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Agriculture**

**U.S. Forest  
Service**

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# **Environmental Assessment Questar Main Line 3 Weber Canyon Replacement Project**

**Davis and Morgan Counties, Utah  
Salt Lake Ranger District,  
Uinta-Wasatch-Cache National Forest**



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# 1.0 Purpose and Need

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## 1.1 Introduction

The Salt Lake Ranger District (SLRD), Uinta-Wasatch-Cache National Forest (UWCNF), received a proposal from Questar Pipeline (Questar) to replace 3.26 miles of existing 16-inch natural gas pipeline, known as the Questar Main Line 3 Weber Canyon Replacement Project (project). The 3.26 mile pipeline segment proposed for replacement occurs within a utility corridor situated on the foothills above the south side of United States (U.S.) Interstate-84 (I-84). The project segment of Main Line 3 begins at the Questar Ogden Valley Block Valve (OVBV) located approximately 4.5 miles up Weber Canyon and extends to the west ending near the Weber Basin Canyon Road approximately 0.5 mile from the mouth of Weber Canyon. The project area consists of 3.26 miles of the Main Line 3 right-of-way (ROW) located on lands owned by the Weber Basin Water Conservancy District in Morgan County, on National Forest System (NFS) lands in Davis County, and on Davis County property. The maximum width of the ROW construction corridor is 75 feet. In addition to the ROW, the project area also includes 5.7 miles of existing access roads and four existing staging areas. The project area is shown in Figure 1. The entire Main Line 3 pipeline extends approximately 37.6 miles across private, county, state, and federal land from Questar's Coalville Station to Questar's Sunset Gate Station. Main Line 3 supplies natural gas to the Wasatch Front of northern Utah.

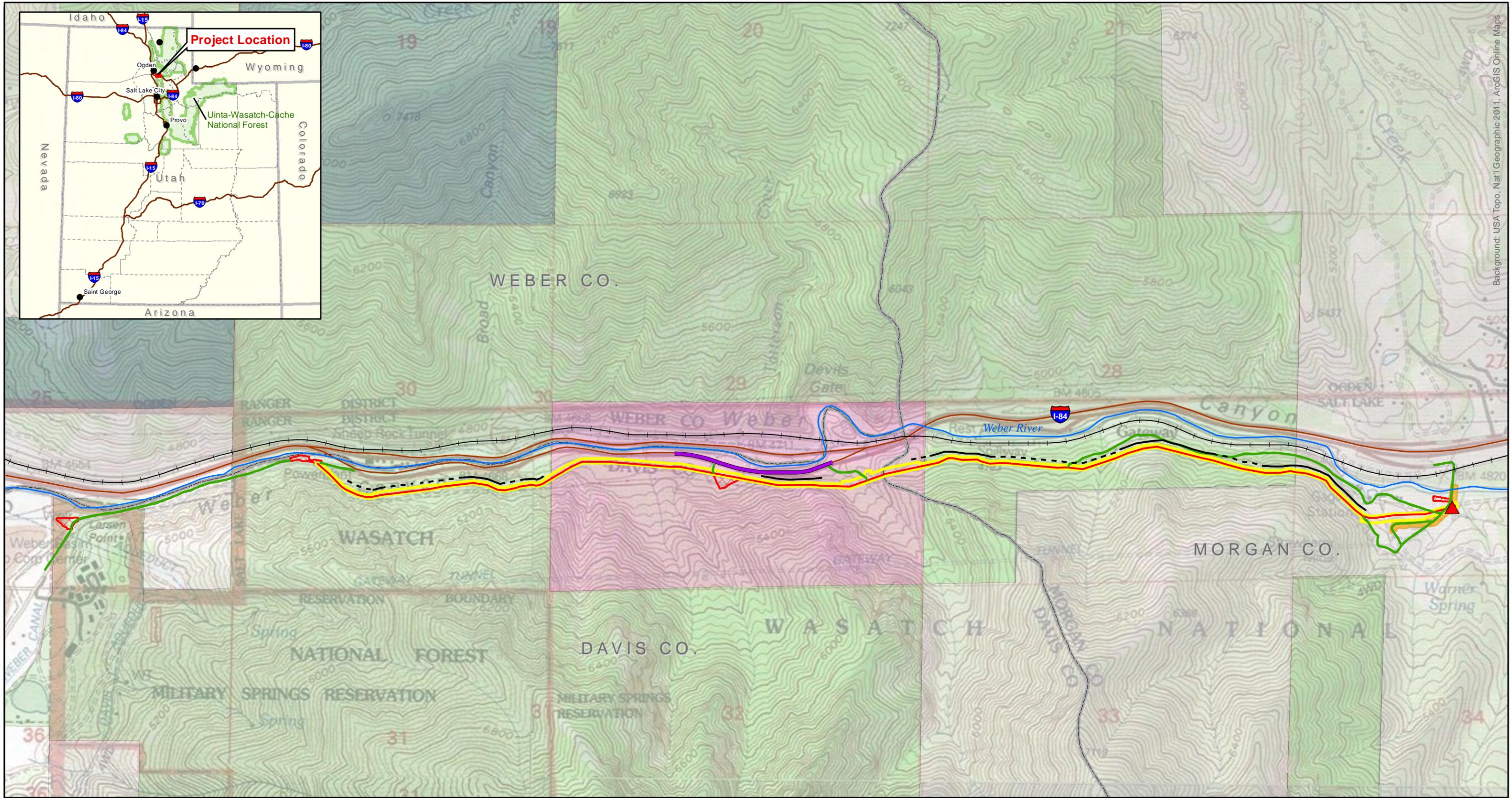
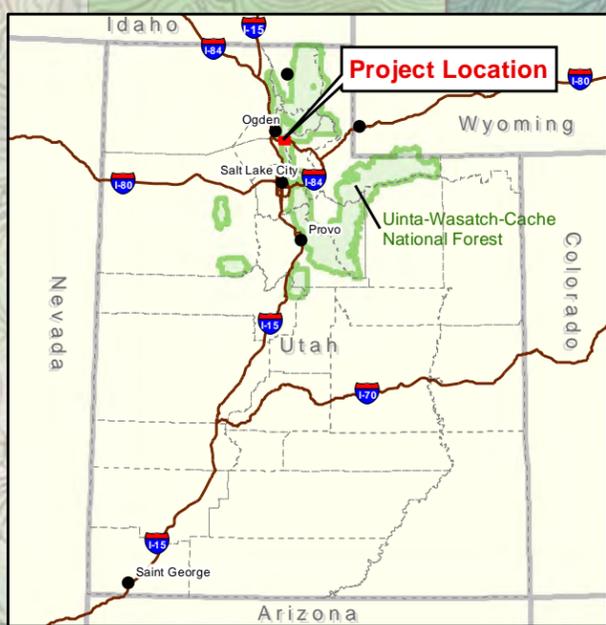
The UWCNF prepared this environmental assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and Forest Service regulations regarding its implementation (36 Code of Federal Regulations (CFR) §220). The EA analyzes and discloses the direct, indirect and cumulative effects of the alternatives for replacing the 3.26 mile segment of Main Line 3 pipeline that crosses land managed by the Forest Service. The analysis will lead to a decision on whether and under what conditions to allow the pipeline replacement activities on NFS lands. The project would be approved by the Forest Service with a conclusion of a Finding of No Significant Impact (FONSI).

This chapter includes the background information for the EA process. Sections include a summary of the Proposed Action and the purpose and need it addresses, the decision to be made on the basis of this EA, relevant UWCNF, Forest Service planning guidelines, and a description of how the SLRD informed the public of the Proposed Action and how the public responded. Other permits and authorizations that may be necessary to implement the Proposed Action are also presented.

## 1.2 Summary of Proposed Action

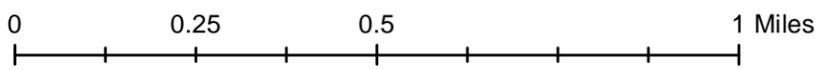
The Proposed Action consists of construction activities associated with the replacement of 3.26 miles of existing 16-inch natural gas pipeline within an existing utility ROW. Construction activities would occur in 2014. The existing piping would be deactivated and removed; new pipe would be installed, tested, and placed in service. Surface disturbance activities would include vegetation clearing in the existing ROW, grading of existing access roads, staging areas, and the ROW, trenching and backfilling, and clean-up and restoration. New roads would not be constructed.

The project area includes 3.26 miles of the Main Line 3 ROW located on lands owned by the Weber Basin Water Conservancy District in Morgan County, Utah (Township (T) 5 North (N), Range (R) 1 East (E), Section 27), on NFS lands in Davis County, Utah (T5N, R1E, sections 28 and 30), and on Davis County property (T5N, R1E, Section 29). In addition to the pipeline, the project area also includes 5.7 miles of existing access roads (T5N, R1E, sections 27, 28, 29, and 30 and T5N, R1 West (W), Section 25) and four existing staging areas (T5N, R1E, sections 27, 29, and 30 and T5N, R1W, Section 25). The



- Project Features**
- Ogden Valley Block Valve
  - One-Lane Road Closure (Jersey Barriers)
  - Access Roads
  - Temporary Berm & Fence (Approx. Location\*)
  - Temporary Retaining Wall (Approx. Location\*)
  - Main Line 3 Weber Canyon Centerline
  - Main Line 3 Weber Canyon Workspace
  - Staging Areas
- \*Offset from Workspace for mapping purposes

- Other Map Features**
- Weber River
  - Railroad
  - Highway
  - County Boundaries
- Land Ownership:**
- Davis County
  - Private
  - State Wildlife Management Area
  - US Forest Service
  - Weber Basin Water Conservancy District



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**Figure 1: Project Overview**  
**Questar Pipeline**  
**Main Line 3 Weber Canyon Replacement Project**

Salt Lake Ranger District, Uinta-Wasatch-Cache National Forest  
 Davis and Morgan Counties, Utah

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Map Prepared By: WR

Map Projection: UTM Zone 12N, NAD83

access roads and two staging areas that are on NFS lands are within T5N, R1E, sections 28 and 30 and T5N, R1W, Section 25.

## 1.3 Purpose and Need

The purpose and need of the action is to allow Questar to continue providing a safe supply of natural gas to customers along the Wasatch Front. As part of Questar's ongoing integrity management program, segments of the Main Line 3 pipeline, which was installed in the mid 1960's, were identified as needing replacement. Replacement of these segments of line is necessary to improve operational reliability and guarantee the safe transport of natural gas. The replacement activities would not result in a reduction or abandonment of service, and would have a substantially equivalent designed delivery capacity. Natural gas delivery to the Wasatch Front would continue during construction via temporarily re-routing supply using existing lines.

Questar was granted a Certificate of Public Convenience and Necessity under Section 7(c) of the Natural Gas Act by the Federal Energy Regulatory Commission (FERC) in the early 1960s to construct, operate, and maintain the Main Line 3 pipeline. The Main Line 3 pipeline exists within a ROW administered by the Forest Service and authorized under Forest Service authorization SLC401210.

The FERC allows for replacement activities under Subpart F of 18 CFR § 157.208, or pursuant to the authority of 18 CFR §284.3(c), under authority of a blanket certificate holder. Replacement activities are subject to certain cost and environmental requirements. If project costs and environmental requirements are met, the FERC allows a pipeline company to proceed automatically. If costs for the replacement activities exceed the automatic project cost limits, then a prior-notice filing is required to be submitted to the FERC. Based on Main Line 3 project cost estimates, Questar would need to file a prior notice application with the FERC. In addition, Questar must obtain the requisite environmental clearances. Should the Forest Service reach a FONSI for the project, the prior notice (description of the planned project) would be filed with the FERC 60 days before the commencement of construction. The prior notice application would reflect the FONSI determination. However, if the Forest Service cannot conclude with a FONSI, Questar must receive § 7(c) certificate authority from the FERC prior to commencement of construction. Notice of the planned project would be issued by the FERC and published in the Federal Register.

This EA evaluates the Proposed Action and alternatives relative to land use policies contained within the 2003 Revised Forest Plan Wasatch-Cache National Forest (WCNF) (Forest Plan) (USDA Forest Service 2003a).

## 1.4 Decisions to Be Made

In consideration of the stated purpose and need and this analysis of environmental effects, the UWCNF Forest Supervisor as the Responsible Official, will review the Proposed Action and alternatives in order to make the following decisions:

- Whether to authorize the Proposed Action or an alternative to it;
- What mitigation measures and design features to require for the action authorized; and
- What evaluation methods and documentation to require for monitoring project implementation and mitigation effectiveness.

## **1.5 Planning Guidance**

### **1.5.1 Forest Plan**

The Forest Plan provides the primary guidance for management of the land and resources on the Forest. The Forest Plan indicates that the Questar Main Line 3 pipeline falls within the Northern Wasatch Ogden Valley Management Area and is therefore subject to both Forest-wide and Management Area-specific standards and guidelines pertinent to this area. The effects analysis for each of the issue topics will address whether or not the action is in compliance with the Forest Plan standards and guidelines.

Management prescriptions define the primary land use allocation for a given land area. Each management prescription includes a set of standards and guidelines identifying activities that are not allowed and parameters within which activities that are allowed should be conducted. The general management prescription of the NFS lands that the project crosses is classified as a watershed emphasis. The management emphasis is on maintaining/improving the quality of watershed conditions. The Forest Plan also indicates the project area falls within a mapped utility corridor. It is therefore subject to Forest-wide and Management Area-specific standards and guidelines that emphasize a utility use.

### **1.5.2 Other Planning Guidance**

The Council on Environmental Quality (CEQ) guidance stipulates that the Forest Service should inquire of other agencies whether there are any potential conflicts that could arise from the Proposed Action. If so, this EA must acknowledge and describe the extent of those conflicts. It is Forest Service policy to work with local governments and make every effort to comply with local land use plans and regulations, even though the agency is not legally required to do so. Morgan and Davis counties have adopted general and land use planning documents.

## **1.6 Scoping and Issue Identification**

The main purpose of scoping is to get public input on the “scope” of the EA, the issues and concerns it should address, and the means to avoid or minimize adverse impacts (i.e., design criteria, alternatives, and mitigation measures). On March 29, 2013 the SLRD issued a public scoping notice that summarized the Proposed Action and invited comments regarding the scope of this EA. The notice was mailed to 47 agencies, organizations, and individuals on the project mailing list. The notice was also posted on the UWCNF website and made available on CD or in hard-copy form to anyone requesting it. An information workshop/open house was held April 17, 2013 at the Weber County Library.

The 30-day scoping period closed on April 27, 2013. One comment was received. The scoping notice is available at the SLRD Office in Salt Lake City, Utah in the project record. The opportunity for public involvement in this NEPA process is fully described in Chapter 4.

The Proposed Action was reviewed in order to determine the environmental issues and identify alternatives to the Proposed Action (40 CFR §1508.25). Issue statements were formulated for each resource discipline then reviewed and approved by the Responsible Official. The statements were used to identify those issues to be analyzed in depth and those dropped which would be dropped from in-depth analysis for various reasons (e.g., because they were beyond the scope of this environmental analysis, expressed opinions rather than raising issues, involved matters covered by other laws or regulations, or were too speculative to effectively analyze). These two categories of issues as they apply to this Proposed Action are as follows.

### 1.6.1 Issues to Be Analyzed in Depth

- Vegetation (including special status species (i.e., U.S. Fish and Wildlife Service (USFWS) federally listed plant species, Forest Service Intermountain Region (Region 4) Sensitive plant species and WCNF Watch List plant species) and noxious weeds and invasive species)
  - How would the Proposed Action affect vegetation and special status species?
  - How would the Proposed Action affect the spread of invasive and noxious weeds?
- Geology
  - How would construction activities affect the stability of slopes in Weber Canyon?
- Soils
  - How would the Proposed Action affect soils?
- Water (including water quality, water rights, public water supplies, riparian areas, Waters of the U.S., and floodplains)
  - How would the Proposed Action affect water quality in the Weber River?
  - How would the Proposed Action affect wetlands, riparian areas, and floodplains?
- Fish and Wildlife (including general wildlife, big game, migratory birds, raptors, and special status species [i.e., USFWS federally listed species, Forest Service Region 4 Sensitive species, WCNF Management Indicator Species, WCNF Species-at-risk, and State of Utah species of concern or conservation species])
  - How would the Proposed Action affect fish and wildlife habitat and special status fish and wildlife species?
- Archaeological, Cultural and Historic Resources
  - How would the Proposed Action affect archaeological, cultural and historic resources?
- Air Quality
  - How would fugitive dust associated with construction affect air quality?
  - How would mobile source emissions associated with construction activities affect air quality in Weber Canyon?
- Public Health and Safety (including transportation [i.e., traffic controls, Union Pacific Railroad], fire risk, pipeline operation, geologic hazards, and hazardous and solid waste)
  - How would the Proposed Action affect public health and safety?
  - How would the Proposed Action affect the existing Union Pacific Railroad line?
  - What types of waste would be produced associated with construction activities?
- Scenic Resources
  - How would the Proposed Action affect the scenic integrity of Lower Weber Canyon?

### 1.6.2 Issues Considered but not Analyzed in Depth

- Energy Production
  - How would the Proposed Action affect the supply of natural gas?

The Main Line 3 pipeline supplies the Wasatch Front of northern Utah with natural gas, and is especially important in seasons of higher gas demand. The temporary loss of this segment

of Main Line 3 pipeline during construction would be offset with re-routing activities and conducting construction during the low-demand season. This full capacity of the Main Line 3 pipeline is necessary to supply the levels of gas relied upon in the cooler months of fall and spring and throughout the winter season.

- Environmental Justice
  - How would the Proposed Action affect minorities, low-income individuals, Native Americans, women, or any civil liberties?

The decision made related to this proposal is not anticipated to have any disparate impacts to individual groups of people or communities. It would not adversely affect minorities, low-income individuals, Native Americans, women, or any civil liberties.

- Land Use and Access/Recreation
  - How would the Proposed Action affect land use and access in the area, including recreation opportunities?
  - How would the Proposed Action affect recreationists that use the area for hiking, fishing, and hunting?

The project ROW is not readily accessible and does not experience much use by the public; it is not a recreation destination and does not provide access to recreation destinations. Other operators in the project ROW would be alerted of the project prior to the commencement of activities.

- Socio-economics
  - How would the Proposed Action affect local communities?

Construction activities would allow for a short-term increase in employment opportunities. The Proposed Action has the potential to result in beneficial effects to socio-economics of surrounding communities through the short-term creation of jobs and the long-term improvement in natural gas delivery. Due to the relatively short time period in which construction would occur (a five to six month period) and the relatively small project size, the increase in employment opportunities would not likely be noticeable.

- Greenhouse Gas Emissions
  - How would the Proposed Action affect greenhouse gas emissions?

The CEQ indicated in a February 18, 2010 memo to all federal agencies that analysis of the impacts of greenhouse gas emissions below 25,000 metric tons may not be meaningful and are not warranted. The estimated quantities of carbon dioxide (CO<sub>2</sub>) equivalents during construction would be below this threshold for analysis.

In addition, an evaluation of greenhouse gas emissions is not warranted because:

- No standards have been set by regulatory agencies.
- There is no method to measure their direct and indirect impacts.
- Assessment of greenhouse gas emissions and climate change is still being defined.
- Global scientific models are inconsistent and regional or local scientific models are lacking so it is not technically feasible to determine net impacts.

- Native American Religious Concerns
  - How would the Proposed Action affect Native American religious concerns?

Based on the cultural resources file search and Class III cultural resources inventory for the area to date, no Native American religious concerns are associated with the project area.

- Paleontology
  - How would the Proposed Action affect paleontological resources?

No known paleontology resources are known to occur within the project area. If paleontological resources are discovered, construction would cease, pending a determination of significance.

## 1.7 Required Permits and Authorizations

**Table 1-1. Other permits, approvals, and consultations that may be required for implementation of the Proposed Action.**

Agency	Type of Action	Description of Permit or Action
<b>Federal</b>		
Environmental Protection Agency (EPA)	Clean Air Act	<p>The Clean Air Act is the comprehensive federal law that regulates air emissions from stationary and mobile sources. Among other things, this law authorizes EPA to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants.</p> <p>The Forest Service must ensure that its activities, or activities it permits, comply with these national standards and state and local requirements for air pollution control (USDA Forest Service 2013).</p>
	Federal Water Pollution Control Act, as amended by the Clean Water Act (USC 1344)	<p>Requires compliance with state and federal pollution control measures intended to prevent degradation of in-stream water quality needed to support designated uses; control nonpoint sources of water pollution through conservation or Best Management Practices (BMPs); gives federal agencies leadership in controlling nonpoint sources of pollution from managed lands; provides rigorous criteria for controlling discharges of pollutants into waters of the United States.</p> <p>National Pollution Discharge Elimination System Permit</p> <p>Stormwater Permit for storm water discharges at construction sites.</p>
Federal Energy Regulatory Commission (FERC)	Issue notice of project and publish in Federal Register	<p>Questar would need to file a prior notice application with the FERC should the Forest Service issue a FONSI. The prior notice (a description of the planned project) would be filed with the FERC 60 days before the commencement of construction. If a FONSI is not issued, Questar must obtain the requisite environmental clearances and the FERC would grant § 7(c) certificate authority prior to commencement of construction. Notice of the planned project would be issued by the FERC and</p>

Agency	Type of Action	Description of Permit or Action
U.S. Army Corps of Engineers (USACE)	<p>Section 401/404 of the Clean Water Act (USC 1344)</p> <p>Issuance of Clean Water Act, Section 404 Permit</p>	<p>published in the Federal Register.</p> <p>Permit for placement of fill/dredging in Waters of the U.S.</p> <p>The USACE issues permits required for the discharge of dredged or fill materials into Waters of the U.S., including wetlands. A Nationwide permit would be obtained.</p>
U.S. Fish and Wildlife Service (USFWS)	<p>Endangered Species Act of 1973 as amended</p> <p>Migratory Bird Treaty Act of 1918</p> <p>Bald and Golden Eagle Protection Act of June 8, 1940</p> <p>Executive Order 13186 of January 10, 2001</p> <p>Agency coordination regarding Endangered Species Act, Fish and Wildlife Coordination Act, Section 404 Permit</p>	<p>Declares that "...all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act."</p> <p>Established to protect migratory birds. This act makes it illegal to pursue, hunt, take, capture, kill, or possess migratory birds or any part, nest, or egg of any such bird.</p> <p>Provides protection to bald and golden eagles.</p> <p>Directs federal agencies taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations to develop and implement, within two years, a Memorandum of Understanding with the USFWS that promotes the conservation of migratory bird populations.</p> <p>If impacts on federally listed species are possible, the USFWS will consult with the Forest Service, review a Biological Assessment (BA), and issue a Biological Opinion. The USFWS coordinates with the Forest Service in accordance with the Fish and Wildlife Coordination Act and reviews Section 404 permit applications to avoid adverse impacts to federally listed species. The USFWS also manages to protect migratory birds under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.</p>
U.S. Department of Agriculture (USDA) - Forest Service	<p>Multiple-Use, Sustained Yield Act</p> <p>National Forest Management Act of 1976 (NFMA)</p> <p>Executive Order 11990</p>	<p>Requires administration of National Forests for a variety of uses including outdoor recreation, range, timber, watershed, and fish and wildlife purposes.</p> <p>Requires the Secretary of Agriculture to assess forest lands, develop a management program based on multiple-use, sustained yield principles, and implement a resource management plan for each unit of the National Forest System.</p> <p>Outlines policy and direction for wildlife and riparian and aquatic resources as can be found in Forest Service Manual's 2500 and 2600, and the Forest Service Handbooks.</p> <p>Directs agencies to preserve and enhance the natural and beneficial values of wetlands while conducting management activities on Federal lands.</p>

Agency	Type of Action	Description of Permit or Action
	<p>Executive Order 13112 – Invasive Species</p> <p>Federal Noxious Weed Act of 1974 (as amended by Section 15, Management of Undesirable Plants on Federal Lands, 1990)</p> <p>Conformity with National Ambient Air Quality Standards (NAAQS)</p> <p>R1/R4 Soil and Water Conservation Practices Handbook (FSH 2509.25)</p>	<p>Directs federal agencies to prevent invasive species introductions, control weed populations, monitor and restore areas where invasive species have occurred, develop technologies to control invasive species, and educate the public on invasive species issues.</p> <p>Authorizes cooperation among federal and state agencies in the control of weeds.</p> <p>The General Conformity Rule ensures that federally funded or supported actions taken by federal agencies and departments, including the Forest Service, meet national standards for air quality in federal nonattainment and maintenance areas. Under the Federal Clean Air Act, any area that violates national ambient air quality standards for any of the six criteria pollutants is designated as a nonattainment area. These pollutants are sulfur dioxide, fine particulate matter, carbon monoxide, ozone, nitrogen oxides, and lead. Maintenance areas are any former nonattainment area that has been redesignated to attainment status and may require special measures to maintain its attainment status (USDA Forest Service 2013).</p> <p>Activities that emit significant levels of criteria pollutants in a nonattainment or maintenance area are subject to the conformity rule. This rule requires the Forest Service or any federal agency to demonstrate that their action will not impede the State Implementation Plans to attain or maintain the ambient air quality standard (USDA Forest Service 2013).</p> <p>Provides standards that must be followed.</p>
	<p>National Historic Preservation Act of 1966 (NHPA) as amended</p>	<p>Is the primary law that guides management activities (36 CFR 800). It requires agencies to take into account the effect of management activities on heritage resources (Section 106), and the development of long-term management plans that locate and protect heritage sites, and then integrate sites and information into overall agency programs and goals (Section 110) (NHPA 2006).</p> <p>Section 106 of the NHPA and its implementing regulations require an inventory and consideration of the potential effects, of any project undertaken by the federal government, on historic properties – (heritage resources) that are listed on or eligible for the National Register of Historic Places (NRHP).</p>
	<p>The American Religious Freedom Act of 1978</p>	<p>Ensures American Indians access and use of religious sites, and directs federal agencies to consult with Tribes on ways to protect this right.</p>
	<p>The Archeological Resources Protection Act of 1979</p>	<p>Imposes civil penalties for any removal, damage, illegal excavation, or defacement of archaeological resources (36 CFR 296).</p>

Agency	Type of Action	Description of Permit or Action
	The Federal Fire Policy Act of 1995	Outlines policies on fire suppression and integrating fire on the landscape.
	The Native American Graves Protection and Repatriation Act of 1990	Requires an inventory of existing artifact collections, and the return of human remains, sacred objects, and objects of cultural patrimony to the appropriate Tribes. It also requires consultation with Tribes to develop procedures to be used in the event that human remains are discovered.
	The Organic Administration Act of 1897	Authorizes the Secretary of Agriculture to make provisions for the protection of national forests against destruction of fire.
<b>State of Utah</b>		
Department of Environmental Quality: Division of Air Quality	Issuance of Approval Orders under blanket air permit	<p>The Air Quality Division’s review ensures that state and federal air quality standards are not exceeded. Approval Orders are required for certain stationary emission sources.</p> <p>Responsible for issuing permits for any operation that emits any contaminant into the air.</p>
	Utah Administrative Code R307-309	Establishes minimum work practices and emission standards for sources of fugitive emissions and fugitive dust.
	Utah Air Conservation Act	Empowers the Utah Air Quality Board to enact rules pertaining to Air Quality activities.
Department of Environmental Quality: Division of Water Quality	<p>Utah Nonpoint Source Pollution Management Plan (2000)</p> <p>Water Quality Act (Utah Code Title 19 Chapter 5)</p> <p>General Permit for Construction and Dewatering and Hydrostatic Testing, Authorization to Discharge under the Utah Pollutant Discharge Elimination System (UPDES);</p> <p>Section 401 certification</p>	<p>Provides a watershed approach to controlling Nonpoint Source (NPS) pollution and guidelines for BMPs.</p> <p>Authorizes state enforcement of Clean Water Act to establish beneficial use, standards, and enforcement. Control pollution of waters of the state.</p> <p>The Water Quality Division’s review ensures that state and federal water quality standards are not exceeded. Section 401 certification would be required for any point-source discharge and is obtained in conjunction with a Section 404 permit. Preparation of a Storm Water Pollution Prevention Plan (SWPPP) is a requirement for a construction permit.</p>
Department of Natural Resources: Division of Water Rights	Section 73-3-29 of the Utah Code	Requires written authorization from the State Engineer to alter the bed or banks of a natural stream.
Department of Natural Resources: Division of Wildlife Resources	<p>Title 23 Wildlife Resources Code of Utah</p> <p>Agency coordination</p>	<p>The Division of Wildlife Resources is responsible for management and protection of state wildlife and fish resources.</p> <p>The Division of Wildlife Resources is responsible for management and protection of state wildlife and fish resources.</p>
Department of Natural Resources: Division of Water Resources	Agency coordination	The Division of Water Resources is responsible for determining adequacy of water supply and cumulative impacts on water supply.
State History Division	Consultation on National Historic Preservation Act, Section 106 compliance process.	The State History Division is responsible for protection of cultural resources.

Agency	Type of Action	Description of Permit or Action
Utah Department of Transportation (UDOT)	Traffic control planning	UDOT would permit a closure plan including traffic controls on I-84 to allow for construction access.
Utah Division of Forestry, Fire and State Lands	Fire Restriction Order, June 2013	Prohibits fireworks in unincorporated areas of Davis County (also prohibits open fires, smoking, and cutting, welding, or grinding metal in areas of dry vegetation, but Davis or Morgan counties are not included in area descriptions).
	Utah Noxious Weed Act of 1971	Requires landowners and managers to manage noxious weeds if they are likely to damage neighboring lands, and provides that each county in Utah shall adopt a weed management plan for the unincorporated portions of the county.
<b>Local</b>		
Davis County	Ordinance 03-2000	Restricts fires on Forest Service/Urban interface in unincorporated County area. Designated as 5,200' elevation line, or high side of Lake Bonneville.
Morgan County	The Morgan County General Plan (Logan Simpson Design 2010)	Public health and Safety - Requires utility providers to safeguard pipelines and other utility infrastructure in areas subject to elevated natural hazard risk.

## **2.0 Proposed Action and Alternatives**

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### **2.1 Introduction**

This chapter details the Proposed Action and outlines the alternative formulation process. Alternatives considered but not analyzed in detail, and alternatives considered in detail are described. A summary of the environmental impacts of the Proposed Action and alternatives, and associated design criteria and mitigation measures are provided.

### **2.2 Alternative Formulation**

This section outlines the process and rationale for alternative formulation, while Section 2.3 describes the resulting alternatives. Analysis of the No Action Alternative is required under NEPA (40 CFR §1508.25) to provide a baseline for assessing the impacts of the Proposed Action. In this case, no action would mean that the proposed project would not be approved.

The environmental analysis addresses the direct, indirect, and cumulative effects of the Alternative 1 - Proposed Action and the Alternative 2 - No Action. No other alternatives requiring in-depth analysis were suggested through interdisciplinary review and scoping on this Proposed Action or identified through the initial analysis of environmental effects.

### **2.3 Alternatives Analyzed in Depth**

#### **2.3.1 Alternative 1 – Proposed Action**

The Proposed Action consists of construction activities associated with the replacement of 3.26 miles of existing 16-inch natural gas pipeline within an existing utility ROW. Construction activities would occur from May through November of 2014. The existing piping would be deactivated and removed; new pipe would be installed, tested, and placed in service. The proposed activities are discussed in three phases: Phase 1 - Preliminary Construction Work, Phase 2 - Standard Pipeline Construction, and Phase 3 - Clean-up, Restoration, and Reclamation.

Initial design investigations that have been completed include the following:

- Project Design:
  - Geotechnical studies
  - Identification of the pipeline centerline, work areas, project staging areas, access points and roads, and temporary retaining structures.
- Baseline Field Surveys of the Project Area:
  - Jurisdictional Waters of the U.S.
  - Archaeological, cultural, and historic resources,
  - Wildlife and vegetation – USFWS federally listed species, Forest Service species of interest, raptor nests, and weeds.

Coordination with state and federal resource management agencies would continue through project completion.

### ***Phase 1 - Preliminary Construction Work***

Establishment of construction access points would be necessary to safely and efficiently access the project ROW. Primary access would be gained from the staging area and access road in T5N, R1E, Section 29 off of I-84. Crews would work in both directions from this primary access point. Accessing the ROW from this location would require a Utah Department of Transportation (UDOT)-approved closure of approximately two miles of one I-84 eastbound lane to allow for safe on/off access to the project and to protect through-traffic from the possibility of construction debris reaching the pavement. A project-specific closure plan was developed from a traffic study and is described further in Section 3.10 - Public Health and Safety. The final closure plan would be permitted by UDOT.

Prior to construction, the section of the Main Line 3 pipeline that is proposed to be replaced would be isolated from the Questar OVBV to the east and the Sunset Gate Station to the west. The natural gas trapped in this section would be vented to the atmosphere through the vent stacks at the Questar OVBV. A second release event would occur following construction and prior to placing the segment back in operation. Local emergency response agencies and adjacent landowners would be contacted prior to this activity.

General grading work would be performed on access roads as required to accommodate construction traffic. Padding to protect existing pipelines of other operators that parallel access roads may also be required in specific locations. Following construction, the access roads would be reshaped and restored to pre-construction condition. They would not be maintained for continued use.

To re-establish the existing ROW to meet construction standards, vegetation would be cleared by a front-end ROW clearing crew. In areas of steep terrain, it would be necessary to construct temporary retaining walls within the ROW construction area. Walls would allow for stockpiling of soil, widening of the work corridor, and retention of errant rocks and debris. Where the temporary walls are not necessary, but additional protection is needed, soil berms with temporary construction fencing would be used to retain debris within the ROW. Where the ROW is greater than 35 feet wide, retaining structures would not be necessary. Proposed locations of retaining walls are shown on Figure 1. A final ROW clearing and grading crew would follow the retaining wall building crews. The ROW construction area would be graded to a maximum width of 75 feet.

