorized under Title V, Section 501 of the Federal Lands Policy Management Act of 1976. Further, the BLM would assess the objectives of TPU while preventing undue and unnecessary degradation to the environment in accordance with the objectives defined by 43 CFR 2810.2(a-d).

The proponent's primary objective is to satisfy a pre-development contract with the United States Department of Agriculture Office of Rural Development to construct new and upgraded municipal water supply and distribution facilities, in an effort to bring the Tonopah Public Water System into compliance with the federal and state arsenic maximum concentration level of 10 parts per billion.

A secondary objective of the proponent is to alleviate the reported loss of water that ranges between 14 percent (Lumos and Associates, Inc. 2010) and 17 percent (personal communication with Susan Dudley, TPU, November 10, 2011) occurring between the Rye Patch well field and delivery points in the Tonopah service area. This would also provide for capacity adequate for fire flow requirements in the service area.

Need for the Proposed Action

The BLM needs to consider approval of the application for a grant of right-of-way to respond to its mandate under the Federal Land Policy and Management Act of 1976 to manage the public lands for multiple uses in a manner consistent with federal laws and regulations, including the Safe Drinking Water Act. The U.S. Environmental Protection Agency is tasked with enforcing the Safe Drinking Water Act, but the primary enforcement authority for ensuring the safety of public water systems has been delegated to state regulatory agencies in many states, including the Nevada Division of Environmental Protection. The act, as amended, limits the concentration of arsenic in public drinking water to 10 parts per billion or less. The drinking water supplied by the Tonopah Public Water System currently exceeds that standard.

When completed, the TPU Water System Improvement Project would provide a reliable water supply to customers in Tonopah that has an average arsenic concentration of less than 10 parts per billion, which is compliant with the federal and state arsenic maximum concentration level. It would also alleviate reported water loss occurring in the existing water system and provide capacity adequate to meet fire flow requirements to the Tonopah service area.

1.3 BLM DECISION TO BE MADE

The Tonopah Field Office's Field Manager's decision to be made is whether to: 1) grant the right-of-way unconditionally, through additional mitigation or stipulations, including, but not limited to, use of timing restrictions, surface use restrictions, relocation or configuration of the right-of-way grant, or 2) deny TPU's application for a right-of-way grant. The decision would be made through consideration of the results of this environmental analysis conducted under the NEPA and other applicable federal, state, or local laws or requirements.

1.4 RELATIONSHIP TO PLANNING AND CONFORMANCE WITH LAND USE PLANS

The proposed action is in conformance with the Approved Tonopah Resource Management Plan and Record of Decision (BLM 1997). Although the proposed action is not specifically provided for in the Tonopah Resource Management Plan, it is clearly consistent with the Goals and Objectives, which are to:

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

The BLM has the responsibility to manage the surface and subsurface resources on public lands located within the jurisdiction of the Tonopah Field Office. Item number 6 on page 19 of the Record of Decision for the Tonopah Resource Management Plan states in part:

"... All other lands within the Tonopah Planning Area in which there are no un-resolvable conflicts with other resource values would be open to consideration for linear or areal rights-of-way, leases and land use permits."

The Tonopah Resource Management Plan and Record of Decision is the Tonopah Field Office's planning document required by the Federal Land Policy and Management Act. A copy of the Resource Management Plan is available for review at the BLM Tonopah Field Office, located at 1553 S. Main Street, Tonopah, Nevada.

On April 3, 1985, the Nye County Board of County Commissioners adopted a county policy plan for public lands under the Nevada Statewide Policy Plan for Public Lands authorized by Senate Bill 40. Senate Bill 40 directs the State Land Use Planning Agency to work together with local planning entities to prepare local plans and policy statements regarding the use of federal land in Nevada. The Nye County Policy Plan states: "Public lands should continue to be made available for state and local government purposes." Further, it indicates that the BLM should consider corridors for communications and transportation need to be planned for in harmony with other multiple uses on public lands.

In 1994, the Nye County Board of County Commissioners adopted the Nye County Comprehensive Plan, which is also referred to as the Nye County Master Plan. A draft update to the plan was recently developed and adopted by the Board of County Commissioners in April 2011. Section 2.2.2 of the updated Nye County Comprehensive Plan lists the goals, objectives, and policies that Nye County has developed for public lands. Among many objectives for public lands, the updated Nye County Comprehensive Plan specifically states that public lands continue to be made available for state and local government purposes such as, but not limited to, schools, parks, trails, roads, and public facilities.

1.5 RELATIONSHIP TO OTHER STATUTES, REGULATIONS, POLICIES, AND PLANS

The BLM was authorized to manage public lands with passing of the Federal Land Policy and Management Act of 1976 (Public Law 94-579: Volume 90 U.S. Statutes at Large Session Law 2750, Title 43 of the United States Code, Sections 1701, 1713, and 1719). The applicant has requested a right-of-way be granted under the authority of Federal Land Policy and Management Act, Title V.

Section 501(a)(1) of the Federal Land Policy and Management Act of 1976 provides BLM the authority to grant, issue or renew a right-of-way over, upon, under, or through public lands for "reservoirs, canals, ditches, flumes, laterals, pipes, pipelines, tunnels, and other facilities and systems for the impoundment, storage, transportation, or distribution of water". Section 501(a)(4) of the Federal Land Policy and Management Act gives BLM the authority to grant, issue or renew a right-of-way over, upon, under, or through public lands for "systems for generation, transmission, and distribution of electric energy". Issuing, amending, or renewing right-of-way grants for necessary transportation or other systems or facilities which are in the public interest and which require a right-of-way over, upon, under, or through public land is allowed under 43 CFR 2800. Regulations found at 43 CFR 2800.0-3 provide authority for issuing regulations providing for the use, occupancy, and development of the public lands through permits, easements, and rights-of-way.

1.6 SCOPING, PUBLIC INVOLVEMENT AND ISSUES

The project was internally scoped by the BLM Interdisciplinary Team in September 2011. On September 9th, the BLM resource specialists met with TPU representatives and their biological and engineering consultants to discuss the proposed project and potential project issues. Preliminary issues identified for analysis include:

- potential impact on migratory birds;
- potential for pale and dark kangaroo mice to be impacted;
- potential impacts to groundwater quality and quantity; and,
- consideration of potential cultural resources impacts.

TPU presented the project and invited comments at the Tonopah Town Board Meeting on September 14th, 2011. The deadline for acceptance of comments was October 12, 2011. No comments were received.

TPU also sent written correspondence to numerous federal and state regulatory agencies requesting information on the potential impacts that the proposed project would have on the resources that the respective agency regulates. TPU also requested that any recommendations of mitigation or avoidance be provided should an agency identify a potential impact. The agencies TPU sent written correspondence include the following:

- Nevada Department of Wildlife;
- Nevada Division of Environmental Protection, Bureau of Air Quality Planning;
- Nevada Division of Environmental Protection, Bureau of Water Pollution Control;
- Nevada Division of Environmental Protection, Bureau of Water Quality Planning;
- Nevada Division of Forestry;
- Nevada Division of Water Resources;
- Nevada Natural Heritage Program;
- Nevada State Historic Preservation Office;
- U.S. Army Corps of Engineers;
- BLM Battle Mountain District
- U.S. Environmental Protection Agency;
- U.S. Federal Aviation Administration;
- U.S. Federal Emergency Management Agency;
- U.S. Fish and Wildlife Service; and,
- U.S. Natural Resources Conservation Service.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

The proposed action is for the BLM to authorize the right-of-way grant (NVN 90168) that TPU has requested in order to provide an adequate, reliable water supply to its service areas that is compliant with all federal and state drinking water standards. The existing water system would be improved with construction of the proposed project. The proposed project, as described above, includes constructing new groundwater wells, underground water pipeline, a gravel access road, and extending new 24.9-kilovolt overhead power line to the proposed wells. The proposed project also includes rehabilitating 4 existing wells and deactivating 4 others, decommissioning and abandoning Booster Pump Station #1, and decommissioning and abandoning segments of existing pipeline. New, larger and upgraded pipeline would be constructed adjacent to the abandoned segments. The overhead power line would provide power to the proposed new wells, and therefore is essential for the proposed project. However, the power line would be constructed by NV Energy within a separate right-of-way grant that NV Energy has submitted a SF-299 Right-of-Way Application for (NVN 90374). The right-of-way for the power line would be no wider than, or extend beyond the boundaries of the proposed action right-of-way.

The proposed action is also for BLM to consolidate all rights-of-way that were previously granted for the existing water system into the proposed new right-of-way grant. Essentially, the previous rights-of-way would be relinquished and all of the existing rights and stipulations contained within them would be incorporated into the proposed right-of-way grant. The best management practices and stipulations associated with the proposed new right-of-way would be applicable to the previously granted rights-of-way after they are consolidated. The width of previously granted rights-of-way corridors containing pipeline would be amended to 100-foot-wide upon consolidation. Therefore, upon implementation of the proposed action, the entire Tonopah Public Water System occurring on BLM-administered public land, including all of the components that would be constructed as part of the proposed project would be contained within a single right-of-way grant. The existing right-of-way grants that BLM has authorized for the existing water system are listed in Table 1, page 1.

Implementation of the proposed action would fulfill the purpose of the proposed project: to provide the TPU service area with a water supply that is compliant with the federal and state arsenic maximum concentration level, and all other applicable federal and state regulations pertaining to public drinking water. The volume of water that would be removed from the water system when 4 of the existing wells are deactivated would be replaced with groundwater from the two new wells, located outside of the existing well field in an area with groundwater containing a lower concentration of arsenic. Deactivating 4 of the existing wells, and rehabilitation of the 4 other existing wells, in combination with replacement and upgrade of segments of existing underground pipeline, would alleviate water losses experienced with the existing system and provide capacity adequate to meet fire flow requirements in the Tonopah service area.

2.1.1 Right-of-Way Configuration

Implementation of the proposed action would authorize approximately 85.1 acres of new right-of-way on BLM-administered public lands. The proposed new right-of-way would consist of a 100-foot by 100-foot area surrounding each new well, an adjacent 50-foot-wide by 25,297-foot-long corridor surrounding proposed new pipeline, and a 20-foot-wide corridor surrounding the proposed new access road. The corridor area would contain the entire length of proposed new underground water pipeline connecting the proposed wells to the existing system pipeline at the Rye Patch well field. The right-of-way corridor containing the new access road proposed between the southernmost new well and existing Belmont Road would be 20-foot-wide by approximately 685-foot-long, and would be centered on the access road. The proposed new right-of-way area would occupy parts of T04N, R44E, sections 4, 8, and 9, and T05N, R44E, sections 16, 21, 28, and 33, Mount Diablo Base and Meridian. Figure 2 shows the proposed new right-of-way area alignment.

The rights-of-way that were previously granted by the BLM (Table 1) overlap in some locations and many were recorded prior to development of modern mapping software. The widths of the previously granted rights-of-way often differ among one another, despite commonly containing similar components of the existing water system, such as pipeline. In order to eliminate inconsistencies and update BLM land records, the previously granted rights-of-way would be consolidated into the proposed new right-of-way grant. Essentially, the previous rights-of-way would be relinquished and all of the existing rights and stipulations contained within them would be incorporated into the proposed right-of-way grant. The best management practices and stipulations associated with the proposed new right-of-way would be applicable to the previously granted rights-of-way after they are consolidated. The width of previously granted rights-of-way corridors containing pipeline would be amended to 100-foot-wide upon consolidation.

Construction activities and associated surface disturbance would be confined to the proposed project area. The project area includes approximately 103.9 acres and consists of the entire proposed new area of right-of-way, and portions of the existing rights-of-way that contain Booster Pump Station #1 and the segments of pipeline that would be abandoned in place and replaced with larger pipeline. The portion of the project area coinciding with existing rights-of-way would not extend beyond the amended 100-foot-wide corridor that would be established when the rights-of-way are consolidated into the proposed action right-of-way. Surface disturbance would not result from deactivating or rehabilitating existing wells, and therefore the entire Rye Patch well field is not included in the proposed project area. Approximately 86.6 acres of the total 103.9-acre project area occurs on BLM-administered public land. The other 17.3 acres of the total project area are associated with a segment of pipeline that would be replaced on private land owned by the Town of Tonopah.

The project area also includes 3 areas where NV Energy would construct guy wire anchors for angle power poles. These areas are 10 foot wide and would occur immediately adjacent to the proposed new right-of-way area. These three areas would collectively account for approximately 1.5 acres of the total project area. Although these areas are included in the proposed project area, they are not included in the proposed right-of-way. The guy wire anchor areas would be contained within a separate right-of-way that NV Energy would obtain for construction and operation of the new overhead power line (NVN 90374). The project area configuration is shown on Figure 2.

2.1.2 Project Description

The proposed project includes constructing 2 new groundwater wells, new underground water pipeline, and a new gravel access road; constructing new 24.9-kilovolt overhead power line to the new wells; deactivating 4 existing wells and rehabilitating 4 others; decommissioning and abandoning Booster Pump Station #1 and segments of existing pipeline; and constructing new, larger and upgraded pipeline adjacent to the abandoned segments of pipeline.

Because construction of the proposed project would be limited to the project area, a maximum of approximately 103.9 acres of surface disturbance would result from the proposed action. Approximately 86.6 acres (approximately 83 percent) of the total potential surface disturbance would occur on public land administered by the BLM Tonopah Field Office; the remaining 17.3 acres (17 percent) would occur on private land. Table 2 lists the maximum potential surface disturbance on public land and private land that would result from each major component of the proposed project.

Table 2 Maximum Potential Surface Disturbances Attributed With Proposed Project

Proposed Project Component	Total Length (Approximate)	Maximum Surface Disturbance (Approximate)	Total Disturbed Area (Approximate)
Public Land Administered by the BLM Tonopah Field Office			
2 New Well Sites	N/A	100 X 100 feet (0.23 acres each)	0.5 acre
New Access Road	685 linear feet	685 X 20 feet	0.3 acre
New Underground Pipeline/ Overhead Power Line	25,297 linear feet	25,297 X 50 feet	29.0 acres
Power Pole Guy Wire Areas	N/A	3, 10-foot-wide areas adjacent to proposed right-of-way	1.5 acres
Existing Pipeline Abandoned and Replaced	24,088 linear feet	24,088 X 100 feet	55.3 acres
Maximum Surface Disturbance on Public Land (Approximate):			***86.6 acres***
Private Land			
Existing Pipeline Abandoned and Replaced	7,530 linear feet	7,530 X 100 feet	17.3 acres
Maximum Surface Disturbance on Private Land (Approximate):			***17.3 acres***
Total Maximum Surface Disturbance (All Land):			**103.9 acres**

While the entire project area would potentially be disturbed during construction of the proposed project, actual disturbance would be kept as minimal as possible while allowing for efficient and safe construction conditions. Most disturbances would occur adjacent to the pipeline, new groundwater wells, access road, and power pole structures. The segments of existing pipeline that would be replaced, as well as approximately 18,390 linear feet (73 percent) of the new proposed pipeline would occur within the width of existing unpaved roads (i.e., previously disturbed areas). Most disturbances would also be temporary for the duration of construction and establishment of reclamation efforts that would follow construction. Assuming the entire project area is disturbed, approximately 103.4 acres (99.5 percent) of the surface disturbance would be

temporary. Reclamation of this disturbance would include restoring contours to conditions similar to those prior to construction, scarification of the contoured surface, and seeding with a certified weed-free, erosion control seed mix approved by the BLM. The remaining 0.5 acres of the project area disturbances would represent areas of permanent impacts. Areas that would be permanently impacted include the surface area that would be occupied by the proposed new access road, the 2 new groundwater well structures, and each power pole associated with the overhead power line extension to the new wells.

TPU and/or its contractors would implement best management practices at all times during construction. Best management practices are defined by the Nevada Division of Environmental Protection in the *State of Nevada Non-Designated Area Water Quality Management Plan, Handbook of Best Management Practices* (1994). The specific construction methods for each major component of the proposed project are detailed below.

Groundwater Wells

The proposed project includes drilling 2 new, 12-inch groundwater wells in T05N, R44E, section 16, Mount Diablo Base and Meridian. All drilling related impacts would be restricted to the project area, specifically the 100-foot by 100-foot area that would surround each proposed well. The proposed wells would be drilled by a licensed Nevada driller, to an approximate depth of 350 feet below ground surface. Wells would constructed to federal and state regulations, including being fitted with required casings, equipped with submersible electric pumps, and capped and locked. Each well would yield an estimated 530 gallons per minute and operate concurrent with 4 existing wells that would be rehabilitated as part of the proposed project.

The Town of Tonopah (i.e., TPU) would submit an application to the Nevada Division of Water Resources to shift the point of diversion for a portion their existing appropriated groundwater rights to the proposed new well sites. The existing appropriated water rights are currently permitted as Permit 69156, 69157 and 69158, and have point of diversions recorded near the Tonopah Airport. Combined, more water rights have been appropriated under Permit #69156, 69157, and 69158 that the 1,031 gallons per minute needed collectively at the new wells. Therefore the points of diversion near the Tonopah Airport will remain for portion of appropriated water rights that would not be shifted to the new well sites. The other water rights held by Tonopah Public Utilities will remain intact. The current point of diversions near the Tonopah Airport and at proposed well sites are both in the Ralston Valley Hydrographic Basic. The Ralston Valley Hydrographic Basin is a closed basin and the annual yield is 6,000 acre feet per year. The total of all water rights held by Tonopah Public Utilities is 5,880.149.

The 4 existing wells that would be rehabilitated are referred to as "Well 5", "Well 6", "Well 7", and "Well 8" at the existing Rye Patch well field. These wells are currently operational and provide some of the water supplied by the existing water system. Rehabilitation of the wells may include cleaning the wells, installing new sanitary seals, replacing sections of well casing, installing new submersible pumps, or replacing or improving similar components of the wells as determined necessary upon further inspection. Well rehabilitation may also include replacing the existing underground pipeline that connects each well to the primary water main pipeline with new, modern pipeline. Rehabilitation of the well casing, if determined necessary, would be performed by a licensed Nevada driller. Other improvements would be constructed by TPU and/or its contractors. Rehabilitation of the wells would not require new surface disturbance.

Replacement of the connector pipelines would occur within the project area, specifically with the 100-foot-wide right-of-way corridor that would result from consolidation of existing rights-of-way and surrounds the main water pipeline. After rehabilitation, the four wells would be operated in combination to yield approximately 500 gallons per minute. The four existing wells that would be deactivated would not provide regular or routine contributions to the water supply in the water system. Occasionally, any or all of the deactivated wells may be temporarily reactivated and operated to supply water when needed. For example, while rehabilitated wells are undergoing routine maintenance, deactivated wells may be reactivated to temporarily supply water in the absence of the four rehabilitated wells.

Water Pipeline

In order to connect the two proposed groundwater wells to the existing water system, new underground water pipeline would be required between the new wells and the existing well field where the pipeline and water system currently begins. Approximately 25,297 linear feet of new pipeline would be required for the connection. Most of the proposed pipeline would be constructed within the width of existing unpaved roads. Only the northernmost approximately 6,900 linear feet of the proposed pipeline would require a new access road. The pipeline would be constructed using 14-inch diameter pipe. The 14-inch diameter pipe would potentially be upgraded with larger, 18-inch diameter pipe in the future, if determined necessary to meet future water demands. Polyvinyl chloride pipe, high density polyethylene pipe, or ductile iron pipe may be used for the pipeline. Existing pipeline that would be decommissioned would be abandoned in place, as would Booster Pump Station #1. The proposed replacement pipeline would be constructed adjacent to, and roughly parallel to the abandoned segments of pipeline.

Construction of the water pipeline would consist of first excavating a trench to a depth of at least 5 feet below ground surface. Typically the trench would be excavated to a width of 3.5 to 4 feet wide, measured at the base of the trench. The width of the trench at ground surface would typically be between 6 and 8 feet. Site specific conditions within the proposed pipeline alignment may require the trench width at ground surface to expand up to a maximum of 9 feet. Excavated to these dimensions, the trench would accommodate up to an 18-inch diameter pipe.

The water pipeline would be placed in the trench at a minimum depth of 36 inches below ground surface, measured from the portion of pipe closest to ground surface. The pipe would rest on a minimum of 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 native material would be used to backfill the rest of the trench, thereby providing at least 3 feet of cover. The compaction density of the bedding and backfill material would meet requirements of Nevada Standard Details for Public Works Construction and Nye County standards.

Construction of the proposed new and replacement water pipeline could potentially impact the entire width of the corresponding project area corridor surrounding it, in which case the total disturbance would be approximately 101.6 acres. However, disturbance would likely be less, and would be expected to occur primarily in areas immediately adjacent to trenches. The surface disturbance associated with construction of the pipeline would be reclaimed to preconstruction contours, scarified, and where disturbance occurs outside of existing road surfaces, seeded for erosion and weed control.

Gravel Access Road

The project would utilize existing access roads and minimize new surface disturbance for access to the extent possible. A new gravel access road would be constructed from the existing Belmont Road to the proposed groundwater wells. The proposed gravel access road would be approximately 15 feet wide and approximately 685 feet long, for a total permanent disturbance of approximately 0.3 acre. The proposed access road would potentially cross several drainages. To the maximum extent possible, drainages would be crossed at grade. Where crossing at grade is not feasible, culvert crossings would be constructed.

The proposed access road, and any associated drainage crossings would be located entirely within portions of the project area occurring on BLM-administered public land. The new access road would be used during construction to access the proposed groundwater wells. Following construction, the access road would be maintained as a permanent maintenance road for the water system. All construction activities and surface disturbances associated with the proposed access road would be limited to the project area.

Overhead Three-Phase Power Line

NV Energy has submitted a SF299 Right-of-Way Application for a proposed 24.9-kilovolt power line (NVN 90374) to extend from the current Rye Patch well field to the new well area. The proposed groundwater wells would operate using submersible electric pumps. NV Energy owns the existing power line and would construct the proposed power line extension and provide electrical service to the new well sites.

The transmission lines would be designed, constructed, tested, operated, and maintained by NV Energy in accordance with state and federal regulations. NV Energy would also follow the Institute of Electrical and Electronics Engineers National Electrical Safety Code. NV Energy would equip the well site with an electrical meter that continuously records electrical use by the system. The proposed power line would be approximately 25,297 feet long and is not expected to require a substation. The power line would generally align parallel with and adjacent to the alignment of the proposed water pipeline. The construction and installation of the proposed overhead power line would require a separate right-of-way authorization be granted to NV Energy.

The right-of-way for the power line would occur entirely within the boundaries of the proposed right-of-way, with the exception of several small areas that would extend 10-feet beyond one side of the proposed right-of-way corridor. These areas would be used to place power pole guy wire anchors. These areas are included in the proposed project area and all surface disturbance required to construct the power line extension would be limited to the project area. The stipulations and conditions of approval associated with the proposed action would be applicable to construction of the proposed overhead power line.

The specific activities, methods, and details for the proposed power line would be provided in the Plan of Development that NV Energy would provide to BLM. The specifications in the Plan of Develop that would be provided by NV Energy may deviate from those listed in this section.

In general, however, construction of the proposed overhead power line would follow a sequential set of activities that includes:

- excavating holes for power pole structures,
- assembling and raising structures,
- conductor wiring and tensioning, and
- post-construction cleaning and reclamation.

Excavation of the holes for placement of power line poles would generally be 2 to 3 feet in diameter, and augured to a depth of approximately 7 to 10 feet below ground surface. A truck-mounted auger would likely be used to perform the excavation. Holes, and consequently span distance between power poles, would average between 300 and 400 feet. Soil removed from the hole during auguring would be stored next to the hole until the power line pole is raised. Once the pole is raised and plumbed, the soil would be placed and tamped into the hole. Tamped soil above natural terrain level would be sloped away from the pole.

Components of the electrical system, including poles, insulators, hardware and guy wire anchors, would be hauled to the pole structure sites from temporary staging areas by vehicle and assembled at each pole structure site. Temporary staging areas would be located within the existing disturbance area at the Rye Patch Booster Station, which is located on private land owned by the Town of Tonopah. Placement and raising of power poles would likely be accomplished by ground-based equipment. The power poles would generally be approximately 40 to 50 feet tall, depending on obstructions, terrain, and span distance between any two poles. The proposed power line would cross several drainages; however, power line pole structures would be placed outside of drainages and overhead power lines would span them.

The proposed power line would utilize wooden single-pole structures, and likely include cross-arm wire supports or similar supports found on the existing line. The poles and conductor wires would be constructed and assembled according to current guidelines in the Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (Avian Power Line Action Committee 2006). After conductor wires are attached to poles and the poles are raised, the wires would be tensioned from crews positioned at temporary pulling sites and at temporary conductor sites. The last pole north would have a 75-kilovolt-amp transformer bank that consists of 3, 25-kilovolt-amp transformers.

Permanent disturbance associated with the overhead power line would be restricted to the area within an approximate 4-foot radius of each pole and within a 1-foot radius of guy wire anchors. NV Energy estimates that approximately 70 to 80 power poles and 5 to 10 guy wire anchors would be required for the extension to the new wells, for a total permanent disturbance of approximately 0.02 acres. All temporary access roads, staging areas, conductor and pulling sites, or other areas of disturbance created during construction of the power line would be reclaimed following construction by contouring and seeding. All man-made construction debris would be removed and disposed within a permitted landfill site.

2.1.3 Construction Schedule and Workforce

In order to come into compliance with the lower arsenic drinking water standards by 2013, construction of the proposed project would begin immediately following authorization of the proposed action and after all other necessary federal, state, and local permits are obtained. Construction of the proposed project would typically require 10 to 15 personnel onsite, but as many as 25 to 30 people on rare occasions. The personnel members would likely work as several small, individual crews to construct the various components of the proposed project. Personnel would typically be present and perform construction on Monday through Friday, between sunrise and sunset. Construction would be completed within 6 to 9 months of commencement, depending on weather and personnel staffing.

Although not anticipated, construction during night and on weekends could occur infrequently if needed to meet the project deadline. It is likely that construction would begin with the new well sites and the gravel access road. Construction of the new underground water pipeline and the overhead power line would likely occur concurrently. Construction of individual components of the water system would commence after all necessary permits and easements are obtained for that particular component.

2.1.4 Operation and Maintenance

TPU would continue to operate the existing water system during construction of the proposed project. Existing pipeline would remain operational during installation of new, larger and upgraded replacement pipe. Once replacement pipe is in place, the existing pipeline would be completely decommissioned and abandoned in place, as would Booster Station Pump #1. Deactivated wells would continue to be maintained as needed, but would be removed from routine service and not regularly operated as functioning components of the water system after authorization of the proposed action.

Following construction of the proposed project, the remaining existing system and the proposed improvements would be operated by TPU and maintained as needed by TPU and/or its contractors. TPU would routinely monitor the operation, structural soundness, and overall functionality of the water system as preventive maintenance and to identify system components in need of repair. Regular monitoring, inspection, and repairs would ensure the integrity of the system. The overhead power line would be owned, operated, and maintained by NV Energy.

As part of operating and maintaining the system, TPU would systematically review the extent of the service area, the number of customers served by the system, and types of customers served by the system. Information collected during this review would be used to determine if increased water demands are occurring or are likely to occur, and to determine if the necessary increases in production to meet those demands would strain the water system. If so, TPU may upgrade specific components of the water system, such as replacing 14-inch diameter water pipeline with 18-inch diameter pipeline (see Section 2.1.2). Routine assessment of the customer base and the capabilities of the water system would prevent costly damage to the system and ensure reliable water supplies are available to TPU service areas.

2.1.5 Permits and Approvals

TPU and/or its contractors are responsible for obtaining valid permits and approvals from all relevant federal and state agencies to construct and operate the proposed project. There are no known required permits or approvals that must be granted by a local municipal agency. Federal and state permits and approvals needed for this project are shown in Table 3.

Table 3 Authorizations, Permits, Reviews and Approvals

Action Requiring Permit, Approval, Authorization, or Review	Required Permit/ Approval/ Authorization	Accepting Authority/ Approving Agency	Statutory Reference
Federal Level			
Construction and operation of project on federally-managed land	Right-of way grant	BLM Tonopah Field Office	Federal Land Policy and Management Act of 1976 (Public Law 94 - 579); United States Code 1761 - 1771; and 43 CFR 2800
Submittal of a Plan of Development and SF-299 Right-of-Way Application to BLM for construction and operation of project	NEPA compliance: Environmental Assessment	BLM Tonopah Field Office	NEPA (40 CFR 1500 et.seq.)
State Level			
Construction resulting in disturbance area greater than 5 acres	Operating Permit for Surface Area Disturbance, includes a Dust Control Plan	Nevada Division of Environmental Protection, Bureau of Air Pollution Control	Nevada Administrative Code 445B.22037
Construction resulting in disturbance area greater than 1 acre	Construction Stormwater Permit; including Storm Water Pollution Prevention Plan and Notice of Intent	Nevada Division of Environmental Protection, Bureau of Water Pollution Control	Nevada Revised Statutes 445A.300 - 730
Production of water from 2 new groundwater wells	Change Point of Diversion for Existing Appropriated Water Rights	Nevada Division of Water Resources, State Engineer	Nevada Revised Statutes 533.345

Appropriate Right-of-Way Guide Stipulations (Appendix A) from the BLM 2801 Manual, would be added to the terms and conditions of the grant. In addition, TPU has committed to environmental protection measures listed in Section 2.1.8.

2.1.6 Reclamation

TPU would implement reclamation of the project area following completion of construction of the proposed project. All areas that are temporarily disturbed during construction would be graded to match the preconstruction contours to the extent feasible. Areas where restoration of preconstruction contours is not feasible would be restored with contours similar to those of

surrounding landforms. After site grading and preparation is completed, the surfaces would be seeded with a certified weed-free seed mix that would be approved by the BLM. Seeding would not be performed within the areas where vegetation was absent prior to commencement of the project, such as existing roads that are disturbed during construction. Roads disturbed by construction would, however, be returned to their preconstruction conditions. Invasive, noxious weeds would be controlled in accordance with BLM guidelines and the Noxious Weed Management Plan (Appendix B).

Reclamation would include the removal of all project equipment and supplies from the project area. A continuous cleaning and housekeeping program would be implemented throughout construction. TPU would maintain a clear, debris-free work area throughout construction of the proposed project.

Reclamation practices would be guided by the Nevada Guidelines for Reclamation (Nevada State Clearinghouse 1998). The BLM may provide additional reclamation guidance or direction during reclamation to improve success.

2.1.7 Public Safety

Prevention and Control of Fires

All federal, state, and county laws, ordinances, rules, and regulations pertaining to prevention, pre-suppression, and suppression of fires would be strictly adhered to. All personnel would be advised of their responsibilities under the applicable fire laws and regulations. TPU and/or its contractors would notify the Central Nevada Interagency Dispatch Center at (775) 623-3444 and the BLM Tonopah Field Office at (775) 482-7800, if and when a project related fire occurs. When reporting a fire to the Central Nevada Interagency Dispatch Center, specific information would be provided, preferably the latitude and longitude coordinates, estimated size of fire, material that is burning, and the approximate wind speed and direction. A roster of emergency phone numbers, including those listed above would be available at the project site so that the appropriate firefighting agencies can be contacted.

TPU would be responsible for any fire started by its personnel while performing project related construction and operation activities, within or outside of the project area boundaries. TPU would be responsible for any costs associated with fire suppression and rehabilitation. Personnel would be responsible for being aware of and complying with the requirements of any fire restrictions or closures issued by the BLM Battle Mountain District, as publicized in the local media or posted at various sites throughout the district. Prior to the arrival of federal, state, or local firefighting forces, TPU would take aggressive action to prevent and suppress the spread of any wildland fires caused by TPU or contractor personnel performing project construction and operation activities. Outside of the project area, wildfire suppression is the responsibility of the BLM on public lands surrounding the project area.

All project vehicles would carry, at a minimum, a shovel, five gallons of water (preferably in a backpack pump), and a conventional fire extinguisher. Adequate fire-fighting equipment (a shovel, a Pulaski, standard fire extinguisher(s), and an ample water supply) would be kept readily available at the project area. Water that is used for construction and dust control would be

available for fire suppression. Vehicle catalytic converters (on vehicles that would enter and leave the drill site on a regular basis) would be inspected often and cleaned of all flammable debris. All cutting/welding torch use, electric-arc welding, and grinding operations would be conducted in an area free, or mostly free, from vegetation. An ample water supply and shovel would be on hand to extinguish any fires created from sparks. At least one person in addition to the cutter/welder/grinder would be at the work site to promptly detect fires created by sparks. Spark arresters would be used on all equipment that has the potential to emit sparks

Costs involved with contractor-caused fires would be charged to the contractor. There would be no extension of time for line construction for delays caused by contractor related fires. Specific construction-related activities and safety measures that would be implemented during construction of the power line in order to prevent fires and to ensure quick suppression response would be provided by NV Energy in the power line Plan of Development. NV Energy would maintain the power line right-of-way to reduce the threat of fires caused by the power lines and would also protect the power lines from any fires that may be started in the area.

2.1.8 Environmental Protection Measures

The following subsections provide a description of the environmental protection measures that TPU has incorporated into the proposed project in order to avoid, mitigate, or eliminate potential adverse impacts of the proposed project. These measures would be implemented by TPU and/or its contractors. NV Energy may develop environmental protection measures that it would implement during construction of the proposed power line in addition to the those listed below.

Solid and Hazardous Wastes

- All construction, operation, and maintenance activities would comply with applicable federal, state and local laws and regulations pertinent to the use of hazardous substances. The construction or maintenance crew foreman would be responsible for maintaining compliance with all applicable laws and regulations. In addition, an onsite BLM-inspector or person BLM delegates as an inspector may be present or routinely visit the project site during construction to make sure all materials are used and stored properly.
- TPU and their contractors would exercise standard procedures for refueling heavy equipment that is kept at the project for long periods of time during construction, such as blades, cats, drill rigs, etc. This equipment would be refueled in place at the project. However, no personal or light duty vehicles would be refueled at the project site.
- Totally enclosed containment would be provided for any trash stored on site. Spill kits would be stored onsite during construction and maintenance activities, and be made readily available to all personnel. Absorbent mats and pads would be immediately placed under any equipment observed to have a fluid leak to prevent possible ground contamination.
- In accordance with state regulations, any spills must be reported to Nevada Division of Environmental Protection if the material spilled exceeds the reportable quantity designated for that material. Per Nevada Administrative Code 445A.347, the reportable quantity for petroleum products (e.g., gasoline, diesel, motor oil, hydraulic

fluid, etc.) is 25 gallons, or any quantity if petroleum spill occurs on or in waterways. Notification would be provided to the Nevada Division of Environmental Protection within 1 working day of the spill event via their Spill Reporting Hotline at 888-331-6337. A follow-up call to the BLM Tonopah Field Office would be provided afterwards.