### ***Phase 2 - Standard Pipeline Construction***

Standard pipeline construction consists of the following tasks:

- Removal of the existing pipeline
- Trench excavation
- Pipe stringing (laying pipe along the ROW)
- Use of hydraulic bending machine to conform pipe with the bottom of the trench and weld joints together
- Placement of backfill over new pipe in the trench

Stove pipe pipeline construction is a process that incorporates construction practices of standard pipeline construction, but performs them in one location on one joint of pipe at a time. It is often necessary in confined areas. For the given section, the original pipe is excavated and removed. The final ditch is then excavated for the new pipe joint. The pipe joint is pre-bent if required and then carried to the location. The joint is then welded in the trench to the previously installed section. The project would use a combination of standard and stove pipe pipeline construction techniques.

Due to the presence of asbestos in the old pipeline coating, pipeline removal would be accomplished by workers trained in proper handling procedures for asbestos. The existing pipeline would be cut into lengths no longer than 40 feet, wrapped in plastic, loaded onto trailers, and hauled to a certified disposal

site. Pipeline coating would be bagged and removed. Required permits would be obtained and state ordinances for the handling of harmful materials would be followed.

Once the existing pipe is removed, trench spoil material would be placed adjacent to the ditch and flattened to provide padding over existing utilities and allow for continued equipment access through the area prior to final trenching. The new pipeline trench would be excavated to an approximate depth of 52 inches in standard soil. If rock is encountered, the minimum depth may be reduced to 46 inches, as allowed by DOT code requirements. Rocks would be removed using a hammer hoe attachment on a tracked excavator. No blasting would occur. A geotechnical inspector and adjacent utility inspector would be on-site during construction to oversee activities and ensure safe operation.

Pipe would be stockpiled at staging areas and transported to the ROW. Where space permits, the pipe would be strung along the edge of the ROW. Pipe would be brought in one joint at a time where space is confined.

Pipe would be bent using a hydraulic bending machine and welded together. The joints would be sandblasted and sealed with an epoxy. The segment would be lowered into the trench using side boom tractors and welded to the previous pipe section. Selected padding material that contains less than 1-inch diameter rock material is placed in the trench, and the ditch is then backfilled with existing spoil and wheel roll compacted.

#### Cleaning, Testing, Drying, and Tie-In of the Pipeline

Once the entire section of pipeline has been replaced, the pipeline would be cleaned by using compressed air to push foam cleaning tools called “pigs” through the pipeline. Hydrostatic testing would be conducted to verify that the pipeline maintains test pressure per UDOT 49 CFR Part 192. Questar would conduct hydrostatic testing under an Authorization to Discharge under the Utah Pollutant Discharge Elimination System (UPDES) General Permit for Construction and Dewatering and Hydrostatic Testing. Hydrostatic testing would consist of pumping water into the pipeline from the Weber Basin Canal. Once the pipeline maintains the required test pressure it would be qualified for service. The test water would then be pumped to either the west or east of the pipeline and discharged into a diversion structure. Samples and testing would be conducted as specified in the permit and submitted to the State of Utah. Water withdrawal and discharge activities related to the canal would be coordinated through the Weber Basin Water Conservancy District. A caliper tool would be used to test for any anomalies. The pipeline would be dried and given a final cleaning and air purge before it is tied into the existing natural gas pipeline system.

#### ***Phase 3 - Clean-up, Restoration, and Reclamation***

The ROW fill material would be replaced as near as practicable to pre-construction conditions. Retaining walls and fences would be deconstructed and associated materials would be removed from the ROW. Salvaged top soil would be replaced prior to final grading. The geotechnical inspector would direct any replacement of materials that sloughed onto the ROW from above. The original ROW bench contour would be maintained.

Permanent waterbars would be constructed in areas where they previously existed. Any erosion control measures that must be left in place until the area is re-vegetated would be left in good condition and monitored for stability and effectiveness.

Revegetation applications would follow as soon as possible after final clean-up of the ROW. Seed mixes, rate of application, types and rates of application of fertilizer, and the revegetation schedule would be agreed upon with the Forest Service. The ROW would be reseeded with a Forest Service-approved seed mix that has been certified by the U.S. Department of Agriculture (USDA) Seed Lab. The project-specific

Weed Management Plan (Appendix A) would also be followed. Questar will work with the Forest Service, Davis and Morgan counties and other permit holders on a long-term monitoring, inventory, and treatment program for the control of noxious weeds within the ROW for the life of the ROW grant.

If reclamation and seeding is deferred more than 10 days after final grade restoration on slopes greater than 30 percent, the area would be temporarily stabilized by applying certified weed free straw mulch. Interim seeding may also be performed. Seed bed preparation, including thinning or removal of the mulch, would be repeated as necessary prior to application of the final seed mix.

#### Construction and Post-construction Erosion Control Best Management Practices

Questar routinely conducts construction activities in accordance with FERC guidelines, as outlined in the FERC *Upland Erosion Control, Revegetation, and Maintenance Plan* (FERC 2013a) (document is available at the SLRD Office in Salt Lake City, Utah in the project record). An environmental inspector would be on-site to ensure implementation of BMPs and apply corrective actions as needed. The following erosion control methods and stabilization and structural practices would be used during and/or after construction.

#### Erosion Control Methods

Temporary erosion control measures would be installed concurrently with construction earthwork and would be inspected and maintained throughout the course of construction to ensure effectiveness of reducing erosion and sedimentation to sensitive resources. Sediment barriers and water bars would be the primary measures for temporary erosion control used on the project. When necessary, these measures would be left in place along with permanent measures during the post-construction period until effective revegetation has been established.

Permanent erosion control measures would be used when necessary to minimize erosion and sedimentation after construction until revegetation efforts have effectively stabilized the construction area. Installation of permanent erosion control measures would be performed within 14 days following backfilling of the trench except in areas where the construction ROW has been restricted, requiring temporary use of the zone over the backfilled trench for spoil storage as construction proceeds along the ROW. Contractors would install permanent erosion control measures within 10 days following the temporary use of these areas for spoil storage. Temporary erosion control measures would be removed after permanent erosion control measures have been installed.

#### Stabilization Practices

Rainfall and wind on exposed soils causes soil loss. Applications of mulch or placement of erosion control mats slow the flow of water down the slope. Applications of mulch or placement of mats is based on slope surface type and condition (i.e., sand, clay, rock, etc.), slope steepness, and the amount of exposed surface area not covered by plant residue. Mulching is the application of certified weed-free straw or wood fiber to disturbed soils. It would typically be used to stabilize highly erosive soil piles during construction activities. Erosion control mats perform the same stabilization purpose, but have proven more effective for final stabilization activities, especially in steeper areas where immediate results are necessary. After final restoration and seeding, erosion control mats would be applied to slopes greater than 30 percent, slopes within 100 feet of water bodies and wetlands, and other sensitive sites (i.e., dry, sandy, steep slopes, etc.).

During construction, water or non-toxic, organic tackifier may be applied to topsoil storage mounds composed of soils with high wind erodibility. Tackifier would not be applied within 100 feet of a watercourse or wetland.

**Structural Practices**

Structural practices would be used to divert flows from exposed soils, store flows, or otherwise limit runoff and discharge of pollutants from exposed areas of the site.

Trench breakers would be installed in the trench to restrict or slow ground water flow along the trench line. Water bars are utilized in various forms (e.g., rolling dips on access roads, drivable berms across travel ways, water bars on slopes) during project construction and after final grade restoration. Water bars are intended to intercept water traveling down a disturbed slope and divert water off disturbed soil into stable, well-vegetated, or adjacent rocky areas.

If necessary, temporary water bars would be installed concurrently with initial grading operations and would be maintained throughout construction. Permanent water bars would be installed after the ROW grade is restored if needed. Although site-specific details may differ, the spacing for temporary and permanent water bars would be generally as follows:

Slope (%)	Spacing (feet)
5 to 15	300
15 to 30	200
> 30	100

Water bars would be constructed of existing suitable material such as compacted soil. The installation angle would be approximately two to five percent down slope and would extend beyond the edge of the disturbed construction area. Where possible, water bars would discharge into stable, non-erosive (vegetated or rocky) receiving areas.

In isolated instances where water bars discharge into unstable or highly erosive areas without rock or vegetation flow, energy dissipaters or "J-hook" shaped sediment barriers would be positioned at the water bar outlet. However, decreasing spacing or adjusting the spacing to locate outlets onto a stable site is preferable to using outlet energy dissipaters. When allowed by existing topographic conditions the flow energy dissipaters would be offset (staggered) on slopes greater than 20 percent.

Contractors would regularly inspect and repair water bars during construction to maintain their effectiveness. Water bars worn down by heavy construction traffic or filled with sediments would be repaired as needed, and the sediments would be spread on the disturbed ROW uphill of the bar.

**2.3.2 Alternative 2 – No Action**

Analysis of the No Action Alternative is necessary to provide an accurate contrast with the Proposed Action. Under the No Action Alternative, the Main Line 3 pipeline would not be replaced and no ground disturbing activities would occur. Customers along the Wasatch Front rely on natural gas, primarily for heating homes in the winter. Main Line 3 is a primary supplier of natural gas for the Ogden region, but the pipeline is nearly 50 years old and is scheduled for replacement in accordance with standard system maintenance practices. If this pipeline was not replaced, this critical peak demand supply would be at continually increasing risk for safety and reliability concerns. Should this source be interrupted during the peak demand months, a significant loss of natural gas service would be experienced in this region.

## 2.4 Alternatives Considered but Not Analyzed in Depth

No other alternatives requiring in-depth analysis were suggested through interdisciplinary review and scoping on this Proposed Action, or identified through the initial analysis of environmental effects.

## 2.5 Summary and Comparison of Environmental Effects

Table 2-1 summarizes and compares the direct and indirect environmental effects of the Proposed Action and No Action alternatives.

**Table 2-1. Summary and Comparison of Environmental Effects**

Issue	Proposed Action Alternative	No Action Alternative
<b>Vegetation (including special status species (i.e. USFWS federally listed plant species, Forest Service Region 4 Sensitive plant species and WCNF Watch List plant species) and noxious weeds and invasive species)</b>		
How would the Proposed Action affect vegetation and special status species?	<p>Clearing of vegetation would occur within the project ROW, adversely affecting existing conditions. The project ROW has been previously disturbed by utility operators and is vegetated with grasses, weedy forbs, and scattered shrubs. Reclamation would occur immediately upon completion of pipeline replacement and would include approved seed mixes, a long-term weed management plan, and monitoring. Vegetation condition of the ROW would improve over the long-term with successful reclamation and weed control activities. There would be no long-term adverse impacts to vegetation under the Proposed Action.</p> <p>There are no USFWS federally listed plant species for Davis and Morgan counties (USDI Fish and Wildlife Service 2013a). Plant species listed as sensitive on the Forest Service Region 4 list or otherwise identified as WCNF Watch List plant species are not known to occur in the project area. There would be no impact to special status plant species.</p>	No impact on vegetation and special status plant species. The project ROW would continue to support altered vegetation communities in some areas, including populations of invasive weeds.
How would the Proposed Action affect the spread of invasive species and noxious weeds?	Invasive and noxious weeds exist within the project ROW. Construction activities could spread existing weeds and allow for new infestations. Questar would implement their Forest Service approved Weed Management Plan (Appendix A) to eliminate the	Invasive and noxious weeds exist within the project ROW. These weeds would continue to spread and therefore could negatively affect the native species and overall vegetation community health in the long-term.

Issue	Proposed Action Alternative	No Action Alternative
	potential for weeds to spread or create new invasions. There would be a beneficial effect on vegetation over the long-term with implementation of the weed control plan.	
<b>Geology</b>		
How would construction activities affect the stability of slopes in Weber Canyon?	Construction activities may exacerbate existing slope failures or create new failures in Weber Canyon. Findings of a project-specific geotechnical report have been incorporated including: Placement of temporary retaining walls designed to withstand site-specific conditions to stabilize slopes and keep construction debris within the project ROW; Potential hazards, such as boulders upslope of the ROW would be identified and stabilized prior to construction; A geotechnical inspector would monitor construction activities and stabilization practices, implementing additional controls as needed prior to, during, and after construction to minimize the potential for slope failures and prevent unforeseen failures and subsequent safety issues or impacts to other resources such as water and soils. Effects related to geologic hazards and slope stability may cause short-term minor adverse impacts.	Existing slope failures would not be exacerbated and no new slope failures would be created in Weber Canyon; therefore there would be no impact.
<b>Soils</b>		
How would the Proposed Action affect soils?	Construction activities may affect soil conditions due to compaction and erosion, resulting in decreased soil productivity and soil loss. Soil loss via downslope transport of disturbed surfaces may occur, and further affect water quality. Proper implementation of construction BMPs and successful reclamation would effectively mitigate effects on soils resulting in a short-term minor impact to the soil resource.	Impacts to soils would not occur, as construction activities would not be approved.
<b>Water (including water quality, water rights, public water supplies, riparian areas, Waters of the U.S., and floodplains)</b>		
How would the Proposed Action affect water quality in the Weber River?	The Proposed Action would result in a disturbed soil surface, which may contribute suspended solid concentrations (e.g. sediment) to the Weber River and directly affect water quality. Construction BMPs and erosion controls implemented as part of the Proposed Action would minimize sediment transport. There would be no impact to water quality.	No impact on water quality.

Issue	Proposed Action Alternative	No Action Alternative
How would the Proposed Action affect wetlands, riparian areas, and floodplain?	The project ROW and access roads cross four ephemeral drainages. The drainages do not support riparian vegetation. Wetlands do not occur in the project area. The drainages would be temporarily disturbed by construction activities. USACE stipulations provided in a PCN-NWP-12 would be followed during construction activities to minimize disturbance to these Waters of the U.S. There would be no impact to wetlands, riparian areas, or floodplains.	No impact on wetlands, riparian areas, and floodplain.
<b>Fish and Wildlife (including general wildlife, big game, migratory birds, raptors, and special status species (i.e. USFWS federally listed species, Forest Service Region 4 Sensitive species, WCNF Management Indicator Species, WCNF Species-at-risk, and State of Utah species of concern or conservation species))</b>		
How would the Proposed Action affect fish and wildlife habitat and special status fish and wildlife species?	<p>No federally listed species are known to occur in or near the project ROW.</p> <p>Other special status species, including migratory birds, and general wildlife such as small mammals and big game are considered in the analysis of impacts.</p> <p>Construction activities would temporarily alter habitat within a previously disturbed project ROW. Increased human activity, noise, and dust during construction could alter wildlife behavior and distribution. With implementation of BMPs and erosion controls, the Proposed Action would prevent suspended solid concentrations (e.g. sediment) from disturbed soil surfaces from entering into the Weber River. Thus, there would be no impact to aquatic species. Mitigation measures to prevent impacts to migratory birds are included in the Proposed Action. These include: pre-construction surveys, flagging buffers and monitoring if needed, dust and erosion control BMPs, and reclamation including weed control. Impacts to wildlife species related to disturbance would be minor and short-term. A beneficial impact to wildlife habitat would occur over the long-term as weeds are removed from the ROW.</p>	No impact on fish and wildlife species, as no construction activities would occur.
<b>Archaeological, Cultural and Historic Resources</b>		
How would the Proposed Action affect archaeological, cultural and historic resources?	The Proposed Action would occur within a previously disturbed ROW. A cultural resources file search and Class III resources inventory was conducted for the project area.	No impact on archaeological, cultural and historic resources.

Issue	Proposed Action Alternative	No Action Alternative
	Impacts to archaeological, cultural and historic resources would not occur.	
<b>Air Quality</b>		
<p>How would fugitive dust associated with construction affect air quality?</p> <p>How would mobile source emissions associated with construction activities affect air quality in Weber Canyon?</p>	<p>Construction activities associated with the Proposed Action would generate fugitive dust; vehicles and equipment would produce combustion emissions. Vehicles and equipment would operate under manufacture emissions controls and State requirements. The amount of emissions generated by construction equipment and vehicles would be minor.</p> <p>Questar’s Fugitive Dust Control Plan (Appendix B) would be implemented to control construction-generated fugitive dust. The plan was written in accordance with the requirements of the Utah Administrative Code R307-309. Short-term, minor adverse effects to air quality from dust would occur.</p>	Air quality would remain as is currently in the area. No construction activities would take place.
<b>Public Health and Safety (including transportation (i.e. traffic controls, Union Pacific Railroad), fire risk, geologic hazards, pipeline operation, and hazardous and solid waste)</b>		
How would the Proposed Action affect public health and safety?	<p>Construction activities would require access from I-84, affecting traffic and presenting safety concerns; proximity of construction corridor above I-84 raises concern of potential for construction debris to reach I-84; Questar would implement Utah Department of Transportation requirements associated with a lane closure. Temporary retaining walls would be placed to keep debris within ROW.</p> <p>Construction workers and equipment present in the project area increase risk of fires; Questar would implement the project Fire Prevention and Control Plan (Appendix C) to reduce risk of fire.</p> <p>Construction activities associated with the Proposed Action may exacerbate existing slope instabilities creating new failures. Recommendations of the Project Geotechnical Report would be implemented, including: placement of temporary retaining walls, presence of a geotechnical inspector during construction, prior identification and removal of loose</p>	No impact on public health and safety.

Issue	Proposed Action Alternative	No Action Alternative
<p>How would the Proposed Action affect the existing Union Pacific Railroad line?</p>	<p>debris.</p> <p>Proper deactivation techniques and testing of new line will prevent accidents related to pipeline operation.</p> <p>A Union Pacific Railroad line occurs in Weber Canyon. It is downslope of the ROW. Questar would submit engineering plans meeting AREMA standards to the Union Pacific Railroad for review. The 3.26-mile segment of pipe proposed for replacement does not cross the Union Pacific Railroad line or encroach on Union Pacific property. The eastern-most project access road crosses the Union Pacific Railroad line, however, this location is not proposed as the primary construction access point. Union Pacific safety precautions would be adhered to.</p> <p>There would be no effect to public health and safety associated with the Proposed Action.</p>	
<p>What types of waste associated with construction activities would be produced?</p>	<p>Construction activities and decommissioning of the existing pipe would produce general construction waste and create the potential for release of harmful materials associated with the existing pipe coating into the environment. Implementation of Questar BMPs during construction activities, which would include the proper handling and disposal of waste (including harmful materials), would eliminate impacts to public health and safety related to waste generated by the Proposed Action.</p>	<p>No wastes would be produced; therefore there would be no impact to public health and safety.</p>
<p><b>Scenic Resources</b></p>		
<p>How would the Proposed Action affect the scenic integrity of Lower Weber Canyon?</p>	<p>Construction activities and vegetation clearing would alter the views currently experienced by Weber Canyon visitors and through-travelers on I-84. The view of the project area is limited due to canyon topography and travelling speeds on I-84. The existing viewshed through this section of Weber Canyon also includes evidence of previous activities in the project ROW as well as other infrastructure such as I-84, transmission lines, and the Weber Basin Canal. The change in appearance of the ROW would be most evident during construction.</p>	<p>Current viewshed through this section of Weber Canyon includes evidence of the previous activities in the project ROW and other infrastructure. The area would remain unchanged and there would be no new impacts to scenic resources.</p>

Issue	Proposed Action Alternative	No Action Alternative
	Reclamation activities would be aimed at returning the viewshed to its current condition. There would be a short-term minor impact to the scenic resources in the area. The effect would diminish over the long-term as reclamation is successful.	

Table 2-2 summarizes the project design features and mitigation measures that would be implemented for the Proposed Action to minimize effects/impacts to resources.

**Table 2-2. Project Design Features/Mitigation Measures to Minimize Effects/Impacts to Resources**

Resource	Objective	Project Design Features/Mitigation Measures
<b>Vegetation Resources (including special status species (i.e., USFWS federally listed plant species, Forest Service Region 4 sensitive plant species and WCNF Watch List plant species) and noxious weeds and invasive species)</b>		
Special Status Plants	Manage to protect plant species provided with additional federal protection status.	Pre-construction desktop review and clearance surveys.
Reclamation	Re-establish native species in amounts and distribution similar to historical patterns.  Document reclamation success.	Re-vegetate with Forest Service-approved and certified by the USDA Seed Lab seed mixes and at Forest Service-approved amounts. Enhance soil stabilization through use of erosion control mats and other erosion control measures. Monitor reclamation success and weed infestations for a minimum of three years. Apply additional seeding and/or control treatments as needed. Report monitoring results and follow up treatments annually to the Forest Service.
Weed Control	Control and /or eradicate weeds.	Implement project-specific, long-term Weed Management Plan (Appendix A).
<b>Geology and Soils Resources</b>		
Slope Stability	Identify areas of slope instabilities; avoid exacerbating instabilities	Geotechnical report identified areas of potential instability and mapped existing landslides. Geotechnical inspector would be on-site throughout construction. Temporary retaining walls would be placed within ROW where workspace is narrow and in areas of potential instability. Unstable features above ROW would be dislodged prior to pipeline replacement activities.
Soil Compaction	Prevent compaction	Planning for efficient movement of equipment through construction corridor would limit duration of time on ground. Roughing of seed bed prior to seeding would reduce compaction and enhance

Resource	Objective	Project Design Features/Mitigation Measures
		revegetation efforts.
Soil Loss	Control erosion	Temporary and permanent erosion control structures would be established. Erosion control mats would be placed on disturbed areas following seeding.
<b>Water Resources (including water quality, water rights, public water supplies, riparian areas, Waters of the U.S., and floodplains)</b>		
Water Quality	Protect water quality by preventing sediment and other pollutants from entering waterways.	Project would operate under conditions of a SWPPP. Project would be authorized by a Utah Pollutant Discharge Elimination System (UPDES) General Permit. Temporary retaining walls would be built within ROW where workspace is narrow and in areas of potential instability, as determined by geotechnical inspection. Unstable features above ROW identified by geotechnical inspection would be dislodged prior to pipeline replacement activities. Erosion controls such as waddles made of synthetic materials and silt fences would be used during construction and maintained through successful revegetation of disturbed areas.
Waters of the U.S.	Avoid impacts to jurisdictional Waters of the U.S.	USACE NWP-12 stipulations and BMPs including: Trenching and placement of sidecast material BMPs; minimize time work occurs in open trench and minimize width of trench across jurisdictional waters; place side cast material away from area of potential flow; return material as soon as practicable; use bentonite plugs in drainages carrying water; place and maintain erosion control structures.
<b>Fish and Wildlife Resources (including general wildlife, big game, migratory birds, raptors, and special status species (i.e. USFWS federally listed species, Forest Service Region 4 Sensitive species, WCNF Management Indicator Species, WCNF Species-at-risk, and State of Utah species of concern or conservation species))</b>		
Special Status Species	Protect any special status species that may occur within 0.5-mile of the project area.	A pre-construction survey for special status species would be conducted. Disturbed habitat in the project area would be reclaimed.
Migratory Birds	Protect any migratory bird species that may be nesting within 0.5-mile of the project area.	Two weeks prior to construction activities, a survey for nesting migratory birds would be conducted within the construction corridor and access roads and 100 feet on each side, within staging areas and 300 feet on each side, and for nesting raptors within 0.5 mile of the project area . If active nests are found, a monitor would be on site to watch for signs of disturbance. The ROW would be reclaimed immediately following pipeline replacement.

Resource	Objective	Project Design Features/Mitigation Measures
Aquatic Species	Protect aquatic species in the Weber River system.	BMPs for erosion control would be used during and after construction to prevent impacts to aquatic systems.
<b>Archaeological, Cultural and Historic Resources</b>		
Archaeological, Cultural, and Historic Resources	<p>Must comply with Sections 106 and 110 of the National Historic Preservation Act before the responsible agency official signs the decision document.</p> <p>Standard S32 - Review undertakings that may affect cultural resources to identify potential impacts.</p> <p>Review existing records of previously recorded sites in the project area.</p> <p>Identify on the ground any cultural resources within the project area.</p>	A cultural resources file search and Class III cultural resources inventory was conducted in 2012 of the Main Line 3 pipeline segment ROW.
<b>Air Quality</b>		
Fugitive Dust	Minimize generation of particulate matter (i.e. dust) during construction activities.	Questar's Fugitive Dust Control Plan (Appendix B)
Construction Equipment Operation	Minimize combustion emissions	Manufacturer controls and State registrations.
<b>Public Health and Safety (including transportation (i.e. traffic controls, Union Pacific Railroad), fire risk, geologic hazards, pipeline operation, and hazardous and solid waste)</b>		
Transportation (i.e. Traffic controls on I-84 and Union Pacific Railroad safety.)	Allow for safe I-84 on/off access of construction crews and equipment; protect public from potential for debris to reach I-84; meet safety requirements of Union Pacific Railroad.	<p>Questar would follow directives provided by Utah Department of Transportation that would be based on project-specific traffic control plan. Likely to include the closure of one I-84 eastbound lane for approximately 0.5-mile through the duration of construction.</p> <p>Questar would submit engineering plans (that meet AREMA standards) to Union Pacific Railroad for review and approval prior to construction. Questar would meet safety requirements of Union Pacific Railroad following their review.</p>
Fire Risk	Prevent and suppress all fires in accordance with federal, state, and local regulations in the event that one is accidentally started during construction of the project.	Questar, construction contractor, and construction crews would implement the project-specific Fire Prevention and Control Plan (Appendix C) at all times during the project to prevent and suppress any accidental fires.
Geologic Hazards	Identify areas of slope instabilities; avoid exacerbating instabilities.	<p>Geotechnical report identified areas of potential instability and mapped existing landslides.</p> <p>Geotechnical inspector would be on-site throughout construction.</p> <p>Temporary retaining walls would be placed within the project ROW where workspace is narrow and in areas of potential instability.</p> <p>Unstable features above project ROW</p>

Resource	Objective	Project Design Features/Mitigation Measures
		would be dislodged prior to pipeline replacement activities.
Pipeline Operation	Ensure that the old pipeline is safe to remove prior to replacement; ensure new pipeline is ready to safely transport natural gas	Prior to construction, the 3.26 miles of existing pipeline that is to be replaced would be isolated at the Questar OVBV to the east and the Sunset Gate Station to the west. The natural gas trapped in this section of pipeline would be blown to atmosphere through the vent stacks at the Questar OVBV. Local emergency response agencies would be contacted and made aware of this activity prior to action. Following installation of new pipeline, hydrostatic testing would ensure pipe is sealed and can withstand required pressure of natural gas.
Hazardous and Solid Wastes	Protect natural resources and public from hazardous and solid wastes generated during construction activities.	Required precautions would be taken when removing the existing pipeline due to the possible existence of asbestos in the pipeline coating. Only crews trained in the handling of asbestos would perform the pipeline removal. These pipe joints would be wrapped in plastic and loaded onto trailers for hauling to a certified disposal site. All pipeline coating would be bagged and removed from the project ROW. All permits and state ordinances required for the handling of this material would be strictly adhered to. Other construction wastes (e.g. garbage) generated at the site would be handled following BMPs directing the proper storage, clean-up, and timely removal from the project site.
<b>Scenic Resources</b>		
Scenic Integrity	Return the viewshed to its pre-construction condition or better.	Width of construction corridor would not exceed 75 feet. Clean-up, restoration, and reclamation would occur immediately following construction. Existing bench contour would be maintained. Erosion controls would be implemented to prevent potential for gullies or mass wasting events to occur, and to enhance revegetation success.

## 3.0 Affected Environment and Environmental Consequences

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### 3.1 Introduction

This chapter provides the baseline description of the existing environment in terms of the physical, biological, and human resources, and conditions which may be affected by the Proposed Action and No Action alternatives. The description is structured by resource/discipline. This establishes the background for discussion of the direct, indirect, and cumulative environmental consequences of implementing the Proposed Action and No Action alternatives. The analysis of effects (direct, indirect and cumulative) for the Proposed Action and the No Action alternatives on resources is required by NEPA, National Forest Management Act (NFMA), other applicable laws and regulations, Forest Service directives, and the Forest Plan. The chapter is organized by resource discipline.

Impacts and effects are used interchangeably throughout this report and have the same meaning. The following terms will be used to describe effects:

- **No Effect:** A change to a resource's condition, use, or value that is not measurable or perceptible.
- **Beneficial Effect:** An action that would improve the resource's condition, use, or value compared to its current condition, use, or value.
- **Minor Adverse Effect:** A measurable or perceptible localized degradation of a resource's condition, use, or value that is of little consequence.
- **Moderate Adverse Effect:** A localized degradation of a resource's condition, use, or value that is measurable and of consequence.
- **High Adverse Effect:** A measurable degradation of a resource's condition, use, or value that is large and/or widespread and could have permanent consequences for the resource.
- **Short-term Effect:** An effect that would result in the change of a resource's condition, use, or value lasting less than one year.
- **Long-term Effect:** An effect that would result in the change of a resource's condition, use, or value lasting more than one year and probably much longer.

Effects will also be described in terms of direct and indirect effects:

- **Direct Effects:** Caused by the action and occur at the same time and place.
- **Indirect Effects:** Caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.

Cumulative effects were also analyzed and are defined as:

- **Cumulative Effects:** The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions (40 CFR 1508.7).

The following past, present, and reasonably foreseeable future actions are located in Lower Weber Canyon and are used for the cumulative effects analysis:

Past Actions (includes construction and use of utilities):

- I-84
- Weber Basin Canal
- Other operators in ROW: Plains Pipeline (one active, one inactive); fiber optic line
- Weber Basin Water Conservancy District irrigation tunnel
- Questar Main Line 3 pipeline
- Rocky Mountain Power diversion dam
- Electrical Transmission Line(s)

Present Actions (includes use and maintenance of existing utilities):

- I-84
- Weber Basin Canal
- Other operators in ROW: Plains Pipeline (one active, one inactive); fiber optic line
- Weber Basin Water Conservancy District irrigation tunnel
- Electrical Transmission Line(s)

Reasonably Foreseeable Future Actions (includes use and maintenance of existing utilities):

- I-84
- Weber Basin Canal
- Other operators in ROW: Plains Pipeline (one active, one inactive); fiber optic line
- Weber Basin Water Conservancy District irrigation tunnel
- Questar Main Line 3 Pipeline – future replacement of an approximately 2-mile long segment located east of Questar’s OVBV may occur (private land)
- Electrical transmission line(s)

## 3.2 Project Area General Description

The project occurs in Lower Weber Canyon along the base of mountains that form the Wasatch Front. Elevation in the project area ranges from approximately 4,700 to 5,000 feet. Based on Forest Service geographic information system (GIS) data, which was mapped at a forest-wide scale, the vegetation communities in the project area consist of Gambel oak (*Quercus gambelii*) woodland, juniper (*Juniperus* sp.) woodland, Douglas fir (*Pseudotsuga menziesii*) forest, mountain brush/shrubland, sagebrush (*Artemisia tridentata* spp. *Wyomingensis*) grassland, and barren areas. At the project-area scale, the ROW is currently vegetated by bunchgrasses, annual and perennial forbs, and weed species with pockets of sagebrush and rabbitbrush (*Chrysothamnus vicidiflorus*).

The Weber River, which flows through Weber Canyon with water originating from high in the Uinta and Wasatch Mountains, is within the Weber River Basin watershed. From the Uinta Mountains, the Weber River flows west and then north before flowing west again through Weber Canyon; once the river exits the canyon, it flows west through mostly flat terrain, passing through the city of Ogden, and finally draining into the Great Salt Lake (UDWRi 2009).

### 3.3 Disturbance Types and Areas

Table 3-1 provides the basic dimensions of disturbance associated with the Proposed Action.

**Table 3-1. Disturbance Types and Areas**

Project Type	Disturbance Dimensions	Disturbance Type
Pipeline ROW	3.26 miles long by 75 feet wide (29 acres)	Clearing vegetation, trenching, constructing retaining walls
Access Roads	5.7 miles (10.35 acres)	General grading work would be performed on all access roads to accommodate construction traffic. It is anticipated that minor grading work would be required to maintain the roads during construction activities. Following construction, the access roads would be reshaped and restored to pre-construction condition.
Staging Areas	2.5 acres	Placement of materials, equipment traffic, grading previously disturbed areas

### 3.4 Vegetation Resources

#### 3.4.1 Scope of Analysis

Internal, interdisciplinary review and scoping identified the following issues addressed in this analysis:

**Issue 1: How would the Proposed Action affect vegetation and special status plant species?**

*Background:* Vegetation within the ROW would be cleared under the Proposed Action. The area surrounding the project ROW is primarily composed of juniper-oak woodlands. The ROW has been previously cleared and revegetated. Bunchgrasses, forbs, weeds, and some shrubs currently grow in the ROW.

*Indicators:* As directed in the Forest Plan, vegetation surveys have been conducted on the WCNF by Forest Service biologists to monitor vegetation species of federal, state, and local interest across the Forest. The information is collected to assist in the evaluation of the effects of proposed projects on vegetation. Data has been collected for the following: the USFWS federally listed species, Forest Service Region 4 Sensitive species, and WCNF Watch List plant species.

A general vegetation composition and weed survey was conducted in 2012 within the project area (Tetra Tech 2012). Federally listed plant species are not expected to occur since none are listed in Davis and Morgan counties. Several species on the Forest Service Region 4 Sensitive Species List or the WCNF plant Watch List may occur in the project vicinity, but would not likely be found within the project disturbance areas due to lack of habitat.

*Analysis Area:* Analysis of direct effects focuses on areas of proposed disturbance within the project area. Indirect and cumulative effects are addressed at the scale of Lower Weber Canyon.

**Issue 2: How would the Proposed Action affect the spread of invasive and noxious weeds?**

*Background:* Noxious weeds and invasive species currently exist within the project ROW. Vegetation in the ROW would be cleared, disturbing existing weeds and creating areas of bare soil where weeds may

establish. Movement of construction equipment may further spread existing invasive and noxious weed populations or introduce new weed species.

*Indicators:* A survey for noxious weeds and invasive species was conducted in 2012 within the project area. An infestation of spotted knapweed (*Centaurea maculosa*) was documented in the ROW (Tetra Tech 2012).

*Analysis Area:* Analysis of direct effects focuses on areas of proposed disturbance within the project area. Indirect and cumulative effects are addressed at the scale of Lower Weber Canyon.

### **3.4.2 Affected Environment and Environmental Consequences**

The Forestwide Standards and Guidelines regarding vegetation management state that vegetation should be managed for properly functioning condition at the landscape scale (G14). The landscape structure and pattern of the surrounding gamble oak, maple (*Acer glabrum*), and juniper woodlands is typical of that described as the desired condition for these communities in the Forest Plan (USDA Forest Service 2003a). The previously disturbed ROW runs through a mosaic of these communities. Pockets of Douglas fir occur on northeast facing slopes above the ROW. The ROW has been reclaimed and is vegetated by bunchgrasses, annual grasses, forbs, weeds, and some shrubs (primarily rabbitbrush and sagebrush). The soil has stabilized and vegetation growth is successful, but it is not likely that this disturbed area will return to a pre-disturbed state in the near future. This is typical of utility ROWs due to management directives, seed mixes applied, length of time since initial disturbance, and length of time between repeated disturbance events.

#### ***Affected Environment: General Vegetation***

The project occurs in Lower Weber Canyon along the base of mountains that form the Wasatch Front. The steep and rocky slopes surrounding the project area are vegetated by sagebrush-grassland communities, and Gambel oak, Rocky Mountain maple, and juniper woodlands. Narrow-leaf cottonwood (*Populus angustifolia*), box elder (*Acer negundo*), aspen (*Populus tremuloides*), and willow (*Salix* spp.) riparian and wetland communities line the lower elevations of the Weber River floodplain. The project contours the lower foothill slopes of the canyon. Douglas-fir and subalpine fir (*Abies lasiocarpa*) conifer forests dominate the higher elevations and form small pockets in cooler, mesic drainages of the lower slopes.

Past reclamation activities have resulted in a ROW vegetated with perennial bunchgrasses, annual and perennial forbs, and pockets of sagebrush and rabbitbrush. Invasive and noxious weed species have also established. Four ephemeral drainages intersect the ROW and access roads, but do not support riparian or wetland communities.

#### ***Environmental Consequences: General Vegetation***

##### **Direct and Indirect Effects: Proposed Action Alternative**

Preparing the ROW for construction would result in a direct, short-term adverse impact to vegetation. The removal of vegetation within the ROW would produce an evident change in existing conditions. With immediate implementation of reclamation practices included in the Proposed Action, the direct effects to vegetation would shift to moderately adverse and long-term. The effect would be considered moderate based on the change from pre-disturbance condition and long-term because revegetation success typically occurs over several years. A long-term beneficial effect would occur as revegetation efforts successfully replace invasive species with more desirable species.

### Direct and Indirect Effects: No Action Alternative

The No Action Alternative would have no impact on general vegetation in the project area. Disturbance activities would not occur and vegetation composition in the ROW would neither be destroyed nor enhanced. Existing weed populations would continue to grow.

### Cumulative Effects

There would be no cumulative effect on general vegetation when considered with other past, present, and reasonably foreseeable future actions. Vegetation in the ROW has been altered from the surrounding undisturbed plant communities and would continue in this state regardless of the Proposed Action. Other past, present, and foreseeable future actions considered in this analysis would not combine with effects of the Proposed Action to result in cumulative effects to vegetation.

### ***Affected Environment: Special Status Plant Species***

This section discusses special status plant species, which includes USFWS federally listed species for Davis and Morgan counties, Forest Service Region 4 Sensitive plant species, and WCNF Watch List plant species.

The Endangered Species Act (ESA) of 1973, as amended, requires federal agencies to ensure that any activities they authorize, fund, or carry out, do not jeopardize the continued existence of any species federally listed, or proposed for listing, as threatened or endangered (Section 7). Consultation with the USFWS is required if threatened or endangered species or their critical habitat may be affected by proposed actions. Forest Service Manual 2670 provides additional management direction for threatened, endangered, and sensitive plants.

A Biological Assessment (BA) was prepared to review the potential effects of the project on USFWS federally listed species listed for Davis and Morgan counties that may occur within or near the project area and to determine whether consultation with the USFWS is necessary. The BA was prepared in accordance with legal requirements set forth under Section 7 of the ESA (16 U.S.C. 1536 (c)). There are no plant species listed by the USFWS for Davis and Morgan counties, Utah (USDI Fish and Wildlife Service 2013a). The BA is publically available in the project record.

The Forest Service has developed policy regarding the designation of sensitive plant and animal species (FSM 2670.32). A sensitive species is defined as those plant and animal species identified by the Regional Forester for which population viability is a concern as evidenced by: 1) significant current or predicted downward trends in population numbers or density or 2) significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution (FSM 2670.5). The Forest Service established the sensitive species list on a regional basis under the authority of the NFMA to ensure species of concern are protected from potential listing under the ESA.

Of the 22 Forest Service Region 4 Sensitive plant species, one was considered for further analysis, shown in Table 3-2 below. The remaining 21 were not analyzed due to field and data review confirmation that habitats for the species are not present in the project area or habitats for the species are present, but the species does not occur in this area.

Further detail is provided in the Biological Evaluation (BE), available in the project record. It was prepared to review the Forest Service Region 4 Sensitive species that may occur in the project area and to determine whether impacts on these species are anticipated that would adversely affect their viability. The BE was prepared to follow the standards established in the Forest Service Manual (FSM) 2671.2 and 2672.4.

Plant species that are globally and locally stable, yet rare, are placed on a Forest Watch List. The WCNF designates watch list plants. Watch list species are populations of species that may be on the edge of their range, disjunct, local endemics or regional endemics, or are rare throughout their distribution, but through analysis, are found to be relatively unaffected by activities that occur on the forest (USDA Forest Service 2003a). Of the 17 WCNF Watch List plant species, 15 were not considered since the project area does not contain habitat or the species is not known to occur within the project area. Two species were considered for detailed analysis, shown in Table 3-2 below.

**Table 3-2. Forest Service Region 4 Sensitive Plant Species and WCNF Watch List Plant Species Considered for Detailed Analysis**

Species	Status	Habitat	Habitat in the Project Area and Consideration for Analysis
<b>Burke's draba</b> <i>Draba burkei</i>	Forest Service Region 4 Sensitive Species	Species is found on talus slopes and rocky outcrops of quartzite, limestone or calcareous shale, in Douglas-fir, mixed conifer, and maple/oak communities. Elevation range is 5,500 to 9,200 feet (UNPS 2013).	<b>Considered.</b> This species is endemic to the Wellsville Mountains and northern Wasatch Range of northern Utah in Box Elder, Cache, Morgan (barely) and Weber counties (UNPS 2013). It is known to occur in the Cache Box Elder and North Wasatch Ogden Valley management areas (USDA 2003a). Tetra Tech surveyed the project area in 2012 but no plants or suitable habitat for this species were found.
<b>Nevada sweetpea</b> <i>Lathyrus lanszwertii</i> var. <i>lanszwerti</i>	WCNF Watch List Species	Found in woodland habitats (USDA Forest Service 2003a).	<b>Considered.</b> Known to occur in the Stansburys, Bear, Cache Box Elder, Northern Wasatch Ogden Valley, Central Wasatch, Eastern Uintas, and Western Uintas management areas (USDA Forest Service 2003a).
<b>Beckwith's violet</b> <i>Viola beckwithii</i> T. & G.	WCNF Watch List Species	Species is found in bunchgrass grassland and mountain brush communities along Wasatch front (Welsh et al. 2003).	<b>Considered.</b> Known to occur in the Cache Box Elder, Northern Wasatch Ogden Valley, and Central Wasatch management areas (USDA Forest Service 2003a). However, not known to occur in Davis or Morgan counties (Welsh et al. 2003).

***Environmental Consequences: Special Status Plant Species***

Direct and Indirect Effects: Proposed Action Alternative

There are no plant species listed by the USFWS for Davis and Morgan counties, Utah (USDI Fish and Wildlife Service 2013a). The Proposed Action would have no effect on federally listed plant species.

One Forest Service Region 4 Sensitive plant species, Burke's draba (*Draba burkei*), was considered for detailed analysis. This species was not detected during the general vegetation survey conducted in the project area in 2012, nor was it reported to be known from the area during data reviews for the project. The species may occur in rocky outcrops within the project vicinity but no such habitat would be disturbed during project activities. A species review and field inventory showed there are no other Forest

Service Region 4 Sensitive plant species known to occur or with the potential to occur within or near the project ROW. Further detail is provided in the BE. The Proposed Action would have no impact on Forest Service Region 4 Sensitive plant species.

Two WCNF Watch List plant species were considered for detailed analysis. These species were not detected during the general vegetation survey conducted in 2012. The species are not likely to occur, as the ROW has been disturbed and reclaimed in the past, and existing vegetation communities are not of native composition. There would be no impacts to WCNF Watch List plant species with implementation of the Proposed Action.

Direct and Indirect Effects: No Action Alternative

The No Action Alternative would have no impact on special status plant species. Construction activities associated with pipeline replacement would not occur.

Cumulative Effects

There would be no cumulative impact on special status plant species. Proposed disturbance would not cause direct or indirect impacts to individuals, and would therefore not combine with past, present, or reasonably foreseeable future actions to result in a cumulative effect.

***Affected Environment: Noxious Weeds and Invasive Species***

Table 3-3 lists the three noxious weed species that were identified within the project ROW during field surveys conducted in April of 2012. Invasions of spotted knapweed were identified within the project ROW and to the east of the project area. A relatively continuous population was found throughout the project ROW. Canada thistle (*Cirsium arvense*) and musk thistle (*Carduus nutans*) were also identified in lesser quantities within the project area and to the east.

**Table 3-3. Noxious Weed Species Occurring in the Proposed Project Area and Species Status at the State Class and Forest Service Category Levels**

Weed Species Occurring in Project ROW	
Species	Species Status – State Class/Forest Service Category
Musk thistle <i>Carduus nutans</i>	Class B/ 3B
Spotted knapweed <i>Centaurea maculosa</i>	Class A/ 1A
Canada thistle <i>Cirsium arvense</i>	Class C/ 3B

***Environmental Consequences: Noxious Weeds and Invasive Species***

Direct and Indirect Effects: Proposed Action Alternative

Vegetation clearing and grading would occur throughout the project ROW and access roads. This would result in bare ground and involve the use of construction equipment, allowing for the spread of existing noxious weeds (i.e. musk thistle, spotted knapweed and Canada thistle) and invasive species, and the possible establishment of new weed populations within disturbed areas. Once established, weeds could also potentially spread into adjacent native plant communities, resulting in a long-term, highly adverse impact.

To combat the spread of invasive species and noxious weeds in the project area and vicinity, a Weed Management Plan (Appendix A) has been developed as part of the Proposed Action. It incorporates management direction provided by the Forest Service. The Weed Management Plan incorporates the following steps in an adaptive management approach:

- Establish land management goals and weed management objectives for the project ROW
- Identify existing weed species through an inventory of the project ROW
- Prioritize weed species and weed population locations based on the severity of their impacts and the effectiveness of available control measures
- Consider available control measures relative to their impacts
- Plan and implement the control measures identified
- Monitor and evaluate
- Modify and improve the weed management plan as needed

The Weed Management Plan would be implemented under the Proposed Action. Mitigation measures detailed in the plan would combat existing weed populations (i.e. musk thistle, spotted knapweed and Canada thistle) and prevent further spread of noxious weeds and invasive species throughout the project ROW and the surrounding vegetation communities. Unmanaged, the existing noxious weeds and invasive species would likely continue to flourish, possibly expanding their distribution and altering otherwise intact, native vegetative communities. With implementation of the Proposed Action, a beneficial, long-term effect to the project area and surrounding hill slopes of Lower Weber Canyon would occur.

#### Direct and Indirect Effects: No Action Alternative

The No Action Alternative would have a long-term, moderately adverse impact on vegetation communities in and around the project area. Under the No Action Alternative the existing noxious weed populations would continue to reproduce, expand, and degrade the native ecosystem. In the absence of control measures, noxious weeds and invasive species would continue to exist and reproduce in the ROW, threatening to invade and degrade native vegetative communities in the surrounding area.

#### Cumulative Effects

Previous disturbance-causing actions have caused weed invasions and weed populations to spread in Lower Weber Canyon, especially in the project ROW. The beneficial, long-term direct effect of implementing a weed management plan would result in a cumulative beneficial impact when considered with respect to past, present, and potential future management actions and disturbance activities. A reduction and eventual elimination of weed populations in the project ROW would enhance vegetation health overall and reduce the potential for future disturbance activities to negatively affect existing vegetation through weed invasions. By requiring a weed management plan as a component of the Proposed Action, the project may provide a moving force needed for a reversal of noxious weeds and invasive species expansion throughout Lower Weber Canyon.

## 3.5 Geology and Soil Resources

### 3.5.1 Scope of Analysis

Internal, interdisciplinary review and scoping identified the following issues addressed in this analysis:

#### **Issue 1: How would construction activities affect the stability of slopes in Weber Canyon?**

*Background:* Construction activities associated with the Proposed Action may exacerbate existing slope instabilities creating new failures.

*Indicators:*

- Slope steepness, intensity of disturbance
- Soil properties
- Geotechnical properties

*Analysis Area:* Analysis of the direct effects focuses on the disturbance areas associated with the Proposed Action. Indirect and cumulative effects are addressed at the scale of Lower Weber Canyon.

#### **Issue 2: How would the Proposed Action affect soils?**

*Background:* The Proposed Action may negatively affect soil conditions by causing compaction and erosion, which may further result in decreased soil productivity. Should construction activities result in soil loss via downslope transport of disturbed surfaces, water quality could also be affected.

*Indicators:*

- Soil type, soil properties, intensity of disturbance
- Acreage of disturbance by soil type

*Analysis Area:* Analysis of direct impacts focuses on disturbance areas associated with the Proposed Action. Indirect and cumulative impacts are addressed at the scale of Lower Weber Canyon.

### 3.5.2 Affected Environment and Environmental Consequences

The project area is located in north-central Utah, within the Wasatch Range sub-sections of the Middle Rocky Mountains province, and within the Wasatch Front sub-section of the Basin and Range province (Stokes 1986). The boundary between the two provinces is the crest of the Wasatch Mountains. The Wasatch Range is a north-south trending mountain range with numerous small canyons cut into the slopes on both sides of the range. Generally, the western side of the range consists of steeper slopes than the eastern side as a result of displacement along the still active Wasatch Fault. The project area is located in Weber Canyon, which is a large east-west trending canyon in the Wasatch Range that is occupied by the Weber River.

The Wasatch Mountains have a core of very old (Precambrian Era) quartzites, gneisses, and schists overlain by old (Mesozoic Era) sandstones, shales, mudstones, and limestones (Moyle 1981). More recent (Cenozoic Era) conglomerates and shales, interspersed with volcanic tuffs and breccias, form the surface layers of strata in some areas (Moyle 1981). Based on review of digital map data (Ludington et al. 2006, Hintze et al. 2000), the bedrock geology of the project area primarily consists of Archean magmatic and granitic gneiss of the Farmington Canyon Complex, and the western and eastern ends of the project area lie on surficial alluvial deposits (Bryant 1988).

***Affected Environment: Seismic Hazards***

There are three major phenomena associated with seismic hazards: faults, seismicity, and ground motion. The following describes the potential for seismic hazard occurrence in the project area.

Faults are dislocations whereby blocks of earth material on opposite sides of the faults have moved in relation to one another. Rapid slippage of blocks of earth past each other can cause energy to be released, resulting in an earthquake. An active fault is one in which movement can be demonstrated to have taken place within the last 10,000 years. The project area overlies one active fault zone, the Wasatch Fault Zone (Weber section). The Wasatch Fault Zone is one of the longest and most tectonically active normal faults in North America. The fault zone shows abundant evidence of recurrent Holocene surface faulting (Black et al. 2004).

Seismicity concerns the intensity, frequency, and location of earthquakes in a given area. No seismic events have been recorded within the project area from 1973 to present (<http://earthquake.usgs.gov/earthquakes/states/utah/seismicity.php>).

Ground motion hazards result when the energy from an earthquake is propagated through the ground. The U.S. Geological Survey (USGS) ground motion hazard mapping indicates that the potential ground motion hazard in the project area is medium to high. The hazard map used estimated peak ground acceleration expressed as a percentage of the acceleration of gravity with a two percent probability of exceedance in 50 years (<http://earthquake.usgs.gov/earthquakes/states/utah/hazards.php>).

***Affected Environment: Landslides and Slope Instabilities***

Landslide is a term used for various processes involving the movement of earth material down slopes. Landslides can occur in a number of different ways in different geological settings. Large masses of earth become unstable and begin to move downhill. The instability can be caused by a combination of steep slopes, periods of high precipitation, undermining of support by natural processes, or unintentional undercutting or undermining the strength of unstable materials in the construction of roads and structures.

The project area alignment crosses three landslides mapped by the Utah Geological Survey (Elliott and Harty 2010). A shallow landslide (described as less than 10 feet thick) including mainly debris slides and debris flows occurs between ROW miles 0 to 1, in Section 30, T1N, R5E. A thick landslide (described as more than 10 feet thick) is mapped just east of the shallow landslide; intersecting the ROW for approximately 350 feet. A third landslide intersects the alignment in Section 28 for approximately 1,800 feet in the vicinity of existing soldier pile and tie-back shoring downslope of the ROW (EarthFax Engineering Inc. 2013). The area is characterized as a deep or shallow landslide mapped with talus and/or colluvial deposits (Elliott and Harty 2010).

The landslides are historic in nature and do not show signs of active movement (EarthFax Engineering Inc. 2013). In addition to the mapped landslide areas, slope instabilities have been noted immediately downhill of the Main Line 3 ROW (EarthFax Engineering Inc. 2013). Recent completion of several tied-back soldier pile walls in this area has mitigated these instabilities.

***Affected Environment: Soils***

Soil information for the project was obtained from digital map data and associated databases developed by the National Cooperative Soil Survey and distributed by the USDA Natural Resources Conservation Service (NRCS), including the Soil Survey Geographic Database (SSURGO) and Digital General Soil Map of the U.S. (also known as STATSGO2). SSURGO is the most detailed level of soil mapping available; however, detailed soil surveys have only been completed in the eastern and western portions of the project (USDA NRCS 2011a and USDA NRCS 2011b). Therefore, soil information was derived from the more general STATSGO2 map (USDA NRCS 2006) for the central portion of the project within

Davis County. STATSGO2 data maps soil associations, which consist of one or more major soils (for which they are named) and at least one minor soil. Soils in any one association differ in slope, depth, stoniness, drainage, and other characteristics (USDA NRCS 2011b). Because of differences in the scale and map units of SSURGO versus STATSGO2 data, soil baseline characterization is reported separately by data source. Table 3-4 provides a summary of the soil types within the project area as derived from SSURGO and STATSGO2 digital map data. Table 3-4 also describes the permeability, drainage, and runoff characteristics of each soil unit, as well as its susceptibility to erosion. These characteristics may also indicate the potential for compaction effects.

**Table 3-4. Description of Soil Map Units in the Project Area (USDA NRCS 2011a, USDA NRCS 2011b)**

Soil Map Unit (Code)	Slope (%)	Description	Project Feature
<i>SSURGO Map Units</i>			
Broad Canyon Stony Loam (BdG)	30 to 70	Occurs on very steep, north-facing mountainsides. Parent material consists of colluvium derived from sandstone, gneiss, schist, and argillite. This soil is very deep and well-drained. Permeability is moderate and surface runoff is slow or medium. Available water capacity is moderately low. Erosion hazard is high. Shrink-swell potential is low. Does not meet hydric criteria.	ROW
Fluvaquentic Haploborolls – Fuventic Haploxerolls Complex (FAB)	1 to 6	Occurs on gently sloping and sloping, undulating flood plains, stream terraces, and alluvial fans of canyons and drainageways in mountainous areas. Parent material consists of alluvium derived from mixed sources. It is somewhat poorly drained. Seasonal flooding and high water table are possible. Permeability is variable but mostly is moderate. Surface runoff is slow and erosion hazard is high. Shrink-swell potential is low. Meets hydric criteria.	Access road
Kilburn Stony Sandy Loam (KcA)	0 to 3	Occurs on nearly level, gently undulating, or gently sloping river terraces near the mouth of Weber Canyon. Parent materials are alluvium and colluvium derived mainly from gneiss, quartzite, and granite. It is rapidly permeable and excessively drained. Runoff is slow to medium, and the hazard of erosion is slight to moderate. Shrink swell potential is low. Does not meet hydric criteria.	Staging area, access road
Kilburn Gravelly Sandy Loam (KgC)	3 to 6	A moderately sloping soil occurring on the lower part of smooth to slightly convex alluvial fans. Parent materials are alluvium and colluvium derived mainly from gneiss, quartzite, and granite. It is well drained and rapidly permeable. Roots penetrate deeply. Runoff is medium to slow, and the hazard of erosion is moderate. Shrink swell potential is low. Does not meet hydric criteria.	Staging area, access road
Manila Loam (MbE)	25 to 40	A very deep and well-drained soil occurring on steep and very steep mountainsides. Parent material consists of slope alluvium and/or colluvium derived from sandstone and quartzite. Permeability is slow. Surface runoff is medium and erosion hazard is high. Shrink-swell potential is high. Does not meet hydric criteria.	ROW, staging area, access road
Nagitsy-Rock Outcrop Complex (NcG)	50 to 70	Occurs on east-facing subalpine mountainsides and canyon walls. Rock outcrop is interspersed as ledges and outcroppings of bare exposed bedrock. Parent material consists of colluvium over residuum derived from mixed sources. It is well drained and has moderate permeability above the bedrock. Surface runoff is medium. Erosion hazard high. Shrink-swell potential is low. Does not meet hydric criteria.	ROW

Soil Map Unit (Code)	Slope (%)	Description	Project Feature
Poleline Stony Loam (PoG)	40 to 70	A deep and well-drained soil occurring on all aspects, but mainly on north and east-facing, concave, very steep high mountainsides. Parent material consists of colluvium over residuum weathered from mixed sources. Permeability is moderate. Surface runoff is slow. Erosion hazard is high. Shrink-swell potential is low. Does not meet hydric criteria.	ROW, access road
Pringle Loam (PrA)	0 to 1	A deep, somewhat poorly drained soil occurring on nearly level flood plains, valley bottoms, and stream terraces. Parent material consists of alluvium derived from limestone, sandstone, and quartzite. Flooding from nearby streams is common during late winter and spring during periods of rapid snowmelt. Permeability is moderate in the surface layer and rapid in the underlying layer. Surface runoff is slow. Erosion hazard is moderate. Shrink-swell potential is low. Does not meet hydric criteria.	Access road
Ridd rocky sandy loam, eroded (RkG2)	30 to 70	Occurs along the steep faces of the Wasatch Mountains above the highest lake terraces. It is well drained or somewhat excessively drained and has moderately rapid permeability. Runoff ranges from medium to rapid, and depends on the kind and amount of vegetation, the degree of slope, and the general condition of the soil. The hazard of erosion is high. Shrink swell potential is low. Does not meet hydric criteria.	Access road
<b>Digital General Soil Map (STATSGO2) Units</b>			
Rock Outcrop-Ridd-Barton Association (s7794)	variable	Well drained to somewhat excessively drained, rocky and stony loams of the uplands. Occurs on sloping to very steep mountainsides. Management is needed mainly for controlling erosion.	ROW, staging area, access road
Rock Outcrop-Patio-Nagisty-Broad Canyon Association (s7838)	variable	Moderately deep and very deep, well drained stony loam to gravelly loam soils on subalpine, high mountainsides, and canyon walls.	ROW, access road
Pleasant View-Kilburn-Francis Association (s7795)	variable	Well drained to somewhat excessively drained, gravelly and cobbly sandy loams of the alluvial fans, high terraces, and old deltas.	Access road

The majority of the project area contains Poleline stony loam soil and Ridd rocky sandy loam (eroded), as well as the Rock outcrop-Ridd-Barton soil association. Soil types vary depending on project feature and its vicinity to the canyon and the Weber River. The eastern portion of the project area (including ROW and access roads) that occurs in Morgan County is located mostly within the Poleline stony loam soil unit. The extreme eastern end of the ROW and eastern access roads in Morgan County is Manila loam. In addition, small pockets of Broad Canyon stony loam and Nagisty-rock outcrop complex occur in the ROW in the western portion of Morgan County. For central portions of the project in Davis County, most of the project is mapped only to the association level (i.e., no SSURGO data was available), and is composed of the Rock Outcrop-Ridd-Barton and Rock Outcrop-Patio-Nagisty-Broad Canyon associations (for both the ROW and access roads). Three soil types occur on the west end of the project: Kilburn stony sandy loam, Kilburn gravelly sandy loam, and Ridd rocky sandy loam (eroded). These three types are crossed only by the access road, not the ROW. The majority of this western access road occurs on the Ridd rocky sandy loam soil.

### ***Environmental Consequences: Geologic Hazards, Slope Stability, and Soils***

This section addresses potential environmental effects related to geotechnical hazards such as rock fall and slope stability, and soils in consideration of implementing the Proposed Action or the No Action alternatives.

#### Direct and Indirect Effects: Proposed Action Alternative

The presence of seismic hazards is known. However, complete avoidance of faults along the Wasatch Front is not possible, as utility lines that convey energy products into the Ogden Valley from the east are necessary. Potential for landslides, slope failures, and rock falls to occur due to project activities would be minimized through implementation of design features and mitigation measures identified in the geotechnical study completed for the project in 2013 (EarthFax Engineering Inc. 2013). Specific areas along the ROW identified as having the potential for elevated rock fall hazard would be subject to the following mitigation measures, as recommended by the geotechnical report:

- Walls, Berms, and Fencing
- Controlled Removal
- Designated Spotter
- Excavator Protection
- Construction Planning/Sequencing
- Immediate Backfill
- Up-Slope Fencing

Areas of high potential for hazards, such as where large boulders occur upslope of the ROW, were identified during site visits with Questar and geotechnical engineers. Hazards would be removed or stabilized prior to construction. Temporary stabilization walls would be placed at identified locations to allow for a widened workspace and keep construction debris within the ROW. The walls would provide a geotechnical and structural factor of safety of 1.5; designed to account for the combined loads of construction equipment and debris. During construction of the walls, activity would be sequenced such that work would not be co-occurring downslope. Where this is not feasible, the excavator arm would be equipped with a mobile retaining device to prevent dislodged material from moving downslope. Fencing would also be used upslope of the construction corridor where identified as necessary to prevent excessive amounts of debris from entering work areas. The retaining walls would include an underlying fencing and fabric that would be pulled back onto the corridor before removing the walls, thus replacing debris back into the ROW and reducing the risk of debris transport downslope.

A geotechnical inspector would be on-site throughout construction. Monitoring would occur prior to, during, and after construction to minimize the potential for unforeseen slope failures and subsequent safety issues or impacts to other resources.

#### *Soils*

Table 3-5 shows acreage of disturbance by soil type calculated for the proposed project disturbance areas (i.e., ROW and staging areas). Soil types previously listed in Table 3-4 but not included in Table 3-5 are those soils that occur along linear road features (i.e., where an existing road is located and is proposed for access use but would not be disturbed by the project beyond grading).

Soil characteristics, such as percent slope, texture, shrink-swell potential and drainage ability, may be used to estimate the potential for compaction and erosion impacts. The majority of the project area consists of steep to very steep slopes, increasing the risk of erosion. Soil erosion is the detachment of soil particles and the subsequent transport of those particles by wind, water, and gravity. The rate and extent at which erosion occurs is dependent upon the nature of the soil and the type and amount of vegetation growing in the soil. Erosion may be accelerated by human-caused disturbances, especially if disturbance

activities occur in soil types more susceptible to erosion or on steep slopes. Nutrients lost through soil erosion may result in decreased site productivity. The majority of the project area occurs over soils that are classified as having high erosion hazard (USDA NRCS 2011a, USDA NRCS 2011b). The Rock Outcrop-Ridd-Barton soil association is highly susceptible to erosion, particularly where Ridd soils occur. In addition, Broad Canyon Stony Loam, Fluvaquent Haploborolls – Fuventic Haploxerolls Complex, Manila Loam, Nagitsy-Rock Outcrop Complex, Poleline Stony Loam and Ridd Rocky Sandy Loam (eroded) are also classified as having high erosion hazard.

**Table 3-5. Acres of Disturbance by Soil Unit**

Soil Map Unit (Code)	Acres Disturbed
<i>SSURGO Map Units</i>	
Broad Canyon Stony Loam (BdG)	0.4
Manila Loam (MbE)	3.1
Nagitsy-Rock Outcrop Complex (NcG)	0.1
Poleline Stony Loam (PoG)	8.7
<i>Digital General Soil Map (STATSGO2) Units</i>	
Rock Outcrop-Ridd-Barton (s7794)	10.2
Rock Outcrop-Patio-Nagitsy-Broad Canyon (s7838)	3.3

Soil compaction is a reduction in soil pore spaces which results in an overall decrease in soil porosity. Compaction can lead to decreased water infiltration, which reduces moisture available to plants and impedes root penetration through the soil. The loss of infiltration capacity further exacerbates runoff velocity and increases the potential for erosion. The surface layers of soil also contain the most nutrients, and when these surface layers are removed the productivity of a soil is greatly diminished. Coarser soils (i.e., sand and loam) are more prone to compaction. Soils in the project area that may be susceptible to compaction include Kilburn Stony Sandy Loam, Kilburn Gravelly Sandy Loam, and Ridd rocky sandy loam (eroded) (USDA NRCS 2011a, USDA NRCS 2011b).

Shrink/swell potential is the relative change in volume to be expected with changes in moisture content (shrinking as it dries or swelling when it gets wet). The extent of shrinking and swelling is influenced by the amount and kind of clay in the soil. A high shrink/swell potential indicates a potential hazard to maintenance of structures built in, on, or with material having this rating (USDA NRCS 2013). The majority of soils occurring in the project area have low shrink-swelling potential. All soils in the project area are well drained except the Fluvaquent Haploborolls – Fuventic Haploxerolls Complex, which is somewhat poorly drained. This soil type occurs on low-angle slopes. An access road occurs on this soil type, but not the ROW. Manila Loam is well-drained, but has a high shrink-swelling potential.

Removal of top soil may affect productivity. Nutrients in the surface layers are in a form that is readily available for plant uptake. The deeper soil horizons also contain nutrients, but these are often less available for plants to use. Nitrogen, the primary limiting nutrient for plants, is only found in the soil's surface layers.

Construction would include specific management strategies to limit effects on soils such as erosion, compaction, and loss of soil productivity. The control measures would also prevent further effects to resources such as water quality. Site preparation would involve the grading of existing roads to provide access to the ROW. Minor grading work would also be required during construction activities to maintain soil stability. Once accessed, the ROW would be cleared of vegetation and graded. Temporary sediment barriers, including silt fencing and waddles composed of synthetic material, would be placed along the edges of the construction corridor, staging areas, and access roads to prevent sediment delivery from disturbed areas as well as to divert water away from the construction area. Temporary sediment barriers would be installed immediately after initial ground disturbance.

Landslide material that has filled in the ROW corridor would be moved during construction. This material would be graded and stock piled against the temporary retaining wall structures. No material removal would be allowed over the other existing utilities, so the original ROW bench contour would have to be maintained.

The ROW would be topsoiled to a depth of 3 to 6 inches in areas where this activity could occur. However, topsoiling is not feasible in narrower parts of the ROW where storage space is limited, or where existing soils are shallow. Topsoiling is also prohibited over existing utilities, further reducing the workspace within which Questar is permitted to sidecast material. Where it is possible to remove and stockpile topsoil, it would be placed along the edge of the ROW and segregated by a one-foot gap, or an erosion control matting barrier, from subsoil. Reclamation monitoring would include tracking the areas where topsoiling was not feasible to ensure erosion and compaction does not accelerate over time and vegetation establishment is successful.

Once the pipeline has been backfilled cleanup operations would commence. The ROW fill material would be replaced as near as practicable to pre-construction conditions. In locations where material had sloughed onto the ROW corridor, the material would be replaced in an attempt to reinforce the material above it and prevent future movement as directed by the geotechnical inspector. ROW fill material would be bucket compacted following replacement in the best manner possible to ensure slope stabilization. The temporary retaining fences and associated material would be removed from the ROW. Any topsoil that was salvaged would be replaced and the final grading of the ROW would be completed.

Permanent waterbars would be constructed in any areas where they previously existed. No new waterbars would be added due to the infeasibility of constructing them over the top of the existing utilities. Any erosion control measures that must be left in place until the area is revegetated would be left in good condition and monitored for effectiveness. The ROW would be reseeded with a Forest Service-approved, USDA seed lab-certified seed mix. Soil stabilization measures would be implemented, such as temporary mulching of spoil piles and placement of erosion mats following final seeding. Erosion control mats would be applied to slopes greater than 30 percent and other sites identified as having the potential for accelerated erosion (i.e., dry, sandy, steep slopes).