- Portable sanitary facilities would be available and used by all personnel during exploration activities. These facilities would be serviced by a local contractor, and human waste would be disposed of at an approved facility. Sanitary facilities would be removed at the site when construction is completed.
- All construction waste, including trash and litter, garbage or solid waste, biodegradable debris, petroleum products and other materials would be removed from the project site to an authorized disposal facility. No wastes or surplus construction materials would left at the project site.
- No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate limits of survey or construction activity.

Air Quality and Dust Control

- All requirements of those entities having jurisdiction over air quality matter would be adhered to and any permits needed for construction activities would be obtained. Open burning of construction trash and project wastes would not be permissible.
- Access to work areas would be by existing roads or overland travel whenever possible to minimize temporary disturbance from grading. The proposed gravel access road would be covered with aggregate and cover underlying soils which would otherwise be exposed and subject to wind erosion and dispersal.
- Prudent speeds would be observed while operating vehicles and equipment on project roads to prevent excessive amounts of airborne dust emissions.
- TPU would use dust abatement techniques such as watering unpaved surfaces where vegetation cover is removed, as needed to reduce to fugitive dust emissions.
- TPU would restrict equipment and vehicle idling times to 15 minutes during construction activities.

Cultural Resources

- Where the installation of project facilities could impact eligible or potentially eligible cultural sites(s), TPU would retain a qualified archaeologist to serve as a cultural monitor while construction occurs within the area of the cultural site(s) in order to avoid potential effects. The BLM would decide when cultural monitors are necessary.
- TPU would limit vehicle and equipment travel and construction activities to the project area. Prior to construction, project personnel would be instructed on the protection of cultural and ecological resources.
- Any unplanned discovery of cultural resources, items of cultural patrimony, sacred objects, or funerary items would require that all activity in the vicinity of the find ceases, and the Field Manager, Tonopah Field Office, be notified immediately by phone (775-482-7800) with written confirmation to follow. The location of the find would not be publicly disclosed, and any human remains must be secured and preserved in the place until a Notice to Proceed is issued by the authorized officer.

Soils/Watershed

- TPU and its contractors would use existing roads within the right-of-way for construction access whenever possible to minimize soil disturbance from grading temporary access roads. Disturbance to vegetation and drainages within the project area would be minimized to the extent feasible by performing as much construction as possible within existing roadways. Existing roads would be left in (or restored to) a condition equal to their pre-construction condition. Areas of existing vegetation temporarily disturbed during construction would be reseeded using a BLM-approved, certified weed-free seed mix.
- Power pole structures would be spaced as needed to avoid placement within a drainage channel.
- Topsoil would be salvaged and reused whenever possible and in a timely manner.
- TPU and its contractors would use dust abatement techniques as needed to minimize wind erosion of soils.
- Erosion control measures, including but not limited to silt fencing, diversion ditches, water bars, temporary mulching and seeding, and application of gravel or rip rap, would be installed where necessary before and during construction of the proposed project to avoid erosion and runoff.

Wildlife

- Trash and other waste products that may attract wildlife would be properly managed and collected in secured bins or containers while at the project site. All trash and other wastes would be removed from the project area and disposed of at an authorized facility.
- Project equipment and vehicles would be operated at prudent speeds to prevent potential collisions with wildlife crossing or standing within existing roadways in the proposed right-of-way. If wildlife is encountered while operating on roads, vehicle operators would yield to the wildlife.
- Personnel would be strictly prohibited from carrying firearms on the project site to discourage illegal hunting and harassment of wildlife.
- Reclamation of the disturbed areas, as described in Section 2.1.6, would be completed in order to return these areas to the pre-construction condition, thereby restoring wildlife habitat provided in these areas prior to construction.
- Power pole structures would be designed and constructed in accordance with raptor-safe design criteria in the Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (Avian Power Line Action Committee 2006).

Migratory Birds

- Project activities disturbing potential migratory bird nesting habitat (i.e., vegetation cover) would be timed to occur outside the bird nesting season (March 1 to July 31) to the extent feasible. When habitat disturbance during the nesting season is unavoidable, the habitat would be surveyed for nesting birds prior to any impacts

occurring. If nesting birds are found, areas within a 100-foot radius of the nest site would be buffered from disturbance until the young have fledged the nest. This buffer distance may be reduced or expanded as the discretion of the BLM and/or the U.S. Fish and Wildlife Service.

Special Status Species

- Sensitive plants and/or areas of sensitive wildlife habitat are not known to occur within the project area. If such areas are discovered or identified during construction, the area(s) would be flagged and avoided.
- It would be forbidden to collect, harvest, or otherwise intentionally harm vegetation and wildlife, including sensitive plant and wildlife species if observed.

Noxious Weeds and Invasive Species

- Parts of the project area disturbed during construction would be reseeded with a BLM-approved, erosion-control seed mix. Only certified weed-free hay would be used if hay bales are used for erosion control.
- Construction equipment would be washed prior to entering portions of the project area occurring on public land administered by the BLM.
- Areas that become infested with invasive species/noxious weeds during construction would be mapped and treated using a certified weed-free seed mix and mulching materials, as determined necessary by the BLM Tonopah Field Office.
- TPU would implement a weed management plan for noxious weeds during construction of the proposed project through successful establishment of reclamation vegetation. See Appendix B for the Noxious Weed Management Plan.

Grazing and Rangelands

- If existing fences and gates are damaged or destroyed by construction activities, they would be repaired or replaced to their original condition prior to construction, as required by the landowner or the land management agency. Temporary gates would be installed only with the permission of the landowner or the land management agency.
- Watering facilities (e.g., tanks, developed springs, water lines, wells, etc.) would be repaired or replaced to their pre-construction condition as required by the landowner or land management agency if damaged or destroyed by construction activities.

Dark Sky Resources

- Construction lighting, including equipment lights and any temporary auxiliary lights would be limited to those required to safely conduct the construction activities and would be shielded and/or directed in a manner that focuses direct light to the immediate work area.

2.2 ALTERNATIVES TO THE PROPOSED ACTION

2.2.1 Alternatives Considered but Eliminated from Detailed Analysis

Two other alternative alignments for the proposed new pipeline were initially considered by TPU. One alternative alignment would have been adjacent and parallel to existing State Route 376 and Belmont Road between the Rye Patch well field and the proposed new wells. The other alternative would have been aligned identical to the proposed action alternative for the first 2.25 miles of new pipeline up-gradient of Rye Patch well field. However, after 2.25 miles, the alternative alignment would have continued north through undeveloped land, diverging from existing roads and the proposed alignment.

TPU presented the alternative alignments to the BLM Tonopah Field Office to determine if any known constraints were present. The BLM informed TPU that both of these alternative alignments would have travelled through previously identified culturally sensitive areas. These two alignments would have been very difficult, if not impossible, and very costly to attempt to acquire BLM easements for. The preparation of an Environmental Impact Statements and mitigation for the culturally sensitive areas would have been unavoidable and required a substantial amount of time to prepare. Thus, these alignments were eliminated from further consideration and are not analyzed in detail in this Environmental Assessment.

After elimination of the other two alternatives, an additional alternative alignment of the proposed action was developed and considered in order to avoid unpatented mining claims held by Midway Gold Corporation. This alternative would have been similar to the proposed action alternative, but a majority of the proposed new pipeline would have been aligned further east. Located further east, the alternative alignment would have avoided unpatented mining claims, but unlike the proposed action alignment, would have occurred on mostly undeveloped public land. However, the alternative alignment was eliminated from further consideration primarily due to the following reasons:

- the alternative alignment would have resulted in more ground disturbance than the proposed action alignment;
- unlike the proposed action alignment which would coincide with existing roads along most of its length, the alternative alignment would have occurred in mostly undisturbed vegetation;
- the alternative alignment would have crossed more natural drainage channels in the area than the proposed action alignment;
- the alternative alignment would have traversed rolling topography, less flat than topography traversed by the proposed action alignment. Rolling topography would not have readily supported gravitational movement of water in pipelines and required air release valves along the pipeline. Larger well pumps would have also been required under the alternative alignment; and,
- the alternative alignment would have been more expensive in terms of capital, and operation and maintenance costs.

2.2.2 No Action Alternative

Under the “no action” alternative, the BLM would not authorize the requested right-of-way grant, and as a consequence, not relinquish any existing rights-of-way for the Tonopah Public Water System. Without the authorization of the requested right-of-way, TPU would not construct and operate the proposed project, and would ultimately be unable to reduce the arsenic concentration in the water supply produced by the existing system. Without a reduction, the water supply would continue to exceed the federal and state arsenic maximum arsenic concentration levels, and thus fail to comply with federal and state laws.

Preventing construction of the proposed project would also prevent TPU from alleviating water losses experienced during operation of the existing water system, and from providing adequate capacity in the water system required for fire flow events.

TPU would be permitted to replace the segment of existing pipeline that occurs on private land it owns under the no action alternative, but this alone, would not resolve arsenic issues or water loss and capacity issues associated with the existing water system. Therefore, under the no action alternative, TPU would likely not replace the individual segment of pipeline of private land.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 INTRODUCTION

To comply with NEPA, the BLM is required to address specific elements of the environment that are subject to requirements specified in statute or regulation or by executive order. Table 4 outlines the elements that must be addressed in all environmental analyses, as well as other resources deemed appropriate for evaluation by the BLM, and denotes if the proposed action or no action alternative affects those elements.

Table 4 Supplemental Authority Elements Considered for Analysis

Supplemental Authority[1]	Not Present[2]	Present/Not Affected	Present/May be Affected[3]	Rationale
Air Quality		X		Construction equipment proposed would be powered by internal combustion engines. These engines produce exhaust emissions that include 5 of the 6 federal criteria pollutants (excluding only lead). The project equipment fleet would be relatively small. No significant impacts to air quality would result from the proposed project. Minor localized effects of fugitive dust from vehicle and heavy equipment traffic over unpaved areas would be controlled with a Dust Control Plan.
Area of Critical Environmental Concern	X			No Area of Critical Environmental Concern have been designated in the project area.
Cultural Resources			X	A Class III inventory of the project area has been completed. See discussion in Section 3.3.
Environmental Justice	X			The project would not impact any of the designated populations as described in the Environmental Justice Executive Order.
Farmlands Prime or Unique	X			No farmlands are present within the proposed action project area.
Fish Habitat	X			Resource is not present.
Floodplains		X		Most surface disturbance associated with the proposed action would be temporary and restored to pre-construction conditions. Permanent impacts would not result in displacement of flood water storage capacity of the floodplain. Environmental protection measures and best management practices would be implemented during construction and prevent sedimentation and deposition within the floodplain.
Forests and Rangelands (Healthy Forest Restoration Act only)		X		Rangelands exist but would not be affected. The proposed project does not meet the criteria to qualify as an Healthy Forest Restoration Act project.

Supplemental Authority[1]	Not Present[2]	Present/Not Affected	Present/May be Affected[3]	Rationale
Human Health and Safety	X			TPU has developed Noxious Weed Management Plan (Appendix B). The plan includes the potential use of herbicides to eradicate noxious weed species. Right-of-way stipulations address noxious weeds and herbicide treatments, and ensure application of herbicide is performed safely and properly. The proposed action would not present any human health or safety issues.
Migratory Birds			X	See discussion in Section 3.9.
Native American Religious Concerns	X			The BLM has sent the Duckwater Shoshone Tribe, Yomba Shoshone Tribe, and Death Valley Timbisha Shoshone Tribe letters describing the proposed action and requesting any comments or concerns the Tribe may have. At of the time of publication of this Environmental Assessment, no written or verbal Tribal concerns have been brought forward to the BLM.
Noxious Weeds/Invasive Non-native Species		X		TPU has developed a Noxious Weed Management Plan and proposes reclamation with a native seed that would be certified weed-free. Invasion of noxious weeds and invasive, non-native species would be prevented. See discussion in Section 3.8.
Threatened and Endangered Species (Special Status Species, plants & animals)			X	Federally listed threatened and endangered species or species proposed for federal listing are not known to occur within the project area. See Section 3.10 for discussion of special status species.
Waste–Hazardous and Solid		X		The lack of substantial quantities of hazardous materials, combined with the environmental protection measures would prevent impacts from the proposed action. See discussion in Section 3.12.
Water Quality (Surface/Ground)			X	See discussion in Section 3.13.
Wetlands/Riparian Zones	X			There are no wetland areas or riparian zones within the project area.
Wild & Scenic Rivers	X			There are no rivers designated as wild and scenic within the proposed project area.
Wilderness	X			No wilderness areas have been designated within the project area.
Wilderness Characteristics	X			No lands meeting the criteria established by Secretarial Order Number 3310 exist within the project area.

1. See H-1790 (January 2008) Appendix 1 Supplemental Authorities to be Considered.
2. Supplemental Authorities determined to be Not Present or Present/Not Affected need not be carried forward for analysis or discussed further in document.
3. Supplemental Authorities determined to be present/May be Affected *must* be carried forward for analysis in the document.

Other resources of the human environment that have been considered for this Environmental Assessment are listed in Table 5. Elements that may be affected are further described in the Environmental Assessment. Rationale for those elements that would not substantially or adversely be affected by the proposed action and no action alternative is listed in Table 5.

Table 5 Other Resources Considered for Analysis

Other Resources	Not Present[1]	Present/Not Affected	Present/May be Affected	Rationale
Grazing Management		X		This project is within the Hunts Canyon and Ralston Allotments. Potential area impacted by proposed action would be a negligible portion of total area in allotment. Most impacts would be temporary and reseeded during reclamation. No short- or long-term impacts to grazing Animal Unit Months would be expected; grazing management would not be affected.
Land Use Authorization			X	See discussion in Section 3.2.
Minerals		X		See discussion in Section 3.4.
Paleontological Resources	X			Paleontological resources would not be expected to occur within the proposed action project area. The proposed action project area is located in Ralston Valley, on Quaternary-aged alluvial fill. Alluvial deposition is not conducive to fossil formation or paleontological preservation.
Recreation		X		Unique or developed recreational sites do not occur within the proposed action project area, but dispersed recreation may occur. Recreational access would not be restricted by the proposed action, and any impacts would be short-term for the duration of construction. Recreation would not be affected as a result of the proposed action.
Socio-Economic Values			X	See discussion in Section 3.5.
Soils			X	See discussion in Section 3.7.
Vegetation			X	See discussion in Section 3.7.
Visual Resources		X		See discussion in Section 3.6.
Wild Horses and Burros		X		The proposed action would not impact wild horses or burros. Permanent surface disturbance would be negligible and have inconsequential effects on grazing area. High speed traffic that may potentially collide with wild horses and burrows would not be produced by the proposed action. Water sources used by wild horses or burros would not be impacted.
Wildlife			X	See discussion in Section 3.11.
Fire Management		X		TPU would implement environmental protection measures to avoid and control wild fires during construction and operation of the proposed project. These measures combined with the regulatory practices of BLM and Nye County, would be anticipated to prevent impacts.

1. Other Resources determined to be Not Present or Present/Not Affected need not be carried forward for analysis or discussed further in the document based on the rational provided.

3.1.1 General Setting

The existing water system is located in central Ralston Valley, northeast of Tonopah, in Nye County, Nevada. The proposed project area would begin in central Ralston Valley and extend north, into northern Ralston Valley. Most of Nevada, including the project area, is within the Basin and Range Physiographic Province which is characterized by linear mountain ranges and intervening valleys arranged generally in a north-south parallel pattern. Climate and weather data has been collected by the Western Regional Climate Center at the Tonopah Airport since 1954. Data collected monthly between then and 2010 show hot summer months, with high temperatures averaging about 90 degrees Fahrenheit during July and August. Winters lows average 19 degrees Fahrenheit during December and January. Average annual precipitation is just over 5 inches, occurring sporadically as either winter snow and rain or occasional summer thunderstorms (Western Regional Climate Center 2010).

The proposed action begins approximately 6 miles northeast of the Town of Tonopah and ends approximately 18 miles northeast of the Town of Tonopah. The landscape is typical of moderate to high elevations in the southern extent of the Great Basin. The project area is near to flat to gently sloping towards the southeast. Elevations in the project area range from 5,675 feet to 5,870 feet above mean sea level. Predominant vegetation cover is a mix of salt desert scrub species, with four-wing saltbush, greasewood, and rabbit brush as dominant species. Numerous ephemeral drains cross the proposed project area, and may carry surface runoff flows to or towards Mud Flat playa during periods of snowmelt or after thundershowers. Drainages generally do not support riparian vegetation, but stands of coyote willow are dominant in a few.

3.2 LAND USE AUTHORIZATIONS

3.2.1 Affected Environment

The BLM right-of-way program is designed to coordinate the actions of individuals, government and business to promote the sharing of rights-of-way, to prevent unnecessary environmental damage to lands and resources, and to protect the holders' investments in improvements on the right-of-way. The BLM ensures that undue or unnecessary degradation of public or private land does not occur as well as any negative impacts to other aspects of the environment when considering authorization of a right-of-way grant.

Land uses in the general area of the proposed project are largely for utility rights-of-way, roads, and overhead power lines associated with the existing water system. Other land uses in the area include mineral exploration, grazing, and dispersed recreation. The existing rights-of-way BLM has authorized in the surrounding proximity of the project area are listed in Table 6.

Table 6 Existing Right-of-Way Authorizations

Serial Number	Right-of-Way Holder	Description of Right-of-Way
NVCC-22108	Nye County and TPU	Existing groundwater wells, water pipeline, and overhead power line
NVN-00313	Sierra Pacific Power Company (i.e., NV Energy)	Overhead power line
NVN-07915	Sierra Pacific Power Company	Overhead power line

Serial Number	Right-of-Way Holder	Description of Right-of-Way
NVN-53312	TPU	Existing groundwater wells, water pipeline, and access road
NVN-53743	Sierra Pacific Power Company	Overhead power line
NVN-65577	Citizens Telecommunications of Nevada	Communications line
NVN-89473	TPU	Existing monitoring well
NVN-89563	TPU	Existing monitoring well
NVN-89651	Nye County Road Department	County maintained road

3.2.2 Environmental Consequences of the Proposed Action

The proposed action would be in conformance with the Approved Tonopah Resource Management Plan (BLM 1997). The addition of the proposed project would be compatible with existing land uses in the area. Most of the existing rights-of-way in the project area were granted by BLM for the existing water system, and would be incorporated into the proposed right-of-way with implementation of the proposed project. The right-of-way held by NV Energy contains the existing power line that the proposed new power line would be extended from to the proposed groundwater wells. NV Energy has submitted an application for a right-of-way for the new power line, and is aware of the proposed action. Citizens Telecommunications of Nevada would be notified of the proposed project prior to commencement of construction. As a result, the proposed action would have no adverse or positive impacts on land use authorizations.

3.2.3 Environmental Consequences of the No Action Alternative

The proposed right-of-way would not be authorized under the no action alternative. Consequently, the rights-of-way that have been granted for the existing water system (see Table 1) would be retained as they are currently authorized rather than being relinquished and incorporated into the proposed right-of-way. The rights and privileges that are granted in the existing rights-of-way would continue for as long as the applicable right-of-way grant remains valid and active. Since the proposed right-of-way would not be authorized, the proposed project would not be constructed either, including new power line and poles. NV Energy would likely withdraw the application for new right-of-way submitted for the construction and operation of the new power line. Citizens Telecommunications of Nevada would not be notified of the no action alternative since no new rights-of-way or alteration of existing land use would occur. The no action alternative would have no adverse or positive impacts on land use authorizations.

3.3 CULTURAL AND HISTORIC RESOURCES

3.3.1 Affected Environment

The “area of potential effects” for an undertaking is defined in the National Historic Preservation Act Section 106 regulations (36 CFR 800.16[d]) as “the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist.” The area of potential effects for the proposed action included all areas within 100 feet of both sides of the centerline of the proposed new right-of-way and the centerline of existing roads where new pipeline would be constructed adjacent to

segments of existing pipeline that would be abandoned, a 100-foot by 100-foot area surrounding each proposed new well, and the 1.5-acre combined areas where NV Energy would construct guy wire anchors. Therefore, the area that was surveyed included the entire 103.9-acre proposed project area and areas immediately adjacent to it. The area of potential effects was delineated as described because all construction and related permanent and temporary disturbances would be limited to areas within its boundaries.

Archaeologists, under the approval and guidance of the BLM, performed a Class III cultural resource survey of the area of potential effects between September 19th and September 23, 2011. Prior to the survey, a BLM archaeologist performed a Class III survey of alternative alignments not included in the final area of potential effects. In accordance with State Historic Preservation Office recommendations, the results of that work were provided to JBR and incorporated into JBR's Class III survey report.

Archaeologists located a total of 21 new cultural resource sites in the project area that consisted of historic and prehistoric-era sites. Two of the newly recorded pre-historic sites are recommended as eligible for nomination to the National Register of Historic Places. Two previously recorded cultural resource sites, one considered eligible for nomination to the National Register of Historic Places and one considered not eligible are within the area of potential effects (Rood, Prince-Mahoney, & Tingwall 2011). Consultation with the State Historic Preservation Office is ongoing, and the recommended eligibility status of sites is subject to revision pending State Historic Preservation Office review.

In accordance with the National Historic Preservation Act (Public Law 89-665), NEPA, the Federal Land Policy and Management Act of 1976, the American Indian Religious Freedom Act (Public Law 95-341), the Native American Graves Protection and Repatriation Act (Public Law 101-601), and Executive Order 13007, the BLM must provide affected tribes an opportunity to comment and consult on the proposed project. The BLM must attempt to identify locations having traditional/cultural importance and reduce or possibly eliminate any negative impacts to identified traditional, cultural, spiritual sites, activities, and/or resources. Project notification letters were sent to tribes as part of the Native American notification process. The letters solicited comments and issues be submitted to BLM. No responses have been received to date.

3.3.2 Environmental Consequences of the Proposed Action

The proposed project would cause minimal physical disturbance to cultural sites that are recommended as eligible for listing in the National Register of Historic Places. The minimal impacts would occur within portions of the sites considered to be non-contributing to the overall eligibility of the site due to artifact density and /or previous disturbance and construction of the existing water system, power lines and roads.

If any surface or subsurface artifacts (e.g., stone tools, projectile points, etc.) or any other cultural resource are discovered during the construction of the proposed project, all work in the area of the discovery would stop. Personnel would be forbidden from collecting items discovered, and the location of the find would not be disclosed to the public or others. The BLM would be notified immediately in the event of a discovery, and work in the area would not

resume until written authorization from the BLM is provided to TPU or its contractors. Cultural and Archaeological resources are protected under the Archaeological Resources Protection Act (16 United States Code 470ii) and the Federal Land Policy and Management Act of 1976.

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 Tonopah Field Office 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 proposed action would not have an impact on any known Traditional Cultural Property.

Also, though the possibility of disturbing Native American gravesites within the project area is extremely low, inadvertent discovery and Native American Graves Protection and Repatriation Act procedures must be followed if any human remains or associated grave goods are disturbed. Under the Native American Graves Protection and Repatriation Act, section (3)(d)(1), it 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.

3.3.3 Environmental Consequences of the No Action Alternative

If the no action alternative were implemented, the proposed new right-of-way would not be authorized and construction of the proposed project would not occur. Surface disturbance that would have occurred from construction of the new wells, access road, pipeline, and overhead power line would not occur, nor would any impacts to cultural sites that would have resulted from the surface disturbance. The cultural sites that have been recommended as eligible for listing in the National Register of Historic Places that occur within the area of the proposed new right-of-way would retain the recommendation, as the no action alternative would not alter the character or condition of any component of these sites. Cultural sites that have been recommended as not eligible for listing in the National Register of Historic Places would also be unaffected by the no action alternative. The no action alternative would have no impacts on cultural resources.

3.4 MINERALS

3.4.1 Affected Environment

Mining activities on BLM-managed public lands are administered under several laws and regulations, including the General Mining Law of 1872, the Federal Land Policy and Management Act of 1976, and the Surface Resources Act of 1955. The Mining Act of 1872 granted any citizen the right to explore, locate, and claim certain rights upon public lands. An

unpatented mining claim is a particular parcel or federally-managed land that is valuable for a specific mineral deposit or deposits. Unpatented mining claims ensure the right to develop and extract a mineral deposit, subject to applicable federal and state regulations. Patent mining claims transfer complete ownership of land to the mining claimant, if certain statutory requirements are met.

Midway Gold Corporation has several, contiguous unpatented mining claims staked in Northern Ralston Valley. The unpatented claims assert Midway Gold Corporation the right to develop to extract the valuable mineral deposit within the claim area, provided these activities are in compliance with applicable regulations and laws. The easternmost portion of the unpatented claim area occurs within the project area. Mineral exploration activities are ongoing by Midway Gold Corporation, and have also been performed for the past several years. Most mineral activities to date have occurred in the western half of the unpatented claim area. The entire unpatented claim area is located on public land administered by the BLM. There are no patent mineral claims within the project area.

3.4.2 Environmental Consequences of the Proposed Action

A portion of Midway Gold Corporations unpatented claim area would occur within the project area. The portion of the project area that coincides with the unpatented mining claim area is associated with the proposed new pipeline and overhead power line. The permanent nature of these components of the water system could potentially restrict or constrain development and extraction of mineral deposits beneath or near the pipeline or power line. This would conflict with the rights asserted by the Mining Act of 1872.

In order to prevent the proposed project from restricting mineral development and extraction activities on the unpatented claim area, TPU has coordinated with Midway Gold Corporation during development of the project design and alignment. TPU would also be subject to compliance with all federal and state laws, including the Mining Act of 1872. Accordingly, if the proposed project becomes a restriction to the rights asserted by unpatented mining claims to develop and extract the valuable mineral deposit in the claim area, TPU would redesign and relocate the water system outside of the claim area. TPU would attempt to reach a settlement allowing mineral development and extraction before moving the water system. If relocated to public lands, the move would be subject to applicable federal and state regulations, including but not limited to NEPA, the Clean Water Act, National Historic Preservation Act, and the Clean Air Act. Significant impacts to minerals would be avoided by coordinating with Midway Gold Corporation and complying with federal and state law.

3.4.3 Environmental Consequences of the No Action Alternative

The no action alternative would prevent the proposed project from being constructed because the proposed new right-of-way would not be authorized under this alternative. Therefore, new pipeline and overhead power line would not be constructed on unpatented mining claims. The existing water system would remain in its current location, within the various existing rights-of-way that have been granted for it. Existing rights-of-way do no coincide with patent or unpatented mineral claims, including those held by Midway Gold Corporation. The no action alternative would not have any impacts on minerals.

3.5 SOCIO-ECONOMICS

3.5.1 Affected Environment

Nye County is a predominantly rural county in southwestern Nevada that encompasses approximately 11,560,960 acres of land, making it larger than many U.S. States. Of the vast area within the county, approximately 822,711 acres, just over 7 percent of the total, is private land (Nye County Board of Commissioners 1994). The remainder is primarily federally-managed public land or land federally withdrawn from public access and use. Due to the prevalence of federal government operations in the county, many Nye County residents are employed with a federal agency. Aside from federal employment, mining and agriculture are also important components of Nye County's economy and employment sector. Mining continues to employee more county residents than any other economic sector. Historic mining towns, such as Belmont, Ione, and Rhyolite, attract tourists that contribute the county economy through purchase of goods and services during their visit (Nye County Board of Commissioners 1994).

The unincorporated Town of Tonopah is the county seat for local government, and consists of approximately 2,500 residents. Like the rest of the Nye County, the local economy is centered heavily on federal government employment and the mining industry. However, the economy is also influenced by various retailers and service industries such as hardware stores; restaurants; hotels; hotel/casinos; banks; and automotive repair shops. As the county seat, many of the services cater to visitors associated with county court proceedings, hearings, and county government proceedings. Tourists are drawn to Tonopah by its central location between Reno and Las Vegas, and its proximity to outstanding outdoor recreational opportunities and numerous historic attractions. Historic attractions in the Town of Tonopah include the Tonopah Historic Mining Park, the Central Nevada Museum, and several buildings (Town of Tonopah 2011).

3.5.2 Environmental Consequences of the Proposed Action

The proposed action would typically require 10 to 15 workers during construction, but up to 25 to 30 people may be present during brief and occasional periods. Members of the local population, likely people currently employed by TPU or its contractors, would comprise most of the project workforce. Few, if any new employment opportunities would be generated by the proposed action, and any that are would be short-term for the expected 6 to 9 month construction period. Because the workers would reside locally, the proposed project would not result in new housing, increased demand on public services, or increases in any other goods or services associated with population growth. Workers would likely purchase food, beverages, gasoline, and other goods and supplies common to a typical work day during construction of the proposed project. Any sales that local business experience from the proposed action would be short-term and negligible as the workers would be local and would have typically purchased goods from the same businesses before constructing the proposed project.

The drinking water supplied to the service areas by TPU in existing water system contains arsenic at an average concentration of 11 parts per billion, slightly above the federal and state arsenic maximum concentration level of 10 parts per billion. TPU has been granted extensions to

reduce the arsenic concentration to 10 parts per billion, the last of which expires in January 2013. After the extension expires, a $25,000 fine would be imposed on TPU (i.e. the Town of Tonopah) per each day the arsenic concentration remains above the federal and state maximum concentration level. The proposed action would permit TPU to construct and operate the proposed project, which in turn, would allow TPU to provide drinking water to the service areas in accordance with the federal and state arsenic maximum concentration level of 10 parts per billion. Therefore, the daily $25,000 fine would be avoided, and the Town of Tonopah would experience positive impacts from the proposed action.

3.5.3 Environmental Consequences of the No Action Alternative

The no action alternative would not authorize the right-of-way grant and would prevent the construction of the proposed project. The existing water system would not be improved and the arsenic concentration in the drinking water supply would likely remain above the federal and state maximum concentration level of 10 parts per billion. TPU would be fined $25,000 each day that the water supply contains arsenic concentrations of more than 10 parts per billion beginning in January 2013. The costs to the Town of Tonopah associated with the daily $25,000 fine would have negative impacts on socio-economics.

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 2011). 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 2011).

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. The risk for potential health problems would increase the longer the water system remained unimproved as the EPA describes the effects to be the result of long-term arsenic exposure. 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 the Town of Tonopah.

The existing pipeline between the Rye Patch well field and the service areas is aged and inadequately sized for the water supply demands of the service areas. The existing pipeline also leaks water supply, and therefore must have fractures, faulty joints, or other such openings allowing water to escape. If use of the existing pipeline continues, as would the situation if the no action alternative were implemented, the pipeline may eventually fail completely. Since there is no redundancy or alternate existing pipeline between the Rye Patch well field and the service areas, a failed pipeline would prevent water supplies from reaching consumers in the service

areas. This would reduce the quality of life of consumers in the service areas for the duration that water supplies are unavailable. Depending on the amount of time water supplies remain unavailable due to the pipeline failure, businesses may experience financial losses. This would be especially apparent for hotels that depend on providing customers with shower and restroom facilities, and restaurants that use water for critical parts of daily operations, such as cooking and dishwashing.

The no action alternative would have a moderate negative impact on socio-economics due to the financial burdens the Town of Tonopah and individual businesses and consumers would experience from continued use of the existing water system. This may be intensified by potential reductions in workforce or economic output resulting from arsenic-related health problems.

3.6 VISUAL RESOURCES

3.6.1 Affected Environment

The proposed action is within a Class IV Visual Resource Management area. The Class IV objective provides 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. Approximately 88.7 percent of the Tonopah Planning Area is managed for Class IV Visual Resource Management objectives.

In general, the esthetics of the project area and surrounding foreground area (areas within 0.5 mile of project area) can be described as an altered landscape typical of central Nevada. The foreground landscape consists of large, open spaces with scattered low shrubs with areas of exposed soil showing. The middle-ground is dominated by low rolling hills that area also covered with scattered low shrubs and isolated areas of exposed soils. The background view is dominated with a backdrop of tall, rugged, mountain peaks and ridges.

The natural landscape in the foreground and middle-ground areas has been altered by structures and construction in several locations. The overhead power line that provides electricity to the existing well field for the Tonopah Public Water System is visible as a linear contrasting form. Fences and roads also contribute linear contrast to the natural landscape. Several small structures and the Tonopah Conservation Camp facility are visible in the middle-ground.

3.6.2 Environmental Consequences of the Proposed Action

Temporary and permanent impacts to visual resources would result from implementation of the proposed action. Temporary impacts would include the removal of vegetation cover during construction and presence of construction equipment within the project area. Permanent impacts would consist of alterations to landscape associated with the addition of the proposed new access road, overhead power line, and two groundwater wells.

The impacts of the proposed action, when combined with the existing roads and transmission lines in the surrounding area, are well within the objectives of a Class IV visual resource management area and would be minimal. This is based on the relative size of the proposed project, the proximity to existing roads, overhead power line, and groundwater wells and the reclamation of temporary project disturbances. A Visual Contrast Rating Worksheet has been completed for the proposed action and is included in Appendix E.

3.6.3 Environmental Consequences of the No Action Alternative

The proposed project would not be constructed under the no action alternative because the proposed right-of-way would not be authorized. The existing landscape, which includes any impacts or influence the existing water system has had on it, would remain as described in Section 3.6.1. The no action alternative would not have any impacts on visual resources.

3.7 VEGETATION AND SOILS

3.7.1 Affected Environment

Land cover communities in the Southwestern United States have been mapped as part of the Southwest Regional Gap Analysis Project (U.S. Geological Society National Gap Analysis Program 2004). Four land cover communities are mapped within the proposed project area: Inter-Mountain Basins Big Sagebrush Shrubland, Inter-Mountain Basins Semi-Desert Shrub-Steppe, Inter-Mountain Basins Greasewood Flat, and Inter-Mountain Basins Mixed Salt Desert Scrub (Figure 4). A contractor, in concert with the BLM, performed a biological survey of the proposed project area on October 1, 2011.

In general, vegetation cover was fairly uniform within the entire project area and had low species diversity. With a few exceptions field observations during the baseline survey were in general agreement with the mapped land cover communities. Washes and drainages in the project area were often dominated almost entirely with greasewood (*Sarcobatus vermiculatus*) and rubber rabbitbrush (*Ericameria nauseosa*), lacking the codominant and herbaceous species listed as a component of the corresponding mapped community.

Several drainages that cross the project area were dominated with coyote willow (*Salix exigua*), a species not described as a component of any of the four land cover communities mapped within the project area. Existing roads have displaced vegetation from much of the proposed project area. Vegetation cover is limited to approximately 89.9 acres of the project area. Detailed descriptions of the mapped vegetation communities are provided below.

Inter-Mountain Basins Mixed Salt Desert Scrub Community

This extensive ecological system includes open-canopied shrublands of typically saline basins, alluvial slopes, and plains across the inter-mountain western U.S. Substrates are often saline and calcareous, medium- to fine-textured, alkaline soils but include some coarser-textured soils. The vegetation is characterized by a typically open to moderately dense shrubland composed of one or more saltbush species (*Atriplex* sp.) such as shadscale saltbush (*Atriplex confertifolia*), fourwing saltbush (*Atriplex canescens*), cattle saltbush (*Atriplex polycarpa*), or spinescale saltbush (*Atriplex spinifera*).