Due to rugged terrain and constraints caused by the presence of other utilities, the working space for equipment in the ROW is limited, therefore; work along the ROW must occur in an efficiently sequenced manner. This would ultimately reduce the potential for soil compaction by limiting the duration that heavy equipment is left in any one place. Clean-up and reclamation activities would include preparing the seed bed by roughing the surface, thus alleviating any compaction. Fertilizer applications would accompany seeding activities to improve revegetation success and alleviate any loss of soil productivity.

Effects of the Proposed Action Alternative relative to geologic hazards and slope stability would likely cause short-term minor adverse impacts. The ROW has been evaluated for geotechnical stability and control. Areas of potential instability have been identified. Loose debris above the ROW would be removed and temporary retaining walls placed along the lower edge of the ROW to hold debris in place

during construction. Existing tied-back soldier pile walls and the close proximity to bedrock of the Main Line 3 terrace would also contribute to ensuring slope stability. Monitoring during construction for signs of soil displacement or instability would alleviate the potential for unforeseen events and allow for implementation of adaptive management measures.

The pipeline replacement activities would temporarily disturb soils in the project area. Implementation of the Proposed Action would likely result in a short-term minor impact to the soil resource. Disturbance would be limited to the ROW, with little impact to existing staging areas and the existing roads that would be used for access. Erosion control measures would minimize the potential for soil loss and movement downslope. Monitoring of the disturbed areas would take place until revegetation is adequate to stabilize soils, thus minimizing soil loss. Revegetation and weed control is detailed in Section 3.4 - Vegetation Resources.

Soil compaction and nutrient loss would be mitigated by adhering to the management practices included in the Proposed Action. The erosion control methods to be employed would also limit runoff and discharge of sediment from exposed areas of the site, thus preventing the loss of soil nutrients and sedimentation of water resources.

#### Direct and Indirect Effects: No Action Alternative

The No Action Alternative would have no effect on slope stability and soils in the project area. There would be no replacement activities. The existing pipeline would continue to be used; however, the pipeline would eventually need to be replaced for maintenance purposes.

#### Cumulative Effects

Cumulative impacts as a result of the Proposed Action in consideration of the other actions in the canyon would not occur. Other construction activities that may occur in Lower Weber Canyon during the timeframe prior to complete restoration of the project area would adhere to equal requirements for erosion control measures and reclamation. The control measures would decrease the likelihood of adverse conditions occurring; thus minimizing the potential for cumulative impacts.

## **3.6 Water Resources**

### **3.6.1 Scope of Analysis**

Internal, interdisciplinary review and scoping identified the following issues addressed in this analysis:

#### **Issue 1: How would the Proposed Action affect water quality in the Weber River?**

Background: The project area is located along the southern foothills of Weber Canyon above the Weber River. The proposed project has the potential to contribute sediment and other pollutants such as fuels and lubricants through runoff from disturbed soil surfaces and hydrostatic testing. This segment of the Weber River is not on the State 303(d) list.

#### Indicators:

- Size, location, and type of disturbance relative to soil types and slope percentage; and distance of disturbance to water ways.
- The potential for other forms of contamination, including fuels and chemicals is assessed in qualitative terms.

Analysis Area: Analysis of the direct and indirect effects includes the Lower Weber River. Cumulative effects are addressed at the scale of the Weber River watershed.

**Issue 2: How would the Proposed Action affect wetlands, riparian areas, and floodplains?**

Background: Four ephemeral drainages were identified within the project area during field inventories conducted in April 2012. The survey confirmed that the ephemeral drainages lack a water source sufficient to support the types of vegetation, soils, and hydrologic conditions of wetlands. Even if parameters of a wetland are not met, a waterway may still be protected under the Clean Water Act as a non-wetland Waters of the U.S. depending on the potential to contribute flow to a traditional navigable water. This section addresses the potential for impacts to Waters of the U.S.

The ephemeral drainages in the project area do not support riparian vegetation above the banks. The riparian area of the Weber River would not be affected by the Proposed Action. Impacts to riparian areas would not occur with the Proposed Action.

Floodplains are defined as lowlands or relatively flat areas adjoining inland or coastal waters, including areas within the 100-year floodplain. The Federal Emergency Management Agency (FEMA) makes available maps showing the extent of the 100-year floodplain. These maps were reviewed for the project area and it was found that no part of the project area was within the 100-year floodplain. Since the entirety of the project area is located outside of regulated floodplains and the Proposed Action would not result in disturbance to regulated floodplains, this issue will not be analyzed in further detail.

Indicators:

- Extent of Waters of the U.S., riparian areas, and floodplains in the project area.

Analysis Area: Analysis of direct impacts focuses on the area of potential disturbance associated with the proposed project. The indirect and cumulative effects are addressed at the scale of the Weber River watershed.

### **3.6.2 Affected Environment and Environmental Consequences**

The affected environment as described here is the Weber River watershed. The Weber River begins in Summit County, Utah, flows west to Oakley, Utah, and then turns and flows in a northwesterly direction to the Great Salt Lake. The Weber River is approximately 125 miles long. Major tributaries to the Weber River include the Ogden River, East Canyon Creek, Lost Creek, Chalk Creek, and Beaver Creek. The Weber River watershed encompasses nearly 2,500 square miles and includes approximately 968 miles of perennial streams and 1,254 miles of intermittent streams. The elevation of the watershed ranges from 4,200 feet above sea level (asl) at the Great Salt Lake to approximately 12,000 feet asl in the Uinta Mountains (UDNR 2010).

Best available information from a variety of sources was compiled to describe the affected environment. Sources of information include the USGS, the Forest Plan and WCNF Final Environmental Impact Statement, and Federal Emergency Management Agency (FEMA) floodplain maps. The results of field visits conducted in 2012 and 2013 to evaluate potential Waters of the U.S. in the project area are included.

***Affected Environment: Riparian Areas***

Riparian areas are generally located adjacent to streams and around natural springs, seeps, fens, and reservoirs. In arid regions, they are evidenced by a distinct change in vegetation between the surrounding uplands and the area along the top of a stream bank or immediate vicinity of a water source. Riparian areas support vegetation species less drought tolerant than upland species. Typical species may include willows or cottonwoods. Due to the presence of water, riparian areas frequently receive a disproportionate amount of use from wildlife, livestock, and humans. These areas are highly productive and biologically diverse, and provide habitat for a wide variety of terrestrial and aquatic wildlife.

The field surveys of the project area did not document riparian areas. Drainages in the project area were classified as ephemeral and were surrounded by upland vegetation such as maple and sagebrush.

The Forest Plan has developed a rating system for riparian areas. This rating system recognizes that all riparian areas are valuable, but not all may require the same protection. The Weber River is rated as a Class II riparian area, however the project is located south of the Weber River and outside of the Weber River riparian area.

**Riparian Habitat Conservation Areas**

The Forest Plan defines Riparian Habitat Conservation Areas (RHCAs) as including traditional riparian areas, wetlands, intermittent streams, and other areas that help maintain the integrity of aquatic ecosystems by (1) influencing the delivery of coarse sediment, organic matter, and woody debris to streams, (2) providing root strength for channel stability, (3) shading the stream, and (4) protecting water quality. Landslides and landslide-prone areas are categorized as Category 4 RHCAs. Although landslides have been mapped in the project area, drainages in the project area do not support riparian communities. Therefore, no RHCAs occur in the project area.

***Affected Environment: Waters of the U.S.***

Four ephemeral drainages ranging from 1 to 4 feet wide were documented in field evaluations of the project area. The drainages do not support riparian areas or wetlands. Due to the potential for these drainages to contribute flow to the Weber River following a storm event, the drainages are assumed jurisdictional under the preliminary jurisdictional determination request and Pre-Construction Notification/ Nationwide Permit application submitted to the U.S. Army Corps of Engineers (USACE).

***Affected Environment: Water Quality***

Water quality refers to the physical, chemical and biological characteristics of water and how these components affect beneficial uses (e.g. fisheries, recreation, agriculture, and drinking water). Water chemistry greatly affects the diversity and quantity of aquatic life present in a stream. Existing water quality is a result of the natural characteristics of watersheds, along with management activities and natural events occurring on both public and private lands. In relation to the project, the main pollutant of concern would be sediment potentially entering the Weber River from construction activities. Other potential pollutants include fuels and chemicals from spills and subsequent stormwater discharges, and hydrostatic testing.

The segment of the Weber River potentially affected by the Proposed Action is in Lower Weber Canyon to the east of the canyon mouth. It is separated from the project area by I-84 and the Union Pacific Railroad.

The segment of the Weber River considered relative to the Proposed Action is not included on the State 303(d) list of impaired waters (UDEQ DWQ 2010). Other segments of the Weber River are on the State

of Utah 2010 list as low priority for Total Maximum Daily Load analysis, benthic-macroinvertebrate bioassessment for cold water aquatic life and non-game fish use. These segments are:

- Weber River 1 – Weber River and tributaries from Great Salt Lake to Slaterville Diversion
- Weber River 3 – Weber River from Ogden River confluence to Cottonwood Creek confluence
- Weber River 6 – Weber River between East Canyon Creek confluence and Lost Creek confluence

### Sedimentation

Sediment affects water quality and the beneficial uses of water. Sediment often reaches stream channels through the process of erosion. The effect of additional sediment can be seen long after the sediment source area has been revegetated.

Ground disturbance may increase soil erosion rates by leaving areas of unprotected soil. The number of acres disturbed by an activity and the location of a disturbance relative to a stream channel influences the potential for sediment to affect water quality.

Not only are perennial waters important, but intermittent and ephemeral channels are also important in evaluating the potential for sediment transport. Neglecting to place a buffer zone on any drainage can affect long-term water quality of streams located lower in the watershed.

### ***Environmental Consequences: Riparian Areas***

Riparian areas do not occur in the project area, therefore, there would be no direct, indirect, or cumulative effects to riparian areas associated with implementing the Proposed Action or its alternative.

### ***Environmental Consequences: Waters of the U.S.***

The Proposed Action would not result in the permanent loss of Waters of the U.S. Construction stipulations within the pending Nationwide Permit 12 would be adhered to by Questar. Erosion control measures included as part of the Proposed Action would be implemented. There would be no effect to Waters of the U.S. as a result of the Proposed Action or its alternative.

### ***Environmental Consequences: Water Quality***

#### Direct and Indirect Effects: Proposed Action Alternative

Construction would include specific management strategies to limit events such as erosion and compaction that may lead to secondary effects to water quality. As part of the Questar construction permit, a SWPPP would be developed and submitted to the State for approval. The plan would outline project-specific erosion control measures. Temporary sediment barriers, including silt fencing and waddles composed of synthetic material, would be placed along the edges of the construction corridor, staging areas, and access roads to prevent sediment transport from disturbed areas as well as to divert water away from the construction area. Temporary sediment barriers would be installed concurrent with initial ground disturbance.

Temporary retaining walls would further reduce debris movement downslope. Material in the ROW would be stock piled against the temporary retaining wall structures. The original ROW bench contour would be maintained. The opportunity to stockpile topsoil is limited due to space constraints and the shallow and rocky characteristics of soils in the area. Where it is possible to remove and stockpile topsoil, it would be placed along the edge of the ROW and contained in place by an erosion control matting barrier. Once the pipeline has been backfilled cleanup operations would commence. The ROW fill material would be replaced as near as practicable to pre-construction conditions. In locations where material had sloughed onto the ROW corridor, the material would be replaced in an attempt to reinforce the material above it and prevent future movement as directed by the geotechnical inspector. ROW fill

material would be bucket compacted following replacement in the best manner possible to ensure slope stabilization. Any topsoil that was salvaged would be replaced and the final grading of the ROW would be completed. Permanent waterbars would be constructed in any areas where they previously existed. No new waterbars would be added due to the infeasibility of constructing them over the top of the existing utilities.

Clean-up and reclamation activities would include preparing the seed bed by roughing the surface and fertilizer applications to improve revegetation success. Any erosion control measures that must be left in place until the area is revegetated would be left in good condition and monitored for effectiveness. The ROW would be reseeded with a Forest Service-approved and USDA seed lab-certified seed mix. Soil stabilization measures would be implemented, such as temporary mulching of spoil piles and placement of erosion mats following final seeding. Erosion control mats would be applied to slopes greater than 30 percent and other sensitive sites (i.e., dry, sandy, steep slopes) identified as having the potential for accelerated erosion.

Due to rugged terrain and constraints caused by the presence of other utilities, the working space for equipment in the ROW is limited, therefore; work along the ROW must occur in an efficiently sequenced manner. This would reduce the potential for soil compaction by limiting the duration that heavy equipment is left in any one place.

#### Best Management Practices

To reduce and/or eliminate potential impacts, Questar would adhere to construction practices established by the FERC and documented in *Wetland and Waterbody Construction and Mitigation Procedures* (FERC 2013b). Erosion and sediment control BMPs that would be implemented to retain soil on site include, but are not limited to:

- Placement of silt fences along waterways and drainage areas;
- Placement of bentonite clay plugs in trenches to isolate flowing water (placement in all linear crossings is highly recommended);
- Placement of stockpiling materials set-back from working area; and
- Re-vegetation of disturbed areas following construction.

Erosion and sediment controls would be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. All controls would be maintained until final stabilization controls have been installed. Temporary perimeter controls would be removed after reclamation efforts have been completed. If sediment escapes the construction site, off-site accumulations of sediment would be removed in order to minimize off-site impacts.

#### Stormwater Discharges

A UPDES permit would be obtained for the discharge of hydrostatic test water. Hydrostatic test water would be pumped through the pipeline from the Weber Basin Canal and discharged into a hay bale barrier/sediment basin, which would be placed in an upland area. The hay bale barrier would be monitored throughout the discharge to ensure that the structure is operating properly. Water withdrawal and discharge activities related to the canal would be coordinated through the Weber Basin Water Conservancy District. The UPDES permit regulates and authorizes stormwater discharges to waters of the State of Utah resulting from construction activities, including construction support activities. Questar would follow the UPDES General Permit stipulations including compliance with discharge limits.

#### Stream Alteration

Activities that would alter the bed or banks of a natural stream, defined as a natural water way that receives enough water to develop an ecosystem that differs from the surrounding upland environment,

require written authorization from the State Engineer as a stream alteration permit. The drainages in the project area would not meet the definition of a natural water way, therefore; the Proposed Action would not require authorization from the State of Utah.

#### Summary of Proposed Action Direct and Indirect Effects

While the potential for sedimentation would be greater during construction, Questar would implement BMPs to control sediment transport as project components, described herein, minimizing the potential for sediment transport and effects on water quality. There are four ephemeral drainages in the project area, but they do not directly connect to the Weber River. Combined with proper implementation of BMPs, the potential for large inputs of sediment following storm events is low. Effects of the Proposed Action Alternative on water quality would be no impact to temporary minor adverse impact.

#### Direct and Indirect Effects: No Action Alternative

No effects on water quality would occur under the No Action Alternative.

#### Cumulative Effects

The cumulative effects analysis considers other past, present, and reasonably foreseeable future activities in Lower Weber Canyon which may affect the Weber River watershed. Cumulative effects of the Proposed Action are not anticipated, as the Proposed Action would not impact water resources.

## **3.7 Fish and Wildlife Resources**

### **3.7.1 Scope of Analysis**

Internal, interdisciplinary review and scoping identified the following issue addressed in this analysis:

**Issue: How would the Proposed Action affect fish and wildlife habitat and special status fish and wildlife species?**

*Background:* The area surrounding the project ROW supports a variety of fish and wildlife species. Based on the Utah Natural Heritage Program's (UNHP) review of the existing data in the Utah Division of Wildlife Resources' central database, no USFWS federally listed species are known to occur in or within a 0.5-mile of the project area (UNHP 2012). However, several species included on the Forest Service Region 4 Sensitive species list or other species of concern lists may occur in or near the project ROW and could potentially be affected by project activities. The proposed construction activities would temporarily alter habitat, but would occur within the previously disturbed project ROW. Habitat improvements are also possible through reclamation activities and the eradication of weeds. Increased human activity during construction could directly affect wildlife behavior and distribution in the short-term. The Proposed Action could contribute suspended solid concentrations (e.g. sediment) from disturbed soil surfaces into the Weber River, which could indirectly affect fish species.

*Indicators:* The Forest Plan directs, as an objective, the monitoring of fish and wildlife species of federal, state, and local interest and their habitat across the Forest for use in evaluating the effects of proposed projects on species and their habitat. The Forest Service collects data for the following: USFWS federally listed threatened, endangered, candidate, and proposed species, Forest Service Region 4 Sensitive species and WCNF Management Indicator Species (MIS), and other fish and wildlife species such as big game animals and migratory birds. A project-specific survey for raptors and other avian species, and active nests was conducted in 2012.

***Analysis Area:*** Analysis of direct impacts focuses on areas of proposed disturbance within the project area. Indirect and cumulative impacts are addressed at the scale of Lower Weber Canyon.

### **3.7.2 Affected Environment and Environmental Consequences**

#### ***Affected Environment: General Wildlife and Big Game Species***

Approximately 300 vertebrate species inhabit the WCNF, utilizing a variety of vegetation communities and aquatic habitats. Vegetation communities vary across the forest by elevation, and include sagebrush and montane shrublands, oak and pinyon-juniper woodlands, grassland, tall forb, riparian, and forests (i.e., aspen, Douglas-fir, mixed conifer, spruce-fir). Some species are only found on the WCNF seasonally (USDA Forest Service 2003b). General wildlife found in Lower Weber Canyon may include big game species and small mammals such as mice, voles, and squirrels.

Big game species that may occur in the project area include mule deer (*Odocoileus hemionus*) and moose (*Alces alces*). Mule deer are common statewide in many habitat types, ranging from open deserts to high mountains to urban areas. They will often migrate from the high mountainous areas in the summer to the lower elevations in the winter to avoid deep snow. The project area occurs in crucial winter range for mule deer (as mapped by UDWR). The most critical aspects of mule deer winter habitat are thermal cover (i.e., trees and large shrubs) and forage (mostly shrubs in winter). Mule deer mate in the fall and one or two fawns are produced in the late spring or early summer. They primarily eat shrubs and other woody material and acorns, but grasses are also consumed (UDWR 2013a). Mule deer numbers have declined from higher population levels in the 1960s (USDA Forest Service 2003b). Moose prefer moist forest habitats, especially those locations with a mixture of opened and wooded areas near lakes or wetlands (UDWR 2013a). Although there is no winter or summer range located within the project area, there is crucial moose winter range in the higher elevation areas approximately 0.5 mile to the north and south of the project area. The species is known to occur throughout the Wasatch Front.

#### ***Affected Environment: Special Status Fish and Wildlife Species and Migratory Birds***

Special status species under this section include endangered, threatened, candidate, or proposed species that are listed by the USFWS for Davis and Morgan counties, Utah; WCNF Forest Service Region 4 Sensitive species, WCNF MIS and WCNF Species-at-risk; and species designated by the State of Utah as species of concern (SPC) or conservation species (CS), which are species receiving special management under a Conservation Agreement.

The ESA requires federal agencies to ensure that any activities they authorize, fund, or carry out do not jeopardize the continued existence of any species federally listed, or proposed for listing, as threatened or endangered (Section 7). Consultation with the USFWS is required if threatened or endangered species or their critical habitat may be affected by proposed actions.

The Forest Service has developed policy regarding the designation of sensitive plant and animal species (FSM 2670.32). A sensitive species is defined (FSM 2670.5) as those plant and animal species identified by the Regional Forester for which population viability is a concern as evidenced by: 1) significant current or predicted downward trends in population numbers or density or 2) significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution. The Forest Service established the sensitive species list on a regional basis under the authority of the NFMA to ensure species of concern are protected from potential listing under the ESA.

The NFMA regulations direct National Forests to identify Forest Service MIS, which are, "...selected because their population changes are believed to indicate the effects of management activities" (CFR

219.19 (a) (1) (USDA Forest Service 2003a). MIS are species that are utilized in monitoring specific habitat types. MIS are monitored annually in an attempt to identify population trends. These trends are believed to reflect the condition of specific habitats as well as the effects of forest management activities.

The Forest Service WCNF Species-at-risk are species for which viability may be a concern. These species are used to help insure continued viability and diversity of species as required in NFMA and 36 CFR 219.19 and 219.26.

By Administrative Rule R657-48, the Utah Department of Natural Resources, Utah Division of Wildlife Resources (UDWR) maintains the *Utah Sensitive Species* list, which contains wildlife and fish species that are USFWS federally listed, candidates for listing, or for which a conservation agreement is in place. Additional species are added to the list as “species of concern” where there is credible scientific evidence to substantiate a threat to continued viability of populations of such species.

The Migratory Bird Treaty Act was established to protect migratory birds. The act makes it illegal to pursue, hunt, take, capture, kill, or possess migratory birds or any part, nest, or egg of any such bird. The Bald and Golden Eagle Act of June 8, 1918 provides additional protection to bald and golden eagles.

A BA was prepared to review the potential effects of the project on USFWS federally listed species listed for Davis and Morgan counties that may occur within or near the project area and to determine whether consultation with the USFWS is necessary. The BA was prepared in accordance with legal requirements set forth under Section 7 of the ESA (16 U.S.C. 1536 (c)). The BA describes the habitats occupied by the USFWS federally listed species for Davis and Morgan counties and their consideration for further detailed analysis. The USFWS maintains and publishes a list of federally listed species by county (*Federally Listed and Proposed Endangered, Threatened and Candidate Species and Critical Habitat In Utah – Species By County*). One threatened and three candidate species are listed as occurring in Davis and Morgan counties (USDI Fish and Wildlife Service 2013a). One threatened species and one candidate species were carried forward for detailed analysis in this EA. For further information, see the BA available at the SLRD Office in the project record.

A BE was prepared for the project to analyze the Forest Service Region 4 Sensitive species that may occur in the project area and whether impacts to these species or their habitats are anticipated as a result of the Proposed Action. The BE was prepared to follow the standards established in FSM 2671.2 and 2672.4 and is publically available in the project record. The Forest Service maintains a list of the sensitive wildlife and aquatic species by forest for the Intermountain Region (*Intermountain Region (R4) Threatened, Endangered, Proposed, and Sensitive Species, Known/Suspected Distribution by Forest*). Based on this list there are 20 sensitive wildlife and aquatic species listed for the WCNF (USDA Forest Service 2011). According to the WCNF Final Environmental Impact Statement Summary, there are four WCNF MIS species and 34 Species-at-risk that have been identified (USDA Forest Service 2003b).

The rationale for including or eliminating other special status species from detailed analysis is provided in the *Questar Main Line 3 Weber Canyon Replacement Project Specialist Report: Fish and Wildlife Resources*, which is available in the project record. The *Utah Sensitive Species* list that is maintained by the UDWR, lists 16 SPC and five CS for Davis and Morgan counties (UDWR 2011). These species were further evaluated for consideration in this analysis based on known occurrences, population distributions, and habitat suitability of the project area. Special status species that are not known to occur or do not have habitat in the project area, or whose habitat would not be subject to any project-related disturbance were eliminated from detailed analysis of impacts. Of the 56 special status species, 40 were not considered for further analysis. Sixteen special status species are considered, and are discussed in Table 3-6 below.

This EA also considers: Utah Partners in Flight (PIF) Priority (Parrish et al. 2002), USFWS Birds of Conservation Concern (BCC) for Bird Conservation Region (BCR) 16 – Southern Rockies/Colorado Plateau (USDI Fish and Wildlife Service 2008), UDWR Utah Comprehensive Wildlife Conservation Strategy (CWCS) migratory bird species (Sutter et al. 2005), and WCNF bird species-at-risk (USDA Forest Service 2003b). Only those migratory birds that are known to exist on the WCNF, or whose range includes the WCNF and habitat is present are considered further in the analysis of impacts (as listed in the WCNF EIS - Appendix E (USDA Forest Service 2003b)).

Migratory bird species that do not occur or do not have habitat in the project area, or whose habitat would not be subject to any disturbance from the project were not included in the detailed analysis of impacts. Of the 33 migratory birds reviewed, 12 were carried forward for detailed impacts analysis. Of these, eight are also considered a special status species.

**Table 3-6. Special Status Species and Migratory Birds Carried Forward for Detailed Analysis**

Species	Status	Habitat	Rational for Consideration
<b>Birds</b>			
<b>Bald eagle</b> <i>Haliaeetus leucocephalus</i>	Forest Service Sensitive and WCNF Species-at-risk  Utah SPC (Davis and Morgan Counties)  USFWS BCC  Utah CWCS Tier I	Breeding areas are commonly located near bodies of water where fish and waterfowl prey are available. Bald eagles typically nest in tall trees. Wintering areas are associated with open water, but other habitats may be used if food resources (e.g., carrion of rabbit or deer) are readily available. During non-breeding periods, they roost communally in sheltered stands of trees and are relatively social (UDWR 2013a).	<b>Considered.</b> The UNHP has recent records of occurrence for this species within the vicinity of the project area, but records are more than 0.5 mile away (UNHP 2010a and UNHP 2012). Mature cottonwood trees along the Weber River east of the project area are known to be used in winter for roosting. Bald eagles may occur in or around the project area during migration/dispersal and in late fall/early winter. Bald eagles are not known to breed near the project area.
<b>Black-throated gray warbler</b> <i>Dendroica nigrescens</i>	Utah PIF Priority  Utah CWCS Tier III	Primary breeding habitat is pinyon-juniper and secondary breeding habitat is mountain shrub. Migrate in winter (Parrish et al. 2002).	<b>Considered.</b> Occur statewide in Utah as a common summer resident. Patches of Gambel oak and juniper woodlands occur in the vicinity of the project area, which may be used for breeding. Open areas may be used for foraging. The surrounding area in Lower Weber Canyon also provides suitable breeding and foraging habitat.
<b>Bobolink</b> <i>Dolichonyx oryzivorus</i>	Utah SPC (Davis and Morgan Counties)  Utah PIF Priority  Utah CWCS Tier II	Primary breeding habitat is wet meadow and secondary breeding habitat is agriculture. Migrate in winter (Parrish et al. 2002).	<b>Considered.</b> In Utah, occur in low abundance and in isolated patches primarily in the northern half of the state. Bobolinks have been found consistently and are likely to breed or have bred near Morgan and Mountain Green (UDWR 2013a). According to the UNHP there are recent records of this species in the vicinity of the project area (but outside the 0.5-mile radius) (UNHP 2010a and UNHP

Species	Status	Habitat	Rational for Consideration
			2012).
<b>Broad-tailed hummingbird</b> <i>Selasphorus platycercus</i>	WCNF Species-at-risk  Utah PIF Priority  Utah CWCS Tier III	Primary breeding habitat is lowland riparian and secondary breeding habitat is mountain riparian. Migrate out of Utah in winter (Parrish et al. 2002).	<b>Considered.</b> In Utah, this species breeds in riparian or adjacent habitat, both in lower valleys and at higher elevations (UDWR 2013a). The project area contains suitable breeding habitat.
<b>Flammulated owl</b> <i>Otus flammeolus</i>	Forest Service Sensitive and WCNF Species-at-risk  USFWS BCC	Inhabits primarily open ponderosa pine or forest with similar features, such as dry montane conifer or aspen forests, or other brushy understory (Mccallum 1994). Occurs in mountain ranges throughout Utah, but breeding is believed to primarily occur in the southwestern and the north-central parts of the state (UDWR 2013a).	<b>Considered.</b> This species is more common in Utah than the boreal owl, but it is still considered uncommon. They have been documented in several locations on the Bear River and Wasatch ranges (USDA Forest Service 2003b). The project area contains marginal habitat.
<b>Golden eagle</b> <i>Aquila chrysaetos</i>	USFWS BCC	Primary breeding habitat is cliffs and secondary breeding habitat is high desert scrub. Winter habitat is high desert scrub (Parrish et al. 2002).	<b>Considered.</b> Common in Utah. Found in open country, especially in mountainous regions (UDWR 2013a).
<b>Juniper titmouse</b> <i>Baeolophus ridgwayi</i>	USFWS BCC	Primary and secondary breeding habitat and winter habitat is pinyon-juniper (Parrish et al. 2002).	<b>Considered.</b> Common and widespread in Utah, often found in areas containing pinyon-juniper woodlands (UDWR 2013a). There are patches of juniper woodland in the project area and Lower Weber Canyon.
<b>Northern goshawk</b> <i>Accipiter gentilis</i>	Forest Service Sensitive, WCNF MIS and WCNF Species-at-risk  Utah CS (Morgan County)  Utah CWCS Tier I	Inhabits aspen, conifer and mixed conifer. It is a forest habitat generalist, using a wide variety of forest ages, structural conditions, and successional stages (USDA Forest Service 2003b). Most commonly nests in forests with high canopy cover (Squires and Reynolds 1997). Typically found above 5,800 feet.	<b>Considered.</b> This species is found on all Districts on the WCNF (USDA Forest Service 2003b). The project area contains marginal foraging habitat, but the species is unlikely to nest in the project area due to the lack of dense canopy cover.
<b>Peregrine falcon</b> <i>Falco peregrinus anatum</i>	Forest Service Sensitive and WCNF Species-at-risk  USFWS BCC  Utah CWCS Tier III	Peregrine falcons breed in a variety of habitats (UDWR 2013a). Nesting habitats consist of tall, sheer cliff faces that are often within 14 miles of water. Occasionally they nest on bridges, buildings and towers (UDWR 2013b).	<b>Considered.</b> Peregrine falcons are still rare in Utah but have become much more abundant throughout their range (UDWR 2013a). They are known to nest in Utah and occasionally are seen during fall migration and sometimes are a winter resident (UDWR 2013b). The project area contains suitable foraging habitat for peregrine falcons, and a historic eyrie is located within 450 feet of the project area.
<b>Pinyon jay</b> <i>Gymnorhinus cyanocephalus</i>	USFWS BCC	Primary breeding habitat is pinyon-juniper and secondary breeding habitat is ponderosa pine. Winter habitat is pinyon-juniper (Parrish et al. 2002).	<b>Considered.</b> It is a common bird of the pinyon-juniper forests of Utah (UDWR 2013a). The project area contains suitable juniper habitat.
<b>Prairie falcon</b>	USFWS BCC	Primary breeding habitat is cliffs and	<b>Considered.</b> Occurs across the western

Species	Status	Habitat	Rational for Consideration
<i>Falco mexicanus</i>		secondary breeding habitat is high desert scrub. Winter habitat is agriculture (Parrish et al. 2002).	U.S. (UDWR 2013a). The project area contains suitable breeding habitat.
<b>Virginia's warbler</b> <i>Vermivora virginiae</i>	WCNF Species-at-risk  Utah PIF Priority  Utah CWCS Tier III	It is an uncommon to common breeder in montane areas of the Great Basin region in eastern California, Nevada, southeastern Idaho, Utah, southwestern Wyoming, western Colorado, and northern New Mexico (UDWR 2013a). Primary breeding habitat is oak woodland and secondary breeding habitat is pinyon-juniper. Migrate out of Utah in winter (Parrish et al. 2002).	<b>Considered.</b> The project area contains suitable breeding habitat.
<b>Western yellow-billed cuckoo</b> <i>Coccyzus americanus occidentalis</i>	USFWS Candidate (Davis and Morgan Counties)  Forest Service Sensitive	Considered a riparian obligate. Nesting habitat consists of dense lowland riparian characterized by a dense sub-canopy or shrub layer within 333 feet of water. In these habitats, the over story may be either large, gallery-forming trees or developing trees, usually cottonwoods at low to mid-elevations 2,500 to 6,000 feet (UDWR 2013a). They appear to require large tracts (100 to 200 acres) of contiguous riparian nesting habitat (Parrish et al. 2002).	<b>Considered.</b> In Utah, western yellow-billed cuckoos are an extremely rare breeder in lowland riparian habitats statewide (UDWR 2013a). The project area does not contain any riparian habitat and there are no large tracts of contiguous riparian habitat or dense riparian forests within the project vicinity (including consideration of the migratory bird survey disturbance buffer of 275 feet).
<b>Mammals</b>			
<b>Canada lynx</b> <i>Lynx canadensis</i>	USFWS Threatened (Morgan County)  WCNF Species-at-risk	In Canada and Alaska, lynx inhabit boreal forests. In the contiguous U.S., lynx may be found in forests with boreal features, including deciduous temperate forests in the Northeast and Great Lakes and subalpine forests in the west. Optimal habitat includes deep snow and high densities of snowshoe hare, their primary prey (USDI Fish and Wildlife Service 2013b). There are no LAUs (Lynx Analysis Unit) mapped near the project area. The only LAUs that are mapped for the WCNF are located in the Uinta Mountains (USDA Forest Service 2003b).	<b>Considered.</b> Portions of the project area are mapped by the WCNF Forest Service as secondary habitat for Canada lynx (USDA Forest Service GIS Abstract 2003).
<b>Fringed myotis</b> <i>Myotis thysanodes</i>	WCNF Species-at-risk	In Utah, the fringed myotis has been found in lowland riparian, desert shrub, juniper-sagebrush, sagebrush-rabbitbrush, pinyon-juniper-sagebrush, pinyon-juniper, mountain meadow, ponderosa pine forest, and montane forest and woodland. This species wintering habits are unknown in Utah and throughout their range (Oliver 2000). They inhabit caves, mines and buildings (UDWR 2013a). The reported elevation range where this species has been captured in Utah is	<b>Considered.</b> In Utah, this species may occur throughout the state but it is uncommon (Oliver 2000). The project area contains suitable foraging habitat.