Other co-dominant shrubs present may include Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), yellow rabbitbrush (*Chrysothamnus viscidiflorus*), rubber rabbitbrush, Mormon tea (*Ephedra nevadensis*), spiny hopsage (*Grayia spinosa*), winterfat (*Krascheninnikovia lanata*), desert-thorn (*Lycium* spp.), bud sagebrush (*Picrothamnus desertorum*), or horsebrush (*Tetradymia* spp.). Greasewood is generally absent but if present, does not co-dominate.

The herbaceous layer varies from sparse to moderately dense and is dominated by perennial graminoids such as Indian ricegrass (*Achnatherum hymenoides*), blue grama (*Bouteloua gracilis*), thickspike wheatgrass (*Elymus lanceolatus*), western wheatgrass (*Pascopyrum smithii*), James' galleta (*Pleuraphis jamesii*), big galleta (*Pleuraphis rigida*), Sandberg bluegrass (*Poa secunda*), or alkali sacaton grass(*Sporobolus airoides*). Various forbs are also present (USGS National Gap Analysis Program 2005).

Inter-Mountain Basins Big Sagebrush Shrubland

This ecological system typically occurs in broad basins between mountain ranges, plains, and foothills between elevations of 4,900 and 7,550 feet throughout much of the western United States. Soils are typically deep, well-drained, and non-saline. Shrublands are dominated by basin big sagebrush (*Artemisia tridentata* ssp. *tridentata*) and/or Wyoming big sagebrush. Scattered juniper (*Juniperus* sp.), greasewood, and saltbush (*Atriplex* spp.) may be present in areas. Rubber and yellow rabbitbrush, antelope bitterbrush (*Purshia tridentata*), or mountain snowberry (*Symphoricarpos oreophilus*) may co-dominate disturbed stands.

Perennial herbaceous components typically contribute less than 25 percent of the total vegetative cover. Common graminoid species include Indian ricegrass, blue grama, thickspike wheatgrass, Idaho fescue (*Festuca idahoensis*), needle and thread grass (*Hesperostipa comata*), basin wildrye (*Leymus cinereus*), James' galleta, western wheatgrass, Sandberg bluegrass, or bluebunch wheatgrass (*Pseudoroegneria spicata*) (U.S. Geological Society National Gap Analysis Program 2005).

Inter-Mountain Basins Semi-Desert Shrub-Steppe

This ecological system occurs throughout the inter-mountain western United States, typically at lower elevations on alluvial fans and flats with moderate to deep soils. This semi-arid shrub-steppe is typically dominated by graminoids (less that 25 percent cover) with an open shrub layer. Characteristic grasses include Indian ricegrass, blue grama, desert saltgrass (*Distichlis spicata*), needle and thread grass, James' galleta, Sandberg bluegrass, and alkali sacaton grass.

The woody layer is often a mixture of shrubs and dwarf-shrubs. Characteristic species include fourwing saltbush, big sagebrush (*Artemisia tridentata*), Greene's rabbitbrush (*Chrysothamnus greenei*), yellow rabbitbrush, Mormon tea, rubber rabbitbrush, broom snakeweed (*Gutierrezia sarothrae*), and winterfat. Big sagebrush may be present but does not dominate. The general aspect of occurrences may be either open shrubland with patchy grasses or patchy open herbaceous layer. Disturbance may be important in maintaining the woody component. Microphytic crust is very important in some areas (USGS National Gap Analysis Program 2005).

Inter-Mountain Basins Greasewood Flat

This ecological system occurs throughout much of the western United States in inter-mountain basins. It typically occurs near drainages on stream terraces and flats or may form rings around more sparsely vegetated playas. Sites typically have saline soils and a shallow water table. They flood intermittently but remain dry for most growing seasons. The water table remains high enough to maintain vegetation, despite salt accumulations.

This system usually occurs as a mosaic of multiple communities, with open to moderately dense shrublands dominated or co-dominated by greasewood. Fourwing saltbush, shadscale saltbush, or winterfat may be present to co-dominant. Occurrences are often surrounded by mixed salt desert scrub. The herbaceous layer, if present, is usually dominated by graminoids. There may be inclusions of alkali sacaton grass, desert saltgrass (where water remains ponded the longest), or common spikerush (*Eleocharis palustris*) herbaceous types (USGS National Gap Analysis Program 2005).

Soils within the project area are generally alluvial deposits consisting of sands, silts, fan piedmonts, and clays. Weathered volcanic rock and ash is also found within Nye County. Miocene and Pliocene age sedimentary rock generally underlies the alluvial deposits in this area. The soils that the U.S. Natural Resources Conservation Service (2004) has mapped in the project area are shown on Figure 5.

3.7.2 Environmental Consequences of the Proposed Action Alternative

The proposed action would result in the permanent loss of approximately 0.5 acre of vegetation from within the project area. The permanent loss would be associated with areas of vegetation displaced by the proposed access road, each of proposed groundwater wells, and each of the new power pole structures. All of the permanent impacts to vegetation would occur on public land administered by the BLM.

The remaining approximately 89.9 acres of existing vegetation within the project area may be temporarily disturbed or removed while construction activities are performed. Short-term, temporary impacts would be reclaimed and seeded with a BLM-approved seed mix following completion of construction. Mitigation plans for re-vegetation and weed control for disturbed areas have been made and would be put in place for the duration of the project. A Noxious Weed Management Plan is included in Appendix B.

Most temporary disturbances would be concentrated in areas immediately adjacent to a portion of the proposed new water pipeline, each of the proposed new groundwater wells, and each of the new power poles. Nearly the entire length of proposed new pipeline and the segments of existing pipeline that would be replaced occur within the width of existing unpaved road surfaces where vegetation cover is generally absent. Accordingly, very little vegetation would be expected to be temporarily impacted as result of replacement and construction of these segments of pipeline.

Following reclamation of temporary construction disturbance, approximately 0.5 acre of permanent disturbance to vegetation would remain. The permanent removal of approximately 0.5 acre of vegetation does not represent a substantial loss of the vegetation type or cover within the project area or within surrounding areas. Based on Southwest Regional Gap Analysis Project land cover mapping (U.S. Geological Survey Gap Analysis Program 2004) and 2010 aerial photography (U.S. Farm Service Agency 2010), thousands of acres of similar vegetation cover occur in surrounding parts of Ralston Valley. Impacts to vegetation would be minimal considering the temporary, short-term nature of most surface disturbance, existing road disturbance in the project area, and abundance of similar vegetation surrounding the project area.

Areas of vegetation established from reclamation seeding after construction may be temporarily cleared as a result of future maintenance, repair, or upgrades of the water supply system. Areas that are disturbed would be seeded with the BLM seed mix following completion of the maintenance and/or repair activities. Temporary removal of vegetation during maintenance and repair of the system would have a negligible impact on vegetation resources.

The permanent disturbance to soils would be equal to that of vegetation: approximately 0.5 acre. Temporary disturbances may occur to soils supporting vegetation cover, but also to soils within existing roads. As a result, temporary impacts to soils may be greater than that to vegetation cover, potentially affecting 103.4 acres. Permanent and temporary impacts would occur to upland soils that are common and extensive in surrounding parts of Ralston Valley.

TPU would implement environmental protection measures listed in Section 2.1.8 to prevent soil erosion and loss. Temporary disturbances resulting from construction activities would be reclaimed once construction has been completed. The Proposed Action would have a minimal impact to soils considering the relatively small area of soils that would be permanently impacted, combined with the environmental protection measures and stipulations that would be assigned with the right-of-way grant.

3.7.3 Environmental Consequences of the No Action Alternative

The proposed right-of-way would not be authorized under the no action alternative, and consequently, construction of proposed project would not occur. Without construction, new surface disturbance would not occur to soils or vegetation. The no action alternative would not have any adverse impacts on vegetation or soils.

3.8 NOXIOUS WEEDS AND INVASIVE, NON-NATIVE SPECIES

3.8.1 Affected Environment

The BLM Battle Mountain District recognizes the current noxious weed list designated by the State of Nevada Department of Agriculture statute (Nevada Department of Agriculture 2009). An invasive species is defined as a non-native or alien plant or animal that has entered into an ecosystem. Invasive species are likely to cause economic harm or harm to human health (Executive Order 13112). Noxious weeds, and invasive and non-native species are highly competitive, aggressive and easily spread.

A baseline biological survey of the entire project area was performed by a contractor, in coordination with and under guidance of the BLM, on October 1, 2011. The survey was performed for wildlife and vegetation, including noxious weeds and invasive, non-native species. Noxious weeds species on the State of Nevada Department of Agriculture's current noxious weed list were not observed within the project area during the baseline survey.

Invasive, non-native species were observed in the Project Area during the baseline survey and included halogeton (*Halogeton glomeratus*) and cheatgrass (*Bromus tectorum*). These species were most prevalent within previously disturbed portions of the Project Area, but were occasionally interspersed with native vegetation where prior disturbance has not occurred.

3.8.2 Environmental Consequences of the Proposed Action

Disturbance to native soils and their associated vegetation would create conditions conducive for noxious weeds to invade and potentially colonize. Invasive species may be introduced via project equipment driven into the area and by vehicles belonging to the general public that are driven on existing unpaved roads within the project area. If noxious weed species are not controlled, they may out-compete native species and prevent or reduce the potential for establishment of reclamation seeding, thereby altering habitat composition and value to support diverse species.

The likelihood of a noxious weed invasion is dependent upon many factors. The abundance of noxious weeds in the area of disturbance or the presence of a nearby seed source may dictate the severity of invasion. Because of past road disturbances, past disturbance associated with the water supply system, and the presence of noxious weeds within and near the project area, TPU would implement the Noxious Weed Management Plan (Appendix B).

The plan includes monitoring areas disturbed by the project, and eradication measures in the event of an invasion. Noxious weed monitoring and control measures would also be performed in accordance with right-of-way grant stipulations (Appendix A). As a result, impacts from invasion or spread of noxious weeds, and invasive, non-native species would not be anticipated.

3.8.3 Environmental Consequences of the No Action Alternative

Implementation of the no action alternative would not authorize the proposed right-of-way. Construction of the proposed project would therefore not occur, nor would any surface disturbance that would have resulted from construction. The no action alternative would not remove any existing vegetation cover or disturb soil substrate within the proposed right-of-way. This would result in no increased favorable conditions for invasion or spread of noxious weeds, and invasive, non-native species.

However, implementation of the no action alternative would nullify the Noxious Weed Management Plan (Appendix B), voiding performance of any of the noxious weed monitoring and treatments contained within it. The existing populations of halogeton and cheatgrass observed in the proposed new right-of-way area during the baseline biological survey in October 2011 would not be treated and would continue to exist and spread at their natural and historic rates.

Because most of the proposed new right-of-way area is vegetated with native species, the continued existence of invasive species would be a have a minimal threat. Because existing invasive species would not be spread or reduced from their existing population, the no action alternative would have no impact.

3.9 MIGRATORY BIRDS

3.9.1 Affected Environment

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 United States Code 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 U.S. Fish and Wildlife Service. This Memorandum of Understanding 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 variety of migratory birds use the habitat types within the project area for breeding and foraging.

The vegetation cover within the proposed project area provides foraging and nesting habitat for a variety of migratory bird species. Potential migratory bird species that may be found within the project area may include but are not limited to: Bewick's wren, black-headed grosbeak, black-throated gray warbler, black-throated sparrow, blue-gray gnatcatcher, Brewer's sparrow, brown-headed cowbird, bushtit, Cassin's finch, chipping sparrow, common raven, Costa's hummingbird, gray flycatcher, horned lark, house finch, house wren, Le Conte's thrasher, lesser goldfinch, loggerhead shrike, mourning dove, northern mockingbird, rock wren, Say's phoebe, spotted towhee, Swainson's thrush, vesper sparrow, western scrub-jay, and white-crowned sparrow. (Floyd 2007).

A variety of other species may pass through the area during migration. These include species that nest in other habitat types within the Great Basin and species that breed outside the Great Basin but utilize the area during spring and fall migration. Several raptor species, some of which are special status species, may also use the area to forage for food or during migration. See Section 3.10 for discussion of special status species.

3.9.2 Environmental Consequences of the Proposed Action

Approximately 0.5 acre of migratory bird habitat would be permanently removed from the project area. An additional 89.4 acres of habitat would be removed temporarily during construction of the proposed project. The impact on migratory birds and their habitat would be expected to be inconsequential because the type of habitat in the project area occurs on thousands of acres of BLM-administered public land that surrounding the project area. Migratory birds would likely move into surrounding habitat temporarily during construction. Displacement from the area would constitute a temporary minor adverse impact, but birds would likely reestablish themselves once construction activities are over.

If habitat-disturbing activities occur during the migratory bird nesting season (March 1 to July 31), environmental protection measures proposed by TPU would require that pre-construction nest surveys be performed by a BLM-approved biologist. The surveys would include all potential nesting habitat in and within 300 feet of the area where disturbance is planned. The surveys would be performed during the first three hours following sunrise, when birds are typically most active.

If active nests are detected, a no-disturbance 300-foot buffer zone (or other width determined by BLM) would be established. Nest locations would be mapped and submitted to the BLM if requested. Surface-disturbing activity would be conducted within the first 10 days that follow the survey.

If more than 10 days lapse between the survey and surface-disturbance, additional surveys would be performed to determine if nesting birds have become established since the last survey was performed. Pre-construction surveys during the migratory bird nesting season would prevent adverse, direct impacts to nesting birds or their nests.

The proposed power line would be constructed in compliance with the standards described in the "Suggested Practices for Raptor Protection on Power Lines, The State of the Art in 2006" (Avian Power Line Interaction Committee 2006). If the relevant parts of power poles and conductor wires cannot be adequately spaced per Avian Power Line Interaction Committee suggested practices, cover devices would be installed. All raptor deterrents used on power poles would be approved by BLM. This would prevent adverse impacts to birds using the power line or poles as perch or nest sites.

3.9.3 Environmental Consequences of the No Action Alternative

The proposed right-of-way would not be authorized and the construction of the proposed project would not occur if the no action alternative were implemented. Disturbance to existing migratory bird habitat in the area would not result from this alternative. New power line and poles would not be necessary or constructed since the proposed project would not occur. Therefore, new sources of potential raptor electrocution hazards would not be introduced into the existing environment by implementing this alternative. The no action alternative would not have any adverse impacts on migratory birds.

3.10 THREATENED AND ENDANGERED AND SPECIES-SPECIAL STATUS SPECIES

3.10.1 Affected Environment

Prior to submittal of the SF-299 Application Form to BLM, TPU sent written correspondence to the U.S. Fish and Wildlife Service, the Nevada Department of Wildlife, the Nevada Natural Heritage Program, and the Nevada Division of Forestry, requesting any information or records that may existing for threatened and endangered species or special status species within or near the project area. Each agency responded with a return letter to TPU, copies of which are provided in Appendix C. The various species included in the responses from each agency were the focus of a baseline biological survey of the entire project area and all areas within the first 50 feet outside of the boundaries of the project area. The survey was performed on October 1, 2011, by a contractor biologist under the guidance of, and in coordination with the BLM.

Agency consultation response letters from the U.S. Fish and Wildlife Service, the Nevada Natural Heritage Program, and Nevada Division of Forestry do not report any known occurrences of federally-listed threatened or endangered species or species proposed for federal listing within the project area. The U.S. Fish and Wildlife Service response letter indicates that no federally-listed species, or species proposed or candidate for listing occur within the project area to the best of the agency's knowledge.

The response letter from the Nevada Department of Wildlife included a list of general wildlife species observed within the vicinity of the project area, regardless of whether the species is considered a special status species or not. The list included the California condor (*Gymnogyps californianus*), which is a U.S. Fish and Wildlife Service federally-listed endangered species. According to the U.S. Fish and Wildlife Service species profile for California condor, the species is only known to occur in Arizona and California, or as an experimental population introduced into parts of Utah. The U.S. Fish and Wildlife Service indicates several counties in California where the bird is known of believed to occur, the closest of which to the project area are Mono and Inyo Counties (U.S. Fish and Wildlife Service 2011).

The project area is approximately 45 flight miles from either of these counties, and lacks habitat preferred by California condor. The observation within the vicinity of the project area was likely in either Mono County or Inyo County, or an isolated observation of a transient condor in flight over the area. No sign of California condor were observed during the October 2011 baseline survey. The species is not believed to occur within the project area or surrounding parts of Ralston Valley.

The U.S. Fish and Wildlife Service 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. The Nevada Department of Wildlife indicated that 12 golden eagle (*Aquila chrysaetos*) nests are known to exist within 10 miles of the project area. Golden eagles typically nest on rock outcrops, cliffs, or other elevated areas. Golden eagle nesting habitat or nests was not observed within the project area during the baseline biological survey. These 12 golden eagle nests reported within 10 miles of the project area by the Nevada Department of Wildlife are suspected to occur in mountains east and west of the project area.

The Nevada Department of Wildlife consultation also indicated that golden eagles have been directly observed in the vicinity of the project area. When considered with the proximity to known reported nests, the project area most likely serves as foraging habitat for golden eagle. No golden eagles were observed during the baseline biological survey. Bald eagle (*Haliaeetus leucocephalus*) would not be expected to occur within or near the project area due to absence of suitable habitat.

The Nevada Department of Wildlife indicated that burrowing owl (*Athene cunicularia*), a migratory bird and a designated BLM sensitive species, is known to reside in the vicinity of the project area. During the survey, the project area was examined for sign of burrowing owls. Burrowing owls generally inhabit open areas with low vegetation. These owls utilize underground burrows for nesting and shelter. Nesting areas characteristically include an elevated perch site or sites, such as fence posts or mounds of earth. The height and density of shrub cover in the project area, combined with lack of evidence or sign of the species during the baseline survey, suggest that suitable burrowing owl habitat is not readily available within or near the project area.

In addition to burrowing owl and golden eagle, the Nevada Department of Wildlife indicated that four other special status species of raptors have been directly observed in the vicinity of the project area: ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), northern goshawk (*Accipiter gentilis*), and peregrine falcon (*Falco peregrinus*).

During the October 2011 baseline survey, the entire project area was examined for special status raptor species and evidence of nesting activity. Existing power poles in portions of the project area where existing pipeline, wells, and booster pump station #1 would be modified or abandoned represent potential raptor nesting and perching habitat. No raptors or raptor nests were observed on these any of the power poles or conductor wires during the October 2011 baseline survey. No raptors or other suitable raptor nesting habitat was observed elsewhere in the project area. Vegetated portions of the project area observed during the October 2011 baseline survey were determined to be suitable foraging habitat for raptors.

Agency consultation describe 4 BLM sensitive plants with potential to occur within the project area: Eastwood milkweed (*Asclepias eastwoodiana*), squalid milkvetch (*Astragalus serenoi* var. *sordescens*), Watson spinecup (*Oxytheca watsonii*), and Clokey pincushion (*Coryphantha vivipara* var. *rosea*). None of the four species were observed during the October 2011 biological survey and are not expected to occur within the project area. No other special status vegetation species were observed within the project area during the October 2011 biological survey.

Prior to performing the October 2011 baseline survey, the complete list of sensitive wildlife species for the BLM Battle Mountain District was reviewed to determine if any species, in addition to those mentioned in agency response letters would be targeted during the survey. The habitat requirements of each species on the BLM list was compared with the habitat types within the project area to determine which species would be included in the survey (Appendix D).

Based on this comparison, three of the sensitive wildlife species on the BLM list were determined to potentially occur within the project area that were not described in agency consultation letters. The three species include dark kangaroo mouse (*Microdipodops megacephalus*), pale kangaroo mouse (*Microdipodops pallidus*), and the San Antonio pocket gopher (*Thomomys bottae curtatus*). Pale and dark kangaroo mice are closely associated with sandy soils that are suitable for burrowing. The San Antonio pocket gopher is also a burrowing species, but is less selective in soil type. The Nevada Department of Wildlife consultation also indicated that dark kangaroo mice have been observed in the vicinity of the project area.

Accordingly, sign of these species were surveyed for during the October 2011 baseline survey of the project area. Sandy habitat that would be suitable for burrowing within the project area was not observed. Most of the project area consisted of unpaved roads, and where roads were absent, sandy habitat was as well. No burrows or any other sign of pale or dark kangaroo mouse or San Antonio pocket gopher were observed within the project area. No other special status species on the BLM Battle Mountain District sensitive species list were observed during the October 2011 baseline survey.

3.10.2 Environmental Consequences of the Proposed Action

Implementation of the proposed action would impact approximately 89.9 acres of foraging habitat for special status raptor species. Approximately 89.4 acres of the disturbance would be temporary for construction and reclaimed afterward. The remaining 0.5 acre would be permanent disturbance where raptor foraging habitat is removed from areas where the proposed access road, new groundwater well structures, and power pole structures are constructed. Raptor nesting habitat is absent from nearly the entire project area, with the exception being existing power poles. No nests were observed on any of the power poles in the project area during the October 2011 baseline survey. The abundance of surrounding foraging habitat and presence of higher quality nesting habitat in mountains east and west of Ralston Valley would lessen the intensity of the impacts of the proposed action. Impacts would be minimal.

The proposed overhead power line and associated pole structures would provide new perching and nesting opportunities for raptor species, including special status raptor species. With wide wingspans and aggressive flight patterns, raptors utilizing the transmission lines and pole structures may contact two or more components of the electrical system and complete an electrical circuit. Electrocution would occur when a raptor completes a circuit, and the bird would certainly experience injury or mortality, which would be a significant negative impact.

The significant negative impact would outweigh the benefits of the new perching and nesting opportunities the project would provide. However, the proposed pole structures would be constructed to the specifications and dimensions recommended by the Avian Power Line Interaction Committee in the Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (2006). These specifications and dimensions are based on providing spacing between the various components of pole structures and conductors wires so as to accommodate a large eagle safely, without the potential for electrocution of the bird. Thus the significant impacts to special status raptors would be prevented.

3.10.3 Environmental Consequences of the No Action Alternative

The proposed right-of-way would not be authorized as a result of implementing the no action alternative. Construction of proposed project would be precluded as a result, and no new surface disturbance would occur. The existing 89.9 acres of foraging habitat for special status raptor species would that occurs within the proposed project area would not be affected by the no action alternative. Since the proposed project would not be constructed, new power line and power poles would be constructed under the no action alternative. This would prevent any new perching or nesting habitat for special status raptor species from being created. Existing power poles associated with current water system would remain in place, unaltered from their current condition, and continue to serve as potential raptor nesting and perching habitat. Because new power line and poles would not be constructed if this alternative were implemented, special status raptor species would not be exposed to increased electrocution potential.

Considering the existing special status species habitat would not be altered by this alternative, and raptors would not be at increased electrocution potential, the no action alternative would not be expected to positively or adversely affect any special status species. There would be no impact.

3.11 WILDLIFE

3.11.1 Affected Environment

Wildlife habitat in the project area consists of a mixed salt desert scrub, with the exception of several of the drainages that cross the project area, where mature coyote willow is the dominant cover. The mixed salt desert scrub cover includes scattered rubber rabbitbrush, greasewood, shadscale saltbush (*Atriplex confertifolia*), and four-wing saltbush, and Mormon tea (*Ephedra nevadensis*). Grasses were limited primarily to Indian rice grass and halogeton occurred in some portions of the project area. Much of the project area consists of existing roads, and does not represent wildlife habitat.

Consultation with the Nevada Department of Wildlife indicates that occupied mule deer (*Odocoileus hemionus*) distribution occurs adjacent to the western perimeter of the project area, and pronghorn antelope (*Antilocapra americana*) distribution exists throughout the entire project area and the surrounding area for many miles. While neither of these species were observed during the October 2011 baseline survey, the project area provides suitable habitat for both species. Because the project area is a relatively narrow corridor, mule deer, pronghorn antelope, and other large mammals would likely occur only as transient species passing through the area while crossing Ralston Valley.

Additional wildlife that would be expected to occur within the habitat found in the project area includes various species of reptiles, birds, and small mammals. Expected reptilian species would include side-blotched lizard (*Uta stansburiana*), western fence lizard (*Sceloporus occidentalis*), and Great Basin gopher snake (*Pituophis catenifer deserticola*). Many species of birds would be supported by this habitat. Some of the species likely to occur include mountain bluebird (*Sialia currucoides*), scrub jay (*Aphelocoma californica*), western meadowlark, American robin, mourning dove (*Zenaida macroura*), and the common raven.

Some small mammals typical of the habitat occurring within the project area include American deer mouse (*Peromyscus maniculatus*), desert cottontail rabbit (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*), and coyote (*Canis latrans*). The project area is a relatively narrow corridor, and many of these species would occur only during movement across the project area. Fish habitat does not exist within the proposed project area.

3.11.2 Environmental Consequences of the Proposed Action

No wildlife individuals or groups of individuals would be expected to be injured or killed as a result of implementing the proposed action. Construction would progress in a generally linear path along the pipeline alignment, and within a relatively small area surrounding each proposed groundwater well. If wildlife were to occur in the project area, it is expected that they would vacate the area prior to construction equipment reaching their location. Impacts to wildlife habitat are anticipated to be minimal and generally short term.

Most species would likely utilize habitat in the project area for foraging rather than nesting due to the presence of existing roads and general lack of ideal nesting habitat. Approximately 89.9 acres of habitat would be removed during construction of the proposed project. Approximately 89.4 acres of the habitat removed during construction would be short term and temporary for the duration of construction and establishment of vegetation following reclamation.

The remaining 0.5 acre of wildlife habitat impacts represent permanent disturbance associated with construction of the proposed access roads, groundwater wells, and each new power pole. Permanent loss of habitat areas of this size is negligible when the abundance of similar habitat surrounding the project area is considered. Therefore impacts to wildlife would be minimal to non-existent.

Approximately 25,297 linear feet of new power line would be constructed as an extension from an existing power line at the Rye Patch well field to the proposed new groundwater wells. Construction of the proposed project would add additional perching opportunities to those presently provided by the existing power line at the Rye Patch well field. Raptors may forage on small mammals and reptiles from these new perch sites. However, because the proposed project would be located within close proximity to the existing power line, increased predation would be minimal and not affect population levels of prey species in the area.

Additionally, very little wildlife was observed within the area during the October 2011 baseline survey. Impacts to wildlife resulting from raptor predation opportunities resulting from the proposed action would be negligible.

As discussed in Section 2.1.2, the power poles would be constructed to dimensions and specifications provided in the Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (Avian Power Line Interaction Committee 2006). This would greatly reduce the potential for birds using the power line and associated power poles from experiencing electrocution and would ensure impacts to birds remain minimal to negligible.

3.11.3 Environmental Consequences of the No Action Alternative

Under the no action alternative the proposed right-of-way would not be authorized and as a result the proposed project would not be constructed. Any surface disturbance to the 89.8 acres of wildlife habitat within the proposed new right-of-way that would have occurred from construction of the proposed project would, therefore, not occur in the no action alternative were implemented. Since new power line and power poles are a component of the proposed project, and the proposed project would not be constructed under the no action alternative, birds would not be subjected to any increased electrocution hazards.

However, any new perching or nesting opportunities that new power line and poles would have created would not occur. Although avian species would not benefit from the absence of new perching and nesting habitat associated with this alternative, small mammals and reptiles would not be exposed to increase predation from birds. The no action alternative would not have any adverse or positive impacts to wildlife due to the lack of alterations to the existing environment that would occur if it were implemented.

3.12 WASTES – HAZARDOUS AND SOLID

3.12.1 Affected Environment

The proposed project area does not contain any known hazardous wastes. The U.S. Environmental Protection Agency database of hazardous material spills and sites contaminated with hazardous materials did not identify hazardous waste records for the proposed project. The proposed project area does not contain any authorized solid waste disposal sites. Evidence of unauthorized solid waste disposal does not occur in the area.

3.12.2 Environmental Consequences of the Proposed Action

Hazardous wastes would not be anticipated as a byproduct of the proposed action. Hazardous materials associated with the proposed action would be limited to primarily petroleum products associated with fueling and lubricating of the project construction equipment, such as gasoline, diesel, motor oil, and hydraulic fluid. Relatively small quantities of hazardous materials would be stored or used during construction of the proposed project. Storage of construction materials, including hazardous materials would occur on private land owned by the Town of Tonopah. Construction equipment would also be stored and refueled on private land. Environmental protection measures would ensure that spill kits would be stored and kept at the project area in the event of a spill or leak.

All construction equipment and supplies would be removed from the project area once construction and reclamation activities are completed. Construction wastes, including trash and litter, solid waste, biodegradable debris, surplus construction materials and any other construction-related byproducts would be removed from the project area to an authorized disposal facility. No construction wastes or materials would be burned, buried, or otherwise left at the project area.

The relatively small quantities of hazardous petroleum fluids combined with the environmental protection measures described in Section 2.1.8 would prevent any solid or hazardous materials or wastes associated with the proposed action from having any adverse impacts to the existing environment.

3.12.3 Environmental Consequences of the No Action Alternative

The no action alternative would preclude construction of the proposed project because the proposed right-of-way would not be authorized in this alternative were implemented. No construction equipment or substances used to power equipment would be necessary since construction would not occur. There would be no increased potential for spills of equipment fluids or increased potential for equipment to develop leaks. 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.

3.13 WATER QUALITY (SURFACE/GROUND

3.13.1 Affected Environment

Surface Water

Surface waters do not regularly exist within the project area. Numerous ephemeral drainages cross the proposed project area, and may carry surface runoff flows to or towards Mud Flat playa during periods of snowmelt or after thundershowers.

Groundwater

The Proposed Action would be located in the Ralston Valley Hydrographic Area (Hydrographic Area 141),which is also the hydrographic area that the existing Rye Patch well field is located in (Figure 6). The general direction of groundwater movement in the Ralston Valley Hydrographic Area is south, toward the south end of Ralston Valley (Interflow Hydrology, Inc. 2011a). The Ralston Valley Hydrographic Area has an area of 971 square miles and a perennial yield of 6,000 acre-feet per year. The basin has 4,306.05 acre-feet per year of committed, existing underground water rights (Nevada Division of Water Resources 2011).

The Ralston Valley Hydrographic Area has been “designated” by the Nevada State Engineer under Order Number O-742 and O-752. Order Number 0-742 was signed into effect on April 22, 1980, and designated the Ralston Valley Hydrographic Area as coming under the provisions of Chapter 534 of the Nevada Revised Statutes. When Order Number 0-752 was signed into effect on August 15, 1980, the State Engineer declared that no additional permits to appropriate ground water within the following restricted area of the Ralston Valley Ground Water Basin would be granted:

- sections 3, 4, 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21,and the west halves of Section 28 and 29, T4N, R44E;
- sections 12,13,24 and 25, T4N, R43E; and,
- sections 31, 32 and 33, T5N, R44E, Mount Diablo Base and Meridian.

The order states that most of the available groundwater of suitable chemical quality for municipal purposes occurs in the alluvium in the above described area and groundwater pumped from said area is used by the Town of Tonopah for a municipal supply. The safeguarding of the aforementioned limited water supply necessitates and demands that municipal use be declared a preferred use of the groundwater resource of the above described area and that no additional permits be granted within the restricted area to appropriate groundwater. State Engineer Orders 0-742 and 0-752 are included as Appendix F for reference.

Generally, the area described in State Engineer Order 0-752 coincides with the Rye Patch well field (Figure 6). The Rye Patch well field is where the eight existing wells are located that currently supply all of the water to the Town of Tonopah service area. These wells are referred to as Wells #1 through #8. Additional water rights have been appropriated by TPU for quasi-municipal use at the three separate points of diversion near the Tonopah Airport. These appropriated water rights are recorded with the Nevada Division of Water Resources as Permit 69156, 69157, and 69158. Wells at any of these three points of diversions have not been drilled to date, and drilling wells at these locations is not proposed. TPU also has filed for appropriation at two other points of diversions that are pending approval by the Nevada Division of Water of Resources. The application for appropriation at these two locations is also not part of the proposed project or proposed action.

Each of the wells at the Rye Patch well field and all other appropriate water rights TPU owns, including those near the Tonopah Airport, have been designated a maximum diversion rate and annual duty by the State Engineer, Nevada Division of Water Resources. Table 7 provides the diversion rate and annual duty for existing and pending wells and for points of diversion where no well has been drilled or proposed. Table 7 also includes the well depth when applicable, and the Nevada Division of Water Resources permit, certificate, and well log numbers as applicable.

Table 7 Existing TPU Well Diversion Rates*

Well Name/ Point of Diversion	Well Depth (feet)	Nevada Division of Water Resources Record Numbers			Maximum Diversion Rate Permissible by Appropriated Water Rights		Annual Duty	
		Permit	Well Log	Certificate	Millions of Gallons per Year	Acre Feet per Year	Millions of Gallons per Year	Acre Feet per Year
Well #1	315	45149	10172	12819	87.28	267.87	44.55	136.72
Well #2	150	45148	21617/23602	12818	87.28	267.87	36.00	110.48
Well #3	145	45221	21641	12822	66.05	202.71	27.21	83.50
Well #4	150	45150	21616	12820	125.02	383.70	45.59	139.91
Well #5	85	45151	77772	12821	122.66	376.46	56.47	173.30
Well #6	85	45151		12821	70.77	217.19	26.27	80.62
Well #7	100	45151		12821	73.12	224.43	34.35	105.42
Well #8	100	54929	42106	n/a	235.89	723.97	241.83	723.9
First Airport Point of Diversion	n/a	69156	n/a	n/a	443.47	1361.06	278.91	856
Second Airport Point of Diversion	n/a	69157	n/a	n/a	443.47	1361.06	278.91	856
Third Airport Point of Diversion	n/a	69158	n/a	n/a	443.47	1361.06	278.91	856
Sportsman Park (Pending)	n/a	78957	31598	n/a	235.89	723.97	78.19	239.98
Nye Co/45149 (Pending)	n/a	76997	10172	n/a	n/a	n/a	488.74	1,500
TOTAL:	**n/a**	**n/a**	**n/a**	**n/a**	**2,434.37**	**7471.35**	**1,915.92**	**5,861.83**

*Source: Personal Communication with Susan Dudley of TPU, November 2011.

As mentioned above, Interflow Hydrology, Inc. reports that the general direction of groundwater movement in the Ralston Valley Hydrographic Area is south (2011). According to supplemental data prepared by Interflow Hydrology, Inc. (2011b), in northern Ralston Valley groundwater flow from the surrounding mountains converges and moves toward the center of the valley. Groundwater then flows from north to south through central Ralston Valley. In central Ralston Valley, groundwater flows through a constricted, narrow area, which coincides with the location of the existing Rye Patch well field.

The central valley constriction is formed by volcanic rocks, which in effect dam groundwater flowing from north to south, causing groundwater to move up through the valley fill and result in shallow groundwater conditions. The groundwater discharges by the natural uptake of plants where the depth to water is shallow enough for roots to reach the zone of saturation, and by pumping from the existing TPU water system wells. The portion of groundwater not consumed by plants or pumped at the Rye Patch well field continues flowing south, through the constriction and into southern Ralston Valley.

Arsenic concentration in groundwater generally increases as water moves from north to south through the Ralston Valley Hydrographic Area (Interflow Hydrology, Inc. 2011a). Arsenic concentrations in groundwater of northern Ralston Valley are low, generally ranging from 2 to 6 parts per billion (Interflow Hydrology, Inc. 2011b). The source of the higher arsenic content in the groundwater of central Ralston Valley correlates with regional north-northwest trending faulting, interpreted to be associated with the Walker Lane regional fault zone (Interflow Hydrology, Inc. 2011b).

Interflow Hydrology, Inc. (2011b) reports that groundwater within the north-northwest trending fault zone exhibits elevated arsenic contents, ranging from 6 to 24 parts per billion, with an average of approximately 13 parts per billion. Hydrothermal alteration and mineral deposition along the fault trend are the most probable sources for elevated arsenic in central Ralston Valley, and thus, groundwater pumped at the Rye Patch well field (Interflow Hydrology 2011a).

As groundwater sources mix together along the regional flow through the central valley fill, the resulting arsenic content is about 10 parts per billion (Interflow Hydrology 2011b). This is observable at existing Wells 5 to 8, as shown in Table 8. Arsenic concentrations are generally higher at Wells 1 through 4, which are located further south than Wells 5 through 8. The average arsenic concentration in water supplied to the service area, which is essentially all of the water pumped from all eight existing wells combined, has been between 10 and 12 parts per billion in recent years (Interflow Hydrology, Inc. 2011a and 2011c). The Midway gold deposit may also be a naturally occurring source of arsenic, and is located up gradient of the Rye Patch well field (Interflow Hydrology, Inc. 2011a).

Table 8 Groundwater Arsenic Content – Existing Water System Wells[1]

Well Site	Average Arsenic Concentration[2] (parts per billion)	Static Water Level (feet)	Geologic Formation in Which Well is Completed
Well 1	15	15.5	Alluvium and volcanic rocks below 195 feet
Well 2	12	16.3	Alluvium

Well Site	Average Arsenic Concentration[2] (parts per billion)	Static Water Level (feet)	Geologic Formation in Which Well is Completed
Well 3	11	15.2	Alluvium
Well 4	14	15.4	Alluvium
Well 5	9	19.1	Alluvium
Well 6	10	No Data	Alluvium
Well 7	10	21.2	Alluvium
Well 8	10	No Data	Alluvium

1. Source of data in Table 5: (Interflow Hydrology, Inc. 2011a)
2. Average arsenic concentration based on arsenic data collected during 2009 and 2010

3.13.2 Environmental Consequences of the Proposed Action

The proposed new groundwater wells would be located approximately 4 miles north of the existing Rye Patch well field (Figure 6), and would be drilled by a licensed well driller. TPU would not submit an application for appropriation of new water rights to the Nevada Division of Water Resources, but instead would submit an application to change the point of diversion for existing appropriated water rights in accordance with Nevada Revised Statutes 533.345. The existing appropriated water rights that TPU would request the point of diversion be shifted are from the rights with current points of diversion near the Tonopah Airport (Permit 69156, 69157 and 69158). As shown in Table 7, an annual duty of approximately 278.9 million gallons of water have been designated for each of these three points near the airport, for a combined annual duty of approximately 836.7 million gallons.

Once constructed and operational, both of the new wells would each typically produce approximately 500 to 530 gallons per minute, for a combined total of approximately 1,031 gallons per minute, or about 542 million gallons per year. Since 542 million gallons is approximately 294.7 million gallon less than the combined annual duty of 836.7 million gallons at the Tonopah Airport, the three existing points of diversion near the airport would be retained for the 294.7-million-gallon balance.

The other water rights held by Tonopah Public Utilities will remain intact as is at Wells #1 through #8, and as pending at the Sportsman Park and Nye Co/45149 locations. The current point of diversions near the Tonopah Airport and at proposed well sites are both in the Ralston Valley Hydrographic Basic. Once existing Well #5, #6, #7, and #8 are rehabilitated and improved, they would be operated to produce approximately 500 gallons per minute, or 262.8 million gallons per year. This is well within the combined annual duty of approximately 358.9 million gallons for these 4 wells.

Based on information provided in Table 7, the total annual duty of all water rights held by TPU/Nye County, including pending applications, is approximately 5,906 acre feet per year. The total active underground water rights for the basin are approximately 4,036 acre feet per year, including approximately 140 acre feet for irrigation and stock water. In addition, there are two permit applications ready for action: 78957 for 239.9 annual acre feet and 76997 for 1,500 annual acre feet. If these permits are approved, the total active underground water rights for the basin will be approximately 6,046 acre feet per year. This is slightly more than the annual yield of the Ralston Valley Hydrographic Basin, which the Nevada Division of Water Resources reports as 6,000 acre feet per year (2011).

The rehabilitation and improvements to existing Wells #5 through #8 would, as mentioned, increase their combined production rate to approximately 500 gallons per minute. The increased volume of water pumped at these 4 wells would be negligible when considered to the volume that would no longer regularly be produced at Wells #1 through #4 following their deactivation. Therefore, rehabilitating and increasing the productivity of existing Wells #5 through #8 at the Rye Patch well field would not be anticipated to have an adverse impact on groundwater quantity. Wells #1 through #4, while deactivated, would continue to be maintained and periodically pumped as required should it become necessary to place them back into service in the future. Springs in the area of the proposed new wells are located up gradient and will not be impacted by pumping.

The two proposed wells would be located about 4 miles north of the existing wells, very close to Test Well 77A. Hydraulic analysis of Test Well 77A indicates an aquifer transmissivity of 46,700 square-feet per day, with a storage coefficient of 0.0017 (Interflow Hydrology 2011c). Aquifer testing at Test Well 77A indicated that a very productive aquifer capable of supplying several thousand gallons per minute of water with low amounts of drawdown at the proposed location of the new wells (Interflow Hydrology, Inc. 2011c).

The production rate at the two proposed new wells would be 1,031 gallons per minute, combined. This would be well within the aquifer's production capability of several thousand gallons per minute with low drawdown (Interflow Hydrology, Inc. 2011c). The 20-year average day demand for the service area is estimated at approximately 495,000 gallons per day, or approximately 344 gallons per minute (Shaw Engineering 2011). The 20-year demand is far less than the reported sustainable aquifer yield of several thousand gallons per minute (Interflow Hydrology 2011c).

Using aquifer testing data from Test Well 77A, Interflow Hydrology performed a simulation of three well pumping scenarios to analyze the potential aquifer drawdown that would be expected (Interflow Hydrology 2011c). The findings of the simulation are provided in Table 9 for each of the three scenarios simulated, assuming a 70 percent well efficiency.

Table 9 Theoretical Drawdown of Aquifer Based on Testing At Test Well 77A

Scenario	Simulated Number of Wells	Spacing Between Wells	Simulated Pumping Rate (Gallons per Minute per Well)	Aquifer Drawdown after 50 Days of Pumping
1	1	n/a	1,000	9 to 10 feet
2	2	150 feet	1,000	15 feet
3	3	150 feet	500	10 feet

Source of data in Table 9: (Interflow Hydrology, Inc. 2011c)

TPU has proposed to operate the new wells at a combined production rate of 1,031 gallons per minute. At 1,000 and 1,500 gallons per minute, the respective pumping rates of Scenario 1 and 3 are closest to the proposed production rate at the new wells. Even after prolonged periods of pumping, only 10 feet of aquifer drawdown would be expected based on data in Table 9 (Interflow Hydrology, Inc. 2011c).

Considering that groundwater in Ralston Valley moves north to south (Interflow Hydrology, Inc. 2011a), the groundwater where the two new wells are proposed will, at some point reach central Ralston Valley, specifically the constrained narrow area where the existing wells are located (Interflow Hydrology,, Inc. 2011b). The low arsenic concentration groundwater mixes with groundwater originating from faults in the central valley that contains relatively high concentrations of arsenic. The mixing reduces the overall arsenic concentration in groundwater in central Ralston Valley to that observed at the Rye Patch well field (Interflow Hydrology 2011b).

Because groundwater pumped at the proposed new wells would be removed from the aquifer, it would no longer be available for mixing at the down-gradient fault zone. Consequently, the effects of the removal at the new wells was analyzed to determine if substantial increases in the arsenic concentration of groundwater at the existing Rye Patch well field would be anticipated.

As described above, the aquifer near the proposed well locations is capable of producing several thousand gallons per minute with low drawdown (Interflow Hydrology, Inc. 2011c). Since TPU would produce at a rate of 1,031 gallons per minute at both proposed wells collectively, a substantial volume of groundwater would remain in the aquifer and continue to flow south and eventually mix with groundwater containing higher arsenic concentrations. Interflow Hydrology, Inc. states that the aquifer where the proposed new wells would be located is a viable source for low arsenic content blending water (2011b). Interflow Hydrology, Inc. performed a continuous discharge test at Test Well 77A (Interflow Hydrology 2011c).

During the test, a recording transducer was placed in the Midway 77 monitoring well, which is located approximately 37 feet down-gradient of Test Well 77A. After 2.8 days of continuously pumping at a rate of 320 gallons per minute at Test Well 77A, the maximum aquifer drawdown at the Midway 77 monitoring well was 1.4 feet (Interflow Hydrology 2011c). This suggests that if only 1.4 feet of drawdown was observed less than 40 feet from the Test Well 77A, very little if any drawdown would be detectable in the aquifer where it flows into the fault zone, some 2,500 feet down-gradient of the proposed well locations. This would have minimal to no impact on groundwater quality, anywhere in the Ralston Valley Hydrographic Area.

Additionally, Interflow Hydrology reports that arsenic concentrations in groundwater samples collected from Test Well 77A prior to, and after the continuous discharge test were both 2 parts per billion (Interflow Hydrology, Inc. 2011c). The continuous discharge testing of the aquifer in the area where the proposed new wells would be located displayed no effects on arsenic concentration of groundwater at the test area.

The proposed new wells would be fitted with 12-inch casing. Shaw Engineering reports that casing of this size is sufficient for a flow range of approximately 300 to 700 gallons per minute (2011). The production of each proposed well would be capable of being increased or decreased by simply exchanging the submersible pump. Therefore, in the unlikely event that arsenic concentrations were observed to increase at existing wells after production at the proposed wells begins, production rates could be modified until an equilibrium is achieved that supplies water compliant with arsenic standards. Wells #5 through #8 presently have average arsenic levels that

range from 9 to 10 parts per billion, and when blended with the water from the proposed new wells, would always be well below the MCL for any type of blending scenario (Shaw Engineering 2011).

TPU sent written consultation to the Nevada Division of Environmental Protection, Bureau of Safe Drinking Water requesting any concerns of information the agency might have in regards to the proposed project. In a written response dated July 22, 2011, the Nevada Division of Environmental Protection, Bureau of Safe Drinking Water indicated that construction of the water wells and transmission main should have should have minimal or no impact to the existing groundwater quality. A copy of the letter provided to TPU from the agency is provided in Appendix C. This, combined with the aforementioned studies and analysis, indicate that any potential impacts to groundwater quality would be minimal to non-existent.

The existing pipeline that is to be abandoned and replaced with new pipeline is believed to have significant water losses resulting from pipe leaks. According to Lumos and Associates, Inc., the water loss in the existing TPU water system is approximately 14 percent of the total volume of water produced by the system (2010). TPU reports that recent records indicated losses in the water system may be as high as 17 percent of the production volume (Personal Communication with Susan Dudley, TPU, November 10, 2011). The proposed project will replace the existing pipeline with new pipeline; therefore, leaks associated with existing pipeline would be eliminated. Elimination of any water loss is a positive environmental impact, and is compliant with the *Tonopah Public Utilities Water System: Water Conservation Plan* (TPU 2009).

3.13.3 Environmental Consequences of the No Action Alternative

Groundwater would continue to be lost at present volumes due to leaks in the existing system if the no action alternative were implemented. Additionally, groundwater pumped and delivered in the existing system would continue to have arsenic concentrations above state and federal standards (10 parts per billion) if the no action alternative were implemented. Existing appropriated rights would be continue as described in Section 3.13.1

4.0 CUMULATIVE IMPACTS, INTERDEPENDENT, AND INTERRELATED IMPACTS

This chapter will address the cumulative effects of the proposed action and no action alternative on the affected environment, past activities in and around the area, and any reasonably foreseeable future activities.

The Council on Environmental Quality regulations defines cumulative impacts as:

> "…the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future 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)."

As required under the NEPA and the regulations implementing NEPA, this chapter addresses those cumulative effects on the environmental resources in the Cumulative Effects Study Areas which could result from the implementation of the proposed action and the no action alternative; past actions; present actions; and reasonably foreseeable future actions. The extent of the Cumulative Effects Study Area may vary with each resource, based on the geographic or biologic limits of that resource. As a result, any projects considered under the cumulative analysis may vary according to the resource being considered. In addition, the length of time for cumulative effects analysis may vary according to the duration of impacts from the Proposed Action on the particular resource.

Environmental consequences of the proposed action and the no action alternative were evaluated previously in Chapter 3. Based upon the analysis of the environmental resources, the following resources may be impacted by the proposed action or no action alternative: cultural and historic resources, minerals, socio-economics, visual resources, vegetation, migratory birds, threatened and endangered and special status species, and wildlife. The above resources are considered to have the potential to be cumulatively impacted by actions within the identified Cumulative Effects Study Area for that resource.

Based on the preceding analysis, the proposed action and no action alternative would not impact the following resources or they are not present and thus do not have cumulative impacts: air quality, Areas of Critical Environmental Concern, environmental justice, prime or unique farmlands, fish habitat, floodplains, forest and rangelands, human health and safety, wetlands and riparian zones, Wild and Scenic Rivers, wilderness, wilderness characteristic, grazing management, paleontological resources, recreation, wild horses and burros, fire management, land use authorizations, Native American religious concerns, soils, noxious weeds, and invasive, non-native species, and hazardous and solid wastes.

4.1 CUMULATIVE EFFECTS STUDY AREA

The Cumulative Effects Study Area for cultural resources, visual resources, vegetation, migratory birds, special status species, and wildlife includes areas within 6 miles of the proposed project area. The area was extended along its southern margin to include all of the Tonopah

Airport and the Town of Tonopah water system service areas. This 171,200-acre area was selected as the Cumulative Effects Study Area for these resources because it is the geographic extent over which the proposed action would have cumulative impacts on any these resources when considered with other impacts from past, present, and reasonably foreseeable future actions. This Cumulative Effects Study Area is referred to as the "Primary Cumulative Effects Study Area" for the remainder of Chapter 4.

The Cumulative Effects Study Area for socio-economics and minerals includes the area within the Cumulative Effects Study Area for all other resources described above, in addition to the Round Mountain Mine site. The Cumulative Effects Study Area was expanded to include Round Mountain Mine because most of the mine personnel reside and purchase goods and services in the Town of Tonopah water system service area and affect socio-economics. The San Antonio Mountains separate Ralston Valley from the mine site, and is a natural barrier to impacts resulting from surface disturbance and visual resources. This Cumulative Effects Study Area is referred to as the "Expanded Cumulative Effects Study Area" for the remainder of this chapter.

The extent of the Primary Cumulative Effects Study Area and location of the Round Mountain Mine is shown on Figure 7.

4.2 OTHER PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

4.2.1 Past and Present Actions

The past and present actions that have impacted resources in the Primary Cumulative Effects Study Area that the proposed action or no action alternative may potentially affect are listed in Table 10. The present actions within the Primary Cumulative Effects Study Area are a continuation of the past actions that occurred. All of the past and present actions have resulted in lasting surface disturbance that is assumed to have displaced native vegetation and soils, wildlife and migratory bird habitat, and created conditions ideal for establishment of noxious weeds and invasive, non-native species. The approximate area of long-term surface disturbance that has resulted from past and present actions is provided in Table 10. Cultural resources and threatened and endangered, special status species may have been impacted by past and present actions. However, the extent of cultural sites or threatened and endangered, special status species outside of project area is unknown. Adverse direct and/or indirect impacts to these resources have likely resulted from one or more of the past and present actions, but cannot be confirmed definitively.

The Expanded Cumulative Effects Study Area includes the past and present actions listed in Table 10 and the Round Mountain Mine. These actions have impacted, either directly or indirectly, the socio-economics of the Town-of-Tonopah water system service area. The Round Mountain Mine and Midway Gold Exploration Activities are the only actions in the Expanded Cumulative Effects Study Area that directly impact minerals. Development of the Town of Tonopah and construction of power lines have indirectly affected minerals.

Table 10 Past, Present, and Reasonably Foreseeable Future Actions

Past and Present Action	Approximate Long-Term Disturbance (acres)*
Town of Tonopah	2,500
Tonopah Airport	2,700
Existing Linear Disturbances*	600
Gravel and Borrow Pits	350
Sportsman Recreational Park	100
Tonopah Air Force Station	45
Tonopah Conservation Camp	30
Midway Gold Corporation Exploration Activities	50
Total Combined Cumulative Actions:	**6,375 acres**

*Surface disturbance from past and present actions based on 2010 aerial photography (U.S. Farm Service Agency).

4.2.2 Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions include the continued operation of present actions listed in Table 10 and the proposed action and no action alternative described in Chapter 2 of this Environmental Assessment. The same resources impacted by past and present actions would continue to be impacted by reasonably foreseeable future actions. The intensity of those impacts would increase by the addition of impacts resulting from the proposed action or no action alternative. Therefore, total surface disturbance from reasonably foreseeable future actions would be approximately 6,435.8 acres.

Midway Gold Corporation may move forward with development of the mineral deposit on their staked unpatented claims in northern Ralston Valley. The corporation has performed exploration activities to gain a better understanding of the deposit, which is typically a critical component of developing a Plan of Operations for development. However, Midway Gold Corporation has not submitted a Notice of Intent or Plan of Operations to BLM at this time. Because a plan to develop the mineral deposit has not been submitted, it cannot be conclusively determined if or when development would be proposed. As a result, mineral development by Midway Gold Corporation is not considered a reasonably foreseeable future action.

4.3 EVALUATION OF THE PROPOSED ACTION AND NO ACTION CUMULATIVE IMPACTS

4.3.1 Cultural Resources

It is unknown whether other cumulative actions impacted cultural resources or whether any ever occurred or remain other than those identified during the Class III cultural resource survey of the project area. As described in Section 2.1.8, TPU would implement environmental protection measures prior to construction, including the following:

- Instruction would be provided to project personnel regarding the protection of cultural resources.
- A cultural resources monitor shall be present to monitor construction of the project in those portions of the area of potential effects located within and adjacent to the two

newly recorded pre-historic sites that are recommended as eligible for nomination to the National Register of Historic Places and the one previously recorded cultural resource site that was recommended eligible to the National Register.

- Vehicle and equipment travel and construction activities would be restricted to the project area.

The environmental protection measures when combined with the right-of-way stipulations listed in Appendix A would limit any impacts on cultural resources from the proposed action. Cultural sites eligible for listing in the National Register of Historic Places would not be destroyed or lost as result of the proposed action. Because impacts would be minimal and no loss of the resource would occur, the cumulative impacts of the proposed action would be minimal.

The no action alternative would not have any cumulative impacts on cultural resources.

4.3.2 Minerals

The proposed action would result in the construction of a segment of new water pipeline across the eastern margin of unpatented claims that are staked by Midway Gold Corporation. The pipeline could pose a restriction to the exploration or development of the mineral resource within the unpatented claim area. This would conflict with the rights that the Mining Act of 1872 has asserted to Midway Gold Corporation as an unpatented claim holder. Accordingly, if the proposed project becomes a restriction to the rights asserted by unpatented mining claims to develop and extract the valuable mineral deposit in the claim area, TPU would redesign and relocate the water system outside of the claim area. Therefore, the proposed action would not have any cumulative impacts on minerals.

Cumulative impacts to minerals would not result from the no action alternative.

4.3.3 Socio-Economics

The proposed action would not have a significant incremental impact to the socio-economics of the Town of Tonopah. It is estimated that 14 percent (Lumos and Associates, Inc. 2010) to 17 percent (person communication with Susan Dudley, TPU, November 10, 2011) of the total water produced by the existing system is lost to leakage. The energy and spent producing the lost water represents unnecessary costs to TPU and the residents of the Town of Tonopah. The proposed action would alleviate the water loss experienced in the existing water system; thus, alleviating the unnecessary costs associated with it. The cost savings would accumulate over time, and eventually the proposed action would result in positive cumulative impacts, albeit minimal.

The no action alternative would prohibit construction of the proposed project. As a result, the groundwater pumped at the existing Rye Patch well field would not be blended with groundwater from northern Ralston Valley. Without blending the municipal water supple would likely continue to be in a state of noncompliance with federal and state arsenic standard of 10 parts per billion. Beginning in January 2013, a $25,000 fine would be imposed on the Town of Tonopah each day the system provided water with arsenic concentrations above the standard. The expense of the fine would more than negate the positive impacts that the other cumulative actions in the

Expanded Cumulative Effects Study Area contribute to socioeconomics. Therefore, the no action alternative would have negative cumulative impacts on socio-economics.

4.3.4 Visual Resources

The proposed action would have a negligible impact on visual resources because permanent impacts would minimal and nearly identical to alterations in the landscape associated with roads and overhead power lines. The Primary Cumulative Effects Study Area is located in a Class IV Visual Resource Management Area, and the cumulative actions are, or would be in conformance with the objectives for Class IV Visual Resource Management area. The proposed action would have no noticeable or measureable cumulative impacts on visual resources.

The no action alternative would not have any cumulative impacts on visual resources.

4.3.5 Vegetation and Soils

Approximately 89.9 acres of vegetation and 103.9 acres of soil substrate would be disturbed by the proposed action. Most disturbances would be temporary and short-term during construction of the proposed project through reclamation of the project area. Following reclamation of temporary construction disturbance, the permanent disturbance to vegetation and soils would be approximately 0.5 acre. The area of vegetation and soil substrate that would be permanently disturbed would be cumulative with the 6,375 acres of vegetation and soils that have been disturbed from the other cumulative actions in the Primary Cumulative Effects Study Area. Permanent impacts from the proposed action would represent an inconsequential and small portion of the cumulative disturbance to vegetation and soils in the Cumulative Effects Study Area. Substantial areas of similar vegetation cover and soils exist within the Cumulative Effects Study Area, further dampening the impact of the proposed action and other actions in the area.

Cumulative impacts to vegetation and soils would not occur from the no action alternative.

4.3.6 Wildlife and Migratory Birds

The proposed action would add 89.9 acres of wildlife and migratory bird habitat disturbance to the 6,375 acres of habitat disturbance from other past, present, and reasonably foreseeable future actions in the Cumulative Effects Study Area. The cumulative impact of the proposed action would be minor because 89.4 acres of habitat would be restored through reclamation of temporary disturbances. An abundance of similar vegetation cover and habitat exists within Ralston Valley near the project area.

Migratory nesting surveys would be performed when disturbance is planned with vegetation cover in the project area during the migratory bird nesting season. If nests are located, a 300-foot-radius buffer would be established around the nest and no disturbance would occur within the buffer until the young birds fledge the nest. The power lines would be constructed to the proposed power poles would be constructed to dimensions and specifications provided in the Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (Avian Power Line Interaction Committee 2006). This would greatly reduce the potential for birds using

the power line and associated power poles from experiencing electrocution and would ensure impacts to birds remain minimal to negligible. The proposed action would have minimal cumulative impacts to wildlife or migratory bird species.

The no action alternative would not have any cumulative impacts on wildlife and migratory birds.

4.3.7 Threatened and Endangered, and Special Status Species

There are no known occurrences of federally-listed threatened or endangered species within the proposed project area. The proposed action would not be expected to have any impacts, cumulative or otherwise, on threatened and endangered species.

Special status species were not observed within the project area during the October 2011 baseline survey, but the project area was determined to contain approximately 0.5 acres of poor- to marginal-quality kangaroo mouse habitat. Surface disturbance resulting from the proposed action may impact this area, but all impacts would be temporary and short-term until reclamation is completed. No permanent impacts to habitat would occur, and the proposed action would have no cumulative negative impacts on pale or dark kangaroo mice.

The proposed action would result in approximately 89.9 acres of surface disturbance within potential foraging habitat for special status raptor species. The surface disturbance resulting from the proposed action would be cumulative with the 6,375 acres of surface disturbance that resulted from other cumulative impacts in the Cumulative Effects Study Area. Following of reclamation of the project area, long-term disturbance from the proposed action would be approximately 0.5 acre, and represent a negligible portion of the cumulative disturbance to foraging habitat the in area.

The proposed action would result in approximately 25,297 linear feet of new overhead power line and approximately 75 new power poles. Special status species may use the power pole and line as perching or nesting habitat. The power line and poles would be constructed to the specifications and dimensions recommended in the Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (Avian Power Line Interaction Committee 2006). This would greatly reduce the potential for raptors to be electrocuted while using the power line and poles. Consequently, the cumulative impacts on special status raptor species from the proposed action would be negligible.

The no action alternative would not have any cumulative impacts on threatened and endangered species or special status species.

4.3.8 Water Quality (Surface/Ground)

Surface Water

The proposed action would not have any impact on surface water quality. Therefore, there would be no cumulative impacts to surface water quality resulting from the proposed action.

Cumulative impacts to surface water quality would not result from the no action alternative.

Groundwater Quality

The primary past and present actions in the Cumulative Effects Study Area that have potentially impacted groundwater quality include the existing TPU water system for municipal uses, and for stock water for livestock grazing. According to the Nevada Division of Resources (2011), approximately 4,158.1 acre feet of active annual duty are presently appropriated for municipal and quasi-municipal uses in the Ralston Valley Hydrographic Area. Approximately 132.4 acre feet of active annual duty of water rights have been appropriated for stock water use (Nevada Division of Water Resources 2011).

Collectively, these two actions have resulted in an active annual duty appropriation of approximately 4,290.5 acre feet, which is approximately 71 percent of the total annual yield of the Ralston Valley Hydrographic Area: 6,000 acre feet (Nevada Division of Water Resources 2011). Aside from the elevated arsenic content, water quality is generally high. Other minor existing uses have been appropriated for a combined active annual duty of approximately 15.5 acre feet.

The reasonably foreseeable future actions in the Cumulative Effects Study Area include the continuation of existing appropriated water rights for municipal uses and for stock watering, and all other minor existing uses for which rights have been appropriated. The reasonably foreseeable future actions also include the pending appropriation of approximately 1,740 acre feet of active annual duty for municipal or quasi-municipal use at two locations (see Table 7) that TPU and/or the Nye County Board of Commissioners has applied for. Therefore, within the reasonably foreseeable future, approximately 6,046 acre feet of active annual duty of appropriated groundwater rights would exist within the Ralston Valley Hydrographic Area, which has an annual yield of only 6,000 acre feet (Nevada Division of Water Resources 2011).

The reasonably foreseeable future actions also include the proposed action, which would shift the point of diversion for existing appropriated rights near the Tonopah Airport to the proposed well locations. Although these rights are existing appropriated rights included in the reasonably foreseeable future appropriated rights of 6,046 acre feet, no wells or other means of production have been constructed at their current points of diversion near the airport. Once the proposed action is constructed and operational, the proposed new wells would produce a combined 1,031 acre feet annually.

The 1,031 acre feet that would be pumped between the two new proposed wells each year would represent new production of existing appropriated water rights that were previously unrealized through production. While the production at the proposed new wells alone would not increase the total production volume within the hydrographic area above the yield, it could contribute to exceeding the 6, 000 acre feet of annual yield if all other active annual duty of appropriated rights also went into production. Although no application, plan of development, or other form of notification has been submitted to develop a means of production at the locations of some existing rights that are currently not in production, the water rights are appropriated which means they may be utilized within the reasonably foreseeable future.

It would be difficult if not impossible to conclusively determine what effect the production of approximately 6,046 acre feet of groundwater per year would have on groundwater, especially on groundwater quality. However, under such reasonably foreseeable future conditions, should the proposed project be brought forward as a cause of groundwater degradation by any existing owner (claimant) of water rights in the Ralston Valley Hydrographic Area, and the affected groundwater was appropriated to claimant prior to the implementation of the proposed action, TPU would work in conjunction with the claimant, and either or both the BLM and the Nevada Division of Water Resources, depending on nature of the reported degradation. Not all of the pending and existing appropriated water rights in the hydrographic basin are associated with the proposed action.

Additionally, unforeseen applications of appropriation may be submitted for temporary or permanent use of groundwater rights in the future, or any number of unrelated spills, accidents, or other unpredictable disasters or catastrophes could occur in the future and may degrade groundwater. Accordingly, if a claimant, satisfying previously mentioned conditions of prior ownership, declares that the proposed project is the source or cause of degradation of the rights appropriated to the claimant, TPU and either or both of the aforementioned agencies would request the owner to provide supporting information, data or other form(s) of evidence that conclusively demonstrates both of the following conditions:

- that groundwater degradation of said water rights owner has actually occurred since the implementation of the proposed action; and
- that a direct correlation, relationship, or connection between the proposed project and the reported groundwater degradation exists.

If the claimant provides data, and TPU and the involved agencies are able to determine that the above conditions are demonstrated, TPU would work in conjunction with the claimant, and either or both the BLM and the Nevada Division of Water Resources to develop mitigation and/or monitoring measures to alleviate the degradation impact. Mitigation and monitoring measures would be economically feasible, lawfully allowable, and physically possible to construct and/or implement, and would be agreed upon by all parties and interests involved. The following are potential mitigation and monitoring measures that may be implemented:

- TPU could assist claimant in developing a new well or new wells where groundwater quality, at the time of mitigation, is at the very least, supportive of claimants prior use of appropriated water rights before degradation occurred;
- TPU could provide water to claimant equivalent to that in quality prior to degradation resulting from proposed project, and in volumes equal to the volume of appropriated water rights no longer able to be used for what it was prior to degradation; or,
- TPU may develop a groundwater quality monitoring plan for a claimant to determine if mitigation wells or measures are effective, or may elect to implement such a plan to determine if the proposed project is the source of degradation in the event that a claimant declares it as such.

The above list of mitigation and monitoring measures are only examples, and not inclusive or exclusive of the potential measures that would be developed among all affected parties or interests. The mitigation and/or monitoring measures that would be implemented, if needed,

would be largely dependent on the nature and place of degradation, and the permitted use of degraded water. Additionally, the replacement of the existing pipeline between Booster Station #1 and Booster Station #2 and the replacement of the collection pipeline from Well #8 to Booster Station #1 would alleviate the current water systems losses reported at 14 percent of total system production (Lumos and Associates, Inc. 2010), and such alleviation would be a savings of groundwater.

Any adverse cumulative impacts on groundwater quality that would result from the proposed action would be minimal to negligible with monitoring and mitigation measures implemented in accordance with the conditions stated above.

Groundwater would continue to be lost at present volumes due to leaks in the existing system if the no action alternative were implemented. Additionally, groundwater pumped and delivered in the existing system would continue to have arsenic concentrations above state and federal standards (10 parts per billion) if the no action alternative were implemented.

5.0 CONSULTATION AND COORDINATION

The following sections of this chapter provide disclosure of the persons, groups, or agencies consulted to develop those issues or to gain more understanding of the potential impacts of the proposed action on an issue.

5.1 PERSONS, GROUPS, AND AGENCIES CONSULTED

During the preparation of this Environmental Assessment, consultation was performed with the persons, groups, and agencies listed below.

Federal Agencies

U.S. Army Corps of Engineers
U.S. Bureau of Land Management
U.S. Environmental Protection Agency
U.S. Federal Aviation Administration
U.S. Federal Emergency Management Agency
U.S. Fish and Wildlife Service
U.S. Natural Resources Conservation Service

State Agencies

Nevada Department of Wildlife
Nevada Division of Environmental Protection, Bureau of Air Quality Planning
Nevada Division of Environmental Protection, Bureau of Water Pollution Control
Nevada Division of Environmental Protection, Bureau of Water Quality Planning
Nevada Division of Forestry
Nevada Division of Water Resources
Nevada Natural Heritage Program
Nevada State Historic Preservation Office

Native American Tribes (Information Sharing Only)

Death Valley Timbisha Shoshone Tribe
Duckwater Shoshone Tribe
Yomba Shoshone Tribe

Town of Tonopah/ TPU

James Eason	Town Manager
Horace Carlyle	Town Board Vice Chairman
Susan Dudley	Town Finance Director/ Grant Administrator

Shaw Engineering

Paul Winkelman, P.E.	Principal/ Professional Engineer

5.2 INTENSITY OF PUBLIC INTEREST AND RECORD OF CONTACT

TPU presented the project and asked for comments at a Tonopah Town Board Meeting held on September 14, 2011. The project had been described or outlined by TPU at several other Tonopah Town Board Meetings prior to the meeting on September 14. A two-column article describing the proposed project and methods by which comments could be provided was published in the September 22, 2011 edition of the Tonopah Times Newspaper. No comments have been received to date.

5.3 LIST OF PREPARERS/REVIEWERS

This Environmental Assessment was prepared at the direction of the BLM Tonopah Field Office, Tonopah, Nevada, in coordination with JBR Environmental Consultants, Inc.. A list of the individuals responsible for the preparation of this Environmental Assessment is provided in Table 11.

Table 11 Environment Assessment Preparers

Bureau of Land Management Preparers			
Name	**Title**	**Affiliation**	**Responsibility**
Wendy Seley	Realty Specialist	BLM Battle Mountain District - Renewable Energy Coordination Office	Project Lead, Land Use Authorizations, Visual Resources, Recreation
Larry Grey	Hydrologist	BLM Battle Mountain District - Renewable Energy Coordination Office	Water Quality and Soils
William Coyle	GIS Specialist	BLM Battle Mountain District - Renewable Energy Coordination Office	GIS Mapping and Analysis
John Hartley	Planning and Environmental Coordinator	BLM Tonopah Field Office	NEPA Compliance and Coordination
Chris Dalu	Archaeologist	BLM Tonopah Field Office	Cultural Resources
Devin Englestead	Wildlife Biologist	BLM Tonopah Field Office	Wildlife, Threatened and Endangered and Special Status Wildlife Species
Dustin Hollowell	Wild Horse and Burro Specialist	BLM Tonopah Field Office	Wild Horses and Burros
Marc Pointel	Supervisory Natural Resource Specialist	BLM Tonopah Field Office	Vegetation, General Content
Brandon Jolley	Rangeland Management Specialist	BLM Tonopah Field Office	Noxious Weeds

JBR Environmental Consultants, Inc. Preparers			
Name	**Title**	**Affiliation**	**Responsibility**
Nancy Kang	Senior Environmental Scientist	JBR Environmental Consultants, Inc.	Project Manager
George Dix	Environmental Analyst	JBR Environmental Consultants, Inc.	NEPA Compliance, Technical Writing
Jenni Prince-Mahoney	Project Archaeologist	JBR Environmental Consultants, Inc.	Cultural Resources
Ronald Rood	Project Archaeologist	JBR Environmental Consultants, Inc.	Cultural Resources

6.0 REFERENCES AND LITERATURE CITED

Avian Power Line Interaction Committee. 2006. *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*. Edison Electric Institute, Avian Power Line Interaction Committee, and the California Energy Commission. Washington, D.C. and Sacramento, California.