Species	Status	Habitat	Rational for Consideration
		from 2,400 to 8,900 feet (Oliver 2000).	
<b>Gray wolf</b> <i>Canis lupus</i>	Forest Service Sensitive	The gray wolf is found in many types of habitat, but areas with little human activity are preferred. This species was once common in Utah but was extirpated by early settlers (UDWR 2013a). The first wolf confirmed in Utah was a collared animal from Yellowstone National Park that was captured on November 30, 2002 and was returned to the park (UDWR 2013c). Management of the gray wolf is directed by UDWR.	<b>Considered.</b> The UDWR has no evidence that wolves have established anywhere in Utah. However, given the short distance to the wolves in Wyoming and Idaho, occasional forays and attempts at colonization are possible (UDWR 2013c).
<b>Spotted bat</b> <i>Euderma maculatum</i>	Forest Service Sensitive	Inhabit a variety of habitats that range from deserts to forested mountains. They hibernate and roost in caves and rock crevices, and are often associated with water sources (UDWR 2013a).	<b>Considered.</b> The spotted bat is likely found throughout the state (Oliver 2000). Spotted bats may use the project area during twilight/nighttime hours for foraging and may roost in Weber Canyon in caves or rock crevices.
<b>Townsend's western big-eared bat</b> <i>Corynorhinus townsendii townsendii</i>	Forest Service Sensitive and WCNF Species-at-risk  Utah SPC (Davis County)	Inhabits a variety of habitats, but is often found near forested areas. Uses caves, buildings and mines for day roosting and winter hibernation. Occur statewide at elevations below 9,000 feet (UDWR 2013a).	<b>Considered.</b> This species occurs statewide in Utah (UDWR 2013a). Townsend's western big-eared bats may use the project area for foraging during twilight/darkness hours.
<b>Western small-footed myotis</b> <i>Myotis cilolabrum</i>	WCNF Species-at-risk	This bat inhabits a variety of habitats in Utah including: lowland riparian, desert shrub, juniper-sagebrush, juniper, pinyon-juniper, sagebrush-rabbitbrush, sagebrush-greasewood (near pinyon-juniper), highland riparian in lodgepole pine forest, montane forest and woodland (Douglas-fir-aspen), and montane grassland (grass-aspen). The reported elevation range where this species has been captured in Utah is from 2,950 to 8,900 feet (Oliver 2000). They summer roost in rock crevices, in buildings, or under loose tree bark. Winter hibernation usually occurs in caves or mines (UDWR 2013a).	<b>Considered.</b> This species occurs throughout Utah (Oliver 2000), and may forage in the project area.
<b>Fish</b>			
<b>Bluehead Sucker</b> <i>Catostomus discobolus</i>	Utah CS (Davis and Morgan Counties)	Spawn in streams during the spring and summer. Important habitat has been identified as fast flowing water in high gradient reaches of mountain rivers (UDWR 2013a).	<b>Considered.</b> Known to occur in the Colorado River, Weber River, and Bear River drainages (Bosworth 2003). According to UNHP there are records of occurrence of this species within 0.5-mile radius of the project area (UNHP 2010a and UNHP 2012).
<b>Bonneville cutthroat trout</b>	Forest Service Sensitive, WCNF	Bonneville cutthroat trout can be found in a number of habitat types, ranging	<b>Considered.</b> This fish is native to the Bonneville Basin (UDWR 2013a).

Species	Status	Habitat	Rational for Consideration
<i>Oncorhynchus clarki utah</i>	MIS and WCNF Species-at-risk  Utah CS (Davis and Morgan Counties)	from high-elevation mountain streams and lakes to low-elevation grassland streams. The species requires a functional stream riparian zone, which provides structure, cover, shade, and bank stability (UDWR 2013a).	The UNHP has recent occurrence records within a 0.5-mile radius of the project area (UNHP 2010a and UNHP 2012).

***Environmental Consequences: General Wildlife and Big Game Species***

Direct and Indirect Effects: Proposed Action Alternative

The project area and vicinity of Lower Weber Canyon provides habitat for a variety of general wildlife species such as small mammals, birds, bats, and fish. Construction activities would occur from May to November 2014. A temporary loss of existing habitat along the project ROW would occur due to the removal of vegetation, human presence, noise, and dust.

The Proposed Action would not cause a permanent change in existing vegetation communities. Reclamation activities would return the ROW to an improved condition with planned weed control. It is likely that the human presence and construction noise would cause wildlife to avoid the area of disturbance. BMPs would be implemented to control dust. The loss of habitat would be a minor adverse impact. Disturbance during construction would be short-term, but impacts related to vegetation removal would occur over the long-term because it would likely take a minimum of three years for vegetation to reestablish. An overall beneficial impact would occur in the long-term with improvement to habitat as weeds are eliminated.

Direct effects to big game species are possible from construction hazards (e.g., vehicle collisions, trenches). Indirect effects of disturbance are possible to individuals that typically migrate down from higher elevations to access water from the Weber River. However, the project area is relatively small and the duration short-term; and human presence and construction noise would likely deter individuals from entering the immediate project area during trenching activities. Access to the Weber River would not be impeded through adjacent habitat, therefore individuals seeking water could use adjacent habitat for travel.

The Proposed Action would cause a minor adverse, long-term impact to mule deer, but this effect would lessen as revegetation is successful. The Proposed Action would result in a beneficial impact over the long-term as weed species are eradicated and scattered shrubs re-establish.

Direct and Indirect Effects: No Action Alternative

Pipeline replacement activities would not occur under the No Action Alternative. There would be no impacts to big game species.

Cumulative Effects

The alteration of habitat provided to general wildlife and big game species by the ROW would lessen over time, eventually resulting in a beneficial impact as weeds are eliminated. The project area is relatively small and similar habitat is available in the vicinity of Lower Weber Canyon. Cumulative impacts to general wildlife and big game species would not occur.

***Environmental Consequences: Special Status Species and Migratory Birds***

The USFWS provided Questar with mitigation measures to ensure ground-disturbing activities do not result in the “take” of an active nest or migratory bird protected under the MBTA. As a primary measure, USFWS recommends conducting vegetation clearing prior to the migratory bird nesting season, which is identified as May 1. Since the Proposed Action would likely require vegetation clearing to occur on or after May 1, the measures outlined below would be implemented as part of the Proposed Action.

Two weeks prior to construction activities, a survey for nesting migratory birds would be conducted within the construction corridor and access roads and 100 feet on each side, and within staging areas and 300 feet on each side. A survey for nesting raptors would include a 0.5 mile line-of-sight buffer of the project area. If active nests are found, an appropriate buffer would be mapped or flagged around the nest and a monitor would be on site to watch for signs of disturbance. USFWS would work with Questar should a nest require individual considerations due to proximity with the work area. Results of the surveys and any monitoring required would be reported to the USFWS. The ROW would be reclaimed immediately following pipeline replacement.

During construction, USFWS suggests monitoring equipment daily and deterring any nesting activity on equipment left immobile for longer periods by preventing access (i.e. exclusion techniques such as covering equipment) and through hazing (that does not cause harm to the bird). Do not haze or exclude access if the adult birds are tending eggs or young. Do not haze or exclude access for eagles and threatened or endangered species. Nests (e.g., raven) may be removed while being constructed but cannot be removed once eggs or young are present. Shooting, killing and capturing birds, moving and possession of nests, and other similar activities are not allowed unless permitted by the USFWS.

Raptor-specific protection measures as outlined in *Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances* (Romin and Muck 2002) would be applied. Guidelines include the identification of existing raptor nests prior to the initiation of project activities. Appropriate spatial buffer zones of inactivity would be established during crucial breeding and nesting periods relative to raptor nest sites or territories. Coordination with USFWS would occur should an active nest be found within a buffer of inactivity. Specific considerations such as use of a monitor would be applied.

An analysis of individual special status species identified as having the potential to occur in the project area follows.

**BIRDS: Bald Eagle (*Haliaeetus leucocephalus*)**

Direct and Indirect Effects: Proposed Action Alternative

Bald eagles are not known to breed near the project area. The species may occur in or near the project area in winter and during migration. Bald eagles are known to use mature cottonwood trees along the Weber River further to the east of the project area for winter roosting. Due to a lack of large cottonwoods or other mature trees, it is unlikely bald eagles would roost in the project area. The wider river corridor further to the east also likely serves as more attractive roosting and foraging habitat. Bald eagles may fly over the project area between winter foraging areas and roosting areas, or during migration. Should the pre-construction survey identify bald eagles frequenting Lower Weber Canyon the USFWS would be notified. Proposed construction activities would take place from approximately May to November 2014. Completion of activities before bald eagles arrive for the winter roosting season would avoid potential impacts caused by disturbance. No large cottonwood or other trees would be removed during construction. There would be no direct or indirect impacts on bald eagles or their habitat as a result of the Proposed Action; therefore the project would have no impact on bald eagles.

Direct and Indirect Effects: No Action Alternative

Construction activities would not occur under the No Action Alternative. There would be no impact on bald eagles.

Cumulative Effects

There would be no direct or indirect impacts on bald eagles due to project implementation; therefore, no cumulative effects would occur as a result of the Proposed Action.

**Black-throated Gray Warbler (*Dendroica nigrescens*)**

Direct and Indirect Effects: Proposed Action Alternative

Black-throated gray warblers may forage in and near the project area, and may use surrounding areas of juniper and oak as breeding habitat. Patches of oak and juniper woodland that occur in the vicinity of the project area would not be directly impacted by construction activity. Vegetation removal would only occur within the ROW. No breeding habitat for black-throated gray warblers would be lost; however, direct and indirect impacts are possible due to noise and dust generated from project construction. Details of mitigation measures included in the Proposed Action to protect migratory birds are outlined above. BMPs to control dust would also be implemented as part of the Proposed Action. With migratory bird protection measures and dust controls in place, the project would avoid effects to individuals from disturbance. Also, suitable foraging habitat occurs nearby, allowing birds to choose alternative areas for foraging. There would be no impact to black-throated gray warblers with implementation of the Proposed Action.

Direct and Indirect Effects: No Action Alternative

Construction would not occur. There would be no impact on black-throated gray warblers.

Cumulative Effects

The Proposed Action would not cause direct or indirect impacts to individuals or habitat. There would be no cumulative effect on black-throated gray warblers when considered with other past, present, and reasonably foreseeable future actions.

**Bobolink (*Dolichonyx oryzivorus*)**

Direct and Indirect Effects: Proposed Action Alternative

Bobolinks are known to breed in the agricultural areas around Mountain Green and Morgan, which are approximately 2 and 8 miles from the eastern end of the project area, respectively. The project area contains grass species, however; there are no wet meadows, wet grasslands, or wet hayfields in or near the project area. Therefore, it is unlikely that bobolinks would breed in the project area. Any bobolink use of the project area would likely be as incidental occurrences, such as flyovers of individuals migrating through. There would be no direct or indirect impacts on bobolinks or their habitat as a result of the Proposed Action; therefore the project would have no impact on bobolinks.

Direct and Indirect Effects: No Action Alternative

Under the No Action Alternative, there would be no construction activities that would take place in the project area. Based on this, there would be no impact on bobolinks.

Cumulative Effects

There would be no direct or indirect impacts on bobolink with implementation of the Proposed Action. No cumulative effects would occur.

### **Broad-tailed Hummingbird (*Selasphorus platycercus*)**

#### Direct and Indirect Effects: Proposed Action Alternative

Broad-tailed hummingbirds may forage in and near the project area, and there is nearby riparian habitat along the Weber River that may be used for breeding. However, the ROW currently consists of a mix of grasses and weedy forb species, which is considered low quality foraging habitat for hummingbirds due to the low density of forbs in the understory. Any use of the project area would likely be individuals flying through. The ROW would be reseeded with a mix dominated by grass species, which would neither benefit nor adversely affect this species. Details of mitigation measures included in the Proposed Action to protect migratory birds are outlined above. There would be no direct or indirect impacts on broad-tailed hummingbirds or their habitat as a result of the Proposed Action; therefore the project would have no impact on broad-tailed hummingbirds.

#### Direct and Indirect Effects: No Action Alternative

Under the No Action Alternative, construction activities would not occur. There would be no impact on broad-tailed hummingbirds.

#### Cumulative Effects

There would be no direct or indirect impacts on broad-tailed hummingbird with implementation of the Proposed Action. No cumulative effects would occur.

### **Flammulated Owl (*Otus flammeolus*)**

#### Direct and Indirect Effects: Proposed Action Alternative

Flammulated owls are not known to breed in or near the project area; habitat suitability within and surrounding the project area is marginal. Construction activities associated with the project would not remove any large trees; therefore, potential nesting habitat would not be altered by implementing the Proposed Action. A negligible amount of potential foraging habitat would be temporarily altered by the removal of vegetation within the ROW. The project would be implemented during daylight hours when flammulated owls are not foraging. There would be no direct or indirect impacts on flammulated owls as a result of the Proposed Action; therefore the project would have no impact on flammulated owls.

#### Direct and Indirect Effects: No Action Alternative

Under the No Action Alternative, construction activities would not occur. There would be no impact on flammulated owls.

#### Cumulative Effects

There would be no direct or indirect impacts on flammulated owls due to project implementation; therefore, no cumulative effects are expected as a result.

### **Golden Eagle (*Aquila chrysaetos*)**

#### Direct and Indirect Effects: Proposed Action Alternative

The cliffs on either side of Weber Canyon provide potential nesting habitat for golden eagles. However, none are currently known to be breeding in or near the project area. Nesting habitat would not be modified by construction activities. Golden eagles may also use the project area for foraging or during migration. Potential impacts would be negligible, as the proposed project area is small in comparison to the distance a golden eagle will travel when hunting.

No golden eagles or nests were detected during the 2012 baseline raptor surveys of the project area and line-of-sight buffer, and UNHP data request. A pre-construction survey would be conducted for golden eagles and other migratory birds to identify individuals nesting in the project area and within a species-specific buffer. The results would be reported to the Forest Service. If a golden eagle nest is documented in the project area and it is active, further coordination with the Forest Service and other wildlife management agencies would occur. There would be no direct or indirect impacts on golden eagles as a result of the Proposed Action; therefore the project would have no impact on golden eagles.

Direct and Indirect Effects: No Action Alternative

Under the No Action Alternative, construction activities would not occur. There would be no impact on golden eagles.

Cumulative Effects

There would be no direct or indirect impacts on golden eagles with implementation of the Proposed Action. No cumulative effects would occur.

**Juniper Titmouse (*Baeolophus ridgwayi*)**

Direct and Indirect Effects: Proposed Action Alternative

Patches of juniper woodlands in the project area provide potential breeding and wintering habitat for juniper titmouse. The surrounding woodlands in Lower Weber Canyon also provides suitable breeding, wintering and foraging habitat. Vegetation removal would only occur within the ROW. No breeding habitat for juniper titmouse would be disturbed. Details of mitigation measures included in the Proposed Action to protect migratory birds are outlined above. Indirect impacts to individuals foraging in the area are possible due to the noise and dust generated from project construction. However, this would be negligible, as the project is relatively small, and any individuals that are present in the area would likely move to other suitable habitat in the vicinity if disturbed. BMPs would be implemented to control dust. There would be no impact to the juniper titmouse as a result of the Proposed Action.

Direct and Indirect Effects: No Action Alternative

Construction activities would not occur under the No Action Alternative. There would be no impact on juniper titmouse.

Cumulative Effects

There would be no direct or indirect impacts on juniper titmouse from implementation of the Proposed Action. No cumulative effects would occur.

**Northern Goshawk (*Accipiter gentilis*)**

Direct and Indirect Effects: Proposed Action Alternative

Northern goshawks are not known to breed within 0.5-mile of the project area. The closest known goshawk territory to the project area is located approximately 6 miles to the north, however surveys have not been conducted in all areas. The nearest high quality habitat for goshawks occurs a little over 0.5-mile to the south, at higher elevations. They may use the project area for foraging or may pass through, but are unlikely to use the area for nesting; the project area does not contain optimal nesting habitat (i.e., dense forest canopy). The project area is small in comparison to the area a northern goshawk prefers for foraging, and large areas of alternate foraging habitat are available in the vicinity. There would be no direct or indirect impacts on individuals or the general population of northern goshawks as a result of the Proposed Action; therefore, the project would have no impact on northern goshawks.

Direct and Indirect Effects: No Action Alternative

Construction activities would not occur under the No Action Alternative. There would be no impact on northern goshawks.

Cumulative Effects

There would be no direct or indirect impacts on northern goshawks with implementation of the Proposed Action. No cumulative effects would occur.

**Peregrine Falcon (*Falco peregrinus anatum*)**

Direct and Indirect Effects: Proposed Action Alternative

The cliffs of Lower Weber Canyon provide potential nesting habitat for peregrine falcons. There are no recent records of this species breeding within one mile of the project area. However, there is a historic eyrie documented within 450 feet of the project area. It was known to be active from 1940-1952 (Porter and White 1973). The UNHP reports an aerial survey was conducted by UDWR in 2002, but this eyrie or peregrine falcons were not detected in the area (UNHP 2010b). Furthermore, no falcons or eyries were detected during 2012 baseline raptor surveys, and the cliff site where the historic eyrie is located would not be modified by construction activities. Peregrine falcons may also use Lower Weber Canyon for foraging or during migration. However, the project area is small in comparison to the distance a peregrine falcon will travel when hunting.

A pre-construction raptor and migratory bird survey would be conducted. Results would be reported to the Forest Service. There would be no direct or indirect impacts on peregrine falcons as a result of the Proposed Action; therefore the project would have no impact on peregrine falcons.

Direct and Indirect Effects: No Action Alternative

Under the No Action Alternative, construction activities would not occur. There would be no impact on peregrine falcons.

Cumulative Effects

There would be no direct or indirect impacts on peregrine falcons with implementation of the Proposed Action. Cumulative effects would not occur.

**Pinyon Jay (*Gymnorhinus cyanocephalus*)**

Direct and Indirect Effects: Proposed Action Alternative

Patches of juniper woodlands occur in the project area that may provide suitable breeding and wintering habitat for pinyon jays. The surrounding woodlands in Lower Weber Canyon may also provide suitable breeding, wintering and foraging habitat. Vegetation removal activities would occur within the previously disturbed and reclaimed ROW. Preferred habitat for pinyon jays would not be removed. Details of mitigation measures included in the Proposed Action to protect migratory birds are outlined above. Indirect impacts caused by noise and dust are possible. However, the project is relatively small, and any individuals that are present in the area would likely move to other suitable habitat in the vicinity if disturbed, resulting in negligible effects. BMPs to control dust would be implemented. There would be no impact on pinyon jays as a result of the Proposed Action.

Direct and Indirect Effects: No Action Alternative

Under the No Action Alternative, construction activities would not occur. There would be no impact on pinyon jays.

### Cumulative Effects

The Proposed Action would not cause direct or indirect impacts. There would be no cumulative effects on pinyon jays when considered with other past, present, and reasonably foreseeable future actions.

### **Prairie Falcon (*Falco mexicanus*)**

#### Direct and Indirect Effects: Proposed Action Alternative

The cliffs on either side of Lower Weber Canyon provide potential nesting habitat for prairie falcons. However, there are no known records of prairie falcons breeding in or near the project area. No prairie falcons or nests were detected during the 2012 baseline raptor surveys. Prairie falcons may also use the project area for foraging. However, the proposed project area is small in comparison to the distance a prairie falcon will travel when hunting.

Details of mitigation measures included in the Proposed Action to protect migratory birds are outlined above. There would be no direct or indirect impacts on prairie falcons as a result of the Proposed Action; therefore the project would have no impact on prairie falcons.

#### Direct and Indirect Effects: No Action Alternative

Construction would not occur under the No Action Alternative. There would be no impact on prairie falcons.

### Cumulative Effects

There would be no direct or indirect effects on prairie falcons with implementation of the Proposed Action. No cumulative effects would occur.

### **Virginia's Warbler (*Vermivora virginiae*)**

#### Direct and Indirect Effects: Proposed Action Alternative

Patches of oak and juniper woodland in the project area may provide suitable breeding habitat for Virginia's warbler. The surrounding woodlands in Lower Weber Canyon may also provide suitable habitat. Vegetation clearing would occur within the previously disturbed and reclaimed ROW. Disturbance-related impacts are possible due to noise and dust generated from project construction. Details of mitigation measures included in the Proposed Action to protect migratory birds are outlined above. BMPs to control dust would be implemented as part of the Proposed Action. Implementation of the Proposed Action would not result in direct impacts. Disturbance may cause short-term minor indirect impacts to individuals occurring in the surrounding habitat.

#### Direct and Indirect Effects: No Action Alternative

Under the No Action Alternative, construction would not occur. There would be no impact on Virginia's warblers.

### Cumulative Effects

There would be no cumulative effect on Virginia's warblers when considered with other past, present, and reasonably foreseeable future actions. The Proposed Action would not cause direct impacts to individuals. Indirect impacts from noise may occur. The indirect impacts would be short-term and minor, and would not cumulatively add to effects of other past, present, and foreseeable future actions considered in this analysis.

### **Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)**

#### Direct and Indirect Effects: Proposed Action Alternative

The project area does not contain riparian habitat. The nearest potential habitat considered in this analysis is along the Weber River; however, UDWR does not have record of this species occurring in Lower Weber Canyon. There would be no effect on western yellow-billed cuckoo.

#### Direct and Indirect Effects: No Action Alternative

Construction and associated activities would not occur under the No Action Alternative. There would be no effect on western yellow-billed cuckoo.

#### Cumulative Effects

There would be no direct or indirect effect on western yellow-billed cuckoos with implementation of the Proposed Action, therefore; cumulative effects would not occur.

### **MAMMALS: Canada Lynx (*Lynx canadensis*)**

#### Direct and Indirect Effects: Proposed Action Alternative

Lynx habitat is categorized into three types according to the WCNF Lynx Analysis Map (USDA Forest Service GIS Abstract 2003). Approximately 40 percent of the pipeline (1.35 miles) is mapped as secondary lynx habitat (i.e. Douglas fir forest). The remainder is mapped as non-habitat. Secondary habitat is defined as other forest types, which when intermingled with or located immediately adjacent to primary habitat contribute to lynx annual needs (e.g., adjacent cool/moist Douglas-fir forests). The closest mapped primary habitat is approximately 2 miles to the south of the project area (USDA Forest Service GIS Abstract 2003).

The USFWS has concluded that any lynx that currently occur in Utah are most likely dispersers rather than residents based on the following (USDI Fish and Wildlife Service 2003):

- Most of the few existing records correspond to cyclic population highs.
- There has been no evidence of reproduction.
- The boreal forest habitat in Utah is remote and far from source lynx populations.

No Canada lynx have been detected on the WCNF, and the probability of the species occurring is very low (USDA Forest Service 2003b). Based on the UNHP's review of the existing data in the UDWR central database, no Canada lynx are known to occur in or within a 0.5-mile of the project area (UNHP 2010a and UNHP 2012). Since the project area is not located within a mapped WCNF LAU, conservation measures do not apply to the small portion of patchy secondary lynx habitat that occurs in the project area. Secondary lynx habitat, defined as Douglas fir forest, would not be altered by project activities. Vegetation removal would occur within the existing ROW, which is vegetated by grasses, weedy forbs, and some shrubs. The disturbance to habitat would not affect the availability of prey in the area. Any small mammals present in the project area would likely move to other areas during project construction and return following reclamation. The project area could be used as a travel corridor by any lynx that are possibly (though unlikely to be) present in the area and attempting to cross Weber Canyon. However, the project would not permanently impede dispersal since lynx would be capable of moving through the project area during and following construction. Furthermore, lynx are capable of traveling long distances and could easily circumvent the project area.

The Proposed Action Alternative would have no effect on the Canada lynx. No primary lynx habitat would be altered and project activities would not impede dispersal movements. Direct or indirect impacts to individuals would not occur.

Direct and Indirect Effects: No Action Alternative

Construction and associated activities would not occur under No Action Alternative. There would be no effect on Canada lynx.

Cumulative Effects

The determination of no effect for the Proposed Action eliminates the possibility of cumulative effects.

**Fringed Myotis (*Myotis thysanodes*)**

Direct and Indirect Effects: Proposed Action Alternative

The project area may contain suitable roosting and foraging habitat. There is a historic mine within 600 feet of the ROW. However, current available information suggests that the adits have caved in and therefore would not be available for use. The historic mine area would not be impacted by the Proposed Action. There are no known caves in or near the project area, but there are buildings near the east and west ends of the project area. Any bats using the structures would be accustomed to an existing level of human activity and disturbance from human use and traffic noise. Vegetation removal would temporarily alter foraging habitat within the existing ROW. However, the effects would be temporary and negligible. The fringed myotis forages at night, when construction activities would not occur, and is capable of flying to other foraging areas. The Proposed Action would have no impact on fringed myotis.

Direct and Indirect Effects: No Action Alternative

Construction and associated activities would not occur under the No Action Alternative. There would be no impact on fringed myotis.

Cumulative Effects

There would be no direct or indirect effects to fringed myotis due to project implementation. No cumulative effects are expected as a result.

**Gray Wolf (*Canis lupus*)**

Direct and Indirect Effects: Proposed Action Alternative

Although there is currently no documented evidence that wolves have established anywhere in Utah, occasional attempts at colonization are possible from nearby wolf populations in other states. On the very rare occasions that wolves may be found in the state, they could use the project area as a travel corridor. The Proposed Action would not prevent long-term travel and therefore would not be a barrier to dispersal. There would be no direct or indirect impacts on gray wolves as a result of the Proposed Action; therefore the project would have no impact on gray wolves.

Direct and Indirect Effects: No Action Alternative

Construction and associated activities would not occur under the No Action Alternative. There would be no impact on gray wolves.

Cumulative Effects

There would be no direct or indirect effects on gray wolves with implementation of the Proposed Action. No cumulative effects would occur.

### **Spotted Bat (*Euderma maculatum*)**

#### Direct and Indirect Effects: Proposed Action Alternative

The project area contains suitable roosting and foraging habitat. However, the Proposed Action would not alter any cliff habitat that could serve as potential roost sites. Potential foraging habitat would temporarily be altered by removing vegetation within the existing ROW, but the impact would be negligible. Alternative foraging habitat occurs surrounding the project area and spotted bats are capable of flying to another nearby area to forage during project construction. Construction activities would occur during daylight hours, thus not disrupting nighttime foraging activities. There would be no direct or indirect impacts to spotted bats. The Proposed Action would have no impact on spotted bats.

#### Direct and Indirect Effects: No Action Alternative

Construction and associated activities would not occur under the No Action Alternative. There would be no impact on spotted bats.

#### Cumulative Effects

There would be no direct or indirect impacts to spotted bats from implementation of the Proposed Action. No cumulative effects would occur.

### **Townsend's Western Big-eared Bat (*Corynorhinus townsendii townsendii*)**

#### Direct and Indirect Effects: Proposed Action Alternative

Known locations of Townsend's western big-eared bat populations on the SLRD are not near the project area. Lower Weber Canyon experienced mining historically, and while there are no known caves in or near the project area, old mining adits may occur. The Proposed Action would not affect any caves or mines, and would therefore not impact hibernacula or maternity colonies. The project area contains suitable foraging habitat, but vegetation removal would be temporary, resulting in negligible effects to individuals. The Proposed Action would have no impact on Townsend's western big-eared bats.

#### Direct and Indirect Effects: No Action Alternative

Construction and associated activities would not occur under the No Action Alternative. There would be no impact on Townsend's western big-eared bats.

#### Cumulative Effects

There would be no direct or indirect impacts to Townsend's western big-eared bats with implementation of the Proposed Action. No cumulative effects would occur.

### **Western Small-footed Myotis (*Myotis cilolabrum*)**

#### Direct and Indirect Effects: Proposed Action Alternative

The project area contains suitable roosting and foraging habitat. Mining has occurred historically in Lower Weber Canyon and an old mine is known to exist approximately 600 feet from the ROW. There are no known caves in or near the project area, but there are several buildings, rock crevices, and trees in or near the project area that could serve as potential roost sites. The Proposed Action would not alter any of these potential roost sites. Construction would occur during daylight hours and would avoid impacts to foraging as this species forages at night. Potential foraging habitat would be temporarily altered by removing vegetation within the existing ROW. However, effects would be negligible, and reclamation activities could prove beneficial to insect prey populations due to the potential increase in forbs and grasses and reduction in weeds. Furthermore, there is a preponderance of alternative foraging habitat

surrounding the project area. Western small-footed myotis are capable of flying to another nearby area to forage during project construction. The Proposed Action would have no impact on western small-footed myotis.

Direct and Indirect Effects: No Action Alternative

Construction and associated activities would not occur under No Action Alternative. There would be no impact on western small-footed myotis.

Cumulative Effects

There would be no direct or indirect effects to western small-footed myotis due to implementation of the Propose Action. No cumulative effects would occur.

**FISH: Bluehead Sucker (*Catostomus discobolus*)**

Direct and Indirect Effects: Proposed Action Alternative

The project area is located south of the Weber River. The Proposed Action includes design features and mitigation measures to prevent erosion and sediment transport to the Weber River. Implementation of proposed design features and mitigation measures would prevent sediment from reaching the Weber River so that there would be no direct or indirect impacts on bluehead suckers. The Proposed Action would have no impact on the bluehead sucker.

Direct and Indirect Effects: No Action Alternative

Construction and associated activities would not occur under the No Action Alternative. There would be no impact on bluehead suckers.

Cumulative Effects

There would be no direct or indirect impacts to bluehead suckers due to project implementation; therefore, no cumulative effects would occur.

**Bonneville Cutthroat Trout (*Oncorhynchus clarki utah*)**

Direct and Indirect Effects: Proposed Action Alternative

The project area is located south of the Weber River. The Proposed Action includes design features and mitigation measures to prevent erosion and sediment transport to the Weber River. Implementation of proposed design features and mitigation measures would prevent sediment from reaching the Weber River so that there would be no direct or indirect impacts on Bonneville cutthroat trout. The Proposed Action would therefore have no impact on the Bonneville cutthroat trout.

Direct and Indirect Effects: No Action Alternative

Construction and associated activities would not occur under the No Action Alternative. There would be no impact on Bonneville cutthroat trout.

Cumulative Effects

There would be no direct or indirect impacts to Bonneville cutthroat trout due to implementation of the Proposed Action. No cumulative effects would occur.

### **Summary of Potential Impacts to Fish and Wildlife**

Construction activities would temporarily alter vegetation within a previously disturbed project ROW. Increased human activity, noise, and dust during construction could alter wildlife behavior and distribution. With implementation of BMPs and erosion controls, the Proposed Action would prevent suspended solid concentrations (e.g. sediment) from disturbed soil surfaces from entering into the Weber River. Thus, there would be no impact to aquatic species. Mitigation measures to prevent impacts to migratory birds are included in the Proposed Action. These include: pre-construction surveys, flagging buffers and monitoring if needed. Dust and erosion control BMPs, and reclamation including weed control would also be implemented. Impacts to wildlife species related to disturbance would be minor and short-term. A beneficial impact to wildlife habitat would occur over the long-term as vegetation is re-established and weeds are removed from the ROW.

## **3.8 Archaeological, Cultural and Historic Resources**

### **3.8.1 Scope of Analysis**

Internal, interdisciplinary review and scoping identified the following issue addressed in this analysis:

#### **Issue 1: How would the Proposed Action affect archaeological, cultural and historic resources?**

*Background:* Surface disturbance activities associated with construction may affect archaeological, cultural and historic resources in and surrounding the project area. Several utility developments have occurred on the southern slopes of Lower Weber Canyon. Historically, the canyon has provided passage into the Ogden Valley and was used for its natural resources.

*Indicators:* A file search and Class III cultural resources inventory of the project area was conducted in 2012 (Mullins 2012). Prior to field work, archaeological site files and inventory reports were reviewed at the Utah State Historic Preservation Office (SHPO) records office. The UWCNF provided additional information and site forms. The parameters of the record search included the proposed replacement segment and a one-mile radius surrounding the segment.

In addition, the pipeline corridor was inventoried by one archaeologist walking the center line of the pipeline. Within the staging areas, systematic transects were used. Transects were spaced no more than 15 meters (50 feet) apart and were oriented to ensure sufficient coverage.

*Analysis Area:* Analysis of direct effects focuses on the area of disturbance associated with the proposed project. Indirect and cumulative effects are addressed at the scale of Lower Weber Canyon.

### **3.8.2 Affected Environment and Environmental Consequences**

Heritage resources are defined in the Forest Plan as “The remains of sites, structures, or objects used by people in the past – our cultural patrimony; this can be historical or pre-historic. Generally a synonym for cultural resources, although heritage resources may be more broadly inclusive.” Heritage resources include the knowledge of human activity on the UWCNF, and the physical remains from that activity. The pipeline replacement would include heavy equipment and would cause ground disturbance due to excavation, removal, and replacement of the pipeline. A cultural resources inventory was required under Section 106 of the National Historic Preservation Act (NHPA), as amended (NHPA 2006).

***Affected Environment: Archaeological, Cultural and Historic Resources***

Seven known archaeological sites are located within one mile of the pipeline segment. Three of these sites are located within the current project area; these sites have Smithsonian inventory numbers of 42DV120, 42DV121, and 42WB328. This is a trinomial system with 42 representing the State of Utah, the two letters representing the county (DV for Davis, WB for Weber), and the three digit number referencing the record of the site within the county. There was also an Isolated Occurrence (IO) discovered during field work, which is not eligible for the National Register of Historic Places (NRHP).

Site 42WB328 is the Devil's Gate/Weber Hydroelectric Power Plant Historic District. The site is listed on the NRHP. The majority of Site 42WB328 is within Weber County, along the northern side of Weber Canyon, but a portion of the site extends into the current project area in Davis County. The physical components of the site (buildings, structures, etc.) are situated between I-84 and the Weber River. The Weber Dam is located approximately 1.75 miles upstream from the Power Plant. The Main Line 3 pipeline extends through the southern portion of the digitized site boundary of the site. During inventory of this portion of the pipeline, however, no physical components of the site (new or previously documented) were observed within the pipeline's corridor and no site components were observed near or within the pipeline project area.