Bureau of Land Management (BLM). 1994. Proposed *Tonopah Resource Management Plan and Final Environmental Impact Statement*. U.S. Department of the Interior, Bureau of Land Management, Battle Mountain District, Tonopah Resource Area. Tonopah, Nevada. October 1994.

Bureau of Land Management (BLM). 1997. *Approved Tonopah Resource Management Plan and Record of Decision*. U.S. Department of the Interior, Bureau of Land Management, Battle Mountain District, Tonopah Field Station. Tonopah, Nevada. October 1997.

Bureau of Land Management (BLM). 2008. National Environmental Policy Act Handbook. BLM Handbook H-1790-01, Rel. 1-1547. U.S. Department of the Interior.

Floyd, T. 2007. *Atlas of the breeding birds of Nevada*. Reno: University of Nevada Press. Reno, Nevada.

Interflow Hydrology, Inc. 2011. *Tonopah Public Utilities Alternative Water Source Assessment: Phase I Hydrogeologic Evaluation: Findings and Recommendations*. Interflow Hydrology, Inc., January 27, 2011. Truckee, California.

Interflow Hydrology, Inc. 2011b. Technical Memorandum to Paul Winkelman, P.E., Shaw Engineering: James Eason, Susan Dudley, Joe Westerlund, Tonopah Public Utilities: Bert Bellows, P.E., Nevada Division of Environmental Protection, Bureau of Safe Drinking Water. July 15, 2011.

Interflow Hydrology, Inc. 2011c. *Summary of Phase II Alternative Municipal Water Source Evaluations: Exploration drilling, pumping tests, and water quality analyses, Ralston Valley, Nye County, Nevada*. Interflow Hydrology, Inc., June, 2011. Truckee, California.

Lumos and Associates, Inc. 2010. *Tonopah Public Utility and Midway Gold Corporation Arsenic Compliance and Tonopah Public Utility Water Infrastructure: Preliminary Engineering Report*. Lumos and Associates, Inc., August 2010. Reno, Nevada.

Natural Resources Conservation Service. 2004. *Soil Survey of Nye County, Nevada, Southwest Part*.

Nevada Department of Agriculture. 2009. Nevada Department of Agriculture's Noxious Weed Website. Accessed June 28, 2011, from: http://agri.state.nv.us/PLANT_NoxWeeds_index.htm

Nevada Division of Environmental Protection. 1994. *State of Nevada Non-Designated Area Water Quality Management Plan, Handbook of Best Management Practices*. Nevada Division of Environmental Protection and Nevada State Conservation Commission. Carson City, Nevada.

Nevada Division of Water Resources. 2011. Hydrographic Area Summary for Hydrographic Area 141. Accessed on November 11, 2011, at: http://water.nv.gov/ waterplanning/UGactive/index.cfm?basin=141.

Nevada State Clearinghouse. 1998. *Nevada Guidelines for Revegetation*. Budget and Planning Division, Nevada Department of Administration. Carson City, Nevada. Retrieved April 5, 2011, from: http://heritage.nv.gov/reveg.htm

Nye County Board of County Commissioners. 1994. Nye County Comprehensive Plan. April 5, 1994.

Nye County Board of County Commissioners. 2011. 2011 Nye County Comprehensive (Master) Plan. April 5, 2011.

Rood, R., Prince-Mahoney, J., and Tingwall, D. 2011. *Cultural Resources Inventory of the Tonopah Public Utilities Water System Improvement Project, Nye County, Nevada*. BLM Report Number CCR6-2829. JBR Environmental Consultants, Inc., November 2011. Unpublished, but on-file at BLM Tonopah Field Office, Battle Mountain District.

Shaw Engineering. 2011. Preliminary Engineering Report, Tonopah Public Utilities Arsenic Compliance and Water System Infrastructure, Amendment #2. Shaw Engineering, July 28, 2011. Reno, Nevada.

Tonopah Public Utilities (TPU). 2009. *Tonopah Public Utilities Water System: Water Conservation Plan. Town of Tonopah, 2009*. Tonopah, Nevada.

Town of Tonopah. 2011. Tonopah, Nevada: Queen of the Silver Camps. http://www.tonopahnevada.com/

U.S. Environmental Protection Agency (EPA). 2011. Arsenic in Drinking Water. Retrieved November 9, 2011, from: http://water.epa.gov/lawsregs/rulesregs/sdwa/arsenic/index.cfm

U.S. Farm Service Agency. 2010. United States Department of Agriculture, Farm Service Agency, National Agricultural Imagery Program, Imagery for Nevada. United States Department of Agriculture.

U.S. Fish and Wildlife Service. 2011. U.S. Fish and Wildlife Service: Species Profile: California condor (*Gymnogyps californianus*). Retrieved October 27, 2011, from http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B002

U.S. Geological Survey National Gap Analysis Program. 2004. Provisional Digital Land Cover Map for the Southwestern United States. Version 1.0. RS/GIS Laboratory, College of Natural Resources, Utah State University.

U.S. Geological Survey National Gap Analysis Program. 2005. Southwest Regional GAP Analysis Project—Land Cover Descriptions. RS/GIS Laboratory, College of Natural Resources, Utah State University.

Western Regional Climate Center. 2010. Tonopah AP, Nevada (Station 268170), Period of Record Monthly Climate Summary. Retrieved October 24, 2011, from: http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?nv8170

Figures

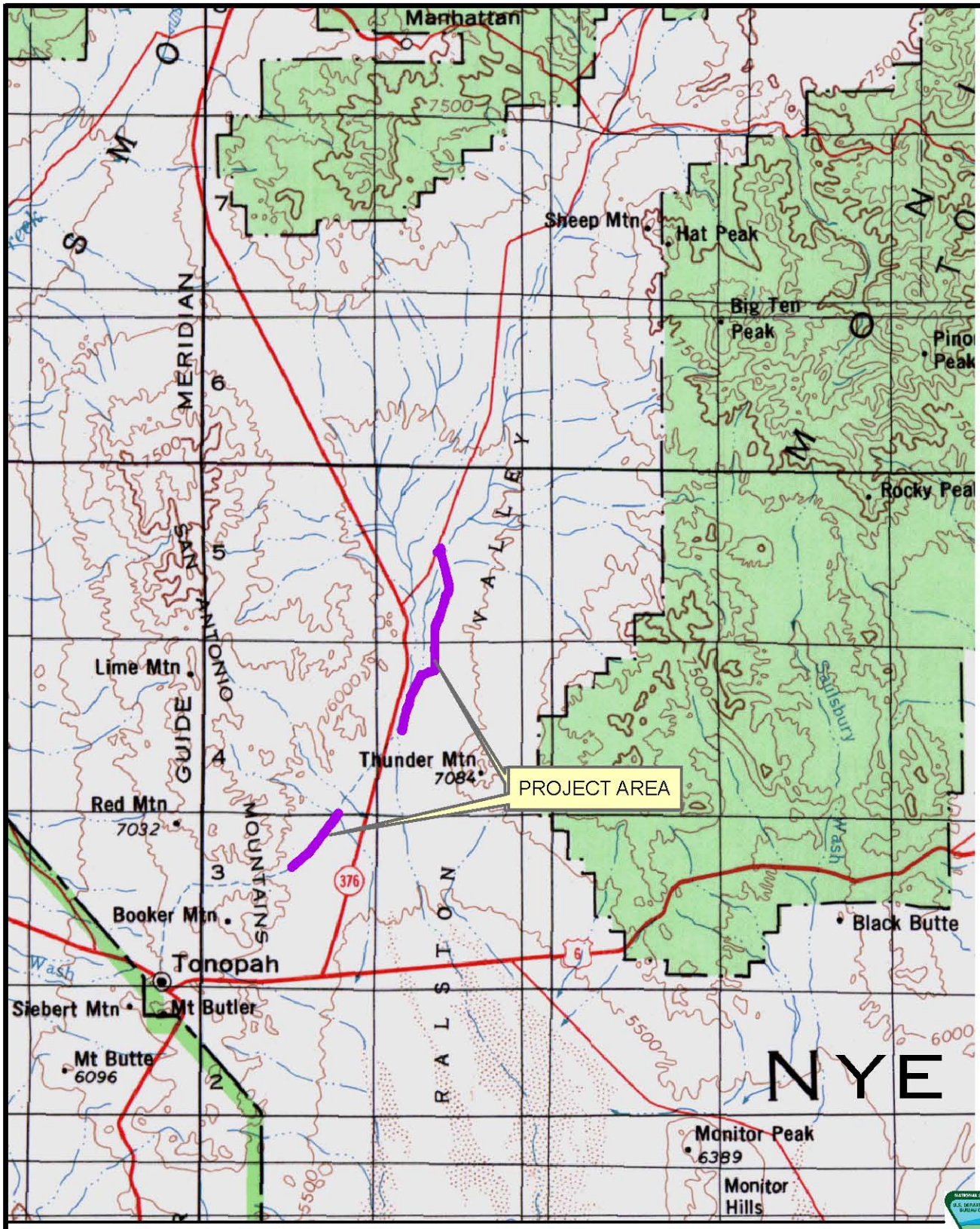

FIGURE 1
PROJECT LOCATION MAP

RIGHT-OF-WAY AUTHORIZATION
TONOPAH PUBLIC UTILITIES
WATER SYSTEM IMPROVEMENT PROJECT

SCALE: 1" = 5 MILES DATE DRAWN: NOVEMBER 10, 2011

0 2.5 5 10 MILES

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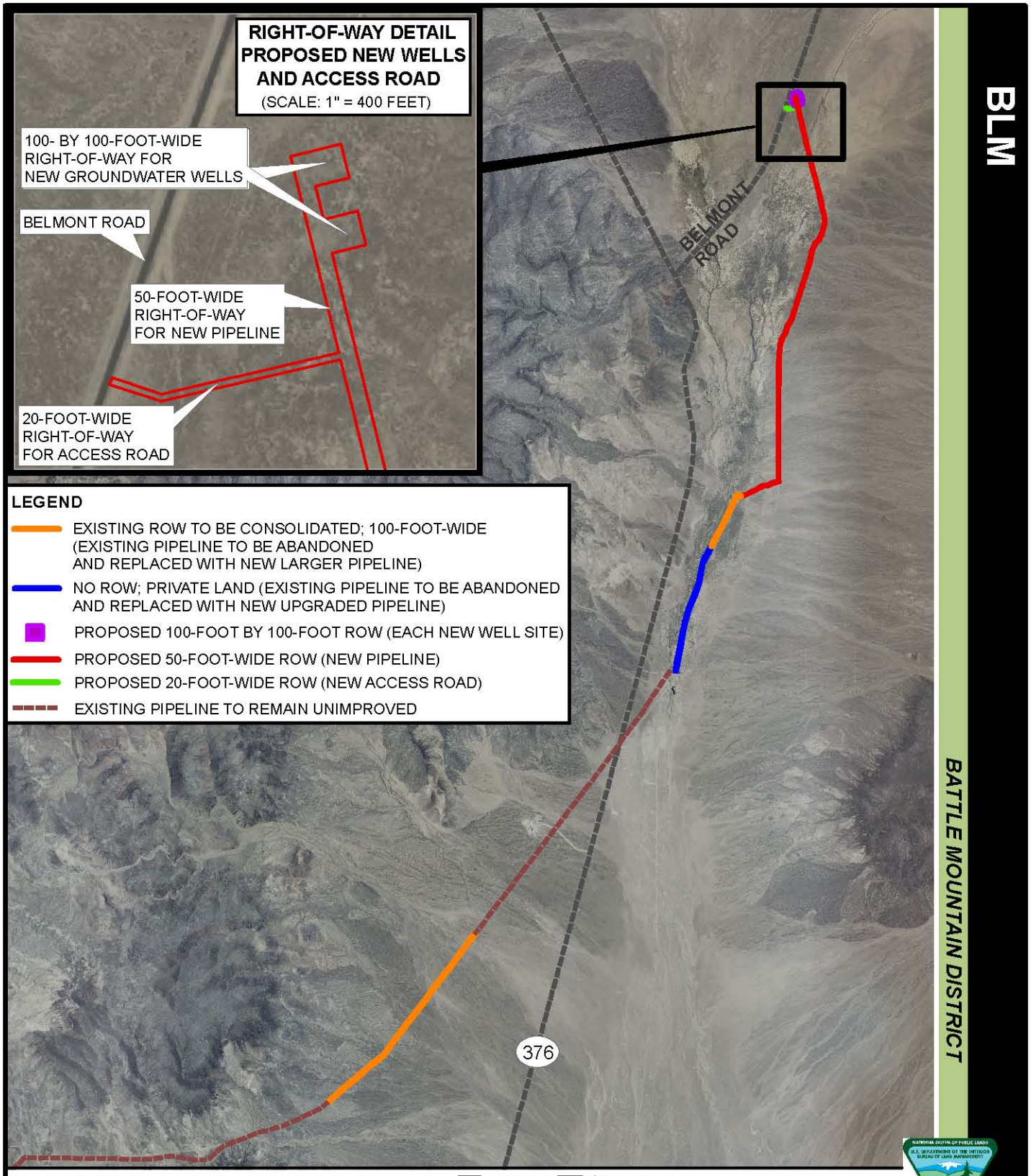
BLM

BATTLE MOUNTAIN DISTRICT



BLM

BATTLE MOUNTAIN DISTRICT

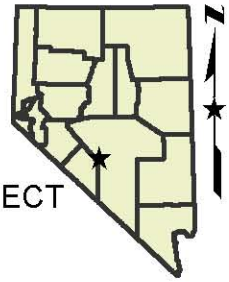
FIGURE 2

PROPOSED ACTION CONFIGURATION

RIGHT-OF-WAY AUTHORIZATION
TONOPAH PUBLIC UTILITIES
WATER SYSTEM IMPROVEMENT PROJECT

SCALE: 1" = 8,000 FEET DATE DRAWN: NOVEMBER 10, 2011

0 4,000 8,000 16,000 FEET



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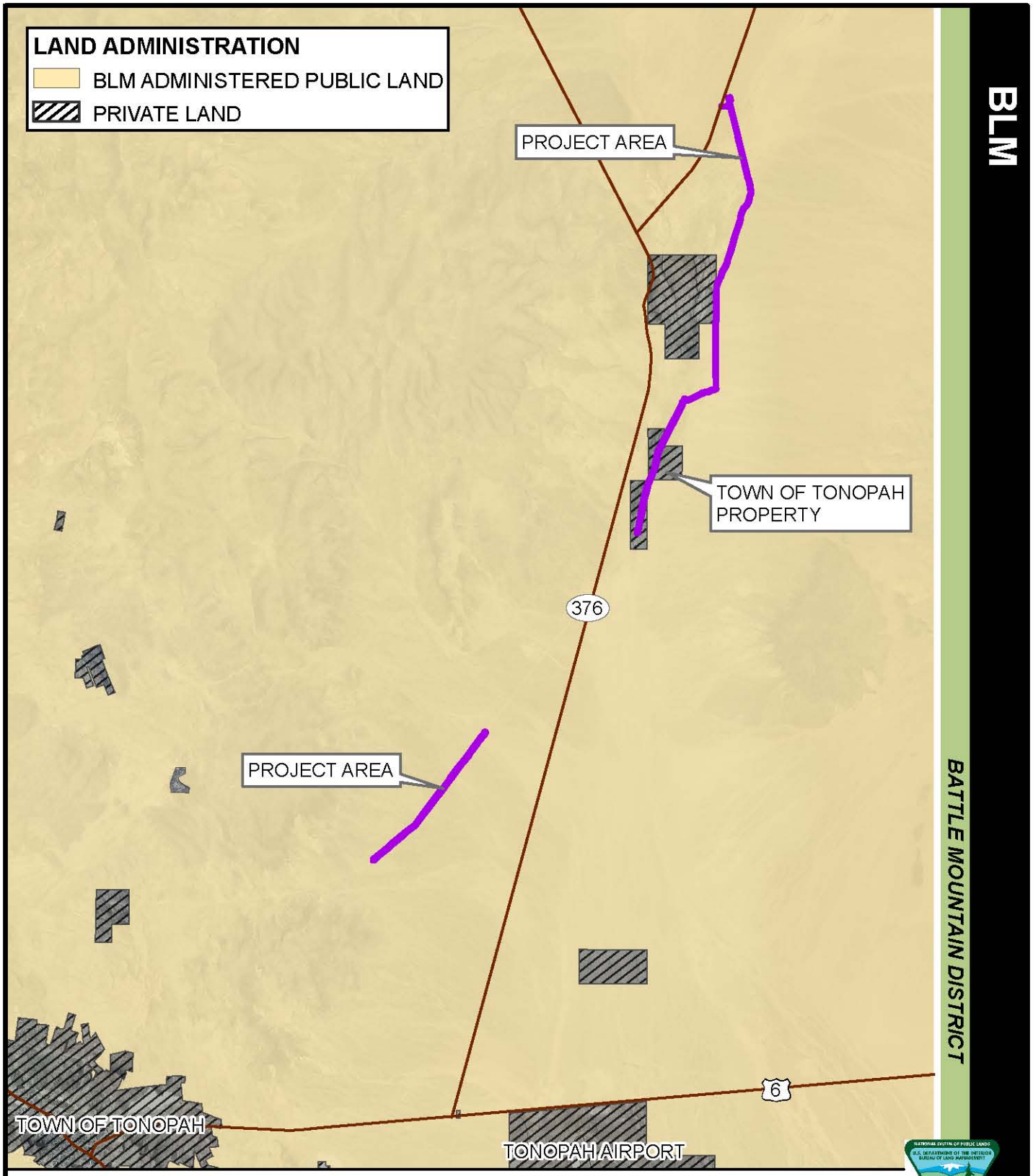


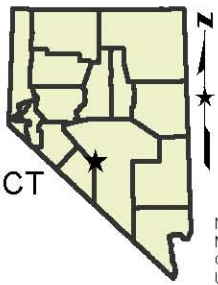
FIGURE 3

LAND ADMINISTRATION MAP

RIGHT-OF-WAY AUTHORIZATION
TONOPAH PUBLIC UTILITIES
WATER SYSTEM IMPROVEMENT PROJECT

SCALE: 1" = 2 MILES DATE DRAWN: NOVEMBER 10, 2011

0 1 2 4 MILES



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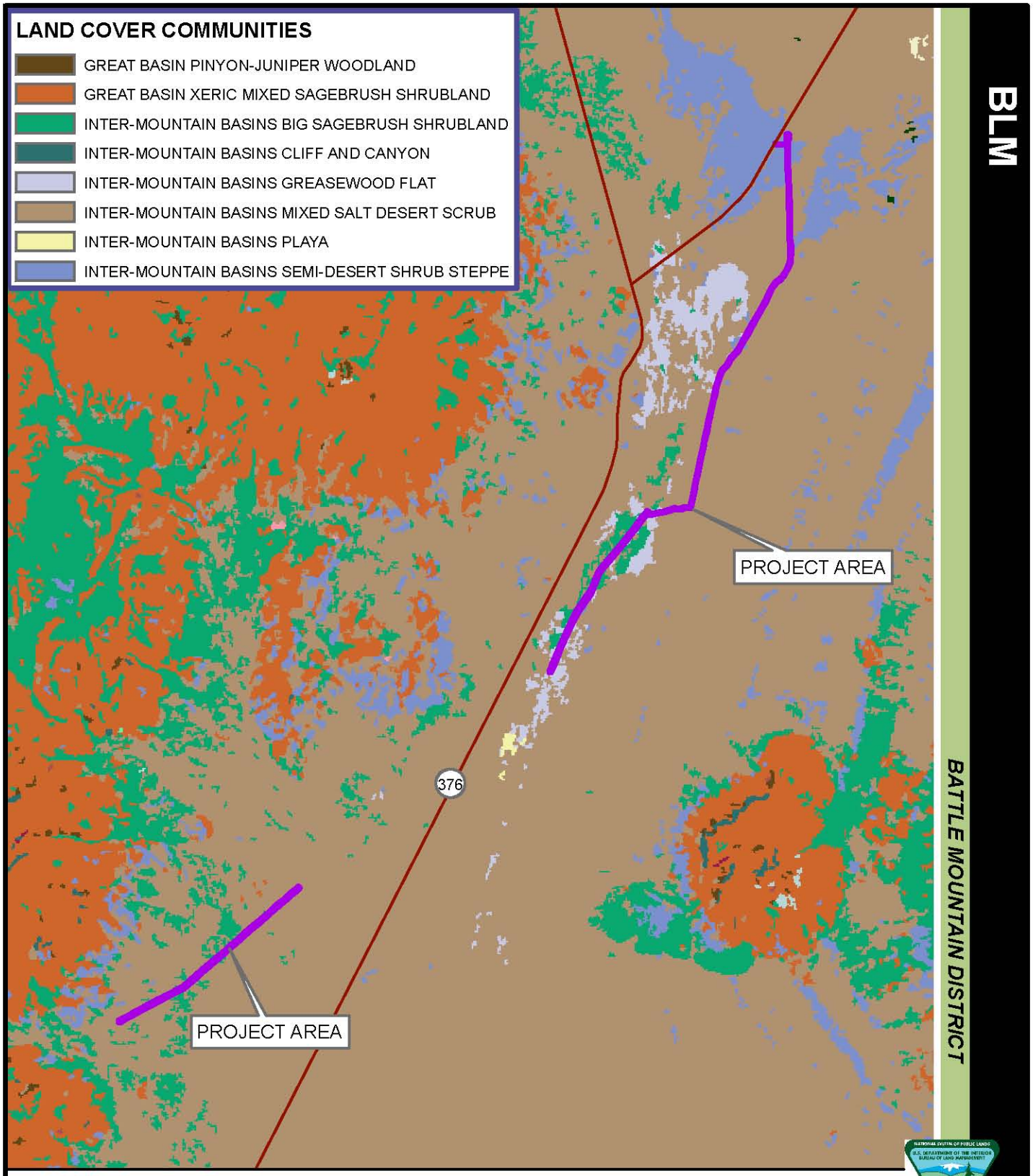

FIGURE 4

VEGETATION COMMUNITIES

RIGHT-OF-WAY AUTHORIZATION
TONOPAH PUBLIC UTILITIES
WATER SYSTEM IMPROVEMENT PROJECT

SCALE: 1" = 8,000 FEET DATE DRAWN: NOVEMBER 10, 2011

0 4,000 8,000 16,000 FEET

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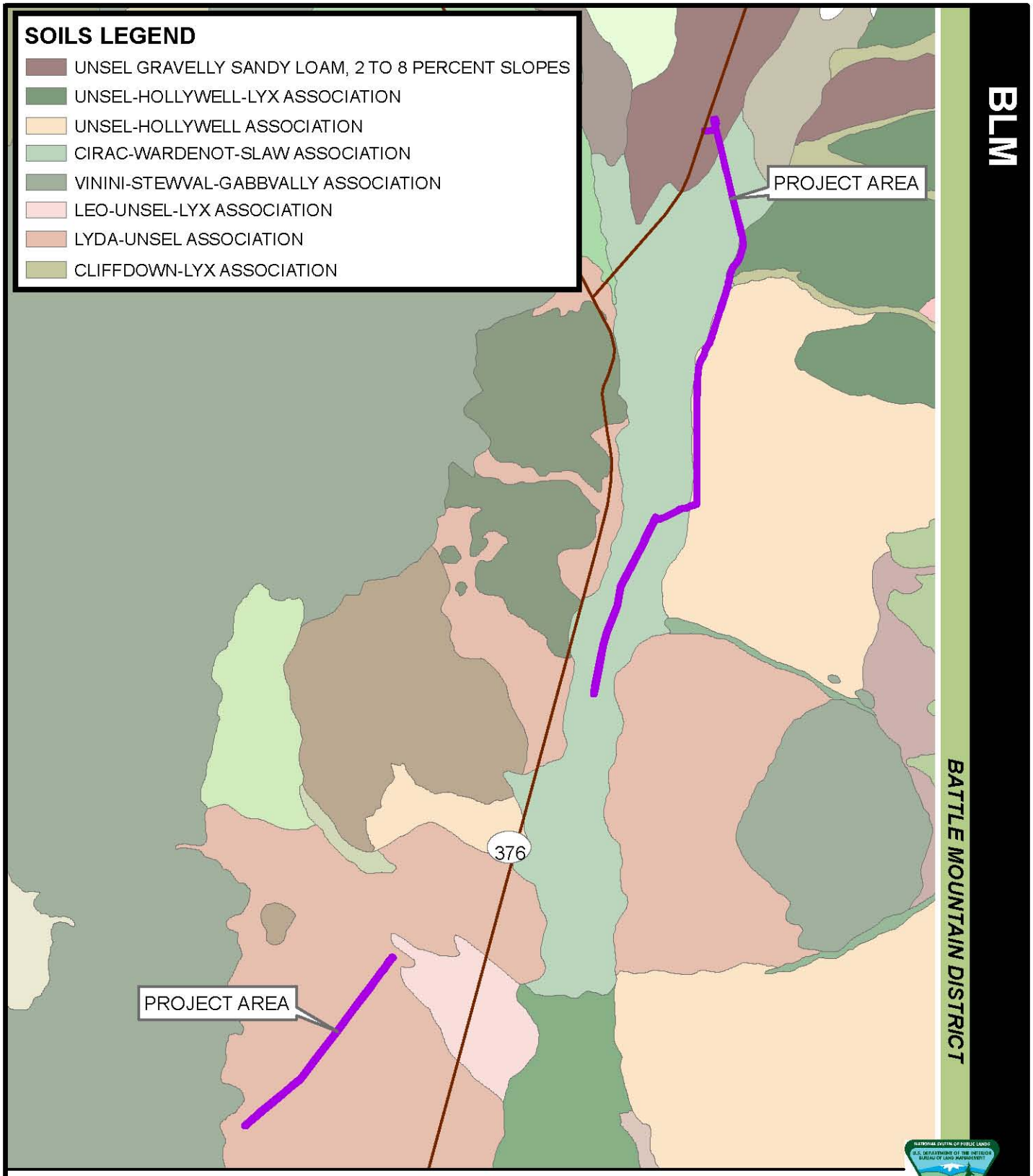

FIGURE 5
SOILS MAP

RIGHT-OF-WAY AUTHORIZATION
TONOPAH PUBLIC UTILITIES
WATER SYSTEM IMPROVEMENT PROJECT

SCALE: 1" = 8,000 FEET DATE DRAWN: NOVEMBER 10, 2011

0 4,000 8,000 16,000 FEET

N

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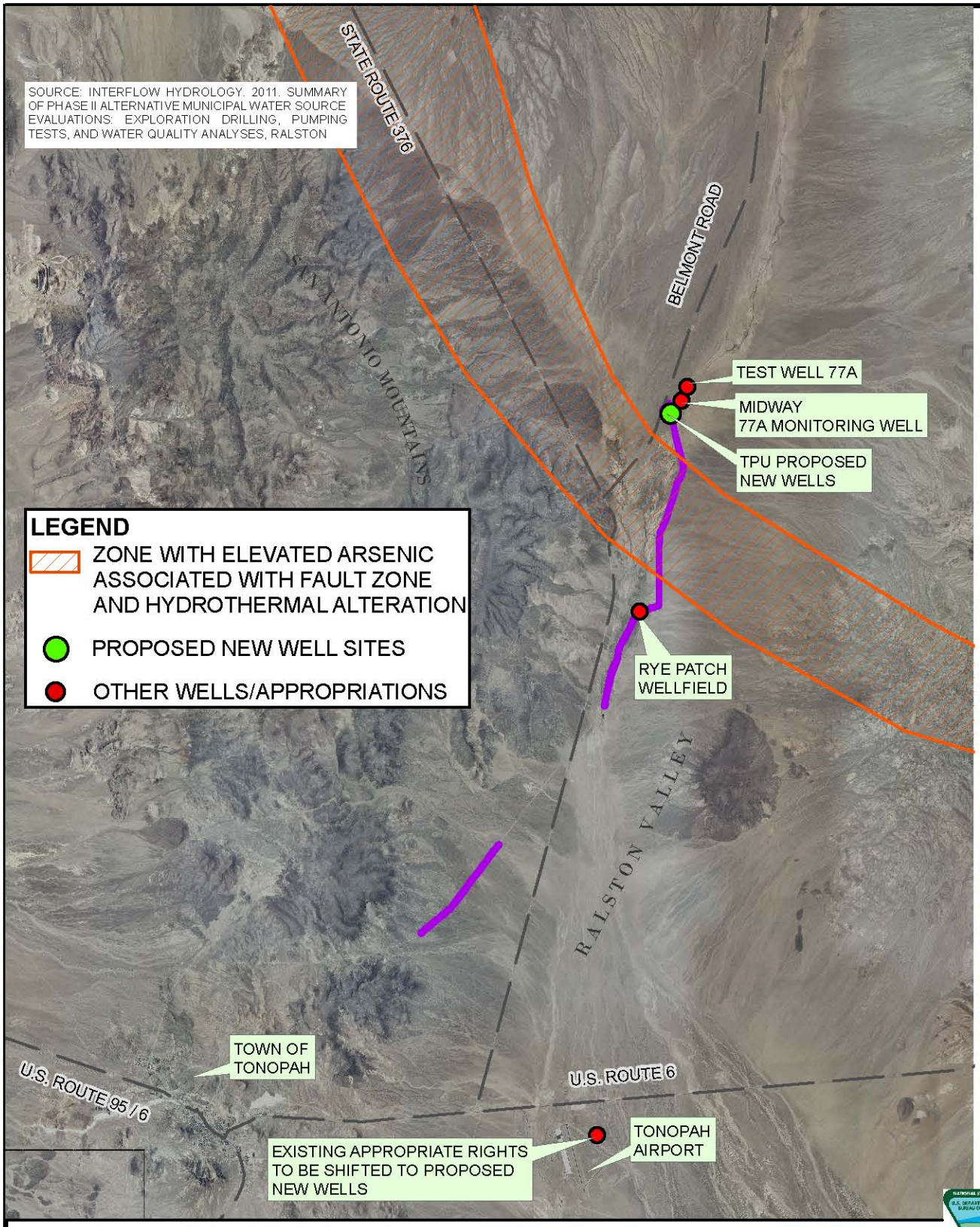


BLM

BATTLE MOUNTAIN DISTRICT

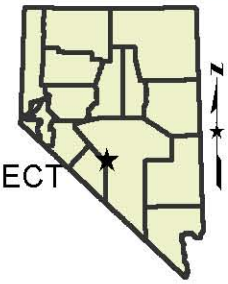
FIGURE 6

GROUNDWATER RESOURCES MAP

RIGHT-OF-WAY AUTHORIZATION
TONOPAH PUBLIC UTILITIES
WATER SYSTEM IMPROVEMENT PROJECT

SCALE: 1" = 3 MILES DATE DRAWN: NOVEMBER 17, 2011

0 1.5 3 6 MILES



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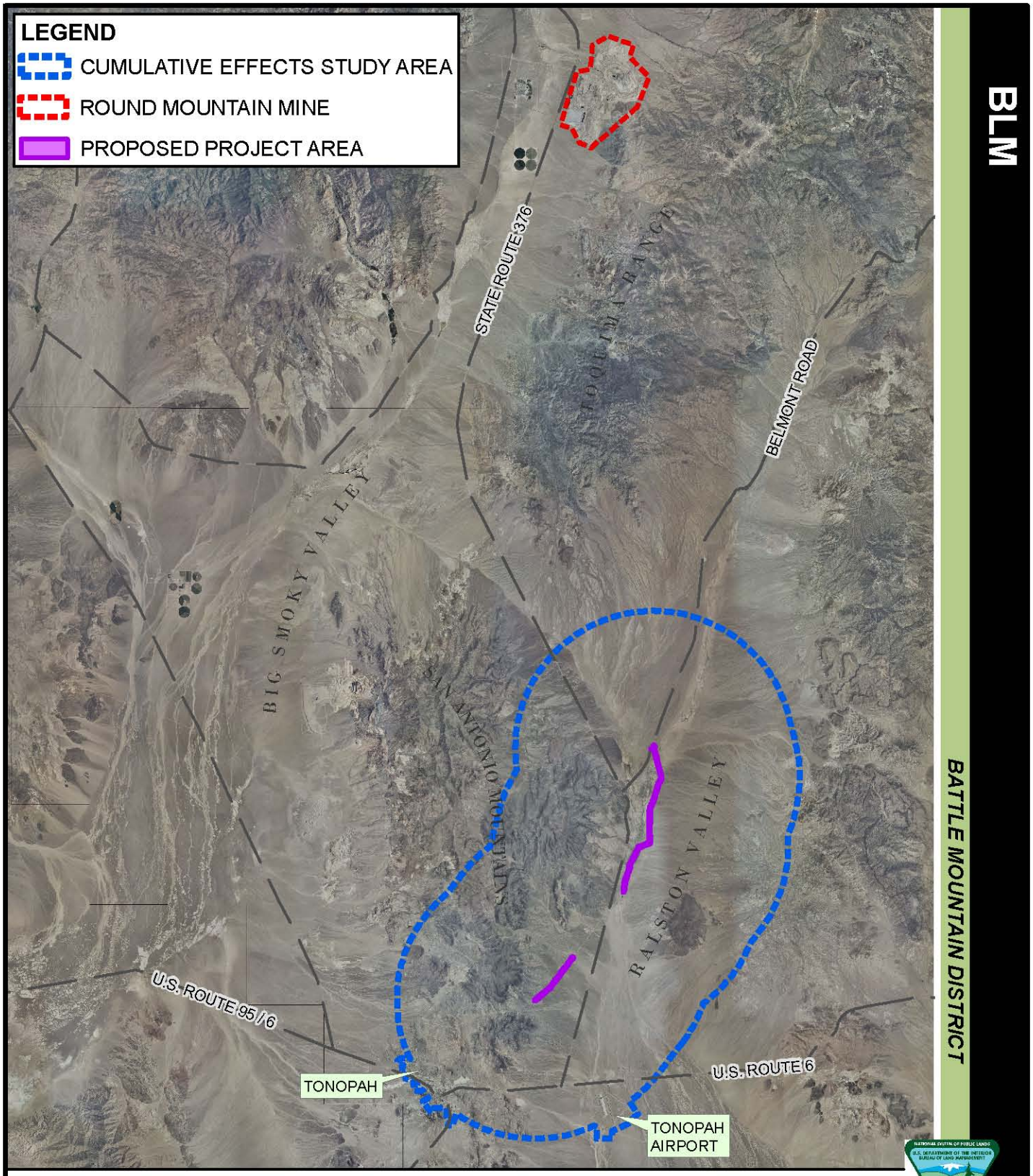


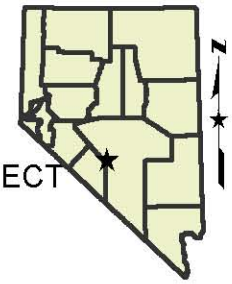
FIGURE 7

CUMULATIVE EFFECTS STUDY AREAS

RIGHT-OF-WAY AUTHORIZATION
TONOPAH PUBLIC UTILITIES
WATER SYSTEM IMPROVEMENT PROJECT

SCALE: 1" = 6 MILES DATE DRAWN: NOVEMBER 10, 2011

0 3 6 12 MILES



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Appendix A

Right-of-Way Stipulations

APPENDIX A

STIPULATIONS

General Stipulations

1. In case of change of address, the holder shall immediately notify the BLM Authorized Officer.

2. In accordance with Federal regulations in 43 CFR 2807.21, any proposed transfer of any right or interest in the right-of-way grant shall be filed with the BLM Authorized Officer. An application for assignment shall be accompanied by a showing of qualifications of the Assignee. The assignment shall be supported by a stipulation that the Assignee agrees to comply with and to be bound by the terms and conditions of the grant to be assigned. No assignment shall be recognized unless and until it is approved in writing by the Authorized Officer.

3. This grant is subject to all valid rights existing on the effective date of this grant.

4. In the event that the public land underlying the right-of-way (ROW) encompassed in this grant, or a portion thereof, is conveyed out of Federal ownership and administration of the ROW or the land underlying the ROW is not being reserved to the United States in the patent/deed and/or the ROW is not within a ROW corridor being reserved to the United States in the patent/deed, the United States waives any right it has to administer the right-of-way, or portion thereof, within the conveyed land under Federal laws, statutes, and regulations, including the regulations at 43 CFR Part [2800][2880], including any rights to have the holder apply to BLM for amendments, modifications, or assignments and for BLM to approve or recognize such amendments, modifications, or assignments. At the time of conveyance, the patentee/grantee, and their successors and assigns, shall succeed to the interests of the United States in all matters relating to the right-of-way, or portion thereof, within the conveyed land and shall be subject to applicable State and local government laws, statutes, and ordinances. After conveyance, any disputes concerning compliance with the use and the terms and conditions of the ROW shall be considered a civil matter between the patentee/grantee and the ROW holder.

5. Future modifications, construction of improvements, or major maintenance operations involving disturbance of the land, shall not occur until plans for such actions have been submitted and approved in writing by the Authorized Officer. Any proposals involving new surface disturbance shall require a cultural inventory and may require completion of an environmental assessment.

6. The holder shall permit free and unrestricted public access to and upon the right-of-way for all lawful purposes, except for those specific areas designated as restricted by the Authorized Officer to protect the public, wildlife, livestock, or facilities constructed within the right-of-way.

Pre-construction/Construction Requirements
Submission of Plans, Third Party Compliance Program and Permits

7. The Authorized Officer may suspend or terminate in whole, or in part, any notice to proceed which has been issued when, in his judgment, unforeseen conditions arise which result in the approved terms and conditions being inadequate to protect the public health and safety or to protect the environment.

8. The holder shall not initiate any construction or other surface disturbing activities on the right-of-way without the prior written authorization of the Authorized Officer. Such authorization shall be a written notice to proceed issued by the Authorized Officer. Any notice to proceed shall authorize construction or use only as therein expressly stated and only for the particular location or use therein described.

9. The holder shall construct, operate, and maintain the facilities, improvements, and structures within this right-of-way in strict conformity with the approved Plan of Development, as amended or supplemented by approval of the Authorized Officer. Any surface disturbing activity, additional construction, or use that is not in accord with the approved Plan of Development shall not be initiated without the prior written approval of the Authorized Officer. A copy of the complete right-of-way lease/grant, including all stipulations and approved Plan of Development, shall be made available on the right-of-way area during construction, operation, and decommissioning. Noncompliance with the above will be grounds for immediate temporary suspension of activities if it constitutes a threat to public health or safety or the environment.

Third Party Contracting [Construction Inspector Contractor (CIC)]

10. The holder shall designate a representative who shall have the authority to act upon and to implement instructions from the Authorized Officer. The holder’s representative shall be available for communication with the Authorized Officer within a reasonable time when construction or other surface disturbing activities are underway.

11. The holder shall fund and implement a third party Compliance Program with the Authorized Officer. The Program will include the holder hiring an independent third-party Compliance Inspection Contractor, to be approved by the Authorized Officer, to insure compliance with the terms, conditions and stipulations of this lease/grant. All questions or concerns regarding compliance with the terms, conditions, and stipulations of this right-of-way lease/grant shall be directed to the Authorized Officer.

12. The holder will arrange and attend preconstruction conference(s) prior to the holder's commencing construction and/or surface disturbing activities on the right-of-way or specific construction phase of the right-of-way as specified by the Authorized Officer. The holder and/or his representatives will attend this conference. The holder's contractor, or agents involved with construction and/or any surface disturbing activities associated with the right-of-way, will also attend this conference to review the stipulations of the authorization, including the Plan of Development, as applicable. The holder shall notify the Authorized

Human Health and Safety

13. Construction sites shall be maintained in a sanitary condition at all times; waste materials at those sites shall be disposed of promptly at an appropriate waste disposal site. 'Waste' means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment. A litter policing program shall be implemented by the holder which covers all roads and sites associated with the right-of-way.

14. The holder shall comply with all applicable Federal, State, and local laws and regulations, existing or hereafter enacted or promulgated, with regard to any hazardous materials, as defined by 43 CFR 2801.5 that will be used, produced, or transported on or within the right-of-way, or used in the construction, operation, maintenance, or decommissioning of the right-of-way or any of its facilities.

    The holder agrees in accordance with 43 CFR 2807.12(e) to fully indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601 et seq., or the Resource Conservation and Recovery Act of 1976, 42 U.S.C. 6901 et seq.) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

    The holder shall immediately report any release of hazardous substances (leaks, spills, etc.) caused by the holder or third parties in excess of the reportable quantity as required by federal, state, or local laws and regulations. A copy of any report required or requested by any federal, state or local government agency as a result of a reportable release or spill of any hazardous substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved federal, state or local government agency.

    The holder shall immediately notify the Authorized Officer of any release of hazardous substances, toxic substances, or hazardous waste on or near the right-of-way or potentially affecting the right-of-way of which the holder is aware.

    As required by law, the holder shall have responsibility for and shall take all action(s) necessary to fully remediate and address the hazardous substance(s) on or emanating from the right-of way.

15. The holder will ensure that the all health and safety and emergency plans to be required for employees and contractors during construction, operations, and decommissioning of the authorized facility will comply with the Occupational Safety and Health Standards provided

in federal regulation 29 CFR, Part 1910, as well as with applicable state and local occupational health and safety regulations.

16. The holder shall mark the exterior boundaries of the right-of-way with stake and/or lath at 200 to 300 foot intervals prior to site mobilization. The intervals may be varied at the time of staking at the discretion of the Authorized Officer. The tops of the stakes and/or laths will be painted and the laths flagged in a distinctive color as determined by the holder. The holder shall maintain all boundary stakes and/or laths in place during construction and until final cleanup and restoration is completed.

17. All design, material, and construction, operation, maintenance, and termination practices shall be in accordance with safe and proven engineering practices.

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

19. The holder shall protect all survey markers found within the right-of-way. Survey markers include, but are not limited to, Public Land Survey System line and corner markers, other property boundary line and corner markers, and horizontal and vertical geodetic monuments. In the event of obliteration or disturbance of any of the above, the holder shall immediately report the incident, in writing, to the Authorized Officer and the respective installing authority if known. Where any of the above survey markers are obliterated or disturbed during operations, the Authorized Officer will determine how the marker is to be restored.

    The holder will be instructed to secure the services of a registered land surveyor or informed that an official survey will be executed by the Bureau of Land Management (BLM). All surveying activities will be in conformance with the Manual of Surveying Instructions and appropriate State laws and regulations. Surveys by registered land surveyors will be examined by the Authorized Officer and the BLM State Office Chief Cadastral Surveyor for conformance with the Manual of Surveying Instructions and State laws and regulations before being filed in the appropriate State or county offices of record. The holder shall be responsible for all administrative and survey costs.

20. During the period of May 1 through October 1 of each year, Holder should consider using spark arresters on vehicles and equipment in the project area, due to the potential for fire ignition from project related activities. This includes emission of hot carbon particles from diesel powered equipment, improperly equipped or poorly operating exhaust systems on gas powered vehicles and direct contact of wildland fuels with catalytic converters. Individuals, groups, businesses or corporations found responsible for the ignition of a wild fire may be held liable for the costs associated with the suppression of that fire.

Hazardous Materials
Pesticides

21. Use of pesticides and herbicides shall comply with all applicable Federal and State laws. Pesticides and herbicides shall be used only in accordance with their registered uses within

limitations imposed by the Secretary of the Interior. Prior to the use of the pesticides, the holder shall obtain from the Authorized Officer, written approval of a Pesticide Use Proposal Plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, locations of storage and disposal of containers, and any other information deemed necessary by the Authorized Officer.

22. Only those chemicals (pesticides and herbicides) listed on the BLM approved label list are authorized for use on public lands. A Pesticide Use Proposal must be submitted for each chemical used, and it cannot be used until approval has been obtained in writing from the Authorized Officer. The proposal needs to identify any surfactants or dyes used in the spraying operation. Applicator(s) of chemicals used must have completed pesticide certification training and have a current up to date Certified Pesticide Applicator's License. Pesticide and herbicide application records for the areas and acres treated must be submitted to the Authorized Officer each year for the life of the project including the site restoration and reclamation periods. This includes the following:

    - Identify target species to be treated
    - Brand or Product name
    - EPA registration number
    - Total amount applied (use rate #A.I./acre)
    - Date of application
    - Location of application
    - Size of area treated
    - Method of treatment (air/ground)
    - Name of applicator
    - Certification number and dates
    - Costs to treatment
    - Amount of surfactants or dyes used in spraying operation

    The record information must be recorded no later than 14 calendar days following the pesticide or herbicide application and must be maintained for ten years.

23. Holder shall remove only the minimum amount of vegetation necessary for the construction of structures and facilities. Where possible and if needed, topsoil shall be conserved during excavation and reused as cover on disturbed areas to facilitate regrowth of vegetation.

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

Cultural

25. Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An

evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

The holder shall immediately notify the BLM Authorized Officer of any paleontological resources discovered as a result of operations under this authorization. The holder shall suspend all activities in the vicinity of such discovery until notified to proceed by the Authorized Officer, and shall protect the locality from damage or looting. The Authorized Officer will evaluate, or will have evaluated, such discoveries as soon as possible, but not later than 5 working days after being notified. Appropriate measures to mitigate adverse effects to significant paleontological resources will be determined by the Authorized Officer after consulting with the holder. The holder is responsible for the cost of any investigation necessary for the evaluation and for any mitigation measures, including museum curation.

The holder may not be required to suspend operations if activities can avoid further impacts to a discovered locality or be continued elsewhere, however not suspending operations must be approved by the Authorized Officer.

Although unlikely, any human remains that may be discovered during authorized activities shall be protected by all Project personnel and construction crew members by following the procedures set forth in Section VI of the October 26, 2009, State Protocol Agreement between the BLM and the Nevada State Historic Preservation Office. This includes at a minimum: 1) it is the responsibility of the holder to notify the BLM authorized contracting officer and archaeologist immediately, 2) cease all construction activities within a 100 meter buffer area, and 3) to ensure protection of the discovery from further damage or vandalism until a BLM-authorized archaeologist evaluates the nature of the materials. If needed, mitigation procedures will be developed by the BLM in consultation with the State Historic Preservation Office.

GIS requirements

26. Within 120 calendar days of completion of construction, the holder shall submit to the Authorized Officer, as-built drawings and a certification of construction verifying that the facility has been constructed in accordance with the design, plans, specifications, and applicable laws and regulations.
Within 90 days of construction completion, the holder shall provide the Authorized Officer with data in a format compatible with the Bureau's Arc-Info Geographic Information System to accurately locate and identify the right-of-way:

Acceptable data formats are:

- Corrected Global Positioning System files with sub-meter accuracy or better, in UTM NAD 83; Zone 11;
- ARCGIS export files on a CD ROM, shapefile, geodatabase.
- Data may be submitted in any of the following formats:

- ARCGIS interchange, shapefile or geodatabase format.
- CD ROM in compressed or uncompressed format.

All data shall include metadata for each coverage, and conform to the Content Standards for Digital Geospatial Metadata Federal Geographic Data Committee standards. Contact the GIS Department at (775) 482-7800.

Biological and Wildlife

27. All power lines shall be designed, installed, and constructed to be avian-safe in accordance with the standards outlined in “Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006” (APLIC 2006). Unless otherwise agreed to in writing by the Authorized Officer, power lines shall also be constructed in accordance with standards outlined in "Suggested Practices for Raptor Protection on Power lines", Raptor Research Foundation, Inc., 1996. The holder shall assume the burden and expense of proving that pole designs not shown in the raptor protection publication are "eagle safe."

28. All ground-disturbing activities will be conducted outside the migratory bird nesting season (March 1 – July 31). If ground-disturbing activities cannot be avoided during this time period, pre-construction nest surveys shall be conducted by a BLM-approved biological monitor with the following guidelines:

    - For all non-raptor bird species, surveys shall cover all potential nesting habitat in and within 100 feet of the area to be disturbed.
    - Surveys must be conducted between sunrise and 3 hours post-sunrise when birds are most active.
    - Active bird nests will not be moved during the breeding season unless the holder is expressly permitted to do so by the USFWS, BLM, and NDOW.
    - All active nests and disturbance or harm to active nests will be reported within 24 hours to the USFWS, the BLM, and NDOW upon detection. The biological monitor will halt work if it is determined that active nests are being disturbed by construction activities, until further direction or approval to work is obtained from the appropriate agencies.

29. The holder shall ensure that all steep-walled trenches, auger holes, or other excavations are covered at the end of each day.

Decommissioning/Air Standards

30. The holder shall conduct all activities associated with construction, operation, maintenance and decommission of this right-of-way lease/grant within its authorized limits.

31. The holder shall construct, operate, and maintain the facilities, improvements, and structures within this right-of-way in strict conformity with the plan of development that accompanied the Application and was approved and made part of this grant. Any relocation, additional

construction, or use that is not in accord with the approved plan of development, shall not be initiated without the prior written approval of the Authorized Officer. A copy of the complete right-of-way grant, including all stipulations and approved plan of development, shall be made available on the right-of-way during construction, operation, and termination to the Authorized Officer. Noncompliance with the above will be grounds for immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.

32. The holder shall comply with all applicable Federal, State, and local laws and regulations, existing or thereafter enacted or promulgated.

33. The holder shall recontour disturbed areas, or designated sections of the right-of-way, by grading to restore the site to approximately the original contour of the ground as determined by the Authorized Officer.

34. The holder shall evenly spread the excess soil excavated from pole holes within the right-of-way and in the immediate vicinity of the pole structure.

35. The holder shall prevent any activities which may cause erosion. Where erosion has resulted, the holder shall re-vegetate and re-habilitate the location. The holder is responsible for consultation with the Authorized Officer for an acceptable proposal.

36. Ninety days prior to termination of the right-of-way, the holder shall contact the Authorized Officer to arrange a joint inspection of the right-of-way. This inspection will be held to agree to an acceptable termination (and rehabilitation) plan. This plan shall include, but is not limited to, removal of facilities, drainage structures, or surface material, recontouring, topsoiling, or seeding. The Authorized Officer must approve the plan in writing prior to the holder’s commencement of any termination activities.

Appendix B

Noxious Weeds Management Plan

NOXIOUS WEED MANAGEMENT PLAN

Town of Tonopah - Tonopah Public Utilities
Water System Improvement Project
Nye County, Nevada

Proposed Bureau of Land Management
Right-of Way Authorization (NVN-90168)

November 17, 2011

Prepared For:
Town of Tonopah
Tonopah Public Utilities
Tonopah, Nevada
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Disclaimer:

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TABLE OF CONTENTS

page

1.0 INTRODUCTION 1
- **1.1 REGULATORY BACKGROUND 1**
- **1.2 NOXIOUS WEED MANAGEMENT PLAN PURPOSE 1**
- **1.3 PROJECT DESCRIPTION 1**

2.0 GENERAL SITE CONDITIONS 3
- **2.1 LOCATION 3**
- **2.2 LAND USE 3**
- **2.3 TOPOGRAPHY 4**

3.0 NOXIOUS WEED SURVEY 5
- **3.1 NOXIOUS WEED SURVEY 5**
- **3.2 STATE LISTED NOXIOUS WEEDS 5**
- **3.3 NOXIOUS WEED ASSESSMENT 7**
- **3.4 WEED MANAGEMENT AREAS 7**

4.0 NOXIOUS WEED MANAGEMENT 8
- **4.1 IDENTIFICATION OF PROBLEM AREAS 8**
- **4.2 PREVENTIVE MEASURES 8**
- **4.3 TREATMENT METHODS 9**
- **4.4 AGENCY SPECIFIC REQUIREMENTS 10**

5.0 MONITORING 11
- **5.1 RECLAMATION MONITORING 11**
- **5.2 ONGOING MONITORING 11**

6.0 PESTICIDE APPLICATION, HANDLING, SPILLS, AND CLEANUP 13
- **6.1 PESTICIDE APPLICATION AND HANDLING 13**
- **6.2 PESTICIDE SPILLS AND CLEANUP 14**
- **6.3 WORKER SAFETY AND SPILL REPORTING 14**

7.0 REFERENCES 15

LIST OF TABLES

page

Table 1 Project Area Legal Land Description 3
Table 2 Existing Right-of-Way Authorizations 4
Table 3 Noxious Weed Species of Potential Concern 6
Table 4 BLM Noxious Weed and Rating Risk Assessment Factors..... 7

LIST OF FIGURES

Figure 1 Project Location Map
Figure 2 Project Area

LIST OF ACRONYMS

BLM Bureau of Land Management
CIC Construction Inspection Compliance
GPS Global Positioning System
mph miles per hour
NAC Nevada Administrative Code
NRS Nevada Revised Statutes
TFO Tonopah Field Office
TPU Tonopah Public Utilities
RMP Resource Management Plan

1.0 INTRODUCTION

1.1 REGULATORY BACKGROUND

The Bureau of Land Management (BLM) defines a noxious weed as: "A plant that interferes with management objectives for a given area of land at a given point in time." Nevada Revised Statutes (NRS) 555.005, states noxious weeds are: "… any species of plant which is, or is likely to be, detrimental or destructive and difficult to control or eradicate." In 2010, 47 species were on the Nevada Noxious Weed List, which is in Nevada Administrative Code (NAC) 555.010. It is the responsibility of the Project Proponent and/or the Construction Contractor(s), working with the Construction Inspection Compliance (CIC) Contractor, and BLM Project Manager, to ensure that noxious weeds are identified and controlled during the construction of project facilities and that all federal, state, county, and other local requirements are satisfied, with respect to noxious weeds.

1.2 NOXIOUS WEED MANAGEMENT PLAN PURPOSE

The purpose of this Noxious Weed Management Plan (Plan) is to implement early detection, containment, and control of noxious weeds during project construction, operation and decommissioning and reclamation. Information gathered during preconstruction surveys and provided by the BLM, will be used to monitor and control the spread of noxious weeds that may pose a potential infestation threat during the construction and operation of the Tonopah Public Utilities (TPU) Water System Improvement Project (Project). These preventative and treatment measures are described below. An evaluation of the effectiveness of the prescribed control measures also will be implemented during the operational phase of the Project.

1.3 PROJECT DESCRIPTION

The Project includes improving the existing TPU water system that produces and supply municipal water for the Town of Tonopah, as well as the Tonopah Airport service area. The groundwater supply delivered by the existing water system comes from 8 groundwater wells northeast of the Town of Tonopah, referred to as Wells #1 through #8. The water is conveyed through approximately 13.5 miles of underground pipeline to the Town of Tonopah and is boosted with two pump stations along the way. The current water supply contains an average arsenic concentration of approximately 11 to 12 parts per billion. The U.S. Environmental Protection Agency reduced the maximum concentration level for arsenic in public drinking water from 50 to 10 parts per billion. The Nevada Division of Environmental Protection adopted the U.S. Environmental Protection Agency arsenic maximum concentration level; thus, requiring the concentration of arsenic in municipal drinking water systems in Nevada to be 10 parts per billion or less. In order to reduce the average arsenic concentration of the water supply and achieve compliance with the federal and state arsenic concentration level, TPU is proposing the following actions, which collectively form the Project:

- construction of 2 new groundwater wells approximately 4 miles northeast of the existing well field;
- construction of new underground water pipeline between the 2 new groundwater wells and the existing pipeline at the existing well field;
- construction of a new access road between existing Belmont Road and the southernmost proposed new groundwater well;
- construction of new overhead power line from the existing overhead power line at the existing well field to the 2 new groundwater wells;
- deactivating existing Well #1, Well #2, Well #3, and Well #4 at the existing well field
- rehabilitating Well #5, Well #6, Well #7, and Well #8 at the existing well field;
- decommissioning and abandoning Booster Pump Station #1;
- decommissioning and abandoning a segment of existing pipeline located between Booster Stations #1 and #2, and a segment of existing pipeline located southwest of Booster Station #1; and,
- installing new, larger and upgraded pipeline in place of segments of existing pipeline that would be decommissioned and abandoned.

2.0 GENERAL SITE CONDITIONS

2.1 LOCATION

The Project is located in south-central Nevada, approximately 6 miles northeast of the Town of Tonopah, in Nye County, Nevada (Figure 1). The Project is located within the northern and central portions of Ralston Valley, east of the San Antonio Mountains, north of U.S. Highway 6, to the east and the west of State Route 376. With the exception of a segment of existing pipeline that would be replaced, the proposed project would occur on public land administered by the BLM.

The Project area includes approximately 85.4 acres, (Figure 2), as located in the lands described by aliquot parts in Table 1. While the Project area encompasses approximately 85.4 acres, the surface disturbance required to construct the Project is expected be disturb only a portion of this area. The permanent components of the Project that would be constructed as additions to the existing water system include the proposed new access road, the 2 proposed new groundwater wells, and the new power poles associated with the proposed power line.

Table 1 Project Area Legal Land Description

Township and Range (Mount Diablo Base and Meridian)	Aliquot Section
Township 3 North, Range 43 East	Section 2, W2SW, E2NW, SWNW, NWNE
Township 4 North, Range 44 East	Section 5, E2SE, E2NE; Section 8, NWNE, NENE, W2SW, NESW, E2NW; Section 17, W2NW; Section 18, E2N3, SENE; Section 19, NENE
Township 5 North, Range 44 East	Section 16, SWSW; Section 21, E2SW, E2NW, NWNW; Section 28, NWNE, E2NW, E2SW, SWSW; Section 32, E2SE, SENE; Section 33, W2NW

2.2 LAND USE

BLM administers the vast majority of land in the proposed project area through the BLM Tonopah Field Office (TFO), in accordance with the Tonopah Resource Management Plan (RMP) (BLM 1997). The Tonopah RMP and Record of Decision is the BLM TFO's planning document that is required by the Federal Land Policy and Management Act. A copy of the RMP is available for review at the BLM TFO, located at 1553 S. Main Street, Tonopah, Nevada.

Existing land uses in the general area of the Project are characterized primarily by open desert, utility corridors and facilities, grazing allotment, mineral exploration, dispersed recreation, and transportation and access.

Land uses in the general area of the Project are characterized primarily by open desert, utility corridors and facilities, grazing allotment, mineral exploration, dispersed recreation, and transportation and access. The existing rights-of-way BLM has authorized within the surrounding proximity of the Project are mostly for the existing TPU water system, as shown in Table 2.

Table 2 Existing Right-of-Way Authorizations

Serial Number	Right-of-Way Holder	Description of Right-of-Way
NVCC-22108	Nye County and TPU	Existing groundwater wells, water pipeline, and overhead power line
NVN-00313	Sierra Pacific Power Company (i.e., NV Energy)	Overhead power line
NVN-07915	Sierra Pacific Power Company	Overhead power line
NVN-53312	TPU	Existing groundwater wells, water pipeline, and access road
NVN-53743	Sierra Pacific Power Company	Overhead power line
NVN-65577	Citizens Telecommunications of Nevada	Communications line
NVN-89473	TPU	Existing monitoring well
NVN-89563	TPU	Existing monitoring well
NVN-89651	Nye County Road Department	County maintained road

2.3 TOPOGRAPHY

The topography of the Project area near flat to gently sloping towards the southeast. The topography within most of the Project area is gentle due much of the area coinciding with roads and transportation access. Elevations in the Project area range from approximately 5,675 feet above mean sea level to approximately 5,870 feet above mean sea level. Steeply sloping elevations in the distance mountains ranges bounding Ralston Valley range between 6,000 and 9,500 feet.

3.0 NOXIOUS WEED SURVEY

3.1 NOXIOUS WEED SURVEY

A field biologist from JBR Environmental Consultants, Inc. visited the Project area on October 1, 2011 for the purposes of collecting vegetation and wildlife baseline data. The biologist walked the alignment of the proposed pipeline that would be constructed and the segments of existing pipeline that would be abandoned and replaced. The biologist meandered approximately 100 feet on either side of the pipeline center line, and collected vegetation and wildlife information and data. Each proposed new well area was visited as well, and the relevant vegetation and wildlife data was recorded.

The survey specifically perform by the biologist for noxious weeds and invasive, non-native, plant species was employed across the entire Project area. The survey effort was intensified in areas which appeared to have a high potential for noxious weed infestations, such as previously disturbed areas and exposed soils. As a result of the survey, no noxious weeds were identified within the Project area, however invasive, non-native, plant species, including cheatgrass (I), curveseed butterwort (*Ceratocephala testiculata*), and western tansymustard (*Descurainia pinnata*), were observed throughout the Project area. The biologist noted, however, that the population density of these species was generally low (JBR Environmental Consultants, Inc. 2011).

3.2 STATE LISTED NOXIOUS WEEDS

According to the Nevada Department of Agriculture (2011), state listed noxious weeds fall into three primary categories:

Category "A": Weeds not found or limited in distribution throughout the state; actively excluded from the state and actively eradicated wherever found; actively eradicated from nursery stock dealer premises; control required by the state in all infestations

Category "B": Weeds established in scattered populations in some counties of the state; actively excluded where possible, actively eradicated from nursery stock dealer premises; control required by the state in areas where populations are not well established or previously unknown to occur

Category "C": Weeds currently established and generally widespread in many counties of the state; actively eradicated from nursery stock dealer premises; abatement at the discretion of the state quarantine officer.

The noxious weed species of special concern, arranged according to the category they are classified as, are provided in Table 3.

Table 3 Noxious Weed Species of Potential Concern

Common Name	Scientific Name
Category A Weeds:	
African rue	*Peganum harmala*
Austrian fieldcress	*Rorippa austriaca*
Austrian peaweed	*Sphaerophysa salsula / Swainsona salsula*
Black henbane	*Hyoscyamus niger*
Camelthorn	*Alhagi camelorum*
Common crupina	*Crupina vulgaris*
Dalmation toadflax	*Linaria dalmatica*
Dyer's woad	*Isatis tinctoria*
Eurasian water-milfoil	*Myriophyllum spicatum*
Giant reed	*Arundo donax*
Giant salvinia	*Salvinia molesta*
Goats rue	*Galega officinalis*
Green fountain grass	*Pennisetum setaceum*
Houndstongue	*Cynoglossum officinale*
Hydrilla	*Hydrilla verticillata*
Iberian star thistle	*Centaurea iberica*
Klamath weed	*Hypericum perforatum*
Malta Star thistle	*Centaurea melitensis*
Mayweed chamomile	*Anthemis cotula*
Mediterranean sage	*Salvia aethiopis*
Purple loosestrife	*Lythrum salicaria, L.virgatum* and their cultivars
Purple star thistle	*Centaurea calcitrapa*
Rush skeletonweed	*Chondrilla juncea*
Sow thistle	*Sonchus arvensis*
Spotted knapweed	*Centaurea masculosa*
Squarrose knapweed	*Centaurea virgata*
Sulfur cinquefoil	*Potentilla recta*
Syrian bean caper	*Zygophyllum fabago*
Yellow star thistle	*Centaurea solstiltialis*
Yellow toadflax	*Linaria vulgaris*
Category B Weeds	
Carolina horse-nettle	*Solanum carolinense*
Diffuse knapweed	*Centaurea diffusa*
Leafy spurge	*Euphorbia esula*
Medusahead	*Taeniatherum caput-medusae*
Musk thistle	*Carduus nutans*
Russian knapweed	*Acroptilon repens*
Sahara mustard	*Brassica tournefortii*
Scotch thistle	*Onopordum acanthium*
White horse-nettle	*Solanum elaeagnifolium*

Common Name	Scientific Name
Category C Weeds	
Canada thistle	*Cirsium arvense*
Hoary cress	*Cardaria draba*
Johnson grass	*Sorghum halepense*
Perennial pepperweed	*Lepidium latifolium*
Poison hemlock	*Conium maculatum*
Puncture vine	*Tribulus terrestris*
Salt cedar (tamarisk)	*Tamarix* spp.
Water hemlock	*Cicuta maculata*
[Department of Agriculture, No. 55.11, eff.5-25-62; A 5-1-68]--(NAC A by St. Quarantine Officer, 8-9-94; R191-99, 8-7-2000; R097-01m 5-1-2002; R003-03, 9-24-2003)	

3.3 NOXIOUS WEED ASSESSMENT

As part of the analysis of effects to vegetation, a noxious weed assessment was conducted in accordance with BLM Manual 9015 (Appendix A). The first step in this analysis was to assign a numerical rating for Factor 1, which is the likelihood of noxious weed species spreading to the Project area. Factor 2, which is the consequence of noxious weed establishment in the Project area, was also given a numerical rating. These two factors were then multiplied and that value used to identify a risk rating for the project. The risk rating then identified guidelines for noxious weed control in the Project area. Table 4 summarizes the results of the Noxious Weed Risk Assessment and the value assigned to the two risk factors.

Table 4 BLM Noxious Weed and Rating Risk Assessment Factors

Factor	Rating for the Proposed Action (Project)	Value
Factor 1 – Likelihood of Noxious Weeds Spreading to Project Area	Low: Noxious weeds species were not observed within the noxious weed survey area. The survey area included the entire Project area in addition to areas within 25 to 75 feet of the portions of the Project area where pipeline would be replaced/constructed. However, given the abundance of existing roads within close proximity to Project area, noxious weeds may be present near, but outside of the survey area. Accordingly, the Project can be implemented and the spread of noxious weeds can be prevented.	1
Factor 2 – Consequence of Noxious Weed Establishment in Project Area	High: Establishment of noxious weeds would substantiate relatively high consequences since weed infestations do not occur within the Project area currently. However, surface disturbance would be limited to the immediate construction area to the extent feasible, and would not extend beyond the Project area boundary. As such, any cumulative effects on the native plant community would be limited.	8
Total Risk Rating (Factor 1 Rating Value X Factor 2 Rating Value):		**8**

As Table 4 indicates, the risk rating for the Project is less than 10, designated it as a low risk. For a low risk rating, BLM recommends proceeding with the Project as planned, with initiation of control treatments for noxious weeds that become established in the Project area (Appendix A).

3.4 WEED MANAGEMENT AREAS

The Project proponent (TPU and/or its contractors) would be required to initiate control treatment on noxious weed populations if they become established anywhere in the Project area.

4.0 NOXIOUS WEED MANAGEMENT

4.1 IDENTIFICATION OF PROBLEM AREAS

Prior to the initiation of construction activities, all construction personnel will be instructed on the importance of controlling noxious weeds. As part of start-up activities, the Construction Contractor will provide information and training regarding noxious weed management. The importance of preventing the spread of noxious weeds in areas not infested will be emphasized, as will controlling the proliferation of weeds already present in area, although none are known to occur within the Project area. This would be useful in the event that noxious weeds become established within the Project area during construction. Prior to construction, areas of concern previously identified will be flagged by the Construction Contractor and reviewed by the CIC. This flagging will alert construction personnel and prevent access into areas until noxious weed management control measures, as described below, have been implemented.

4.2 PREVENTIVE MEASURES

The following preventative measures are to be applied on a case-by-case basis, where applicable and necessary, at the discretion of the BLM and CIC. Prior to ground disturbing activities a qualified weed specialist will survey the proposed disturbance area. The weed specialist working in conjunction with the BLM and CIC will identify areas where the following measures shall be implemented.

- Where feasible, construction will begin in weed-free areas before operating in weed infested areas. All movement of construction vehicles outside of the right-of-way will be restricted to pre-designated access, contractor-acquired access, or public roads. All construction sites and access roads shall be clearly marked or flagged at the outer limits prior to the onset of any surface-disturbing activity. All personnel shall be informed that their activities must be confined within the marked or flagged areas.
- Construction personnel will be trained to inspect, remove, and dispose of weed seed and plant parts found on their clothing and equipment. Disposal methods will be approved by the BLM Project Manager.
- The Contractor, with CIC oversight, will ensure that vehicles and equipment are free of soil and debris capable of transporting noxious weed seeds, roots, or rhizomes before the vehicles and equipment are allowed use of access roads on the right-of-way.
- In areas where infestations are identified or noted, the Contractor will stockpile cleared vegetation and salvaged topsoil adjacent to the area, to eliminate the transport of soilborne-noxious weed seeds, roots, or rhizomes.

- Where necessary, during reclamation, the Contractor will return topsoil and vegetative material from infestation sites. The Contractor will use compressed air to remove seeds, roots, and rhizomes from the equipment before transport off-site.
- The Contractor will ensure that straw or hay bales used for sediment barrier installations or mulch distribution are obtained from state-cleared sources that are certified free of primary noxious weeds.
- Immediately following construction, the Contractor will implement the reclamation of disturbed land. Continuing re-vegetation efforts will ensure adequate vegetative cover, thus preventing the invasion of noxious weeds.