Site 42DV120, or the Davis-Weber Canal, was previously recommended eligible for NRHP under Criterion A. A portion of the site is within the westernmost staging area. The portion includes a concrete-lined canal, a diversion spillway and dam at the western terminus of the canal segment, a concrete access ramp, two headgates, and a dam and spillway headwork at the eastern terminus of the canal.

Site 42DV121 consists of seven rock wall segments that intermittently line the southern bank of the Weber River from the Weber Power Station downstream approximately 4,000 feet. Two wall segments are located along the river bank below the western edge of the staging area within T5N, R1E, Section 30. The site is in poor condition, lacks integrity, and is not associated with a specific historic period. The site is not eligible for the NRHP.

The IO is a rock cairn measuring 13 inches in diameter and 18 inches tall. It is not eligible for the NRHP and no additional research or preservation is required.

***Environmental Consequences: Archaeological, Cultural and Historic Resources***

**Direct and Indirect Effects: Proposed Action Alternative**

Site 42DV121 is located along/below the edge of the western-most staging area and would not be impacted by activities within the staging area. This site is not eligible for listing in the NRHP and does not require avoidance.

Site 42DV120 was previously recommended eligible for the NRHP under Criterion A. Activities within this staging area would include storage of materials, vehicle parking, and access to the pipeline ROW. There is the potential for project activities to occur within the site boundaries of the historic site. The project activities that would occur within this area are not likely to have an impact on the site, as the site is a stable concrete-lined canal and activities would only occur adjacent to the canal and not in the canal. For this site, the cultural resources report recommends that this segment of the site be avoided by project activities, though moving the staging area is not needed because the site is a concrete-lined canal and the activities planned within the staging area would not occur in or on the canal and would not impact the site.

The Questar ROW extends through the boundary of Site 42WB328 (the Devil's Gate/Weber Hydroelectric Power Plant Historic District) as shown digitally on SHPO's online database, however the pipeline is located on a steep, north-facing slope approximately 100 meters (328 feet) above the majority

of the structures and features, and would not have an impact on the site. Impacts to Site 42WB328 would be avoided provided that construction is restricted to within the previously disturbed corridor.

The Proposed Action Alternative would have no effect on archaeological, cultural and historic resources. The Forest Service received a letter of concurrence with this determination of no effect from the Utah State Historic Preservation Office on April 8, 2013 (SHPO 2013).

#### Direct and Indirect Effects: No Action Alternative

Construction activities associated with pipeline replacement would not occur under the No Action Alternative. There would be no effect on archaeological, cultural and historic resources.

#### Cumulative Effects

Since there are no direct or indirect effects to archaeological, cultural and historic resources, there would be no cumulative effects.

## **3.9 Air Quality**

In 1970, Congress created the Environmental Protection Agency (EPA) and passed the Clean Air Act to clean up air pollution in the U.S. Under the Clean Air Act, the EPA sets limits on certain air pollutants, including setting limits on how much can be in the air anywhere in the U.S. The Clean Air Act also gives the EPA the authority to limit emissions of air pollutants coming from sources. The requirements under the Clean Air Act are comprehensive and cover many different pollution sources (EPA 2013).

The Clean Air Act identifies six common air pollutants that can injure health, harm the environment, or cause property damage. These pollutants include (EPA 2013):

- Carbon monoxide (CO)
- Lead (Pb)
- Nitrogen dioxide (NO<sub>2</sub>)
- PM<sub>10</sub>: particulate matter less than 10 microns in aerodynamic diameter; PM<sub>2.5</sub>: particulate matter less than 2.5 microns in aerodynamic diameter
- Ozone (O<sub>3</sub>)
- Sulfur oxides (SO<sub>x</sub>)

The EPA has established National Ambient Air Quality Standards (NAAQS) for each of these pollutants. If the air quality in a geographic area meets the NAAQS, it is called an attainment area; areas that do not meet the NAAQS are called nonattainment areas and must develop comprehensive state plans to reduce pollutant concentrations to a safe level. The Clean Air Act requires that all areas of the country meet or strive to comply with the NAAQS (EPA 2013).

The EPA, states, tribes, local governments, industry, and environmental groups have worked to establish a variety of programs to reduce air pollution levels. State and local air pollution agencies take the lead in carrying out the Clean Air Act, since they are able to develop solutions for pollution problems that require special understanding of local industries, geography, housing, travel patterns, and other factors in their state. These agencies monitor air quality, inspect facilities under their jurisdictions, and enforce the Clean Air Act regulations. Each state develops State Implementation Plans (SIPs), which outline how each state will control air pollution under the Clean Air Act. The EPA approves the agency plans for reducing air pollution. The agencies use a permit system as part of their plan to make sure that pollution sources meet their goals to clean up the air (EPA 2013).

The Clean Air Act applies to both stationary sources (e.g. factories, processing plants, chemical plants, refineries, and utilities) and mobile sources (e.g. vehicles, machinery, and rules governing formulation and use of fuel) of air pollution. A stationary source is a place or object from which pollutants are released and which does not move around. A stationary source or group of stationary sources that emit or have the potential to emit 10 tons per year (tpy) or more of a hazardous pollutant or 25 tpy or more of a combination of hazardous air pollutants is considered a major source. Any stationary source that is not a major source is called an area source. For major sources, the EPA has established emission standards that require the maximum degree of reduction in emissions of hazardous air pollutants. A mobile source (non-stationary source) is an object from which pollutants are released and which moves around. The Clean Air Act mandates controls on air pollution from mobile sources by regulating both the composition of fuels and emission-control components on motor vehicles and nonroad engines. Vehicle fuel standards for gasoline and diesel are met by refiners/importers, and by other parties in the fuel distribution system. Regulation on vehicles includes vehicle emission limits of hydrocarbons, carbon monoxide, nitrogen oxides, and particulates. These limits must be met by the vehicle manufacturers and apply to on-road and off-road vehicles, and non-road sources (EPA 2013).

The Utah Department of Environmental Quality (UDEQ) has promulgated several SIPs and their subsequent revisions to creating a dynamic framework for state air quality laws and regulations.

### **3.9.1 Scope of Analysis**

Internal, interdisciplinary review and scoping identified the following issues addressed in this analysis:

#### **Issue 1: How would fugitive dust associated with construction affect air quality?**

Background: Construction activities associated with the Proposed Action would generate fugitive dust.

Indicators: Particulate emissions

Analysis Area: Analysis of direct impacts includes the project area and vicinity of Lower Weber Canyon. Indirect and cumulative effects includes Davis and Morgan counties.

#### **Issue 2: How would mobile source emissions associated with construction activities affect air quality in Weber Canyon?**

Background: Vehicles and equipment associated with the Proposed Action would produce combustion emissions.

Indicators: Powered by either diesel or gasoline, vehicle and equipment operation is a source of NO<sub>2</sub>, CO, volatile organic compounds (VOC), and small amounts of air toxins.

Analysis Area: Analysis of direct impacts includes the project area and vicinity of Lower Weber Canyon. Indirect and cumulative effects considers other past, present, and future projects in Lower Weber Canyon in the context of effects to the air quality of Davis and Morgan counties.

### **3.9.2 Affected Environment and Environmental Consequences**

#### ***Affected Environment: Air Quality***

The project area is located in Davis and Morgan counties, Utah. Davis County is designated as a nonattainment area for 2.5 micron particulate matter, whereas Morgan County is designated as in attainment with the NAAQS for all criteria pollutants. Sources of PM<sub>2.5</sub> emissions include combustion activities.

### ***Environmental Consequences: Air Quality***

#### **Direct and Indirect Effects: Proposed Action Alternative**

Air pollution associated with construction activities would be in the form of fugitive dust and combustion emissions from the operation of construction vehicles and equipment. All sources of air pollution from the Proposed Action would be from mobile sources (non-stationary sources) and would be temporary. Particulate matter (i.e. fugitive dust) is the only air pollutant of the six identified by the EPA as a risk to human health, the environment, and property that may reach levels that warrant analysis. The equipment and vehicles that would generate fugitive dust would also generate combustion emissions. Vehicles and equipment generating the dust would include light utility vehicles (e.g. pickups, etc.), heavy-duty vehicles and construction equipment (e.g. trackhoes, backhoes, trenching machines, cranes, padding machines, boring machines, etc.), and semi-trailers carrying pipe. Powered by either diesel or gasoline, they are sources of NO<sub>2</sub>, CO, VOC, and small amounts of air toxins.

Vehicles and equipment used in support of the Proposed Action would meet the vehicle emission limits of hydrocarbons, carbon monoxide, nitrogen oxides, and particulates (in the case of diesel vehicles). The vehicle manufacturers are responsible for meeting regulations. In addition, all vehicles and equipment would have current registrations with the State of Utah. The release of combustion pollutants during construction is not expected to reach levels that warrant a detailed analysis.

Fugitive dust would be generated by construction activities. The existing unpaved access roads would be graded and used to get equipment in and out of the site, primarily via pickup trucks and semi-trailers hauling pipe and equipment. Remaining machinery movement would occur on the pipeline ROW. Large construction equipment such as trenching machines and backhoes would travel very little on a given day and over the life of the project. Trenching, backfilling, and clean-up activities would also generate dust. Dust emissions would be localized to the ROW and vicinity of the access roads.

Questar's Fugitive Dust Control Plan (Dust Control Plan) (Appendix B) provides blanket coverage for projects disturbing more than 0.25 acres along the Wasatch Front. It is written in accordance with the requirements of the Utah Administrative Code R307-309. The Dust Control Plan contains fugitive dust emission controls for on and off site activities. For projects disturbing more than five acres, implementation of the Dust Control Plan may be supplemented with project-specific control measures, as needed. The Questar construction monitor would be responsible for ensuring that dust control measures are adequate and are properly implemented by contractors. The following dust control strategies are designed to meet 20 percent opacity or less on site and 10 percent opacity from fugitive dust at the site boundary.

- Throughout the construction process, erosion control measures would be implemented to retain the soil onsite. Sediment barriers (i.e. silt fences, straw bales, etc.) would be installed near sensitive and highly erosive areas.
- Areas that had vegetation prior to construction would be revegetated.
- Disturbed areas along roadways would be repaved or graveled.
- Mulch and tackifier or erosion control blankets may be applied on unstable slopes or sensitive areas to stabilize the area.
- Effort would be made to complete final reclamation and cleanup of the disturbed areas within 10 days after backfilling. In general, disturbed areas would be revegetated as soon as practicable after final reclamation and cleanup.
- Fugitive dust from the access roads and the construction ROW would primarily be controlled using water. If extreme conditions or public complaints dictate additional measures, magnesium chloride may also be applied. The water would be applied to the access roads and construction ROW using a rear spraying water truck or other comparable equipment. All visibly dry disturbed access roads and disturbed soil surface areas would be watered as necessary to control dust

emissions. The frequency of the water application would largely depend on weather conditions and/or soil type (fine, powdery soil would generally require more frequent applications). In the event of severely dry conditions, high wind, or citizen complaints, additional water would be applied. Construction generally takes place on a six-day per week basis. If high winds are expected during off-hours (after hours and non-working days), additional water would be applied prior to the temporary shutdown.

- Vehicles traveling on unpaved existing access roads would travel at posted speed limits. The vehicles traveling along or entering or exiting the construction area would travel at a speed which minimizes dust emissions.
- In general, long hauls of soil or other “dusty” material would not be conducted.
- Although not anticipated, any trucks hauling materials off site that have the potential to create dust would be adequately wetted-down or covered prior to leaving the project site. Any material capable of generating dust which is deposited on public or private paved roads would be promptly removed.

Disturbance and dust generated by project activities would be relatively small. Implementation of the Dust Control Plan would provide the necessary BMPs to minimize generation of fugitive dust. The Proposed Action Alternative would have a short-term, minor adverse effect on air quality due to fugitive dust emissions generated during construction activities.

#### Direct and Indirect Effects: No Action Alternative

The No Action Alternative would have no effect on air quality since no construction activities would take place.

#### Cumulative Effects

The cumulative effects analysis considers activities in Lower Weber Canyon that may negatively contribute to air quality in Davis and Morgan counties. Of the past, present, and future foreseeable actions in Lower Weber Canyon, only traffic on I-84 is a contributor of emissions. The other actions identified are considered short-term contributors and would not occur during Questar’s construction. As the contribution of fugitive dust from this project would be considered short-term and minor, and other activities in the canyon are not currently contributing dust, there would be no cumulative effect from dust on air quality. Also, combustion emissions associated with the Proposed Action are not considered measurable; although the project occurs in a canyon that contains an interstate highway the Proposed Action would not contribute cumulatively to combustion emissions associated with interstate traffic. Cumulative effects on air quality are not anticipated.

## **3.10 Public Health and Safety**

### **3.10.1 Scope of Analysis**

Internal, interdisciplinary review and scoping identified the following issues addressed in this analysis:

#### **Issue 1: How would the Proposed Action affect public health and safety?**

Background: Construction activities would require access from I-84, affecting traffic and presenting safety concerns. Construction activities associated with the Proposed Action may exacerbate existing slope instabilities creating new failures, therefore the proximity of the construction corridor above I-84 raises concern of potential for construction debris to reach I-84. Construction workers and equipment

present in the project area increase risk of fires. Presence of natural gas in the existing pipeline and use of new line to convey natural gas requires proper deactivation and testing.

*Indicators:* The Traffic Management Plan (Fehr & Peers 2013) would direct traffic control requirements stipulated by UDOT. A geotechnical stability identified areas of potential hazard and provided safety recommendations and prevention measures. Questar would implement a Fire Prevention and Control Plan (Appendix C) for the project. Standard deactivation and testing techniques would be implemented.

*Analysis Area:* Analysis of direct, indirect, and cumulative effects focuses on areas of proposed disturbance within the project area and within Lower Weber Canyon.

## **Issue 2: How would the Proposed Action affect the existing Union Pacific Railroad line?**

*Background:* Union Pacific Railroad operates a rail line through Weber Canyon. The 3.26-mile segment of pipe proposed for replacement does not cross the rail line and the construction ROW does not encroach on Union Pacific property. The easternmost proposed project access road crosses the rail line at an established crossing.

*Indicators:* Review of construction plans by Union Pacific Railroad to determine required safety precautions.

*Analysis Area:* Analysis of direct, indirect, and cumulative effects focuses on areas of proposed disturbance within the project area and within Lower Weber Canyon.

## **Issue 3: What types of waste associated with construction activities would be produced?**

*Background:* Construction activities and decommissioning of the existing pipe would produce construction waste including possibly harmful materials (i.e. asbestos).

*Indicators:* Types of waste generated; methods for handling and disposal.

*Analysis Area:* Analysis of direct effects focuses on areas of proposed disturbance within the project area. Indirect and cumulative effects are addressed at the scale of Lower Weber Canyon.

### **3.10.2 Affected Environment and Environmental Consequences**

Public health and safety is a number one priority for construction activities on and off NFS lands. The only Forest-wide Standards within the Forest Plan that relate specifically to public health and safety are in regards to fires, which state that human-caused fires (either accidental or arson) are unwanted and should be suppressed, and that human life (firefighter and public safety) should be the highest priority during a fire. Other potential health and safety concerns identified include geologic hazards, transportation-related issues (i.e. traffic controls, Union Pacific Railroad), deactivation and testing of pipeline, and waste handling.

#### ***Affected Environment: Public Health and Safety - Geologic Hazards***

Geologic hazards exist within the project area (for more details regarding geologic hazards see Section 3.5 – Geology and Soil Resources). Slope instabilities documented during a geotechnical study of the project area were identified as creating potentially hazardous conditions for workers and the general public travelling on I-84.

***Affected Environment: Public Health and Safety - Transportation***

The project area would be accessed from I-84, which provides east-west access through Weber Canyon. The interstate occurs downslope of the project area (Figure 1). The primary access point proposed occurs near milepost (MP) 90.3. Construction crews and equipment would access a staging area and the ROW in both directions from this location. While the staging area has adequate space for equipment and crews there is not an acceleration or deceleration lane from the interstate. Also, the interstate would be close to construction activity in this location. The *Traffic Management Plan for Questar Pipeline Replacement Project on Interstate 84 MP 89 to 91* (Fehr & Peers 2013) was developed based on current traffic data, roadway geometry and speeds, and project duration and planned activities including types and numbers of construction vehicles and equipment proposed.

A Union Pacific Railroad line runs east-west through Weber Canyon. The construction ROW does not cross or encroach on Union Pacific Railroad property. However, in one area the rail line is in close proximity to the bottom of the slope that the project ROW is located on. Also, the eastern-most project access road, referred to as 6300 West, crosses the Union Pacific Railroad line.

***Affected Environment: Public Health and Safety - Fire***

The WCNF fire management desired condition is to allow fire to play its natural role where appropriate and desirable, but to actively suppress fire where necessary to protect life, investments, and valuable natural resources (USDA Forest Service 2003a).

***Affected Environment: Public Health and Safety – Pipeline Operation***

The existing pipeline currently supplies natural gas to the Wasatch Front. The pipeline would require deactivation prior to construction, achieved by isolating the replacement segment and releasing the trapped gas to the atmosphere. Once replaced, the new pipeline would require safety testing prior to use. Hydrostatic testing would be conducted to ensure the new pipeline is ready to transport natural gas safely.

***Environmental Consequences: Public Health and Safety – All Topics***

**Direct and Indirect Effects: Proposed Action Alternative**

***Geologic Hazards***

Construction activities could cause or exacerbate geologic hazards such as landslides, slope failures, and rock falls, resulting in a direct or indirect effect on public health and safety. Landslides, slope failures, and rock falls would be prevented through implementation of measures identified in the geotechnical study completed for the project in 2013 (EarthFax Engineering Inc. 2013). Recommendations from the report were incorporated into construction planning and project designs. Areas of high potential for hazards, such as where large boulders occur upslope of the project ROW were identified. Hazards would be removed or stabilized prior to construction. Temporary stabilization walls would be placed at identified locations to allow for a widened workspace and keep construction debris within the project ROW. The walls would provide a geotechnical and structural factor of safety of 1.5; designed to account for the combined loads of construction equipment and debris. The walls would include an underlying fencing and fabric that would be pulled back onto the corridor before removing the walls, thus replacing debris back into the project ROW and reducing the risk of debris transport downslope.

A geotechnical inspector would be on-site throughout construction. Monitoring would occur prior to, during, and after construction to minimize the potential for unforeseen slope failures and subsequent safety issues or impacts to other resources. Specific areas along the project ROW with the potential for elevated rock fall hazard were identified during site visits by geotechnical engineers. These areas would be subject to the following mitigation measures (EarthFax Engineering Inc. 2013):

- Walls, Berms, and Fencing
- Controlled Removal

- Designated Spotter
- Excavator Protection
- Construction Planning/Sequencing
- Immediate Backfill
- Up-Slope Fencing

Implementation of the measures identified above, as included in the Proposed Action Alternative, would result in no direct or indirect effects to public health and safety.

*Transportation (i.e. traffic controls and Union Pacific Railroad)*

Questar would follow UDOT requirements for traffic control and lane closures throughout project duration. As outlined in the Traffic Management Plan (Fehr & Peers 2013), an approximately 2-mile long single lane closure of east-bound I-84 would be permitted by UDOT to allow safe access to the project area at MP 90.3. The closure would remain in place through construction duration according to daily and seasonal scheduling stipulations designed to minimize the potential for traffic congestion. The one-lane closure would be permitted Monday through Friday from 6:00 am to 3:00 pm, Sundays from 6:00 am to 6:00 pm, excluding Saturdays and major holiday weekends (i.e. Easter, Memorial Day weekend, Independence Day weekend, Pioneer Day weekend, and Labor Day weekend). The closure may cause a minor slowing of traffic, but would be necessary to ensure public and worker safety, and to eliminate the potential for construction debris to reach active lanes of I-84. The Traffic Management Plan recommends that the UDOT camera located near MP 89.1 is used to monitor traffic flow and ensure the closure does not cause excessive traffic congestion, especially during peak travel months of July, August, and September. Nighttime closures are not permitted.

The Traffic Management Plan specifies signage types, quantities and locations, turn-around access requirements for construction vehicles, public information strategies, incident management contact information, and demobilization requirements. Questar would be responsible for coordinating with other contractors, agencies, and personnel performing within their contract limits. Questar would adhere to the requirements included in UDOTs final lane-closure permitting.

A comment received during scoping by Union Pacific Railroad stated that Questar must submit to them detailed engineering plans meeting AREMA standards for Railroad review. The comment stated concerns regarding location of the pipeline relative to Union Pacific property and any potential crossings. The 3.26-mile segment of pipe proposed for replacement under the Proposed Action does not cross the Union Pacific Railroad line or encroach on Union Pacific property. However, in one area the rail line is in close proximity to the bottom of the slope that the project ROW is located on. Also, the eastern-most project access road near the Questar OVBV, referred to as 6300 West, crosses the Union Pacific Railroad line. Questar does not propose this location as the primary construction access point, but Union Pacific Railroad would likely require an inspector to bring pipe trucks across. Questar would notify the Union Pacific Railroad Assistant Manager Contracts for the State of Utah regarding construction plans, as requested in the comment letter dated April 10, 2013, and all Union Pacific safety precautions would be adhered to.

With implementation of UDOT and Union Pacific Railroad precautionary measures, no direct or indirect effects related to transportation would occur.

*Fire*

The Proposed Action may increase the risk of fire danger due to activities and items such as smoking, sparking, catalytic converters, vehicle fires, welding, normal operations, and refueling of equipment. Questar would implement the Fire Prevention and Control Plan (Appendix C) to minimize the risks of fire

during construction. The Fire Prevention and Control Plan identifies requirements of Questar, the construction contractor, and construction crews that must be followed to prevent and suppress all fires in accordance with federal, state, and local regulations. The fire prevention and suppression measures described in the Fire Prevention and Control Plan would be in effect from the beginning to the end of construction and would be followed at all times. The Fire Prevention and Control Plan contains the following prevention and suppression measures to prevent and suppress a fire in the event that one is accidentally started during construction:

- Standard Fire Prevention Measures:
  - Training
  - Fire Guard
  - Smoking
  - Burning
  - Spark Arresters
  - Vehicle Parking, Operation, and Refueling
  - Welding
  - Fire Control Equipment
  - Restricted Operations
- Extreme Fire Prevention Measures
- Fire Control Measures
- Compliance Monitoring

With the implementation of the Fire Prevention and Control Plan, included as part of the Proposed Action Alternative, the direct and indirect effects to public health and safety and the environment would be no effect.

#### *Deactivation/Testing of Pipeline*

Prior to construction, the 3.26-mile section of pipeline would be isolated at the OVBV to the east and the Sunset Gate Station to the west. The natural gas trapped in this section of pipeline would be blown to atmosphere through the vent stacks at the Questar OVBV. Local emergency response agencies would be contacted and made aware of this activity.

A UPDES permit would be obtained for the discharge of hydrostatic test water. Hydrostatic test water would be pumped through the pipeline from the Weber Basin Canal and discharged into a hay bale barrier/sediment basin, which would be placed in an upland area. The hay bale barrier would be monitored throughout the discharge to ensure that the structure is operating properly. Water withdrawal and discharge activities related to the canal would be coordinated through the Weber Basin Water Conservancy District. The UPDES permit regulates and authorizes stormwater discharges to Waters of the State of Utah resulting from construction activities, including construction support activities. Questar would follow the UPDES General Permit stipulations including compliance with discharge limits.

With implementation of these measures, the direct effects to public health and safety related to the deactivation and testing of the pipeline would be no effect.

#### Direct and Indirect Effects: No Action Alternative

The No Action Alternative would have no effect on public health and safety and the environment. Construction activities would not occur, therefore; there would be no effect on public health and safety and the environment.

### Cumulative Effects

The Proposed Action would implement safety controls to prevent direct and indirect effects to public health and safety and the environment. There would be no cumulative effects on public health and safety and the environment when considered with other past, present, and reasonably foreseeable future actions.

### ***Affected Environment: Hazardous and Solid Wastes***

According to the Environmental Protection Agency, hazardous waste (e.g. liquids, solids, gases, or sludges) is waste that is dangerous or potentially harmful to our health or the environment. Solid waste is any garbage or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial commercial, mining, and agricultural operations, and from community activities. Before a material can be classified as a hazardous waste, it must first be a solid waste.

The only Forest-wide Standards and Guidelines within the Forest Plan that relate to wastes in order to protect public health and safety and the environment state that new sources of chemical and pathogenic pollutants should be placed where such pollutants will not reach surface or ground water (S4) and waste material should be handled in a manner to avoid sidestepping materials to areas where they may enter a stream (G47).

The existing pipeline may contain asbestos in the pipeline coating. In addition, construction activities and workers associated with the Proposed Action would produce construction waste, human garbage, and human waste.

### ***Environmental Consequences: Hazardous and Solid Wastes***

#### Direct and Indirect Effects: Proposed Action Alternative

The existing pipeline may contain asbestos in the pipeline coating. During removal of the existing pipeline proper asbestos handling procedures would be followed. Only crews trained in the handling of asbestos would be allowed to perform the pipeline removal. The pipe joints identified as having asbestos coating would be wrapped in plastic and loaded onto trailers for hauling to a certified disposal site. All pipeline coating would be bagged and removed from the project ROW. All permits and state ordinances required for the handling of this material would be strictly adhered to.

Other wastes such as general garbage and human wastes would also be generated during construction activities. Questar would implement construction BMPs for the proper handling of garbage and human waste, including the use of trash receptacle for human and construction garbage, and placement and maintenance of portable restroom facilities.

Waste handling practices incorporated in the Proposed Action Alternative would result in no direct or indirect effects to public health and safety and the environment.

#### Direct and Indirect Effects: No Action Alternative

The No Action Alternative would have no effect on public health and safety and the environment. Construction activities would not take place; therefore no wastes would be generated.

### Cumulative Effects

Wastes would be properly handled, resulting in no direct or indirect effects to public health and safety and the environment. Therefore, there would be no cumulative effect on public health and safety and the environment from the generation of wastes associated with the Proposed Action.

## 3.11 Scenic Resources

### 3.11.1 Scope of Analysis

Internal, interdisciplinary review and scoping identified the following issue addressed in this analysis:

**Issue: How would the Proposed Action affect the scenic integrity of Lower Weber Canyon?**

Background: Construction activity and vegetation removal would temporarily change the views experienced by Weber Canyon visitors and through-travelers on I-84. The existing ROW is evident in the current viewshed through this section of Lower Weber Canyon.

Indicators: A contrasting linear feature would continue to be visible from particular locations along I-84.

Analysis Area: Direct, indirect, and cumulative impacts are addressed at the scale of Lower Weber Canyon.

### 3.11.2 Affected Environment and Environmental Consequences

Scenery is the general appearance of a place or landscape, or the features of a landscape. The scenery visible to people visiting or living by the WCNF constitutes the scenic resource. People view the scenic resources of the WCNF from their residences, special places, and travel ways that meander through the WCNF (USDA Forest Service 2003b). Research has shown that high-quality scenery enhances people's lives and benefits society, especially natural-appearing forests (USDA Forest Service 1995).

Across the WCNF, scenery has been altered in various locations by both human and natural forces. The obvious significant effects on the scenic resources are from a variety of resource management activities and public uses such as recreation, timber management, wildland and prescribed fire, grazing, oil and gas leasing and development, and utility corridors (USDA Forest Service 2003b).

In 1995, the Forest Service adopted the Scenery Management System (SMS) (USDA Forest Service 2003a). The SMS is an inventory and classification system used for identifying landscape character themes (LCTs) (i.e. a broad description of land use patterns, vegetation processes or patterns, or dominant characteristics found in a landscape) and for setting objectives for the management of scenery (USDA Forest Service 2003b). It applies to all lands administered by the Forest Service and to all Forest Service activities (USDA Forest Service 1995). The WCNF has applied the SMS *Landscape Aesthetics A Handbook for Scenery Management; 1995 Agriculture Handbook #701* (USDA Forest Service 1995) as a management tool to describe, allocate, and provide direction for arranging, planning, and designing landscape attributes relative to the appearance of places and expanses in outdoor settings. SMS is a guideline that is intended to assist managers and to help the public understand the scenic resource management framework for project-level decisions and larger area analyses. The SMS is combined with other management direction such as desired future conditions, standards, guidelines, goals, and objectives to define the expectations about management of a particular area of the WCNF (USDA Forest Service 2003a).

The SMS was used to identify LCTs and to set objectives for the management of scenery of the WCNF. The Forest Plan describes the five LCTs applied to the WCNF by management prescription categories: natural evolving, natural appearing, developed natural appearing, resort natural setting, and water recreation rural appearing (USDA Forest Service 2003a). There are four Scenic Integrity Objectives (SIOs) for the WCNF: very high, moderate, low, and very low. A high SIO means that given the LCT, management actions should not result in obvious deviations from the expected appearance. A low SIO

would allow for some significant deviations from the expected appearance (USDA Forest Service 2003b). Each LCT includes landscape character descriptions and SIOs that are used to describe qualitatively how well the landscape matches its character theme (USDA Forest Service 2003b).

***Affected Environment: Scenic Resources***

The Proposed Action is located within the Northern Wasatch Ogden Valley Management Area of the WCNF within Lower Weber Canyon. The desired future condition for scenery in this management area is:

“A broad range of scenery will be present within this diverse management area. Both heavily developed and modified sites and very natural appearing areas are present. Along the Wasatch Front in Davis and Weber counties the scenery of the area will continue to be a valuable and pleasurable natural backdrop for the urban area. Guidelines for scenery management will be applied to project undertakings” (USDA Forest Service 2003a).

In addition, the project area occurs within the Weber Canyon utility corridor, a one-mile wide designated special use utility corridor that allows for underground, overhead and surface utility placement. It has been affected over time by utility operators located in the ROW. Questar originally installed the natural gas pipeline in the mid-1960’s. Other operators in the ROW have conducted disturbance activities as recently as 2008. The utility corridor is a visible component of the Lower Weber Canyon landscape.

The utility corridor designation determines the scenery management of the project area, like the management prescription category does for other areas on the Forest. The viewed Forest Service lands of the Proposed Action are managed in a LCT of “natural appearing,” defined as “the existing landscape character has been influenced by both direct and indirect human activities, but appears natural to the majority of viewers. Natural elements such as native trees, shrubs, grasses, forbs, rock outcrops and streams or lakes dominate the views. While there is evidence of human influence from historic use, campgrounds, small organization camps, rustic structures and management activity, it would appear to be part of the landscape to the majority of viewers.”

The landscape character description and SIO of the utility corridor designation - natural appearing is as follows:

- “Low” SIO - Deviations dominate the landscape character being viewed. However, activities borrow from the form, line, color, texture and scale found in the landscape character being viewed that are compatible with the surroundings.
- Landscape Integrity Description - Deviations dominate the landscape character being viewed. However, activities borrow from the form, line, color, texture and scale found in the landscape character being viewed that are compatible with the surroundings.
- Landscape Elements and Landscape Integrity Attributes:
  - Land Form - should be contoured to fit the form, line, color and texture of the surrounding landscape.
  - Vegetation - openings in vegetation dominate, but pull from the forms, lines and texture of the surrounding landscape.
  - Water Form – no water forms under this management.
  - Cultural Features – the scale of utility towers and poles are dominant, but the color integrates into the surrounding landscape.

However, guideline G62 of the Forest Plan specifies that “for management activities viewable from Concern Level 2: use areas and travel ways (viewshed corridors <1/2 mile) apply the LCT in which the management activity occurs and apply a Scenic Integrity Objective of at least moderate.” Due to the

proximity of the utility corridor and I-84, a moderate SIO is considered. Moderate is defined as “noticeable deviations remain visually subordinate to the valued landscape character being viewed.”

The following four distance zones are used by the Forest Service when assessing the effects to scenic resources (USDA Forest Service 1995):

- Immediate foreground (zero to 300 feet),
- Foreground (300 feet to a half mile),
- Middleground (half mile to four miles), and
- Background (four miles to horizon).

The project area would be visible in the immediate foreground and foreground distance zones.

The quality of the visual experience depends on the scenic resources and the viewer response to those resources. The following must be considered when characterizing viewers: the type of viewer group; the viewer exposure (their location, number of people in group, and duration and frequency of their view); and viewer sensitivity (viewer activity, awareness, and values). For the Proposed Action, the viewer groups can be classified into the following general types:

- *Drivers and passengers driving for pleasure (i.e. driving to enjoy the scenery):* Drivers and passengers driving for pleasure include those driving along Weber Canyon to enjoy the scenery. This scenic drive attracts viewers year-round who may drive the entire canyon or may drive and stop at various locations along the way. They may view the landscape for brief or moderately long periods of time. The viewing sensitivity of these viewers is considered to be moderate to high.
- *Drivers and passengers driving for purpose (i.e. driving from point “a” to point “b”):* Drivers and passengers driving along transportation linkages are primarily interested in getting from point “a” to point “b”. Their viewing duration is short and their viewing sensitivity is considered to be low to moderate.

There are no local residences with a view of the proposed project area. Recreationists would not typically travel to the project area to recreate. For purposes of this analysis, recreationists are considered as either passengers driving for pleasure or passengers driving for purpose.

The natural setting of Lower Weber Canyon contains I-84, including concrete safety barriers, a railroad line, overhead transmission lines, the existing underground utility ROW, a rest area, signage, and Weber Basin Canal infrastructure. The viewshed (i.e. total visible area from a single observer position or the total visible area from multiple observer positions) along the project ROW from I-84 is shown in photographs included as Appendix D.