4.3 TREATMENT METHODS

The Construction Contractor and/or Project Proponent (i.e., TPU) will implement noxious weed control measures in accordance with existing regulations and BLM requirements. Before construction, only pesticides that are approved by the BLM will be applied to the identified weed infestations on BLM land, to reduce the spread or proliferation of weeds. Post-construction control measures can include one or more of the following methods (that may be implemented during restoration activities):

- Treatment methods will be based on species-specific and area-specific conditions (e.g., proximity to water or riparian areas, agricultural areas, and time of year) and will be coordinated with the BLM Project Manager. If areas are not seeded until the following spring, because of weather or scheduling constraints, all undesirable vegetation will be eradicated before seeding.
- Mechanical methods rely on equipment that can be used to mow or disc weed populations. If such a method is used in areas to be restored, subsequent seeding will be conducted to reestablish a desirable vegetative cover that will stabilize the soils and slow the potential reinvasion of noxious weeds.
- Plow and disc treatments, or other similar mechanical treatments that would disturb the soil surface within native habitats will be avoided in favor of pesticide application, which is an effective means of reducing the size of noxious weed populations, as well as preventing the establishment of new colonies.
- Seed selection will be based on site-specific conditions and the appropriate seed mix identified for those conditions. Any seed mix shall be selected in accordance with BLM guidelines and approved by the BLM.
- Pesticide applications will be controlled, as described in Section 5, to minimize the impacts on the surrounding vegetation. In areas of dense infestation, a broader application will be used and a follow-up seeding program will be implemented.
- Supplemental seeding will be coordinated with the BLM.

4.4 AGENCY SPECIFIC REQUIREMENTS

The Nevada State Department of Agriculture regulates noxious weeds under NRS 555, which mandates that "every landowner or occupier, whether private, city, county, or federal shall cut, destroy, or eradicate all noxious weeds as required by the state quarantine officer." Through the implementation of this Plan and in conjunction with the BLM (as described below), the Project will be in compliance with NRS 555.

Bureau of Land Management Land

Pesticides approved for use on the Project site will be reviewed and approved by the BLM prior to initiation of construction. Guidelines for the use of chemical control of vegetation on BLM lands are presented in the Chemical Pest Control Manual. These guidelines require submittal of a Pesticide Use Proposal which will be prepared by the Contractor and submitted to the BLM for review and approval prior to initiation of construction activities. Once approved any use of pesticides will require Pesticide Application Records that detail the use and application. The Pesticide Application Records will then be submitted to the BLM in a timely manner.

The occurrence of noxious weeds within the Project site will be reported to the BLM TFO. The appropriate weed control procedures, including target species, timing of control, and method of control, will be determined in consultation with the BLM by the Contractor, based on the procedures outlined in this Plan.

Personnel Requirements

Weed management actions shall be carried out by a weed management specialist with qualifications approved by the BLM TFO.

5.0 MONITORING

5.1 RECLAMATION MONITORING

General measures to prevent the spread of noxious weed propagules and inhibit the germination of such propagules unknowingly or unintentionally applied during reclamation activities include the following:

- Limiting disturbance areas during closure activities to the minimum required to perform work,
- Limiting ingress and egress to defined routes,
- Maintaining vehicle wash and inspection stations to minimize the potential for weed introduction.

Reclamation monitoring will be implemented for the detection of noxious weed invasions. All portions of the Project area where native vegetation was disturbed during construction of the Project, and all areas of exposed soils within the Project area in existence prior to and as a result of the Project will be monitored for noxious weed invasions. To ensure discovery of any infestations, reclamation monitoring of noxious weeds will be performed during the first full growing season after construction and reclamation activities have been completed.

Following the field inspections, the Proponent (i.e., TPU) and/or Contractor will document any observations or potential concerns noted. The observations and results of the field inspection will be compiled into a brief summary report and provided to BLM. The report will include sufficient information to determine if additional monitoring or control measures are necessary.

5.2 ONGOING MONITORING

Long-term monitoring and reporting would be performed to evaluate the successfulness of reclamation seeding and noxious weed control efforts. As stated in the Tonopah Public Utilities Right-of-Way Authorization: Water System Improvement Project: Environmental Assessment (BLM 2011), reclamation practices for the Project would be guided by the Nevada Guidelines for Reclamation (Nevada State Clearinghouse 1998). The Nevada Guidelines for Reclamation specify that the success of re-vegetation growth on a reclaimed site should not be considered successful any sooner that during the third growing season after reclamation seeding was completed. Accordingly, long-term monitoring noxious weed infestations would be performed once during each of the first three full growing seasons following completion of reclamation activities. Long-term monitoring would be performed on all portions of the Project area where Project-related construction and/or reclamation activities had resulted in surface disturbance. Generally, monitoring surveys will occur between mid-March and mid-April.

Due to the general linear shape of the Project area, long-term monitoring field surveys would consist of walking the project area corridor, specifically visiting areas of where disturbance occurred during either construction or reclamation. If noxious weed infestations, or potential concern areas are identified, the locations would be marked using a global positioning unit (GPS). The BLM may adjust the frequency at which long-term monitoring surveys are performed or extend the monitoring surveys beyond the first three full growing seasons if it determines necessary. Likewise, BLM may discontinue the continuation of long-term monitoring prior to the third full growing season if it determines conditions conducive to noxious weed invasions has been eliminated.

Long-term monitoring reports will be prepared to document the findings of monitoring surveys and provided to the BLM TFO to be used to determine if re-vegetation and weed control efforts are successful. The report will include any GPS coordinates collected during long-term monitoring field surveys that pertain to noxious weeds, as well as information regarding the general success of re-vegetation from reclamation seeding. The report will include maps, diagrams, and figures as necessary to accurately portray the findings of field surveys.

6.0 PESTICIDE APPLICATION, HANDLING, SPILLS, AND CLEANUP

6.1 PESTICIDE APPLICATION AND HANDLING

The list of pesticides to be used will be reviewed and approved by the BLM, and pesticide application will be based on information gathered from the BLM. Before application, all required permits from the BLM and the applicable local authorities will be obtained. Permits may contain additional terms and conditions that go beyond the scope of this Plan.

A certified pesticide applicator, approved in the state of Nevada, will perform the application using BLM selected and approved pesticides in accordance with applicable laws, regulations, and permit stipulations. All pesticide applications must follow United States Environmental Protection Agency label instructions. Application of pesticides will be suspended when any of the following conditions exist:

- Wind velocity exceeds 6 miles per hour (mph) during application of liquids
- Wind velocity exceeds 15 mph during application of granular pesticides
- Snow or ice covers the foliage of noxious weeds
- Precipitation is occurring or is imminent

Vehicle-mounted sprayers (e.g., handgun, boom, and injector) may be used in open areas that are readily accessible by vehicle. Hand application methods (e.g., backpack spraying), that target individual plants, will be used to treat small or scattered weed populations in rough terrain. Calibration checks of equipment will be conducted at the beginning of spraying and periodically during spraying, to ensure that proper application rates are achieved. Pesticides will be transported to the Project area daily with the following provisions:

- Only the quantity needed for that day's work will be transported.
- Concentrate will be transported in approved containers only and in a manner that will prevent tipping or spilling, and in a location that is isolated from the vehicle's driving compartment, food, clothing, and safety equipment.
- Mixing will be done off-site, over a drip catching device, and at a distance greater than 200 feet from open or flowing water, wetlands, or other sensitive resources. No pesticides will be applied at these areas unless authorized by appropriate regulatory agencies.
- All pesticide equipment and containers will be inspected for leaks daily.
- Disposal of spent containers will be in accordance with the pesticide label.

6.2 PESTICIDE SPILLS AND CLEANUP

All reasonable precautions will be taken to avoid pesticide spills. In the event of a spill, cleanup will be immediate. Contractors will keep spill kits in their vehicles and in pesticide storage areas to allow for quick and effective response to spills. Items to be included in the spill kit are:

- protective clothing and gloves
- absorptive clay, “kitty litter,” or other commercial absorbents
- plastic bags and a bucket
- shovel
- fiber brush and screw-in handle
- dust pan
- caution tape
- highway flares (use on established roads only)
- detergent

The response to a pesticides spill will vary with the size and location of the spill, but general procedures include:

- CIC and BLM notification
- traffic control
- dressing the clean-up team in protective clothing
- stopping any leaks
- containing spilled material
- cleaning up and removing spilled pesticide and contaminated absorptive material and soil
- transporting spilled pesticide and contaminated material to an authorized disposal site

6.3 WORKER SAFETY AND SPILL REPORTING

Pesticide contractors will be state certified to apply pesticides and obtain and have readily available copies of the appropriate material safety data sheets for the pesticides used. All pesticide spills will be reported in accordance with applicable laws and requirements.

7.0 REFERENCES

Bureau of Land Management (BLM). 1992. *Noxious Weed Risk Assessment Factors and Rating Risk Assessment Factors Worksheet*. U.S. Department of the Interior, Bureau of Land Management.

Bureau of Land Management (BLM). 1997. *Approved Tonopah Resource Management Plan and Record of Decision*. U.S. Department of the Interior, Bureau of Land Management, Battle Mountain District, Tonopah Field Station. Tonopah, Nevada. October 1997.

Bureau of Land Management (BLM). 2011. *Tonopah Public Utilities: Right-of-Way Authorization: Water System Improvement Project: Environmental Assessment*. File Number: NVN 90168: (Permanent Right-of-Way). U.S. Department of the Interior, Bureau of Land Management, Battle Mountain District, Tonopah Field Office: Tonopah, Nevada. November 2011.

JBR Environmental Consultants, Inc. 2011. *Biological Survey Results: Tonopah Public Utilities: Tonopah Arsenic Transmission Line and Well Replacement Project: Nye County, Nevada*. JBR Environmental Consultants, Inc.: Reno, Nevada. November 8, 2011.

Nevada Department of Agriculture. 2011. Nevada Department of Agriculture, Plant Industry Division, Noxious Weeds List [Website]. Accessed on November 16, 2011, from: http://agri.nv.gov/nwac/PLANT_NoxWeedList.htm

Nevada State Clearinghouse. 1998. *Nevada Guidelines for Revegetation*. Budget and Planning Division, Nevada Department of Administration. Carson City, Nevada. Retrieved November 16, 2011, from: http://heritage.nv.gov/reveg.htm

Figures

Appendix A

Weed Risk Assessment Form

RISK ASSESSMENT FOR NOXIOUS & INVASIVE WEEDS

Project Name
Location

Date of assessment, summary of project, site, noxious and invasive weed populations in the area, how it interlaces w/ proposed action. MORE THAN JUST THE PROJECT AREA SHOULD BE INVENTORIED. Any pertinent surrounding areas should also be included in this assessment such as: roads (especially dirt ones) leading to the site, upstream in any washes or riparian areas that flow through the site, a buffer around the project site, etc. It is the same as assessing impacts to wildlife. Say you survey just the project area for mule deer and none are found. It would be incorrect to then assume that no mule deer will be impacted by the project. Weeds work in basically the same manner. The project is creating a disturbance and weeds can spread to that disturbance in several different ways (humans, wind, water, wildlife, etc.), so the assessment must address weed species in neighboring areas as well as any directly at the project site.

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

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

Which level was chosen and why. Don’t just repeat what is listed in the table; tell the reader why for this particular project this rating was chosen. Take into account that weeds spread by many methods. For example if the project area is located downwash from a weed infestation or adjacent to a weed species that has wind-born seed then the factor level should be higher. Also take into account the invasiveness of the weed species.

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

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

Which level was chosen and why. Don't just repeat what is listed in the table; tell the reader why for this particular project this rating was chosen. This factor should be evaluated separately from factor #1. For example if a site is considered totally weed free then this factor should be evaluated as relatively high regardless of the fact that it might be incredibly unlikely that weeds would spread to the site. Another way to look at it: assume that weeds are going to infest the site, what would the consequences be and rate accordingly.

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

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

What is the risk rating and what actions will be taken: prevention, monitoring, treatment, etc.

Reviewed by:_____ _____

Michael Vermeys Date
Battle Mountain District
Weed Management Specialist

Appendix C

Agency Correspondence

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Nevada Fish and Wildlife Office
1340 Financial Blvd., Suite 234
Reno, Nevada 89502
Ph: (775) 861-6300 ~ Fax: (775) 861-6301

June 18, 2011
File No. 2011-SL-0326

Ms. Susan Dudley
Town of Tonopah
Post Office Box 151
Tonopah, Nevada 89049

Dear Ms. Dudley:

Subject: Species List Request for the Tonopah Public Utilities Water Project, Nye County, Nevada

This responds to your letter received on June 29, 2011, requesting a species list for the Tonopah Public Utilities Water Project in Nye County, Nevada. To the best of our knowledge, no listed, proposed, or candidate species occur in the subject project area. This response fulfills the requirements of the Fish and Wildlife Service (Service) to provide a list of species pursuant to section 7(c) of the Endangered Species Act of 1973 (ESA), as amended, for projects that are authorized, funded, or carried out by a Federal agency.

The Nevada Fish and Wildlife Office no longer provides species of concern lists. Most of these species for which we have concern are also on the Animal and Plant At-Risk Tracking List for Nevada (At-Risk list) maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we adopted Heritage's At-Risk list and are partnering with them to provide distribution data and information on the conservation needs for at-risk species to agencies or project proponents. As you may know, the mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those most vulnerable to extinction or in serious decline. In addition, in order to avoid future conflicts, we ask that you consider these at-risk species early in your project planning and explore management alternatives that provide for their long-term conservation.

For a list of at-risk species by county, visit Heritage's website (http://heritage.nv.gov). For a specific list of at-risk species that may occur in the project area, you can obtain a data request form from the website (http://heritage.nv.gov/forms.htm) or by contacting the Administrator of

TAKE PRIDE IN AMERICA

Heritage at 901 South Stewart Street, Suite 5002, Carson City, Nevada 89701-5245, (775) 684-2900. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the ESA. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address.

Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (http://www.leg.state.nv.us/NAC/NAC-503.html). You must first obtain the appropriate license, permit, or written authorization from the Nevada Department of Wildlife to take, or possess any parts of protected wildlife species. Please visit http://www.ndow.org or contact the Nevada Department of Wildlife at (702) 486-5127.

If bald eagles (*Haliaeetus leucocephalus*) and/or golden eagles (*Aquila chrysaetos*) occur in the project area or within 10 miles of the proposed project area boundary, we recommend you analyze project impacts to the affected individuals, their habitats, and regional populations. While the bald eagle has been removed from the Federal list of threatened and endangered species (August 8, 2007; 72 FR 37346), it remains classified as endangered by the States of Nevada and California. Further, the bald eagle along with the golden eagle continues to be protected under the Bald and Golden Eagle Protection Act (BGEPA) of 1940, as amended (16 U.S.C. 668-668d) and the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 *et seq.*). Both the BGEPA and the MBTA prohibit take as defined as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, disturb, or otherwise harm eagles, their nests, or their eggs. Under the BGEPA, "disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: 1) injury to an eagle, 2) decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. On September 11, 2009 (74 FR 46836), the Service set in place rules establishing two new permit types: 1) take of bald and golden eagles that is associated with, but not the purpose of, the activity; and 2) purposeful take of eagle nests that pose a threat to human or eagle safety. We recommend you coordinate with State and Federal wildlife officials early in the planning process to ensure compliance with State and Federal regulations and to develop a survey protocol to evaluate the potential risk and the likelihood of take of eagles. If take is reasonably anticipated to occur, we recommend you develop an Avian Protection Plan (APP) in coordination with State wildlife agencies and the Service. An APP is intended to avoid, minimize, or mitigate impacts to these species.

Based on the Service's conservation responsibilities and management authority for migratory birds under the MBTA, we are concerned about potential impacts the proposed project may have on migratory birds in the area. Given these concerns, we recommend that any land clearing or other surface disturbance associated with proposed actions within the project area be timed to avoid potential destruction of bird nests or young, or birds that breed in the area. Such destruction may be in violation of the MBTA. Under the MBTA, nests with eggs or young of migratory birds may not be harmed, nor may migratory birds be killed. Therefore, we recommend land clearing be conducted outside the avian breeding season. If this is not feasible, we recommend a qualified biologist survey the area prior to land clearing. If nests are located, or if other evidence of nesting (*i.e.*, mated pairs, territorial defense, carrying nesting material,

transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

Because wetlands, springs, or streams may be present in the vicinity of the project area, we ask that you be aware of potential impacts project activities may have on these habitats. Discharge of fill material into wetlands or waters of the United States is regulated by the U.S. Army Corps of Engineers (ACOE) pursuant to section 404 of the Clean Water Act of 1972, as amended. We recommend you contact the ACOE's Regulatory Section [300 Booth Street, Room 3060, Reno, Nevada 89509, (775) 784-5304] regarding the possible need for a permit.

Please reference File No. 2011-SL-0326 in future correspondence concerning this species list. If you have any questions regarding this correspondence or require additional information, please contact me or James Harter at (775) 861-6300.

Sincerely,

Marcy Haworth

for Jill A. Ralston
Acting State Supervisor

STATE OF NEVADA

DEPARTMENT OF WILDLIFE

1100 Valley Road
Reno, Nevada 89512
(775) 688-1500 • Fax (775) 688-1595

BRIAN SANDOVAL
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KENNETH E. MAYER
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RICHARD L. HASKINS, II
Deputy Director

PATRICK O. CATES
Deputy Director

Susan Dudley
Administrative Supervisor
Town of Tonopah
P.O. Box 151
Tonopah, Nevada 89049

August 15, 2011

Re: Arsenic Mitigation Project

Dear Ms. Dudley:

I am responding to your request for information from the Nevada Department of Wildlife (NDOW) on the known or potential occurrence of wildlife resources in the vicinity of the arsenic mitigation project located in Nye, Nevada. In order to fulfill your request an analysis was performed using the best available data from the NDOW's wildlife sight records, commercial reptile collections, scientific collections, raptor nest sites and ranges, greater sage-grouse leks and habitat, and big game distributions databases. No warranty is made by the NDOW as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data. These data should be considered **sensitive** and may contain information regarding the location of sensitive wildlife species or resources. All appropriate measures should be taken to ensure that the use of this data is strictly limited to serve the needs of the project described on your GIS Data Request Form. Abuse of this information has the potential to adversely affect the existing ecological status of Nevada's wildlife resources and could be cause for the denial of future data requests.

To adequately provide wildlife resource information in the vicinity of the proposed project the NDOW delineated an area of interest that included a three-mile buffer around the project area provided by you via email (August 9, 2011). Wildlife resource data was queried from the NDOW databases based on this area of interest. The results of this analysis are summarized below.

Big Game – Occupied mule deer distribution exists in the San Antonio Mountains in the central and western portion of the three-mile buffer area along the western edge of the project area. Pronghorn antelope distribution exists throughout the entire project area and all but the highest elevations of the San Antonio Mountains and Lone Mountain. Please refer to the attached maps for details regarding these big game species distributions relative to the proposed project area. There are no known bighorn sheep or elk distributions in the vicinity of the project area.

Greater Sage-Grouse – There are no known greater sage-grouse distributions or lek sites in the vicinity of the project area.

Raptors – Various species of raptors, which use diverse habitat types, are known to reside in the vicinity of the project area. American kestrel, barn owl, burrowing owl, Cooper's hawk, ferruginous hawk, golden eagle, great horned owl, long-eared owl, merlin, northern goshawk, northern harrier, northern saw-whet owl, osprey, peregrine falcon, prairie flacon, red-tailed hawk, rough-legged hawk, sharp-shinned hawk, short-eared owl, Swainson's hawk, turkey vulture, and western screech owl have distribution ranges that include the project area and three-mile buffer area. Furthermore, golden eagle, great horned owl, northern harrier, prairie falcon, red-tailed hawk, and turkey vulture have been directly observed in the vicinity of the project area.

Raptor species are protected by State and Federal laws. In addition, burrowing owl, ferruginous hawk, northern goshawk, peregrine falcon, short-eared owl, and Swainson's hawk are NDOW species of special concern and are target species for conservation as outlined by the Nevada Wildlife Action Plan.

Six raptor nest sites have been identified by the NDOW in the vicinity of the project area.

Species	Species
prairie falcon	red-tailed hawk
prairie falcon	red-tailed hawk
prairie falcon	red-tailed hawk

Per the *Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and Other Recommendations in Support of Golden Eagle Management and Permit Issuance* (United States Fish and Wildlife Service 2010) we have extended our raptor nest database analysis for bald and golden eagle nest site locations to within ten miles of the proposed project area. Twelve additional golden eagle nests and no known bald eagle nests exist within ten miles of the project area.

Species	Species
golden eagle	golden eagle
golden eagle	golden eagle
golden eagle	golden eagle
golden eagle	golden eagle
golden eagle	golden eagle
golden eagle	golden eagle

Other Wildlife Resources

The following species have also been observed in the vicinity of the project area:

American badger	desert horned lizard	Mojave patch-nosed snake
band-tailed pigeon	Great Basin collared lizard	northern desert horned lizard
bobcat	Great Basin fence lizard	northern desert nightsnake
California condor	Great Basin gophersnake	snowy egret
chukar	Great Basin whiptail	southern grasshopper mouse
common sagebrush lizard	great egret	western fence lizard
common side-blotched lizard	kit fox	western spotted skunk
dark kangaroo mouse	long-nosed leopard lizard	yellow-backed spiny lizard
desert glossy snake	Merriam's kangaroo rat	zebra-tailed lizard

The above information is based on data stored at our Reno Headquarters Office, and does not necessarily incorporate the most up to date wildlife resource information collected in the field. Please contact the Habitat Division Supervising Biologist at our Southern Region Las Vegas Office (702.486.5127) to discuss the current environmental conditions for your project area and the interpretation of our analysis. Furthermore, it should be noted that the information detailed above is preliminary in nature and not necessarily an identification of every wildlife resource concern associated with the proposed project. Consultation with the Supervising Habitat biologist as the project progresses will facilitate the development of avoidance or mitigation measures that will decrease or eliminate impacts to the wildlife resources in the vicinity of the project area.

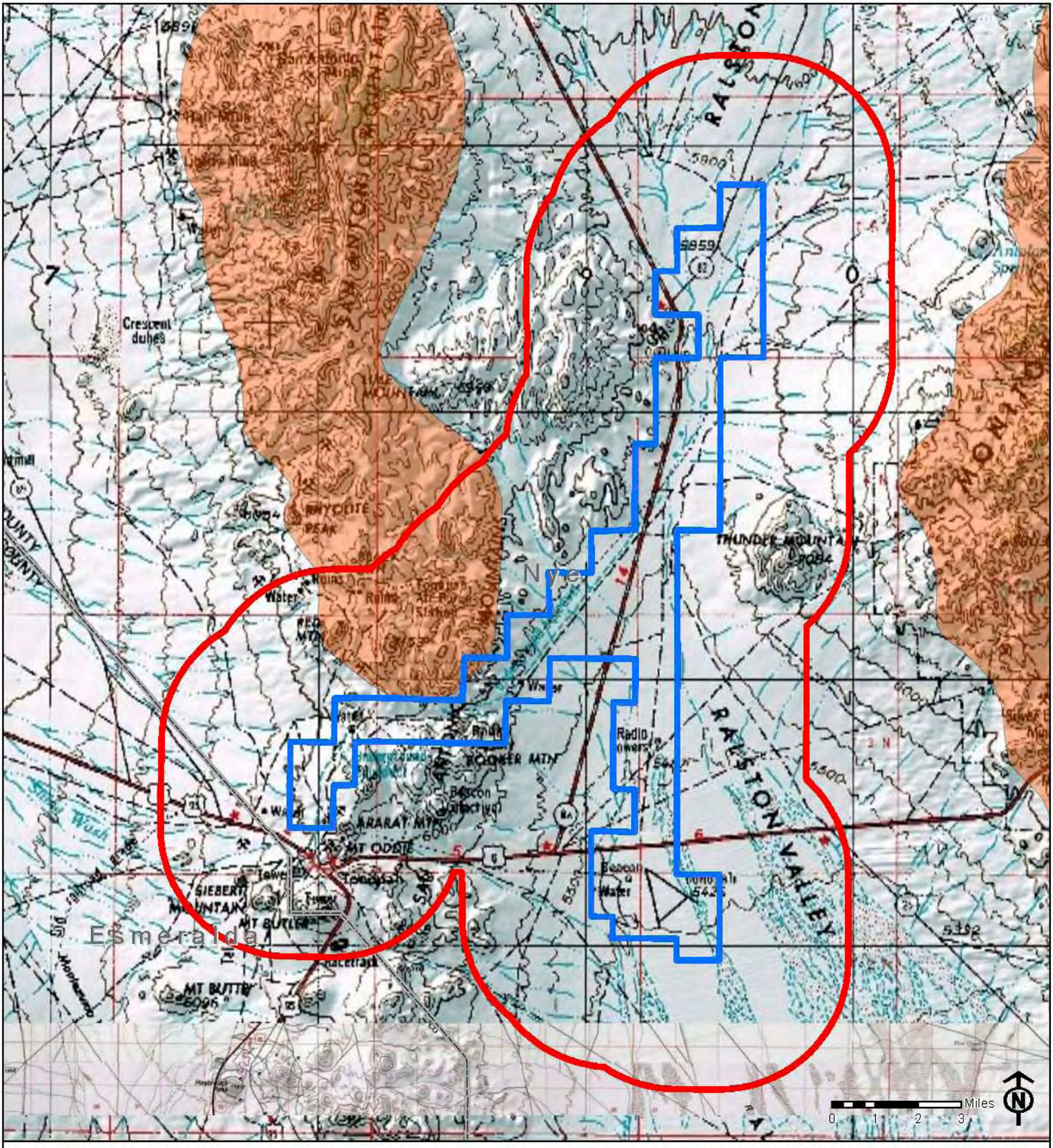
Brad Hardenbrook – Southern Region Supervising Habitat Biologist (ext. 3600)

Federally listed Threatened and Endangered species are also under the jurisdiction of the United States Fish and Wildlife Service. Please contact them for more information regarding these species.

If you have any questions regarding the results or methodology of this analysis please do not hesitate to contact our GIS office at (775) 688-1565.

Sincerely,

Timothy Herrick
Conservation Aide III
Wildlife Diversity Division



Legend

- Arsenic Remediation Area Boundary
- Three-mile Buffer Area Boundary
- Mule Deer Distribution
- County Boundary

Arsenic Remediation Area Mule Deer Distribution

August 12, 2011

Projection: UTM Zone 11 North, NAD83

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.

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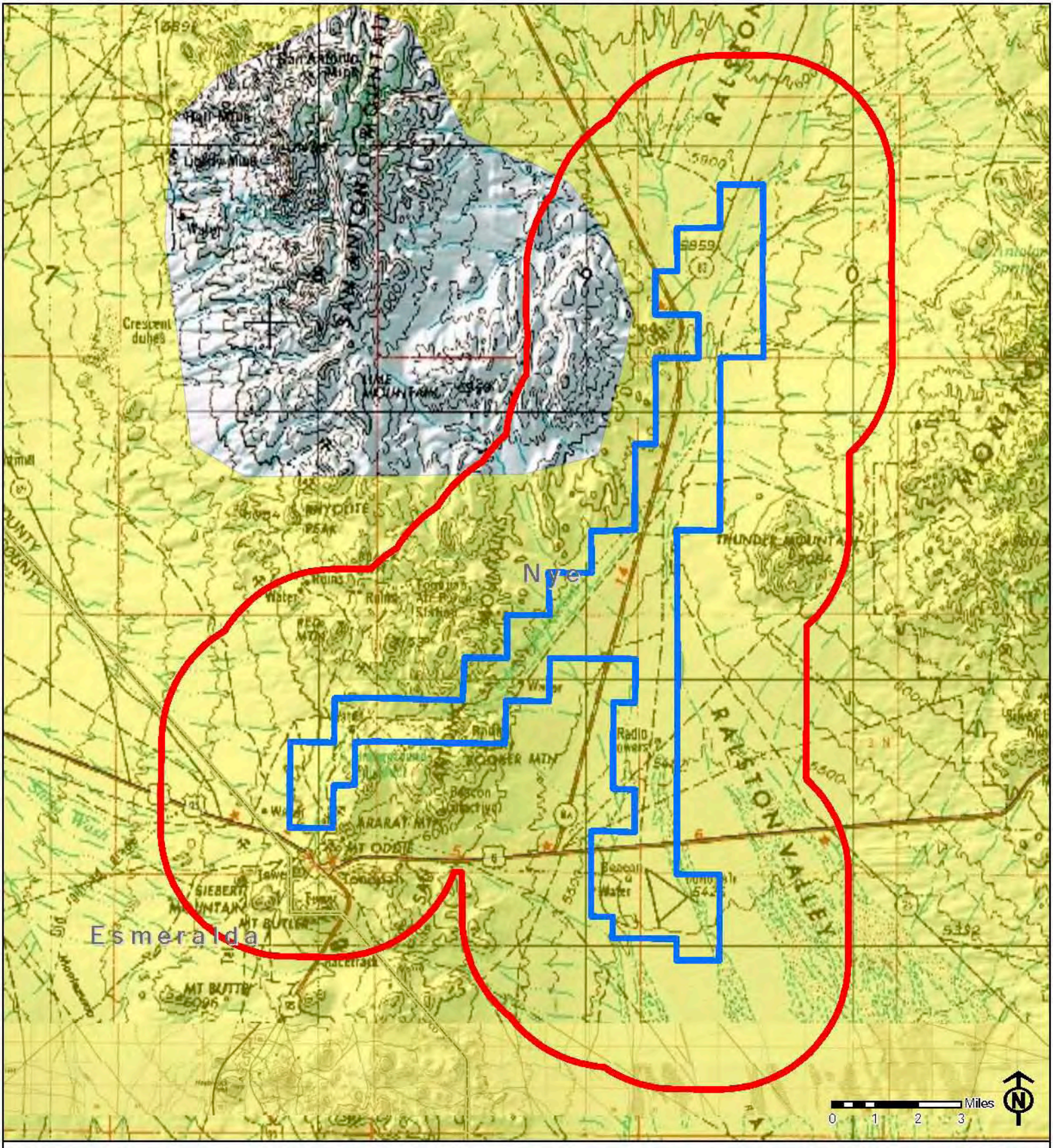

Legend

- Arsenic Remediation Area Boundary
- Three-mile Buffer Area Boundary
- Pronghorn Antelope Distribution
- County Boundary

Arsenic Remediation Area Pronghorn Antelope Distribution

August 12, 2011

Projection: UTM Zone 11 North, NAD83

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.

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LEO DROZDOFF
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Department of Conservation
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STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

Nevada Natural Heritage Program

http://heritage.nv.gov

11 July 2011

Susan Dudley
Town of Tonopah
102 Burro Ave.
Tonopah, NV 89049

RE: Data request received 29 June 2011

Dear Ms. Dudley:

We are pleased to provide the information you requested on endangered, threatened, candidate, and/or At Risk plant and animal taxa recorded within or near the Tonopah Public Utilities Water Project area. We searched our database and maps for the following, a five kilometer radius around:

Township 02N Range 43E Sections 01 and 12
Township 02N Range 44E Sections 05-08
Township 03N Range 42E Sections 13, 23, 24, 26 and 35
Township 03N Range 43E Sections 01-03, 09, 10, 13, 16-18 and 24
Township 03N Range 44E Sections 06, 07, 18, 19, 30 and 31
Township 04N Range 43E Sections 25, 35 and 36
Township 04N Range 44E Sections 05-08, 17-20, 30 and 31
Township 05N Range 44E Sections 16, 20, 21, 28-30, 32 and 33

The enclosed printout lists the taxa recorded within the given area. Please be aware that habitat may also be available for, the Tonopah pincushion, *Sclerocactus nyensis,* a Nevada Bureau of Land Management Sensitive Species, and the Clokey pincushion, *Coryphantha vivipara* var. *rosea*, a Taxon determined to be Vulnerable by the Nevada Natural Heritage Program as well as a Nevada State Protected cacti under NRS 527.060.120. The Nevada Department of Wildlife (NDOW) manages, protects, and restores Nevada's wildlife resources and associated habitat. Please contact Chet Van Dellen, NDOW GIS Coordinator (775.688.1565) to obtain further information regarding wildlife resources within and near your area of interest. Removal or destruction of state protected flora species (NAC 527.010) requires a special permit from Nevada Division of Forestry (NRS 527.270).

Please note that our data are dependent on the research and observations of many individuals and organizations, and in most cases are not the result of comprehensive or site-specific field surveys. Natural Heritage reports should never be regarded as final statements on the taxa or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.

Thank you for checking with our program. Please contact us for additional information or further assistance.

Sincerely,

Eric S. Miskow
Biologist/Data Manager

At Risk Taxa Recorded Near the Tonopah Public Utilities Water Project Area

Compiled by the Nevada Natural Heritage Program for The Town of Tonopah

11 July 2011

Scientific name	Common name	Usfws	Blm	Usfs	State	Srank	Grank	UTM E	UTM N	Prec	Last observed
Plants											
Asclepias eastwoodiana	Eastwood milkweed		N	S		S2	G2Q	492612.61	4235015.05	S	1990-06-10
Asclepias eastwoodiana	Eastwood milkweed		N	S		S2	G2Q	493292.05	4233904.91	S	1978-06-25
Asclepias eastwoodiana	Eastwood milkweed		N	S		S2	G2Q	493195.26	4234398.08	S	1991-06-27
Asclepias eastwoodiana	Eastwood milkweed		N	S		S2	G2Q	478850.13	4213187.62	G	1909-06
Astragalus serenoi var. *sordescens*	squalid milkvetch					S2	G4T2	493073.34	4233935.94	S	1978-06-04

Bureau of Land Management (Blm) Species Classification:

N Nevada Special Status Species - designated Sensitive by State Office

United States Forest Service (Usfs) Species Classification:

S Region 4 (Humboldt-Toiyabe NF) sensitive species

Precision (Prec) of Mapped Occurrence:

Precision, or radius of uncertainty around latitude/longitude coordinates:

- S Seconds: within a three-second radius
- M Minutes: within a one-minute radius, approximately 2 km or 1.5 miles
- G General: within about 8 km or 5 miles, or to map quadrangle or place name

Nevada Natural Heritage Program Global (**Grank**) and State (**Srank**) Ranks for Threats and/or Vulnerability:

- G Global rank indicator, based on worldwide distribution at the species level
- T Global trinomial rank indicator, based on worldwide distribution at the infraspecific level
- S State rank indicator, based on distribution within Nevada at the lowest taxonomic level
  - 1 Critically imperiled and especially vulnerable to extinction or extirpation due to extreme rarity, imminent threats, or other factors
  - 2 Imperiled due to rarity or other demonstrable factors
  - 3 Vulnerable to decline because rare and local throughout its range, or with very restricted range
  - 4 Long-term concern, though now apparently secure; usually rare in parts of its range, especially at its periphery
  - 5 Demonstrably secure, widespread, and abundant
    - A Accidental within Nevada
    - B Breeding status within Nevada (excludes resident taxa)
    - H Historical; could be rediscovered
    - N Non-breeding status within Nevada (excludes resident taxa)
    - Q Taxonomic status uncertain
    - U Unrankable
    - Z Enduring occurrences cannot be defined (usually given to migrant or accidental birds)
    - ? Assigned rank uncertain

LEO DROZDOFF, P.E., *Director*
Department of Conservation
And Natural Resources

BRIAN SANDOVAL
Governor

PETE ANDERSON
State Forester Firewarden

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
NEVADA DIVISION OF FORESTRY
4747 Vegas Drive
Las Vegas, Nevada 89108
Phone (702) 486-5123 Fax (702) 486-5186

August 31, 2011

Susan Dudley
Town of Tonopah
102 Burro Avenue
Tonopah, NV 89049

Dear Ms. Dudley:

Thank you for inquiring about possible conflicts with State-protected plants at the Tonopah Public Utilities Water Project. We have determined that there are no Nevada State-listed endangered plant species or designated critical habitats occurring in the project area. Therefore, no permit will be required.