### ***Environmental Consequences: Scenic Resources***

This analysis focuses on how changes to the landscape associated with ground disturbing activities and the presence of construction crews and equipment within the project area viewshed would affect the anticipated viewer groups in the short and long-term. Viewing groups include drivers and passengers driving for pleasure and drivers and passengers driving for purpose. The analysis considers a project area that occurs within a utility corridor designation, with an LCT of natural appearing, and an SIO of low as designated by the Forest Plan.

### **Direct and Indirect Effects: Proposed Action Alternative**

The steep slopes and hilly terrain, the curvy nature of I-84 through Lower Weber Canyon, and typical interstate speeds on I-84 would limit the distance from which the project area would be viewed and the amount of time it would be visible. Whether driving for pleasure or purpose, travelers on I-84 would view the project area as immediate foreground or foreground at particular viewpoints for small instances of

time. The change in appearance would be most visible during construction and immediately following, then minimizing over an initial three-year period as vegetation reestablishes.

Construction activities within the project area would occur from May to November 2014. The construction crews and vegetation removal activities would be visible from I-84 for approximately five and a half months. The exposed soil would create a short-term change in color and texture creating a line across the landscape that would be visible from particular areas in the immediate foreground and foreground views. This contrast would be most pronounced immediately following construction and would blend with time as reclamation is successful. It would take a minimum of three years for the vegetation to reestablish sufficiently to create the texture and color found in the adjacent natural appearing landscape.

Direct effects to travelers' views from select areas within this portion of Weber Canyon would be moderate, short-term and minor, long-term. The impact of these effects is tempered given the fact that existing infrastructure in Lower Weber Canyon includes I-84, a railroad line, overhead transmission lines, the existing underground utility ROW, a rest area, signage, and Weber Basin Canal infrastructure. Also because the interstate travel speed through the canyon, and curvy nature of the road limit the amount of time a view of the ROW is visible. In addition, reclamation measures incorporated into the Proposed Action to achieve successful revegetation would minimize the effects to scenic resources over time. The Proposed Action would not alter the management integrity or SIO defined for a viewshed containing a utility corridor. Over time, successful reclamation would likely improve the overall viewshed, resulting in a beneficial effect to scenic quality in Lower Weber Canyon. Indirect effects are not anticipated.

#### Direct and Indirect Effects: No Action Alternative

Under the No Action Alternative, the viewshed of Lower Weber Canyon would not change. There would be no effect to scenic integrity.

#### Cumulative Effects

The cumulative effects analysis considers other past, present, and reasonably foreseeable future activities in Lower Weber Canyon which may affect the viewshed of Lower Weber Canyon. Existing transportation, water, and energy infrastructure through this portion of the canyon is evident. The utility corridor ROW is currently a part of this existing infrastructure. Although short-term and long-term effects would occur with the Proposed Action, implementation of project elements designed to minimize effects such as erosion and enhance revegetation success would result in no cumulative effects to the scenic integrity of Lower Weber Canyon.

## 4.0 Consultation and Coordination

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### 4.1 Introduction

This chapter identifies the agencies and other entities consulted during the development of this EA. It also identifies the UWCNF and the contractor personnel involved in the preparation of the EA.

### 4.2 Public Scoping

On March 29, 2013, the UWCNF issued a public scoping notice which summarized the Proposed Action and invited comments regarding the scope of this EA. The notice was electronically mailed and/or delivered via U.S. mail to 47 agencies, organizations, and individuals on the project-specific mailing list. The notice was also published in the *Salt Lake Tribune* and posted on the UWCNF website. An information workshop/open house was held April 17, 2013, at the Weber County Library.

The 30-day scoping period closed on April 27, 2013. One comment was received. The one comment received was not considered adverse. The scoping notice is available at the SLRD Office in Salt Lake City, Utah in the project record.

### 4.3 Federal, State, and Local Agencies

The following federal, state, and local agencies were consulted, notified, and/or coordinated with as part of this EA preparation:

- Uinta-Wasatch-Cache National Forest – Salt Lake and Ogden Ranger Districts
- U.S. Fish and Wildlife Service – Utah Ecological Field Office
- Federal Energy Regulatory Commission
- U.S. Army Corps of Engineers
- State of Utah Department of Natural Resources
- State of Utah Department of Environmental Quality
- Utah Department of Transportation
- State History Division
- Davis County
- Morgan County
- Weber Basin Water Conservancy District

#### 4.3.1 Others

Other consultation completed in association with this EA process includes the following:

- Adjacent private landowners
- Union Pacific Railroad

#### 4.3.2 List of Preparers

Table 4-1 is a list of the UWCNF and the contractor personnel who were involved in the preparation of this EA.

**Table 4-1. List of Preparers**

Name	Position	Contribution
<b>Forest Service Team</b>		
Cathy Kahlow	District Ranger	Project oversight.
Steve Scheid	Project Manager and Environmental Coordinator	Project oversight, quality assurance/quality control review, project management and interdisciplinary team coordination.
Anne Hansen	Land and Special Uses	Project oversight, quality assurance/quality control review, project management and interdisciplinary team coordination, review of special use permit.
Charley Rosier	Land and Special Uses	Review of geology analysis.
Michael Duncan	Botanist	Review of vegetation analysis and weed management plan
Dave Hatch	Landscape Planner	Review of scenic resources analysis.
Tom Flanigan	Archeologist	Review of archaeological, cultural and historic resources analyses.
Charley Condrat	Hydrologist	Review of water, air, and public health and safety analyses.
Stacey Weems	Soil Scientist	Review of geology and soil analysis.
Kevin Labrum	Wildlife Biologist	Review of wildlife analysis.
Paul Chase	Fisheries Biologist	Review of wildlife (i.e. reptiles, amphibians, and fisheries) analysis.
<b>Tetra Tech, Inc. Team</b>		
Michele Weidner	Project Manager, Vegetation Ecologist	Project management, NEPA oversight, quality assurance and quality control review, resource section preparation
Mike Egan	Senior NEPA Specialist, Geologist	Senior NEPA oversight; quality assurance and quality control, resource section preparation
Jill Reid	Assistant Project Manager, Wildlife Biologist	Document preparation, resource section preparation
Wendy Rieth	Wildlife Biologist and GIS Analyst	Wildlife, soils and geology, GIS
Beth Karpinski	Archaeologist	Archaeological, cultural and historic resources analyses.

## 5.0 References Cited

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This chapter lists the references cited in the text of this EA.

- Black, B.D., C.B. DuRoss, M.D. Hylland, G.N. McDonald, and S. Hecker, compilers. 2004. Fault number 2351e, Wasatch fault zone, Weber section, in Quaternary fault and fold database of the United States: U.S. Geological Survey website, <http://earthquakes.usgs.gov/hazards/qfaults>, accessed 05/21/2013
- Bosworth, III, W.R. 2003. Vertebrate Information Compiles by the Utah Natural Heritage Program: A Progress Report. Utah Division of Wildlife Resources Publication Number 03-45. December 2003. 336 pages.
- Bryant, B. 1988. Geology of the Farmington Canyon Complex, Wasatch Mountains, Utah. U.S. Geological Survey Professional Paper 1476, U.S. Government Printing Office, Washington, D.C.
- EarthFax Engineering Inc. 2013. Geotechnical Recommendations Mainline 3 Replacement Weber Canyon, Utah. Questar Pipeline Company, Salt Lake City, Utah. May 17, 2013. pp. 27
- Elliott, A.H., and K.M. Harty. 2010. Landslide Maps of Utah: Utah Geological Survey Map 246DM, 46 plates, vector digital GIS data, scale 1:100,000.
- Federal Energy Regulatory Commission (FERC). 2013a. Upland Erosion Control Revegetation and Maintenance Plan. FERC Office of Energy Projects. May 2013. 20 pages.
- FERC. 2013b. Wetland and Waterbody Construction and Mitigation Procedures. May 2013. 22 pages.
- Fehr & Peers. Kyle Cook, P.E. 2013. Traffic Management Plan for Questar Pipeline Replacement Project on Interstate 84 MP 89 to 91. Prepared for: Utah Department of Transportation (UDOT), Region 1 and Questar Pipeline Company. Reviewed by: UDOT, Region 1 Traffic Engineer, Paul Egbert, P.E. May 20, 2013
- Hintze, L.F., G.C. Willis, D.Y.M. Laes, D.A. Sprinkel, and K.D. Brown. 2000. Digital Geologic Map of Utah, 1:5000,000. Utah Geologic Survey.
- Logan Simpson Design. 2010. Moving Forward Morgan County General Plan. Logan Simpson Design Inc. 8 East Broadway, Suite 300, Salt Lake City, Utah 84111. Adopted: December 21, 2010.
- Ludington, S., B.C. Moring, R.J. Miller, K.S. Flynn, and P.A. Stone 2006. Preliminary Integrated Geologic Map Databases for the United States – Western States: Oregon, Idaho, and Utah. Version 1.0, vector digital data, scale 1:500,000, U.S. Geological Survey, Reston, Virginia. Available: <http://pubs.usgs.gov/of/2005/1305/>
- Mccallum, D. Archibald. 1994. Flammulated Owl (*Otus flammeolus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/093doi:10.2173/bna.93>
- Moyle, R.W. 1981. Surface Geology. P. 10-21 in D.C. Greer, K.D. Gurgel, W.L. Wahlquist, H.A. Christy, and G.B. Peterson. Atlas of Utah. Weber State College and Brigham Young University Press, Provo Utah. 300 pages.

- Mullins, Danny. 2012. A Class III Cultural Resources Inventory of 19.75 acres for the Questar Pipeline ML3 Weber Canyon Segment Replacement Project, Davis and Morgan Counties, Utah (Draft), Logan Simpson Design, Salt Lake City, UT.
- National Historic Preservation Act (NHPA). 2006. Public Law 89-665; 16 U.S.C. 470 et seq.
- Oliver, G.V. 2000. The Bats of Utah: A Literature Review. Utah Division of Wildlife Resources, Salt Lake City, Utah.
- Parrish, J.R., F.P. Howe, R.E. Norvell. 2002. Utah Partners in Flight Avian Conservation Strategy Version 2.0. Utah Partners in Flight Program, Utah Division of Wildlife Resources, 1594 West North Temple, Salt Lake City, Utah 84116, Utah Division of Wildlife Resources Publication Number 02-27.
- Porter, R. D., and C. M. White. 1973. The peregrine falcon in Utah, emphasizing ecology and competition with the prairie falcon. Brigham Young Univ. Sci Bull., Biol. Ser. 18(1): 1-74.
- Romin L. and J. Muck. 2002. Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances. U.S. Fish and Wildlife Service. Salt Lake City, Utah. 42 pp.
- State Historic Preservation Office (SHPO). 2013. Letter of concurrence from C. Merritt to C. Kahlow. April 8.
- Squires, J.R. and R.T. Reynolds. 1997. Northern Goshawk (*Accipiter gentilis*). The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology. Available: <http://bna.birds.cornell.edu/bna/species/298>
- Stokes, W.L., 1986. Geology of Utah. Utah Geological and Mineral Survey and Utah Museum of Natural History. 308 pages.
- Sutter, Janet V., Matthew E. Andersen, Kevin D. Bunnell, Michael F. Canning, Alan G. Clark, Dana E. Dolsen, Frank P. Howe. 2005. Utah Comprehensive Wildlife Conservation Strategy (CWCS). Accepted by the United States Fish and Wildlife Service September 9, 2005. Utah Division of Wildlife Resources, 1594 West North Temple, Salt Lake City, Utah 84114-6301. Publication Number 05-19. 281 pp.
- Tetra Tech. 2012. Technical Memorandum: Mainline 3 2012 weed inventory. May 9, 2012.
- United States Department of Agriculture (USDA) Forest Service. 1995. Landscape Aesthetics A Handbook for Scenery Management. Agriculture Handbook Number 701. December 1995.
- USDA Forest Service. 2003a. Revised Forest Plan Wasatch-Cache National Forest. Intermountain Region. February 2003.
- USDA Forest Service. 2003b. Final Environmental Impact Summary Wasatch Cache National Forest. USDA, Forest Service Intermountain Region, Wasatch-Cache National Forest. February 2003. 1596 pages.
- USDA Forest Service. 2011. Intermountain Region (R4) Threatened, Endangered, and Proposed, and Sensitive Species List. July 27, 2011 update. Available at: <http://www.fs.usda.gov/main/r4/plants-animals>. Accessed November 14, 2012.

- USDA Forest Service. 2013. Air Resource Management. Available at: <http://www.fs.fed.us/air/>. Accessed on: May 14, 2013.
- USDA Forest Service GIS Abstract. 2003. GIS Abstract. Lynx Metadata. Wasatch-Cache National Forest.
- USDA Natural Resources Conservation Service (NRCS) 2006. Digital General Soil Map of U.S., Vector digital GIS data, scale 1:250,000.
- USDA NRCS. 2011a. Soil Survey Geographic (SSURGO) Database for Morgan Area, Utah, Morgan County, and Part of Weber County (ut609). Vector digital GIS data, scale 1:24,000.
- USDA NRCS. 2011b. Soil Survey Geographic (SSURGO) Database for Davis-Weber Area, Utah (ut607). Vector digital GIS data, scale 1:15,840.
- USDA NRCS. 2013. Soil Properties: Shrink-Swell Potential. Available: <http://www.az.nrcs.usda.gov/technical/soils/shrinkswell.html> . Accessed July 25, 2013.
- United States Department of the Interior (USDI) Fish and Wildlife Service. 2003. Endangered and Threatened Wildlife and Plants; Notice of Remanded Determination of Status for the Contiguous United States Distinct Population Segment of the Canada Lynx. Federal Register, Volume 68, No. 128. Thursday, July 3, 2003. Rules and Regulations. 50 CFR Part 17, RIN 1018-AF03.
- USDI Fish and Wildlife Service. 2008. Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. 85 pp. [Online version available at <http://www.fws.gov/migratorybirds/>]
- USDI Fish and Wildlife Service. 2013a. Federally Listed and Proposed Endangered, Threatened and Candidate (1) Species and Critical Habitat in Utah – Species by County. Monday, November 5, 2012. Available at: <http://www.fws.gov/utahfieldoffice/Documents/Lists/Species%20by%20County.pdf>. Accessed April 02, 2013.
- USDI Fish and Wildlife Service. 2013b. Species Profile – Canada Lynx (*Lynx canadensis*). Available at: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=A073>. Accessed: April 29, 2013.
- United States Environmental Protection Agency (EPA). 2013. Air Regulatory Information By Topic. Available at: <http://www2.epa.gov/regulatory-information-topic/air>. Accessed on: May 30, 2013
- Utah Department of Environmental Quality (UDEQ) Division of Water Quality (DWS). 2010. Utah 2010 Integrated Report Volume I. Available at: <http://www.waterquality.utah.gov/WQAssess/currentIR.htm>
- Utah Division of Natural Resources (UDNR). 2010. Great Salt Lake Information System. Available at: <http://www.greatsaltlakeinfo.org/Background/WeberRiver>. Accessed May 2013.
- Utah Division of Water Resources (UDWRi). 2009. Weber River Basin Planning for the Future. Utah State Water Plan, UDWR. September 2009. 106 pages.
- UDWR. 2011. Utah's Sensitive Listed Species by County. Last updated on March 29, 2011. Available

- at: <http://dwrcdc.nr.utah.gov/ucdc/ViewReports/sscounty.pdf>. Accessed on: November 14, 2012.
- UDWR. 2013a. Utah Conservation Data Center. Various Species Habitat and Distribution Information. Available at: <http://dwrcdc.nr.utah.gov/rsgis2/Search/SearchVerts.asp>. Accessed: April, 2013.
- UDWR. 2013b. Peregrine Falcon Facts. Utah Division of Wildlife Resources. Available at: <http://wildlife.utah.gov/dwr/learn-more/peregrine-cam/760-peregrine-falcon-facts.html>. Last Updated: March 20, 2012. Accessed on: April 23, 2013.
- UDWR. 2013c. Wolves in Utah. Available at: <http://wildlife.utah.gov/wolf/>. Accessed on: April 22, 2013.
- Utah Natural Heritage Program (UNHP). 2010a. Subject: Species of Concern Near Weber Canyon. Response Letter from Utah Natural Heritage Program, Sarah Lindsey, Information Manager. September 7, 2010.
- UNHP. 2010b. Project-specific subset of species occurrences from UNHP Biodiversity Tracking and Conservation System (BIOTICS). Vector digital GIS data (points). Sarah Lindsey, Information Manager. December 20, 2010.
- UNHP. 2012. Subject: Re: Data request needed?. Personal email from Utah Natural Heritage Program, Sarah Lindsey, Information Manager, UNHP, UDWR to Naomi Kisen of Tetra Tech. May 1, 2012.
- Utah Native Plant Society (UNPS). 2013. Utah rare plant guide. Various species reports. Internet: [http://www.utahrareplants.org/rpg\\_species.html#All](http://www.utahrareplants.org/rpg_species.html#All). A.J. Grates editor/coordinator. Salt Lake City, UT: Utah Native Plant Society. Available from: <http://www.utahrareplants.org>.
- Welsh, Stanley L., N.D. Atwood, S. Goodrich, and L.C. Higgins, eds. 2003. A Utah Flora.

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**APPENDIX A**  
**WEED MANAGEMENT PLAN**

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# **Weed Management Plan**

## **Questar Main Line 3 Weber Canyon Replacement Project**

Davis and Morgan Counties, Utah

*Prepared for:*

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## 1.0 INTRODUCTION

This Weed Management Plan (Plan) has been developed to address the potential spread of noxious and invasive weeds due to pipeline replacement construction activities. The Plan has been specifically developed in support of the Questar Main Line 3 Weber Canyon Replacement Project, proposed for construction in 2014, and for the planned replacement of the Main Line 3 2013 construction segment.

A weed is any plant that is not native to a particular area. Weeds interfere with beneficial uses of land or water, displace desirable or native plants, and may affect human and animal health. Most troublesome weeds are aggressively invasive; they are highly adaptive, have high reproductive abilities, and are persistent. Weeds typically invade where human activities or natural events such as fires have caused disturbances, often producing monocultures and preventing native plant species from establishing. The term “noxious weed” is designated by the federal, state, or county to further define the potential for a weed to result in extraordinary negative economic impacts.

The Plan incorporates a pro-active approach to weed management that aims to eliminate the possibility of weed spread and invasion as opposed to reacting to weed infestations after they have occurred. Rather than simply eliminating weed populations, the goal of the Plan is to achieve desired plant species communities post-construction. Weed management practices described in this Plan have been developed through coordination with the Uinta-Wasatch-Cache National Forest (UWCNF) and County Weed Supervisors from Davis and Morgan counties.

The Plan applies to two segments of the Main Line 3 right-of-way (ROW) and includes the entire construction ROW width, staging areas, and along access roads. Other operators occupy the same ROW that is covered in this Plan. Activities outlined in the Plan will be applied across the ROW regardless of specific operator location.

The Plan is organized by management activities as they will occur during pre-construction, construction, and post-construction phases. Pre-construction control measures will target existing noxious weed populations. Preventive measures during construction will be implemented to reduce the potential for introducing new weed species and to keep existing weeds from spreading. Post-construction revegetation activities, control measures, and monitoring will ensure the desired plant community outcomes are achieved. Environmental protection measures to prevent impacts to adjacent areas from chemical use and safe handling practices are also included.

The Plan incorporates the following steps in an adaptive management approach:

- Establish land management goals and weed management objectives for the ROW
- Identify existing weed species through an inventory of the ROW
- Prioritize weed species and weed population locations based on the severity of their impacts and the effectiveness of available control measures
- Consider available control measures relative to their impacts
- Plan and implement the control measures identified
- Monitor and evaluate
- Modify and improve the Plan as needed

## 1.1 Project Description

The portion of Main Line 3 subject to this Weed Management Plan is an approximately 5-mile segment located in Weber Canyon along the south side of US Interstate 84 (US-84) (**Appendix B: Figure 1**). Questar Pipeline Company (Questar) plans to replace 16-inch diameter pipe within the existing ROW as two separate projects conducted over two construction seasons. The easternmost 1.8 miles will be replaced in 2013. This segment crosses private land and extends from the Ogden Valley Block Valve (OVBV) to the east. The westernmost 3.26 miles, referred to as the Weber Canyon Replacement Project, is proposed for construction in 2014. This segment, which crosses land managed by the U.S. Forest Service (Forest Service), occurs from the Questar OVBV to where the pipeline leaves the Weber Basin Canal road near the mouth of Weber Canyon. An environmental review process for construction activities in this segment is currently being conducted in accordance with the National Environmental Policy Act (NEPA). Aware of noxious weed invasions in the area, the Forest Service identified the need to develop a weed management plan that would apply to both construction segments across the entire width of the ROW. Weeds are also considered as an issue for analysis in the Weber Canyon Replacement Project environmental assessment.

The land owners by section included in the Plan are as follows:

- U.S. Department of Agriculture, Forest Service UWCNF (within Davis County): Township (T) 5 North (N), Range (R) 1 East (E), sections 28 and 30
- Bureau of Reclamation: T5N R1E Section 26
- Davis County: T5N, R1E, Section 29
- Morgan County: T5N R1E, Section 27
- Weber Basin Water Conservancy District: T5N, R1E, sections 27 and 36
- Private landowners: T5N, R1E, sections 22, 26, 27, 35, and 36

Utility operators or lines co-located in the ROW include:

- Conoco Phillips
- Plains Petroleum
- Fiber optic line

## 1.2 Management Directives

The UWCNF has played an instrumental role in helping Questar develop this Weed Management Plan. The UWCNF identified the need for comprehensive weed management across the ROW regardless of operator. The Plan is consistent with the policies, goals, and mitigation practices presented in the following documents, as well as direction provided in the Wasatch-Cache National Forest Revised Forest Plan (Forest Plan) (USDA 2003).

- Wasatch-Cache National Forest Noxious Weed Treatment Program Final Environmental Impact Statement (Treatment Program FEIS) and Record of Decision (USDA-FS 2006)
- Wasatch-Cache National Forest Integrated Weed Management Strategy (Weed Strategy) (USDA-FS 2005)

The Weed Strategy is tiered off the Treatment Program FEIS and is the strategy currently implemented by the Forest Service. It incorporates the National Forest Service Noxious Weed Management Direction – FSM-2080.

Federal Invasive Species Executive Order 13112 directs federal agencies to prevent invasive species introductions, control weed populations, monitor and restore areas where invasive species have occurred, develop technologies to control invasive species, and educate the public on invasive species issues. The Order defines an invasive plant as an “alien” (non-native) species whose introduction causes or is likely to cause economic or environmental harm or harm to human health” (U.S. Federal Register 1999). Executive Order 13112 defines “control” as eradicating, suppressing, reducing, or managing invasive species populations; preventing spread of invasive species from areas where they are present; and taking steps such as restoration of native species and habitats to reduce the effects of invasive species and to prevent further invasions (U.S. Federal Register 1999).

The Federal Noxious Weed Act of 1974 (as amended by Section 15, Management of Undesirable Plants on Federal Lands, 1990) authorizes cooperation among federal and state agencies in the control of weeds. In addition, the Federal Land Policy and Management Act of 1976 (FLPMA) directs the Forest Service and other federal land management agencies to take the necessary steps to prevent the degradation of public lands; the Carlson-Foley Act of 1968 directs agency heads to identify and destroy noxious plants.

In 1971, the Utah Legislature passed the Utah Noxious Weed Act, Title 4, Chapter 17 into law. The Utah Noxious Weed Act requires landowners and managers to manage noxious weeds if they are likely to damage neighboring lands, and provides that each county in Utah shall adopt a weed management plan for the unincorporated portions of the county. The State of Utah maintains a list of legally designated noxious weed species, pursuant to the Utah Noxious Weed Act. There are 29 noxious weeds listed for the State of Utah. The following three classes of noxious weed designations are used:

- Class A Weeds: Early Detection Rapid Response (EDRR) – Declared noxious weeds not native to the State that pose a serious threat and should be considered as a very high priority.
- Class B Weeds: Control – Declared noxious weeds not native to the State that pose a threat and should be considered a high priority for control.
- Class C Weeds: Containment – Declared noxious weeds not native to the State that are widely spread, but pose a threat to the agricultural industry and to agricultural products with a focus on stopping invasion.

The Forest Service evaluates infestations individually to account for differences in growth stages due to local and regional environmental conditions. Weeds are categorized based on ecoregion, and are given a number-letter combination to describe abundance and potential aggressiveness for a particular ecoregion (USDA-FS 2005; USDA-FS 2006). The Forest Service categorizations are included with weeds listed as identified in the Project ROW. **Appendix A** includes the list of designated noxious weed species for the State of Utah, UWCNF, and Davis and Morgan counties.

Questar was granted a Certificate of Public Convenience and Necessity under Section 7(c) of the Natural Gas Act by the Federal Energy Regulatory Commission (FERC) in the early 1960s to construct, operate, and maintain the Main Line 3 pipeline. The FERC allows for replacement activities under Subpart F of 18 CFR § 157.208, or pursuant to the authority of 18 CFR §284.3(c), under authority of a blanket certificate holder. As a certificate holder, Questar implements vegetation management procedures as outlined by the FERC Plan and Procedures. The FERC procedures include mitigation to minimize erosion and enhance revegetation, which are essential practices in the effective control of weeds.

Cooperative partnerships known as Cooperative Weed Management Areas (CWMA) coordinate the weed management efforts among public and private land managers across jurisdictional boundaries. A CWMA works with state, federal, and county officials of neighboring CWMAs. The UWCNF actively participates in the Utah and Idaho CWMA and the Weber River CWMA. Ongoing coordination between the UWCNF and Questar through all phases of the Project will ensure coordination at the CWMA level continues.

### **1.3 Purpose, Goals, and Objectives**

The purpose of this Plan is to prescribe methods to prevent, eradicate, or control the spread of invasive and noxious weeds throughout the ROW in order to achieve the goal of desirable post-construction vegetation communities. Questar and its contractors are responsible for carrying out the methods described in this Plan. Information such as species lists, weed photographs and descriptions, and figures depicting weed population locations (as identified in 2012) are included in the appendices. These references will be useful to on-the-ground construction and weed management personnel responsible for Plan implementation.

Effective strategies to prevent, eradicate, or control infestations must include active coordination among land managers and land owners. Questar has agreed to apply the practices outlined in the Plan throughout the entire span of the ROW and associated construction disturbance areas. Other operators within the ROW will be informed of the Plan.

The Plan aims to eliminate existing populations of noxious weeds in the ROW and prevent any additional spread of weeds associated with construction activities. Questar will achieve this through implementation of control measures contained in the Plan.

## 2.0 WEED MANAGEMENT PLAN

The Weed Management Plan incorporates actions at the pre-construction, construction, and post-construction phases of the project. Monitoring and follow-up controls will start with construction and continue for a minimum of three years.

### 2.1 Pre-Construction

Planning control efforts prior to disturbance is key to successful weed management. Agency coordination, a weed inventory of the ROW, and targeted control efforts have been incorporated in the pre-construction phase beginning in 2012.

#### 2.1.1 Agency Coordination and Inventory

Initial coordination with UWCNF resource specialists identified the potential for spotted knapweed (*Centaurea maculosa*) to be present at invasive levels in the ROW. A pedestrian weed survey of the ROW was conducted within a 150-foot corridor of centerline on April 25, 2012. The survey confirmed the presence of spotted knapweed. Concentrations of spotted knapweed were documented using a global positioning system (GPS) unit and photographs. Survey results are shown in **Table 2.1** and **Appendix B : Figure 1**.

Three noxious weed species and two other weed species were identified as being present above incidental levels within the ROW during the field survey (Tetra Tech 2012) (**Table 2.1**).

Table 2.1 Weed Species in Project Right-of-Way 2012 Survey		
Common Name/ State Class/FS Category	Scientific Name	Description
<b>Noxious Weeds</b>		
Spotted Knapweed/ Class A/ 1A	<i>Centaurea maculosa</i>	Throughout both segments, but largest concentrations occurred in segment west of OVBV.
Musk Thistle/ Class B/ 3B	<i>Carduus nutans</i>	Throughout both segments, but largest concentrations occurred in segment west of OVBV.
Canada Thistle/ Class C/ 3B	<i>Cirsium arvense</i>	Throughout both segments.
<b>Non-noxious Weeds</b>		
Cocklebur	<i>Xanthium strumarium</i>	Sporadic distribution
Dandelion	<i>Taraxacum officinale</i>	Sporadic distribution

Spotted knapweed, Canada thistle, and musk thistle have been further categorized by the UWCNF as follows:

- Spotted knapweed – Group 1 and Invasiveness A. Group 1 is defined as <10 infestation sites; eradication is most likely, and elimination is likely to be most cost-effective in the long term. Invasiveness A is defined as highly invasive (USDA-FS 2005; USDA-FS 2006).

- Canada thistle and musk thistle – Group 3 and Invasiveness B. Group 3 is defined as >20 known infestation sites or relatively large established populations. The treatment objective is to hold existing populations to their current size and reduce, over time, existing populations through a containment and control strategy. Invasiveness B is defined as moderately invasive (USDA-FS 2005; USDA-FS 2006).

Spotted knapweed is of the highest priority for treatment. Eradication is considered possible, yet the species has a high potential for rapid spread (highly invasive). Spotted knapweed is an aggressive weed that reproduces from seed and forms a new shoot each year from an existing taproot. Reproduction of spotted knapweed by seed is extremely successful, as germination may occur anytime during the growing season and is stimulated by disturbance.

### **2.1.2 Control**

Typical treatment practices used in eradicating, controlling, and/or containing noxious weeds include mechanical, biological, controlled grazing, chemical (aerial and ground-based), or combinations of these treatments. Selection of the most appropriate treatment depends on the environmental setting, management objectives, the target species, and the risk of weed spread. The Treatment Program FEIS Record of Decision includes a Decision Tree for use in identifying possible sensitive condition factors prior to selection of a treatment method. Of the seven factors discussed, portions of the ROW occur near a riparian area, and in steep and/or inaccessible terrain. These factors were considered in tailoring weed control treatments for the ROW.

Questar will chemically control weeds using backpack sprayers on-foot. Chemical treatment is an effective method when the management objective is weed eradication or control. It involves the application of herbicides (chemical compounds) at certain stages of plant growth to kill weed species. Questar will use only Forest Service-approved herbicides when applying chemical treatments, using procedures for proper herbicide application. In addition, Questar routinely implements standard best management practices regarding herbicide application, handling of spills, and clean-up. Herbicide handling procedures are included in Section 4.0. The Treatment Program FEIS Record of Decision also specifies that coordination is required between herbicide application operators and interested parties, including Forest Service representatives and adjacent landowners. Questar will provide prior notice to the Forest Service and private landowners in the vicinity of the ROW prior to herbicide application activities.

Weed infested areas will be treated prior to construction. A treatment log will be kept to document chemical applications, which will include details on the methods, amounts, timing, target species, date, and environmental conditions at the time of application. Chemical applications required at locations in the vicinity of sensitive resources (streams, sensitive plants, amphibian breeding areas, etc.) will be documented. Hand-application techniques will prevent excessive use of herbicides and minimize the potential for drift into sensitive areas. As outlined in Section 3.0 below, herbicides will not be applied in close vicinity to riparian areas or open water on windy days.

The ROW is a relatively narrow corridor, making identification of target areas and control applications highly manageable on foot. Weed areas identified during the 2012 weed inventory will be flagged to direct herbicide applications and construction workers. The herbicide used will target spotted knapweed and will be applied using backpack sprayers. Existing populations within the ROW and a minimum 15-foot buffer would be treated to reach the seed bank. Follow-up post-construction treatments may be required for a minimum of two years.

**Table 2.2** lists selective chemical herbicides identified in the Forest Service Weed Strategy as known to have successfully controlled spotted knapweed, musk thistle, and Canada thistle (USDA-FS 2005). Application amounts suggested by manufacturer and State-certified handler should be followed.

<b>Table 2.2 Selective Chemical Herbicides and Target Weed Species</b>			
<b>Chemical</b>	<b>Spotted knapweed</b>	<b>Musk thistle</b>	<b>Canada thistle</b>
glyphosate	X	X	
picloram	X		
dicamba		X	X
2,4-D	X	X	X
clopyralid	(+ 2,4-D)	X	X (+ 2,4-D)

In addition to chemical control, spotted knapweed may be eradicated through biological controls such as the introduction of seedhead fruit flies. The insects damage seed heads and reduce reproduction. A final, but more labor intensive method is manual control. Removal of small occurrences is effective if the entire taproot is removed prior to seed set. Plants should be bagged on site prior to transport. Questar will rely on hand-applied chemical control as it is considered the most effective option given project characteristics. Follow-up applications and monitoring will ensure success.

## 2.2 Construction

Preventative actions to control the spread of existing weeds and the introduction of new species will be implemented throughout construction. Questar will implement and enforce BMPs to control weeds, including:

- Clean all equipment of dirt and vegetative material prior to transport into the project area. Clean all equipment before leaving the project site when operating in areas infested with weeds. Vehicles may be inspected to ensure equipment is cleaned.
- Provide construction workers with training in the identification of weed species and known locations of weed populations.
- Minimize the size of disturbance areas and avoid disturbing areas infested by weeds, as possible.
- Where vegetation will be removed in areas currently infested by spotted knapweed, contractors will be trained to handle the removed material in a manner that does not spread it throughout the ROW. The weeds would be removed from the soil surface and stockpiled within the infested area and remain within the construction ROW. Follow-up treatments targeted at these known locations will aim to further prevent the spread of the weed seed. Weed population locations will be flagged prior to disturbance. The construction monitor will have knowledge of weed population locations in the ROW and will alert crews prior to disturbance.
- Sediment retention structures will be composed of either a synthetic material or certified weed-free straw.