For your future reference, Nevada's native plant laws are found in Nevada Revised Statutes (NRS) Chapter 527, with governing regulations in Nevada Administrative Code (NAC) Chapter 527. The latter includes the list of protected endangered species and permit requirements. Both NRS and NAC can be found on the State Legislature's website, http://leg.state.nv.us (choose the Law Library link).

Please be aware that non-State listed sensitive species Eastwood milkweed (*Asclepias eastwoodiana*) and squalid milkvetch (*Astragalus serenoi* var. *sordescens*) have been documented within the project area. Habitat may also be available for the Watson spinecup (*Oxytheca watsonii*) and the Clokey pincushion (*Coryphantha vivipara* var. *rosea*), two taxa determined to be Vulnerable by the Nevada Natural Heritage Program. The Nevada Department of Wildlife (NDOW) manages, protects, and restores Nevada's wildlife resources and associated habitat. Please contact Chet Van Dellen, NDOW GIS Coordinator (775.688.1565) to obtain further information regarding wildlife resources within and near your area of interest.

If you have any other questions, please contact me at (702) 486-5123. Thank you again for your concern for Nevada's native plant laws.

Sincerely,

Adria DeCorte
Resource Management Officer, Southern Region

ndep
NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
protecting the future for generations

STATE OF NEVADA
Department of Conservation & Natural Resources
DIVISION OF ENVIRONMENTAL PROTECTION

Brian Sandoval, Governor
Leo M. Drozdoff, P.E., Director
Colleen Cripps, Ph.D., Administrator

July 22, 2011

Susan Dudley
Town of Tonopah
P.O. Box 151
Tonopah, Nevada 89049

RE: Tonopah Public Utilities Water Project (arsenic mitigation)
Amended Request for Environmental Review
In reply, please refer to plan review number (NY-4068-11)

Dear Ms. Dudley:

The Nevada Division of Environmental Protection (NDEP), Bureau of Safe Drinking Water (BSDW) has performed the above-referenced environmental review. Based on the provided information, the BSDW offers the following comments:

The construction of the water wells and transmission main should have should have minimal or no impact to the existing groundwater quality. The construction project is necessary to bring the water system into compliance with the arsenic drinking water standard of 0.010 milligrams per liter.

Please be advised that engineered plans and specifications will need to be provided to BSDW for review and approval prior to construction.

If you have any questions or comments. Please contact me at (775) 687-9517.

Sincerely,

Jim Balderson

Jim Balderson, P.E., Engineering Supervisor
Bureau of Safe Drinking Water
Nevada Division of Environmental Protection

cc: Jennifer Carr, P.E., Chief, Bureau of Safe Drinking Water

901 S. Stewart Street, Suite 4001 • Carson City, Nevada 89701 • p: 775.687.4670 • f: 775.687.5856 • ndep.nv.gov
(O) 1991
printed on recycled paper

Appendix D

Special Status Species Table

Wildlife and Plant Sensitive Species review for the Tonopah Public Utilities Water System Improvement Project, Nye County, Nevada. List includes BLM-identified sensitive species that occur on the 2011 BLM Sensitive Species List for the Battle Mountain District and species listed as statewide. Species with no potential to occur due to identified range (e.g., species restricted to alpine habitats, forest habitats, aquatic habitats, etc.) not included in this list. No fish species are reported from the survey area. The survey area does not contain habitat for aquatic invertebrates or mollusks. Maps of the geology, soils, and vegetation communities within the survey area are attached.

Species	Habitat	Nevada Range	Occurrence in Project Area	Source
Mammals				
Pygmy Rabbit *Brachylagus idahoensis*	Dense sagebrush with friable soils	Northern and central Nevada	No. No dense sagebrush habitat in area	Jameson and Peters 1988; Ulmschneider et al. 2004
Pallid Bat *Antrozous pallidus*	Varied habitats, including arid environments.	Statewide	Potential forager	Sherwin 1998
Townsend's Big-eared Bat *Corynorhinus townsendii*	Desert scrub, pinyon-juniper. Roosts in caves, abandoned mines.	Statewide	Potential forager	Jameson and Peters 1988; Kunz and Martin 1982; Pierson, Rainey and Koontz 1991
Big Brown Bat *Eptesicus fuscus*	Wide-ranging bat occupying diverse habitats.	Statewide	Potential forager	Perkins 1998a
Silver-haired Bat *Lasionycteris noctivagans*	Forested habitats, including pinyon-juniper.	Statewide	No. No forested habitats in area	Perkins 1998b
Hoary Bat *Lasiurus cinereus*	Typically in forested habitats. Roosts in trees. Migratory.	Statewide	No. No forested habitats in area	Bolster 1998; NDOW 2006
Brazilian Free-Tailed Bat *Tadarida brasiliensis*	Roosts in caves, abandoned mines, old wells, etc. Wide-range of foraging habitat, typically dry, low elevation.	Statewide	Potential forager	Bat Conservation International 1998
Western Red Bat *Lasiurus blossevillii*	Associated with riparian and/or wooded habitats. Migratory. Usually solitary.	Western, southern and central Nevada	No, no forest or riparian habitats in area or nearby	NDOW 2006; Bolster 1998
Small-footed Myotis *Myotis ciliolabrum*	Varied habitats, most common in pinyon-juniper	Statewide	Potential forager	Bogen, Valdez and Navo 1998c
Long-eared Myotis *Myotis evotis*	Varied habitats, most common in coniferous forest	Statewide	Potential forager	Bogen, Valdez and Navo 1998a
Fringed Myotis *Myotis thysanodes*	Oak and pinyon-juniper habitats may be favored	Statewide	Potential forager	Bradley and Ports 1998
Long-legged Myotis *Myotis volans*	Most common in forested habitats but does occur in more arid situations	Statewide	Potential forager	Bogen, Valdez and Navo 1998d
Western Pipistrelle *Pipistrellus hesperus*	Wide-ranging. Often near water.	Statewide	Potential forager	Brown 1998

Species	Habitat	Nevada Range	Occurrence in Project Area	Source
Desert Bighorn Sheep *Ovis canadensis nelsoni*	Mountains. May cross intervening valleys	Southern and central Nevada, including introductions	No. Habitat not present in area	Shackleton 1985
Spotted Bat *Euderma maculatum*	Varied habitats. Widespread but occurs in low numbers. Roosts in crevices of tall cliffs	Statewide	Possible forager	Leonard and Fenton 1983; Watkins 1977
Dark Kangaroo Mouse *Microdipodops megacephalus*	Burrows in fine, gravelly soils, and sometimes in sand dunes. Typically in sagebrush areas with sandy soils, and in alkali desert scrub habitats.	Central Nevada	Potential in sandy areas	Zeiner et al. 1988-1990; American Society of Mammalogists 2011
Pale Kangaroo Mouse *Microdipodops pallidus*	Typically in sagebrush areas with sandy soils	Southeastern Nevada	Potential in sandy areas	Zeiner et al. 1988-1990; American Society of Mammalogists 2011
California Myotis *Myotis californicus*	Varied habitats, including arid areas	Statewide	Potential forager	Bogen, Valdez and Navo 1998b
Little Brown Myotis *Myotis lucifugus*	Wide-ranging bat, typically found in mesic or forested habitats	Statewide	Unlikely forager	Rainey 1998
Fish Springs Pocket Gopher *Thomomys bottae abstrusus*	Species (*Thomomys bottae*) is wide-ranging, occurring in a variety of habitats soil suitable for burrowing.	Northern Fish Springs Valley, Nye County, Nevada	No. Known range is not within or near project area.	Hall 1995; NDOW 2006
San Antonio Pocket Gopher *Thomomys bottae curtatus*	Species (*Thomomys bottae*) is wide-ranging, occurring in a variety of habitats soil suitable for burrowing.	San Antonio, Nye County, Nevada	Potential. San Antonio Mountains located west of project area.	Hall 1995
Birds				
Northern goshawk *Accipiter gentilis*	Breed and nest in forests; occasionally forage in shrub habitat, but almost exclusively occur in forest habitat	Mid-latitude mountains and mountains of northern Elko County.	Unlikely. No forest cover within or near project area.	Floyd et al. 2007
Golden Eagle *Aquila chrysaetos*	Mountains, deserts, plains	Statewide	Yes. Observed in area. Likely forages in project area.	NDOW 2006
Brewer's Sparrow *Spizella breweri*	Sagebrush habitats, shrub-scrub cover with sagebrush component	Statewide where sagebrush occurs.	Unlikely due to general absence of sagebrush.	Floyd et al. 2007
Bald Eagle *Haliaeetus leucocephalus*	Generally found near seacoasts, rivers, lakes, and similar large bodies of water. Nest in tall trees in mature or old-growth forests with an open structure, but also cliffs. Nest sites placed in proximity to water bodies.	Very rare, one confirmed nesting attempt in Lahontan Valley	No. Project area does not contain suitable nesting habitat or open water. Open water is not located nearby.	Floyd et al. 2007; Peterson 1986

Species	Habitat	Nevada Range	Occurrence in Project Area	Source
Burrowing Owl *Athene cunicularia*	Open country, nest sites usually include elevated perch	Migratory. Present in Nevada during warmer times of year	Potential for nesting and potential forager.	Floyd et al. 2007; Johnsgard 1988; Ryser 1985
Ferruginous Hawk *Buteo regalis*	Nest in sagebrush/shrub-steppe, grassland, mixed shrub/grassland, in lone trees or sparse groves primarily in (but not restricted to) the pinyon-juniper ecotone, and in the transition zone between woodland and shrub or grassland habitats. In the absence of trees, the Ferruginous Hawk readily nests on the ground, favoring buttes, cutbanks, rocky pinnacles and outcrops, and cliff faces.	Statewide	Potential to forage within project area.	Perkins and Lindsey 1983; McAnnis 1990; Ramakka and Woyewodzic 1993; Ayers 1996; Floyd et al. 2007
Swainson's Hawk *Buteo swainsoni*	Open country, plains, prairie, agricultural areas	Open country. Long-distance migrant. Nests later than most raptors.	Potential to forage within project area.	Floyd et al. 2007
Greater Sage-grouse *Centrocercus urophasianus*	Sagebrush habitats.	Year-round resident in sagebrush habitats, northern and central Nevada	Northern portion of area is within the Monitor Population Management Unit. However, project area lacks sagebrush habitat, and species is unlikely.	Floyd et al. 2007; NDOW 2006
Western Snowy Plover *Charadrius alexandrinus nivosus*	Beaches, playas, playa margins	Western and central Nevada. Migratory	Unlikely. No playas in project area.	Floyd et al. 2007
Peregrine Falcon *Falco peregrinus*	Often near water. Nests on tall cliffs, man-made structures	Occurs primarily as a migrant across the state	Unlikely migrant.	Floyd et al. 2007
Black Rosy Finch *Leucosticte atrata*	High mountains in summer. May wander into lowlands in winter	Eastern and central Nevada, particularly in Rubies and East Humboldts	Unlikely winter visitor	Floyd et al. 2007
Sage Thrasher *Oreoscoptes montanus*	Dense sagebrush primarily, also to a lesser extent, shrublands dominated by greasewood or bitterbrush	Statewide, but uncommon in southern portion of state.	Unlikely. No sagebrush habitat present.	Floyd et al. 2007

Species	Habitat	Nevada Range	Occurrence in Project Area	Source
Insects				
Crescent Dunes Aegialian Scarab *Aegialia crescenta*	Active November to April. Endemic to Crescent Dunes	Crescent Dunes, northwestern Nye County	No. Known range is not within or near project area.	Hardy, Carlson and Edmonds 1981; Knight, 2009
Crescent Dunes Aphodius Scarab *Aphodius* sp.	Crescent Dunes	Crescent Dunes, northwestern Nye County	No. Known range is not within or near project area.	Knight, 2009
Aegialian Scarab Beetle *Aegialia knighti*	Sand dunes	Known from Clark County	No. Known range is outside of project area	Nevada Natural Heritage Program 2004
Big Smoky Wood Nymph *Cercyonis oetus alkalorum*	Grassy alkaline flats	Northern Big Smoky Valley	No. Known range is outside of project area	NatureServe 2006
White River Wood Nymph *Cercyonis pegala pluvialis*	Sagebrush-grass-pinyon-juniper mosaic	White River Basin	No. Known range is outside of project area	Provencher, Nachlinger, Forbis & Morrill 2003
Railroad Valley Skipper *Hesperia uncas fulvapalla*	Alkali meadows	Alkali meadows on the Railroad Valley floor	No, endemic range is outside of project area	WildEarth Guardians 2010a
White River Valley Skipper Hesperia uncas grandiosa	Alkaline meadows, flats, host plant: Mexican rush (*Juncus mexicanus*)	Alkaline meadows and saltgrass flats in the White River Valley; also document in Big Smoky Valley	No, endemic range is outside of project area	WildEarth Guardians 2010a
Great Basin Small Blue *Philotiella speciosa septentrionalis*	Shrubby desert. Host plants buckwheats, *Oxytheca*	Lyon and Churchill Counties	No. project area is outside of species historic range	Pelham 2008
Crescent Dunes Serican Scarab *Serica ammomenisco*	Flight period between June and August. Endemic to Crescent Dunes	Crescent Dunes, northwestern Nye County	No. Endemic range is well outside of project area	Hardy, Carlson and Edmonds 1981; Knight, 2009

Sources:

American Society of Mammalogists. 2011. Mammals of Nevada. Retrieved on September 7, 2011, from: www.mammalsociety.org/mammals-nevada

Austin, G., P. Brussard, D. Murphy. Rare or Candidate Butterflies of Nevada. 2001. Nevada State Museum, unpublished.

Ayers, L.W. 1996. An aerial sightability model and reproductive parameters for nesting ferruginous hawks (*Buteo regalis*) in southcentral Wyoming. Masters of Science Thesis, University of Wyoming, Laramie, Wyoming.

Bat Conservation International (BCI) 1998. Mexican Free-tailed Bat *Tadarida braziliensis*. in proceedings of the Western Bat Work Group Workshop.

Bolster, B. C. 1998. Hoary Bat *Lasiurus cinereus*. in proceedings of the Western Bat Work Group Workshop.

Bogen, M.A., E.W. Valdez and K.W. Navo. 1998a. Long-eared Myotis *Myotis evotis*. in proceedings of the Western Bat Work Group Workshop.

Bogen, M.A., E.W. Valdez and K.W. Navo. 1998b. California Myotis *Myotis californicus*. in proceedings of the Western Bat Work Group Workshop.

Bogen, M.A., E.W. Valdez and K.W. Navo. 1998c. Western Small-footed Myotis *Myotis ciliolabrum*. in proceedings of the Western Bat Work Group Workshop.

Bogen, M.A., E.W. Valdez and K.W. Navo. 1998d. Long-legged Myotis *Myotis volans*. in proceedings of the Western Bat Work Group Workshop.

Bogen, M.A., E.W. Valdez and K.W. Navo. 1998e. Yuma Myotis *Myotis yumanensis*. in proceedings of the Western Bat Work Group Workshop.

Bolster, B.C. 1998. Western Red Bat *Lasiurus blossevillii*. in proceedings of the Western Bat Work Group Workshop.

Bradley, P., and M. Ports. 1998. Fringed Myotis *Myotis thysanodes*. in proceedings of the Western Bat Work Group Workshop.

Brown, P. 1998. Western Pipistrelle, *Pipistrellus hesperus*. in proceedings of the Western Bat Work Group Workshop.

Center for Biological Diversity. 2010. Obama Administration Denies American Pika Endangered Species Act Protection: Small Alpine Mammal Declining Due to Global Warming. February 4, 2010.

Floyd, T., C.S. Elphick, G. Chisolm, K. Mack, R.G. Elston, E.M. Ammon, and J.D. Boone. 2007. Atlas of the breeding birds of Nevada. University of Nevada Press. 579pp.

Fraser, J.D., and D.R. Luukkonen. 1986. The loggerhead shrike. Pp. 933-941. in Audubon Wildlife Report. A. S. Eno, project Director. National Audubon Society.

Gordon, R.D. 1975. A new Serica from Nevada (Coleoptera:Scarabaeidae). The Coleopterists Bulletin. 29(3):173-176.

Hall. E.R. 1995. Mammals of Nevada. University of Nevada Press. 710pp.

Hardy, A.R., and F.G. Andrews. 1987. Studies in the Coleoptera of Western Sand Dunes. 3. Remarks upon Serica (Scarabaeidae) from Some Nevada Sand Dunes with Descriptions of Two New Taxa. The Coleopterists Bulletin. 41(2):173-179.

Hardy, A.R., D.C. Carlson, and W.D. Edmonds, eds. 1981. North American Aegialiini. Scarabaeus, a newsletter for those interested in Scarabaeidae. Insect Taxonomy Laboratory. California Department of Food and Agriculture.

Hershler, R. 1998. A systematic review of the Hydrobiid snails (Gastropoda: Rissooidea) of the Great Basin, western United States. Part I. The Veliger 41(1):1-132.

Jameson, E.W., Jr. and H.J. Peeters. 1988. California Mammals, University of California Press. 403pp.

Johnsgard, P.A. 1988. North American owls, biology and natural history. Smithsonian Institution Press. 295pp.

Knight, J. Nevada State Entomologist. Personal Communication with David Worley, JBR Environmental Consultants, Inc. December 9, 2009.

Kunz, T.H., and R.A. Martin. 1982. Mammalian species. *Plecotus townsendii*. The American Society of Mammalogists 175:1-6.

Leonard, M.L., and M.B. Fenton. 1983. Habitat use by spotted bats (*Euderma maculatum*, Chiroptera: Vespertilionidae): roosting and foraging behavior. Can. J. Zool. 61:1487-1491.

McAdoo, J. K., W.M. Longland, and R.A. Evans. 1980. Nongame bird responses to sagebrush invasion on crested wheat seedings. Journal of Wildlife Management 53:494-502.

McAnnis, D.M. 1990. Home range, activity budgets, and habitat use of Ferruginous Hawks (*Buteo regalis*) breeding in southwest Idaho. Masters of Science Thesis, Boise Idaho: Boise State University.

NatureServe. 2006. NatureServe's Central Databases. Arlington, VA. U.S.A.

Nevada Department of Wildlife (NDOW). 2006. Nevada Wildlife Action Plan. Wildlife Action Plan Team. 547pp.

Nevada Natural Heritage Program. 2004. Detailed Rare Animal List (18 March 2004). Retrieved on September 7, 2011, from: http://heritage.nv.gov/animlbig.htm

Pelham, J.P. 2008. A catalogue of the butterflies of the United States and Canada. Journal of Research on the Lepidoptera. Volume 40. 658pp.

Perkins, M. 1998a. Big Brown Bat *Eptesicus fuscus*. in proceedings of the Western Bat Work Group Workshop.

Perkins, M. 1998b. Silver-haired Bat *Lasionycteris noctivagans*. in proceedings of the Western Bat Work Group Workshop.

Perkins, M.W., and W.J. Lindsey. 1983. Nesting studies of ferruginous hawks in the Ely BLM District, Nevada. North American Bird Bander 8:106-107.

Peterson, A. 1986. Habitat Suitability Index Models: Bald Eagle (Breeding Season). U.S. Fish and Wildlife Service Biological Report 82(10.126). 25pp.

Pierson, E.D., W.E. Rainey, and D.M. Koontz. 1991. Bats and mines: experimental mitigation for Townsend's big-eared bat at the McLaughlin Mine in California. Pages 31-42 IN R.D. Comer et al. (Eds.) Proc. V: Issues and Technology in the Management of Impacted Wildlife. Thorne Ecol. Inst., Boulder, Colo.

Polhemus, D.A. and J.T. Polhemus. 2002. Basin and Ranges: The biogeography of aquatic true bugs (Insecta: Hemiptera) in the Great Basin. Pages 235-254. *In*, R. Hershler, D.B. Madsen, and D. Currey (eds.). Great Basin Aquatic Systems History. Smithsonian Contributions to the Earth Sciences No. 33.

Ports, M.A. and S.B. George. 1990. Sorex preblei in the northern Great Basin. Great Basin Naturalist 50(1):93-95.

Provencher, L, Nachlinger, J., Forbis, T. & Morrill, W. 2003. *Antelope & North Spring Valleys, Steptoe Valley & Uplands, Newark Valley Extended Watershed, and Meadow Valley Wash & Uplands Conservation Area Assessment Executive Summary*. The Nature Conservancy of Nevada & Eastern Nevada Landscape Coalition.

Rainey, W.E. 1998. Little Brown Bat *Myotis lucifugus*. in proceedings of the Western Bat Work Group Workshop.

Ramakka, J.M., and R.T. Woyewodzic. 1993. Nesting ecology of ferruginous hawk in northwestern New Mexico. J. Raptor Res. 27:97-101.

Rich, C., and T. Longcore. 2006. Ecological Consequences of Artificial Night Lighting. Island Press. 458pp.

Ryser, F.A. 1985. Birds of the Great Basin, a natural history. University of Nevada Press. 604pp. Ryser, F. A., Jr. 1985.

Shackleton D. 1985. Mammalian Species. *Ovis canadensis*. The American Society of Mammalogists 230:1-9.

Sherwin, R. 1998. Pallid Bat *Antrozous pallidus*. in proceedings of the Western Bat Work Group Workshop.

Stebbins, R.C. 1985. A field guide to western reptiles and amphibians. Peterson Field Guide Series. Second Edition. Houghton Mifflin Co. New York. 336pp.

Ulmschneider, H., D. Hays, H. Roberts, J. Rachlow, T. Forbes, J. Himes, E. Sequin, M. Haworth, T. Katzner, A. Kozlowski, R. Rauscher, and P. Lauridson. 2004. Surveying for pygmy rabbits (*Brachylagus idahoensis*). Fourth draft. U.S. Department of the Interior, Bureau of Land Management. 25pp.

USDI BLM. Undated. Enjoy Big Dune responsibly. BLM brochure, available on-line at: http://www.blm.gov/pgdata/etc/medialib/blm/nv/field_offices/las_vegas_field_office/big_dune_brochure/big_dune_brochure.Par.95948.File.dat/Enjoy%20Big%20Dune%20Responsibly%20FINAL%20Dec%206,%202004.pdf

Watkins, L.C. 1977. Mammalian species. *Euderma maculatum*. The American Society of Mammalogists 77:1-4.

WildEarth Guardians. 2010a. Petition to List Ten Great Basin Butterflies Under the U.S. Endangered Species Act. January 25, 2010.

Wilson, D.E. and S. Ruff. 1994. The Smithsonian Book of North American Mammals. Smithsonian Institution Press. Washington and London. 750pp.

Zeiner, D.C., Laudenslayer, Jr., W.F., Mayer, K.E., & White, M. (eds.). 1988-1990. California's Wildlife. Volumes I-III. California Department of Fish and Game. Sacramento, California.

Zevloff, S.I. 1988. Mammals of the Intermountain West. University of Utah Press. 365pp.

Appendix E

Visual Contrast Rating Worksheet

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 11. 17 2011

District Tonopah Field Office

Resource Area

Activity (program) Lands (ROW)

SECTION A. PROJECT INFORMATION

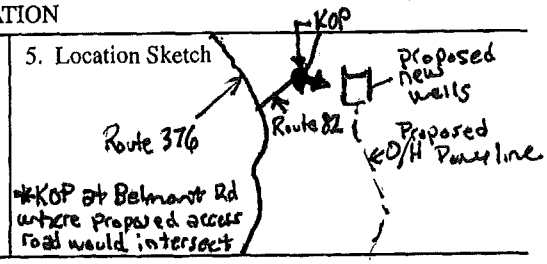
1. Project Name
TPU Water System Improvement

2. Key Observation Point
KOP 1

3. VRM Class
IV

4. Location
Township 5N
Range 44 E
Section 16

5. Location Sketch



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Horizontal, simple, large, regular	Large, regular, short	Predominantly horizontal, simple, narrow, linear
LINE	Weak regular pattern	Regular pattern, banded near roads, flowing	Weak, simple, smooth, parallel, horizontal
COLOR	Green, dark green, tan, gray, medium brown	Green, dark green, light gray, dark gray, tan, yellow	gray, tan, muted generally
TEXTURE	Medium, even-random	Medium, random but even, matte, not dense	fine, sparse, directional, scattered, matte, smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Horizontal, simple, regular	Horizontal, linear, regular	Linear, thin, narrow, vertical and horizontal
LINE	Horizontal, weak, straight	Regular, banded, hard	Simple, horizontal & vertical, parallel, weak
COLOR	Brown, tan, green	Green, dark green, gray, tan, brown	brown, gray, tan, dark gray
TEXTURE	Medium, even-random, uniform	Directional, uniform, medium texture	Directional, fine, uniform, scattered, matte

SECTION D. CONTRAST RATING ☐ SHORT TERM ☑ LONG TERM

1. DEGREE OF CONTRAST

	FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
ELEMENTS: Form			X			X					X	
Line			X				X				X	
Color			X				X				X	
Texture			X			X					X	

2. Does project design meet visual resource management objectives? ☑ Yes ☐ No
(Explain on reverse side)

3. Additional mitigating measures recommended?
☐ Yes ☑ No (Explain on reverse side)

Evaluators' Names: George Dix, JBR Env. Con.

Dates: 11/17/2011

SECTION D. (Continued)

Comments from item 2.

Project is located within a VRM Class IV area. Class IV objectives provide for management activities which require major modification to the existing character of the landscape.

Additional Mitigating Measures (See item 3)

★US GOVERNMENT PRINTING OFFICE: 2002-773-001-46077

Appendix F

Nevada Division of Water Resources State Engineer Orders

IN THE OFFICE OF THE STATE ENGINEER

OF THE STATE OF NEVADA
ORDER
DESIGNATING AND DESCRIBING

THE RALSTON VALLEY GROUND WATER BASIN,

ESMERALDA AND NYE COUNTIES, NEVADA.

The State Engineer finds that conditions warrant the designation of the Ralston Valley Ground Water Basin, Esmeralda and Nye Counties, Nevada, and by this Order, designates the following described area of land as a ground water basin coming under the provisions of Chapter 534 NRS (Conservation and Distribution of Underground Waters).

T.9N., R.44E., M.D.B. & M.

All of Sections 1, 11, 12, 13, 14, 22, 23, 24, 25, 26, 27, 33, 34, 35, 36, and that portion of Sections 2, 10, 15, 21, 28, 29, and 32 lying within the Ralston Valley Ground Water Basin.

T.9N., R.45E., M.D.B. & M.

All of Sections 7, 8, 16, 17,18, 19, 20, 21, 22, 26, 27, 28, 29, 30, 31, 32, 33, 34, and that portion of Sections 6, 9, 14, 15, 23, 24, 25, and 35 lying within the Ralston Valley Ground Water Basin.

T.8N., R.44E., M.D.B. & M.

That portion of said township lying within the natural drainage of the Ralston Valley Ground Water Basin.

T.8N., R.45E., M.D.B. & M.

That portion of said township lying within the natural drainage of the Ralston Valley Ground Water Basin.

T.8N., R.46E., M.D.B. & M.

All of Sections 29, 30, 31, 32, 33, and that portion of Sections 18, 19, 20, 21, 28, 34, and 35 lying within the Ralston Valley Ground Water Basin.

T.7N., R.43E., M.D.B. & M.

All of Sections 13, 14, 22, 23, 24, 25, 26, 27, 35, 36, and that portion of Sections 11, 12, 15, and 34 lying within the Ralston Valley Ground Water Basin.

T.7N., R.44E., M.D.B. & M.

All.

T.7N., R.45E., M.D.B. & M.

All.

T.7N., R.46E., M.D.B. & M.

All.

T.7N., R.47E., M.D.B. & M.

That portion of the west half (W½) of said township lying within the natural drainage of the Ralston Valley Ground Water Basin.

T.6N., R.42E., M.D.B. & M.

That portion of Section 36 lying within the Ralston Valley Ground Water Basin.

T.6N., R.43E., M.D.B. & M.

All of Sections 1, 2, 10, 11, 12, 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 32, 33, 34, 35, 36, and that portion of Sections 3, 9, 16, 17, 20, 29, 30, and 31 lying within the Ralston Valley Ground Water Basin.

T.6N., R.44E., M.D.B. & M.

All.

T.6N., R.45E , M.D.B. & M.

All.

T.6N., R.46E., M.D.B. & M.

All of Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, and that portion of Sections 23, 24, 26, 27, 28, and 32 lying within the Ralston Valley Ground Water Basin.

T.6N., R.47E., M.D.B. & M.

All of Sections 6, 7, and that portion of Sections 5, 8, 17, 18, and 19 lying within the Ralston Valley Ground Water Basin.

T.5N., R.42E., M.D.B. & M.

That portion of the east half (E½) of said township lying within the natural drainage of the Ralston Valley Ground Water Basin.

T.5N., R.43E., M.D.B. & M.

All.

T.5N., R.44E., M.D.B. & M.

All.

T.5N., R.45E, M.D.B. & M.

All.

T.5N., R.46E., M.D.B. & M.

All of Sections 6, 7, 18, and that portion of Sections 5, 8, 17, 19, 20, 30, and 31 lying within the Ralston Valley Ground Water Basin.

T.4N., R.42E., M.D.B. & M.

That portion of the east half (E½) of said township lying within the natural drainage of the Ralston Valley Ground Water Basin.

T.4N., R.43E., M.D.B. & M.

All.

T.4N., R.44E., M.D.B. & M.

All.

T.4N., R.45E., M.D.B. & M.

All of Sections 3, 4, 5, 6, 7, 8, 9, 17, 18, 19, 20, 29, 30, 31, 32, 33, and that portion of Sections 3, 10, 16, 21, 28, and 34 lying within the Ralston Valley Ground Water Basin.

T.3N., R.42E., M.D.B. & M.

That portion of the southeast quarter (SE¼) of said township lying within the natural drainage of the Ralston Valley Ground Water Basin.

T.3N., R.43E., M.D.B. & M.

All.

T.3N., R.44E., M.D.B. & M.

All.

T.3N., R.45E., M.D.B. & M.

All of Sections 5, 6, 7, 8, 16, 17, 18, 19, 20, 21, 27, 28, 29, 30, 31, 32, 33, 34, and that portion of Sections 4, 9, 10, 15, 22, 23, 26, and 35 lying within the Ralston Valley Ground Water Basin.

T.2N., R.42E., M.D.B. & M.

A portion of Section 36 lying within the natural drainage of the Ralston Valley Ground Water Basin.

T.2N., R.43E., M.D.B. & M.

All of Sections 1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 32, 33, 34, 35, 36, and that portion of Sections 6, 7, 18, 19, 30, and 31 lying within the Ralston Valley Ground Water Basin.

T.2N., R.44E., M.D.B. & M.

All.

T.2N., R.45E., M.D.B. & M.

That portion of the west half (W½) and the west half of the east half (W½ E½) of said township lying within the natural drainage of the Ralston Valley Ground Water Basin.

T.1N., R.43E., M.D.B. & M.

That portion of the east half (E½) and the east half of the west half (E½ W½) of said township lying within the natural drainage of the Ralston Valley Ground Water Basin.

T.1N., R.44E., M.D.B. & M.

All.

T.1N., R.45E., M.D.B. & M.

All of Sections 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, and that portion of Sections 1, 12, 13, 25, and 36 lying within the Ralston Valley Ground Water Basin.

T.1N., R.46E., M.D.B. & M.

That portion of Section 19 lying within the natural drainage of the Ralston Valley Ground Water Basin.

T.1S., R.43E., M.D.B. & M.

That portion of the east half (E½) of said township lying within the natural drainage of the Ralston Valley Ground Water Basin.

T.1S., R.44E., M.D.B. & M.

All.

T.1S., R.45E., M.D.B. & M.

All.

T.1S., R.46E., M.D.B. & M.

That portion of Sections 18 and 19 lying within the Ralston Valley Ground Water Basin.

T.2S., R.43E., M.D.B. & M.

That portion of the east half (E½) of said township lying within the natural drainage of the Ralston Valley Ground Water Basin.

T.2S., R.44E., M.D.B. & M.

That portion of said township lying within the natural drainage of the Ralston Valley Ground Water Basin.

T.2S., R.45E., M.D.B. & M.

All of Sections 1, 2, 3, 4, 5, 10, 11, 12, 13, and that portion of Sections 6, 8, 9, 14, 15, and 24 lying within the Ralston Valley Ground Water Basin.

T.2S., R.46E., M.D.B. & M.

That portion of Sections 6, 7, 17, 18, and 19 lying within the Ralston Valley Ground Water Basin.

The Ralston Valley Ground Water Basin is also delineated as Hydrogrphic Area No. 141 on a map titled "State of Nevada Water Resources and Inter-Basin Flows" prepared cooperatively by the Nevada Division of Water Resources and the Geological Survey, United States Department of the Interior and published in September 1971.

William J. Newman
WILLIAM J. NEWMAN
STATE ENGINEER

Dated at Carson City, Nevada,

this 22nd day of APRIL, 1980.

IN THE OFFICE OF THE STATE ENGINEER

OF THE STATE OF NEVADA

ORDER

NOTICE OF CURTAILMENT OF WATER APPROPRIATION
AND DESIGNATION OF PREFERRED USE OF GROUND WATER

Effective this date, the State Engineer will not grant additional permits to appropriate ground water within the following restricted area of the Ralston Valley Ground Water Basin

Sections 3, 4, 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21,
the W½ of Section 28 and 29, T.4N., R.44E., M.D.B.& M.
Sections 12, 13, 24 and 25, in T 4N., R.43E., M.D B.& M.
Sections 31, 32 and 33, T.5N., R.44E., M.D.B.& M.

Most of the available ground water of suitable chemical quality for municipal purposes occurs in the alluvium in the above described area and ground water pumped from said area is used by the City of Tonopah for a municipal supply. The safeguarding of the aforementioned limited water supply necessitates and demands that municipal use be declared a preferred use of the ground water resource of the above described area and that no additional permits be granted within the restricted area to appropriate ground water.

William J. Newman
WILLIAM J. NEWMAN
State Engineer

Dated at Carson City, Nevada,

this 15TH day of AUGUST, 1980.