## 2.3 Post-Construction

The following practices to control weeds post-construction will be implemented and enforced:

- Clean all equipment before leaving the project site when operating in areas infested with weeds. Vehicles may be inspected to ensure equipment is cleaned.

- Re-establish vegetation in disturbed areas with a seed mix that has been approved by the Forest Service and certified by the USDA Seed Lab, as soon as practicable following disturbance. Incorporate protocols established in an approved revegetation plan.
- Monitor revegetated areas and follow-up with re-seeding and weed control treatments as needed for a minimum of three years.
- Provide an annual report summarizing the condition of the ROW and activities conducted to the Forest Service.

Weed locations identified pre-construction and a minimum 15-foot buffer would be sprayed after construction has been completed. Monitoring would consist of spring pedestrian surveys throughout the ROW for a minimum of three years post-construction. Surveyors would document weed observations and areas of accelerated erosion or unsuccessful seeding establishment. Survey results and confirmation of follow-up control actions will be provided to the Forest Service.

### **2.3.1 Reclamation Methods**

Of significant importance to long-term weed control is successful reclamation as soon as possible following site disturbance. Reseeding will be done at the appropriate time of year, considering weather conditions and construction timing, and would be based on site-specific factors such as slope, erosion potential, and size of the disturbed area. Forest Service guidelines state that native plants, preferably from genetically local sources should be used in revegetation efforts to the extent possible (WCNF Forest Plan 2003). Questar will develop a reclamation plan based on a combination of FERC and Forest Service guidance. The methods used will be evaluated as part of the Weber Canyon Replacement Project environmental assessment.

### **2.3.2 Monitoring**

Monitoring allows managers to evaluate whether control actions are contributing to the fulfillment of management objectives. Periodic observation of the ROW to document weeds and the success of revegetation is necessary to evaluate the effectiveness of a weed control program. If management objectives are not being met, weed control actions need to be modified. Monitoring outlined in the Plan incorporates guidance provided in the Treatment Program FEIS (USDA-FS 2006).

Questar will work with the Forest Service, Davis and Morgan counties and other permit holders on a long-term monitoring, inventory, and treatment program for the control of noxious weeds within the ROW for the life of the ROW grant.

Treated sites and all restored sites will be monitored for effectiveness through field checks to determine the following:

- Success of site-specific weed management objectives (eradication, control, or containment) and whether follow-up treatments are needed. If needed, what kinds?
- Success of reclamation and whether follow-up treatments are needed. If needed, what kinds?

## 3.0 HERBICIDES: APPLICATION, HANDLING, SPILLS, AND CLEANUP

### 3.1 Herbicide Application and Handling

Herbicide application will be conducted according to manufacturer direction and guidance provided by the Forest Service and Davis and Morgan counties, as applicable. Questar will obtain any required permits and complete prior notifications to affected agencies, ROW operators, and landowners prior to applications. All herbicide applications would be performed by a State-certified applicator and would be in accordance with applicable laws and regulations. All herbicide applications would follow U.S. Environmental Protection Agency (EPA) label requirements and directions specified in Forest Service Handbooks 2109 and 6709.

Hand-application methods (e.g., backpack spraying) would be used due to the relative small project area and steep terrain of the ROW, and the small and scattered nature of weed populations. Calibration checks of equipment would be conducted at the beginning of spraying and periodically to ensure that proper application rates were achieved. As discussed above, a treatment log would be kept and applications necessary in the vicinity of sensitive areas would be noted.

The following mitigation measures obtained from the Forest Service are applicable to ground-based applications of herbicides and will be implemented with weed treatments:

#### *Buffer Zones*

- No chemical herbicides will be used within a 100-foot radius of any potable water spring development.
- No spraying of any herbicide will occur within 50 feet of open water when wind velocity exceeds five mph.
- A 50-foot no-spray buffer zone will apply for broadcast or 'block' applications along all flowing water streams and ponded water bodies. A 15-foot, no-spray buffer will apply for spot applications along all flowing water streams and ponded water bodies. A 300-foot, no-spray buffer will apply around known amphibian breeding areas. Prior to spraying in sites with potential habitat, an ocular survey will be conducted for amphibian presence. Within this amphibian buffer zone, herbicide application will be limited to techniques that do not require sprays, such as wiping, wicking, or painting.
- No spraying of picloram will occur within 100 feet of surface water when wind velocity exceeds five mph.
- A 100-foot buffer will be employed around known populations of sensitive plants during broadcast (block) applications.

#### *Coordination*

- When scheduling treatment activities, consider needs of the public.
- Coordination with the Forest Service wildlife biologist(s) (or other Forest Service Project contact) will occur before applying herbicides on big game winter range to minimize impacts to winter forage.
- Adjacent campgrounds will be closed during the application period.
- Notify the public and adjacent land owners/managers at least seven days in advance of planned herbicide treatments. Posting notices may be necessary.

### *Chemical Application Protective Measures*

#### Chemical Application

- A Pesticide Use Proposal (PUP) will be completed on a yearly basis. A Pesticide Application Record (PAR) will be completed, as required. General treatment areas, methods, and dates will be reported to the Forest Service.
- Herbicides approved for use by the Forest Service (approved and registered by the EPA) will be used according to label instructions; and will be applied by State- certified applicators or under their direct supervision.
- Clean all equipment before leaving the project site when operating in areas infested with weeds. Vehicles may be inspected to ensure equipment is cleaned.
- Calibrate equipment often enough to ensure application of the proper amount of herbicide.
- Notify adjacent landowners prior to treating weeds on National Forest System lands.
- Use dyes as necessary to ensure uniform coverage. Spray detection cards may be required in buffer zones near sensitive resources (streams, campgrounds) to monitor drift.
- Post signs at visible sites (campgrounds, trailheads, road intersections) to notify the public of herbicide application in the area.
- Apply all chemicals in accordance with EPA registration label requirements and restrictions, and applicable laws and policies. Follow FS Handbook 6709 and 2109, and FS Manual 2150 guidelines.
- Chemical contractors will have a Herbicide Emergency Spill Plan that includes methods to report and clean up spills. Applicators will be required to be familiar with the plan and carry spill-containment and clean-up equipment.
- Specific label directions, recommendations, and guidelines will be followed to reduce drift potential (such as nozzle size and pressure, additives, and wind speed).
- No chemical would be applied directly to sensitive plant species during spot treatments, and a 100-foot buffer would be maintained around known sensitive plant populations during broadcast treatments.
- No spraying of any herbicide will occur when wind velocity exceeds 10 mph, as per State Department of Agriculture standards. Spraying operations will not occur if precipitation is expected within 24 hours following the proposed application.
- No more than one application of picloram in a treatment area will occur per year.
- Individuals who exhibit idiosyncratic responses, such as hypersensitivity to natural and synthetic compounds, will not be permitted to work on herbicide spray crews.

#### Procedures for Mixing, Loading, and Disposal of Herbicides

- All mixing of herbicides will occur at least 100 feet from surface waters or well heads.
- Applicators will mix only those quantities of herbicides that can be reasonably used in a day.
- Mixers will wear goggles or a face shield, rubber gloves, rubber boots, and protective overalls.
- All empty containers will be removed from the Project area and disposed of properly by the chemical contractor.
- Unused herbicides will be removed from the Project area.
- Any additional herbicide label requirements will be strictly followed during the mixing, loading, and disposal of herbicides.

## **3.2 Herbicide Spills and Cleanup**

Herbicide spills will be avoided through cautious handling and use of appropriately trained individuals. In the event of a spill, cleanup would be immediate. Contractors will keep spill kits

in their vehicles to allow for quick and effective response to spills. Items to be included in the spill kit are as follows:

- Protective clothing and gloves
- Adsorptive clay, "kitty litter," or other commercial adsorbent
- Plastic bags and bucket
- Shovel
- Fiber brush and screw-in handle
- Dust pan
- Caution tape
- Detergent

Response to an herbicide spill varies with the size and location of the spill. Given the application methods to be used and the relatively small Project area, general spill response procedures would include:

- Dressing the cleanup team in protective clothing
- Stopping the leaks
- Containing the spilled material
- Cleaning up and removing the spilled herbicide and contaminated adsorptive material and soil
- Transporting the spilled herbicide and contaminated material to an authorized disposal site

### **3.3 Worker Safety and Spill Reporting**

Herbicide contractors will obtain and have readily available copies of the appropriate material safety data sheets for the herbicides used. All herbicide spills would be reported in accordance with applicable laws and requirements.

## **4.0 OPERATOR AGREEMENT**

Other operators that co-occur in the Project ROW with Questar Pipeline have been notified of the Plan. Questar has agreed to manage weeds according to the Plan throughout the ROW.

## **5.0 REFERENCES**

Tetra Tech. 2012. Technical Memorandum: Mainline 3 2012 weed inventory. May 9, 2012.

United States Federal Register. February 8, 1999. Vol. 64. No. 25. Executive Order 13112: Invasive Species. President William Clinton.

U.S. Department of Agriculture-Forest Service (USDA-FS). 2003. Revised Forest Plan Wasatch-Cache National Forest. February.

USDA-FS. 2005. Wasatch-Cache National Forest Integrated Weed Management Strategy (Weed Strategy). Revised 2005.

USDA-FS. 2006. Wasatch-Cache National Forest Noxious Weed Treatment Program Final Environmental Impact Statement (Treatment Program FEIS) and Record of Decision. September.

**APPENDIX A**  
**STATE, FOREST SERVICE, COUNTY WEED LIST**

**Appendix A. Designated Noxious Weeds of the State of Utah, Wasatch-Cache National Forest, and Davis and Morgan Counties, Utah**

<b>Common Name</b>	<b>Scientific Name</b>	<b>State of Utah Designations</b>	<b>Wasatch-Cache National Forest</b>	<b>Morgan</b>	<b>Davis</b>
Bermudagrass	<i>Cynodon dactylon</i>	Class B	X	X	X
Black Henbane	<i>Hyoscyamus niger</i>	Class A	X	X	
Blue Spurge	<i>Euphorbia myrsinites</i>		X		
Broad-leaved Peppergrass	<i>Lepidium latifolium</i> L.	Class B			
Buffalobur	<i>Solanum rostratum</i>				X
Canada Thistle	<i>Cirsium arvense</i>	Class C	X	X	X
Common Burdock	<i>Arctium minus</i>		X	X	
Dalmation Toadflax	<i>Linaria genistifolia</i>	Class B	X	X	X
Diffuse Knapweed	<i>Centaurea diffusa</i>	Class A	X	X	X
Dyer's Woad	<i>Isatis tinctoria</i>	Class B	X	X	X
Field Bindweed	<i>Convolvulus arvensis</i>	Class C	X	X	X
Hoary Cress/Whitetop	<i>Cardaria draba</i>	Class B	X	X	X
Houndstongue	<i>Cynoglossum officinale</i>	Class C	X	X	X
Johnsongrass	<i>Sorghum halepense</i>	Class A			
Jointed Goatgrass	<i>Aegilops cylindrica</i>		X		
Leafy Spurge	<i>Euphorbia esula</i>	Class A	X	X	X
Medusahead	<i>Taeniatherum caput-medusae</i>	Class A	X		
Musk Thistle	<i>Carduus nutans</i>	Class B	X	X	X
Oxeye Daisy	<i>Chrysanthemum leucanthemum</i> L.	Class A			X
Perennial Pepperweed	<i>Lepidium latifolium</i>	Class B	X		X
Perennial Sorghum	<i>Sorghum alnum, Parodi</i>	Class A			
Poison Hemlock	<i>Conium maculatum</i>	Class B	X		X
Puncturevine	<i>Tribulus terrestris</i>		X	X	
Purple Loosestrife	<i>Lythrum salicaria</i>	Class A	X		X
Quackgrass	<i>Elytrigia repens</i>	Class C		X	X
Russian Knapweed	<i>Centaurea repens</i>	Class B	X	X	X
St. John's wort	<i>Hypericum perforatum</i>	Class A	X		X
Saltcedar	<i>Tamarix ramosissima</i>	Class C	X		X
Scotch Thistle	<i>Onopordum acanthium</i>	Class B	X	X	X
Spotted Knapweed	<i>Centaurea maculosa</i>	Class A	X	X	X
Squarrose Knapweed	<i>Centaurea virgata</i>	Class B		X	
Sulfur Cinquefoil	<i>Potentilla recta</i> L.	Class A			
Wand Mullein	<i>Verbascum virgatum</i>		X		
Yellow Nutsedge	<i>Cyperus</i>				X

**Appendix A. Designated Noxious Weeds of the State of Utah, Wasatch-Cache National Forest, and Davis and Morgan Counties, Utah**

Common Name	Scientific Name	State of Utah Designations	Wasatch-Cache National Forest	Morgan	Davis
	<i>esculentus</i>				
Yellow Starthistle	<i>Centaurea solstitialis</i>	Class A	X		X
Yellow Toadflax	<i>Linaria vulgaris</i>	Class A	X		

Weed List Obtained from:

Noxious Weed Field Guide for Utah. Edition 4. March 2010. Utah State University. Available at:

<https://extension.usu.edu/weedguides/htm/> Accessed on: June 14, 2012.

Utah Department of Agriculture and Food. Utah Noxious Weed List. October 2010. Available at:

<http://ag.utah.gov/divisions/plant/noxious/index/html> Accessed on: June 14, 2012.

Utah State Noxious Weed List. U.S. Department of Agriculture. Plants Database. Available at: <http://plants.usda.gov> Accessed on: June 14, 2012.

Utah Weed Control Association. Available at: [http://utahweed.org/WeedID\\_css.html](http://utahweed.org/WeedID_css.html) Accessed on: June 14, 2012.

Utah Department of Agriculture and Food. County Declared Noxious Weeds in Utah. August 2009. Available at:

<http://ag.utah.gov/divisions/plant/noxious/index/html> Accessed on: June 14, 2012.

U.S. Department of Agriculture - Forest Service. 2005. *Wasatch-Cache National Forest Integrated Weed Management Strategy*. Appendix 2 – Weed Lists, WCNF Weed List. Page 23.

**APPENDIX B**  
**WEED SURVEY MEMO 2012 AND FIGURE**

## Technical Memorandum

To:	Rebecca Peters	From:	M. Weidner, N. Kisen
Company:	Questar Pipeline	Date:	May 9, 2012
Address:		Project	
Re:	Mainline 3 2012 weed inventory	No.:	114-520105
CC:			

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This memorandum documents the pedestrian survey conducted by Tetra Tech for the Questar Mainline 3 pipeline replacement project ('Project') to identify populations of invasive and noxious weeds. A five-mile segment of the Mainline 3 pipeline will be replaced during the 2012 construction season. Tetra Tech conducted a survey to identify weeds, in particular spotted knapweed (*Centaurea maculosa*) on April 25, 2012 along the five-mile segment. **Figure 1** depicts the Project area and survey results. Photographs are included as **Attachment A**.

### Results

Discrete locations of small *Centaurea maculosa* populations were identified within the Project right-of-way (ROW). To the east of the Weber Water Conservancy District spillway, GPS points were taken at specific locations and are indicated on Figure 1. More continuous occurrences of *Centaurea maculosa* were found throughout the ROW segment to the west of the spillway.

Other weed species commonly encountered included Canada thistle (*Cirsium arvense*), musk thistle (*Carduus nutans*), dandelion, (*Taraxacum officinale*), and cocklebur (*Xanthium strumarium*).

### Conclusions

Tetra Tech is currently drafting a weed management plan to provide direction to Questar on how to prevent the spread of *Centaurea maculosa* following construction disturbance. Questar may want to provide the results of this survey to representatives of the U.S. Forest Service to document future success of efforts to control the spread of known weed populations.

Attachment A



*Centaurea maculosa* population



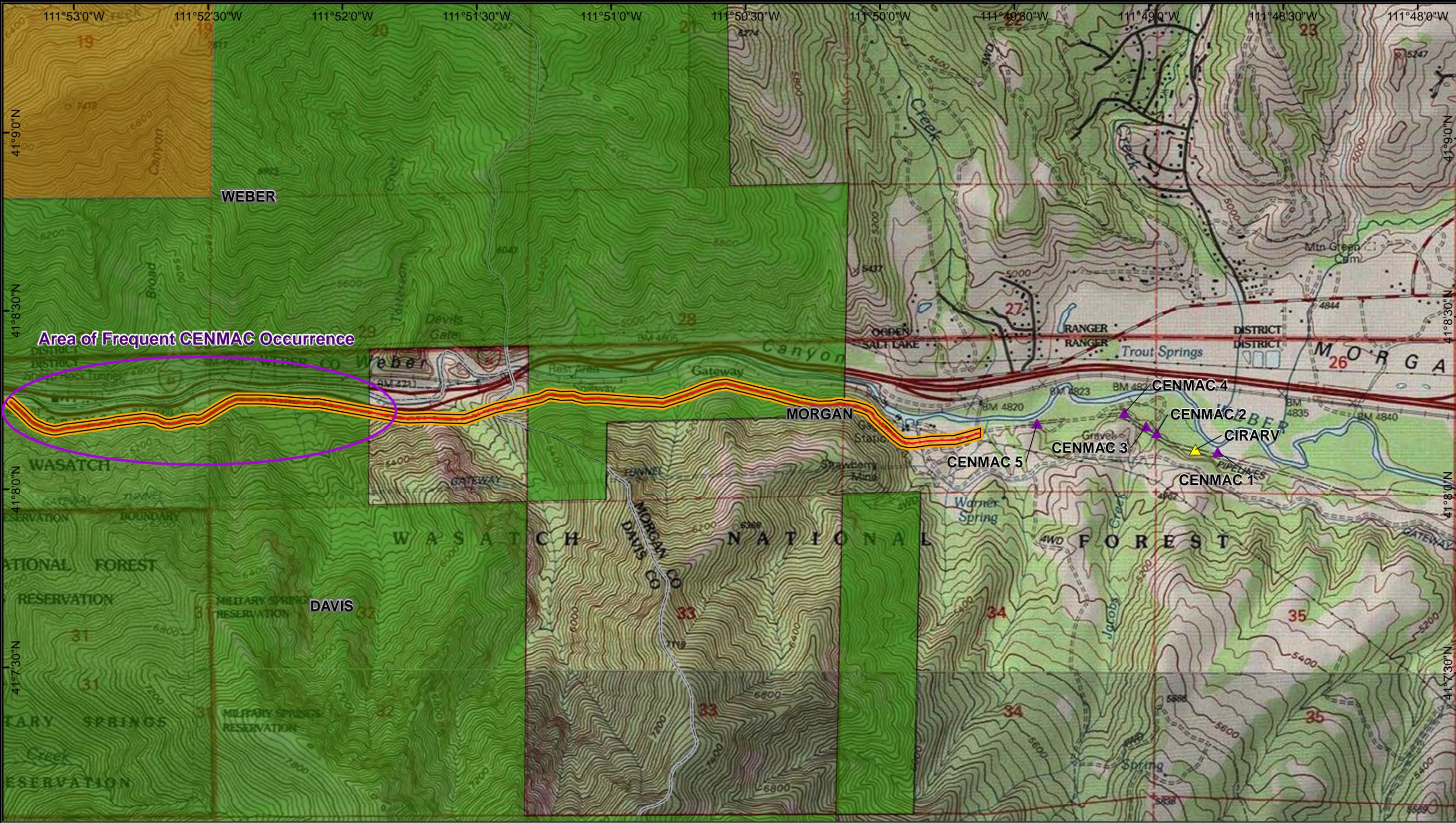
*Centaurea maculosa*



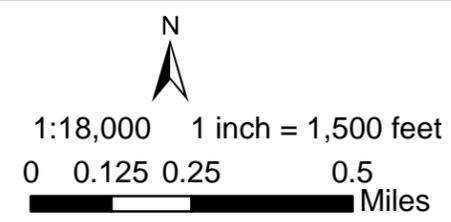
**CENMAC basal leaves**



**CENMAC flower bracts**



Area of Frequent CENMAC Occurrence



- Mainline III Project Area**
- Mainline III Replacement Route
  - 150 ft. Potential Disturbance Corridor

- Legend**
- Private
  - UDWR
  - USFS

- Weed Survey Findings**
- ▲ CENMAC
  - ▲ CIRARV

**Questar Mainline III Phase 3**  
 Figure 1: Weed Inventory  
 Davis and Morgan Counties, Utah

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**APPENDIX B**  
**QUESTAR'S FUGITIVE DUST CONTROL PLAN**

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**Fugitive Dust Control Plan**  
**for**  
**Questar Gas Company and Questar Pipeline Company (“Questar”)**  
**(Compliance with R307-309-3 & 4)**

**Introduction**

In accordance with the requirements of the Utah Administrative Code R307-309, this Fugitive Dust Control Plan (Plan) identifies measures to be taken by Questar Regulated Services (i.e. Questar Pipeline Company and Questar Gas Company) and its contractor(s) to minimize particulate matter (i.e. dust) during construction activities. Measures identified in this Plan apply to work within the project area defined as the right-of-way (ROW), access roads, all work and storage areas, measuring/regulating facilities, and other areas used during construction.

The Plan is to provide “blanket” coverage for Questar projects disturbing more than 0.25 acres along the Wasatch Front (Utah, Salt Lake, Davis Counties and Ogden City) in the state of Utah. On small projects (i.e. projects disturbing less than five acres), no additional notification will be given, unless specifically requested by the Utah Department of Air Quality, and this Plan will suffice. On larger projects (i.e. projects which disturb greater than five acres), this Plan will also be used but will be supplemented with project-specific information including, but not limited to: project location, construction timeframe, identification of responsible individual(s), and any dust control measures that are project specific. Questar will submit this additional project-specific information to the Executive Secretary prior to commencement of the proposed “large” project. Where Questar is part of a larger development (i.e. a subcontractor), Questar will comply with the general contractor’s Fugitive Dust Control Plan.

**Source Information**

**Name of Operation:**

Miscellaneous Questar Pipeline Company (high-pressure, natural gas transmission pipelines and facilities) and Questar Gas Company (distribution pipelines and facilities) projects.

Company Address:      Questar Regulated Services  
                                 1140 West 200 South  
                                 P.O. Box 45360  
                                 Salt Lake City, Utah 84145

**Location of Operation:**

Projects conducted in Utah, Salt Lake, Davis Counties, and Ogden City, which disturb greater than 0.25 acres. All fugitive dust emissions covered under this plan are from temporary, non-stationary points.

**Length of Projects:**

Depending on size and complexity, construction projects generally take between a few days to two months to complete.

### **Description of Process:**

Although pipeline construction techniques vary according to pipe size, pipe material, and project complexity, construction will generally involve the following major steps (Figure 1 illustrates the typical process for steel pipeline construction):

- clearing and topsoil salvage;
- grading and trenching;
- pipe placement;
- backfilling and erosion control;
- testing; and
- cleanup and reclamation.

#### Clearing and Topsoil Salvage

Construction activities will begin with the removal of aboveground vegetation (if necessary), obstacles, and all available topsoil. No clearing or other disturbance will occur outside of the approved ROW area. Vegetation and other materials that are cleared will be placed within the ROW area, for later use in reclamation and to impede unauthorized vehicle traffic, or will be removed in accordance with landowner directions. Where necessary, cleared vegetation and debris will be disposed of in accordance with all applicable laws and regulations. Topsoil will be segregated from subsoil and stockpiled (windrowed) for use during reclamation.

#### Grading and Trenching

The construction area will be graded as necessary to create a relatively flat working surface for the heavy equipment and vehicles used in subsequent construction activities. Minimal grading will be required where the terrain is relatively flat; however, in sloping areas, conventional single-cut grading will be used.

After grading, a trench approximately 2 ft wide and a minimum of 3 ft deep will be dug with a wheel ditcher, trencher, or backhoe. Spoil and topsoil will be windrowed separately along the trench. Gaps may be left in the windrows as necessary to permit natural drainage and prevent excessive water erosion in the event that the construction segment receives runoff from a storm.

#### Pipe Placement

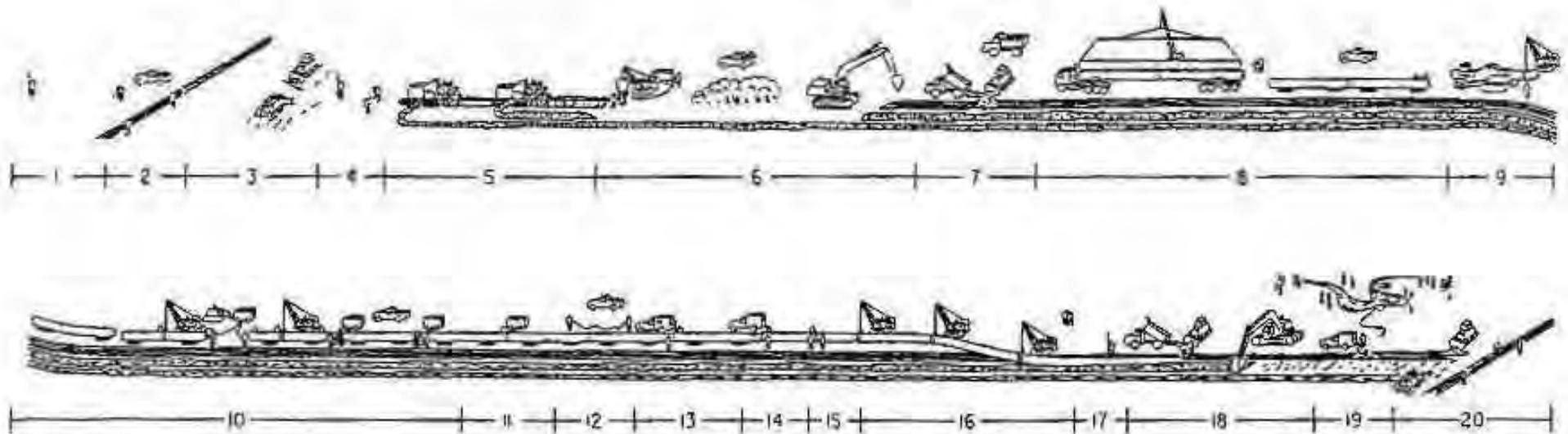
On small, Questar Gas projects where polyethylene (PE) pipe is used, the pipe will be strung directly into the trench wherever possible. Joints will be heat fused together and visually inspected. Any faults or scratches will be removed. Where steel pipe is used, sections of pipe will be aligned with the trench (using a bending machine if necessary) and welded together. Welds will be visually and radiographically inspected and coated with either a tape wrap or shrinkable sleeve wrap. The pipe will then be inspected and lowered into the trench using side-boom tractors or other appropriate equipment.

#### Backfilling and Erosion Control

The ROW will be backfilled using a bulldozer in combination with a moldboard, rotary auger back-filler, pipeline padder, or other appropriate equipment. Backfill will generally consist of the material originally excavated from the trench. In some cases, commercially available backfill material may be used. Rock will not be backfilled directly onto the pipe. Where such rock is encountered, select backfill (e.g., backfill that meets company's specifications) will be imported from off-site (e.g., commercial gravel pit) or other ROW areas and placed around the pipe to form a pad.

After construction of the pipeline is completed, the ROW and other work areas will be graded and restored, as near as practicable, to the original contour of the land using the original soil. The original topsoil will be evenly spread over the disturbed area. Permanent soil stabilization efforts may include

# PIPELINE CONSTRUCTION SEQUENCE



- |   |  |
|---|--|
| 1. RIGHT-OF-WAY ACQUISITION AND SURVEY  | 11. FILL AND CAP WELD                          |
| 2. FENCING                              | 12. AS-BUILT FOOTAGE                           |
| 3. CLEARING AND GRADING                 | 13. X-RAY AND WELD REPAIR                      |
| 4. CENTERLINE SURVEY OF DITCH           | 14. COATING FIELD AND FACTORY WELDS            |
| 5. DITCHING (ROCK-FREE)                 | 15. INSPECTION (JEEPING) AND REPAIR OF COATING |
| 6. DITCHING (ROCK)                      | 16. LOWERING IN AND TIE-INS                    |
| 7. PADDING DITCH BOTTOM                 | 17. AS-BUILT SURVEY                            |
| 8. STRINGING                            | 18. PAD AND BACKFILL                           |
| 9. BENDING                              | 19. TEST AND FINAL TIE-IN                      |
| 10. LINE UP, STRINGER BEAD AND HOT PASS | 20. REPLACE TOPSOIL AND CLEANUP                |

Figure 1. Pipeline Construction Sequence.

construction of waterbars and/or silt barriers along contours of disturbed areas and the revegetation of the ROW.

#### Testing

Where PE pipe is used, the pipeline will be pressure-tested with air to 100 psig for a minimum of 15 minutes for each 100 feet of pipeline length. If pressure decrease is noted during the test period, the defective section will be located and the defective section will be replaced.

Where steel pipe is used, the pipeline will be pressure-tested (with water, natural gas, or nitrogen) after the trench is backfilled. The pipeline will be filled with water or gas and pressurized to approximately 1.5 times its maximum operating pressure for 8 hours to verify pipeline integrity.

#### Cleanup and Reclamation

Depending upon weather conditions, clean up and reclamation will occur as soon as practical. If reclamation cannot be completed prior to ground freeze-up or substantial snowfall, areas to be reclaimed will be stabilized and reclamation will be completed at the first seasonal opportunity.

Seed will be planted (where necessary) using a drill equipped with a depth regulator to ensure proper depth of planting, generally 0.25 to 0.5 inches below the land surface. In areas where it is not possible to drill seed, seed will be broadcast using a cyclone-type broadcast seeder and seeding rates will be doubled. The seeded area will then be raked with a harrow or chain to cover seed and packed with a multipacker or similar implement to ensure appropriate soil/seed contact.

On highly erosive areas, such as steep slopes or near waterbodies, mulch or erosion control blankets will be applied over the seed to stabilize the ground surface and promote vegetative growth. As appropriate, temporary erosion control measures (i.e. silt fences, hay bales, etc.) will be removed prior to demobilizing from the work area and monitoring efforts will take place until vegetation is established.

#### **Type of Material Processed or Disturbed:**

Disturbed material will consist of topsoil, subsoil, roadway material (asphalt, concrete, gravel, etc.)

#### **Amount of Material Disturbed:**

Variable. For small pipelines (8 inch or smaller outside diameter) disturbance widths can vary from a few feet to 30 feet depending on terrain, project complexity, and equipment used. Disturbance widths for large pipeline projects (greater than 8 inch O.D.) vary between 50 to 125 feet. Pipeline trenches will generally be dug to a 3-foot minimum depth and approximately 2 feet wide.

#### **Destination of Material:**

Topsoil and subsoil will be left on site for backfilling and reclamation. Backfilling will begin after the pipeline has been successfully placed in the trench and final inspection has been completed. Backfilling will be conducted using a bulldozer, rotary auger backfiller, or other suitable equipment. Backfill will generally consist of the originally excavated material. In rocky areas, padding material or a rock shield will be used to protect the pipe. Where necessary for ground stability, backfill will be graded and compacted by being tamped or walked on with a wheeled or track vehicle. The soils will be replaced in a sequence and density similar to preconstruction conditions. Subsoils will be backfilled first, followed by replacement of stockpiled topsoil. Any excess excavated materials, or materials unfit for backfill, will be properly disposed of in conformance with applicable laws and regulations and landowner or jurisdictional agency requirements. Where possible and appropriate, excess excavated materials will be spread out over the ROW to avoid off-site disposal.

**Individual(s) Responsible for Implementation and Maintenance of the Fugitive Dust Plan:**

Vaughn Shosted  
Region Manager  
Salt Lake & Utah Counties  
Southern parts of Davis Co.  
(801) 324-3384

Mark Staker  
Region Manager  
Weber County  
Northern parts of Davis Co.  
(801) 395-3763

**Additional Companies Responsible for Dust Control on Site:**

Questar uses several different contractors for pipeline construction projects along the Wasatch Front. Questar requires all of its pipeline construction contractors (through project-specific and general contracts) to properly implement dust control measures on each project as specified in this dust control plan or as directed by Questar’s construction inspectors.

**Description of Fugitive Dust Emission Activities**

*Dust control strategies are designed to meet 20% opacity or less on site and 10% opacity from fugitive dust at the site boundary.*

**Type of Activities:**

Activities associated with pipeline construction include clearing and grading the ROW prior to construction, trenching (open cut); pipeline placement, welding and bending of the pipe, trench backfilling, and blending (re-contouring of the trench after pipe installation). Included with the pipeline construction will be possible clearing of temporary use areas and permanent facility pads, hauling material and pipe to the sites, and personal/company vehicle traffic to and from the work sites along unpaved roads and the pipeline ROW itself.

**Type of Equipment Generating Fugitive Dust:**

Light utility vehicles - pickups, etc.

Heavy-duty vehicles – construction equipment (trackhoes, backhoes, trenching machines, cranes, padding machines, boring machines etc.) and semi-trailers carrying pipe.

**Site Activities and Equipment:**

Pictures of various construction phases and equipment are shown in Attachment A.

**Travel on Unpaved Roads:**

Depending on the site, unpaved access roads may be used to get equipment in and out of the site. However, with the possible exception of pickup trucks and semi-trailers hauling pipe and equipment to the site, the majority of travel will occur on the pipeline right-of-way. Large construction equipment such as trenching machines and backhoes will travel very little throughout a given day or the project.

Vehicles traveling on unpaved roads shall travel at posted speed limits. Vehicles traveling along or entering or exiting the construction area shall travel at a speed which minimizes dust emissions.

**Type of Dust Emitted:**

Dust from unpaved roads and topsoil and subsoil from the construction ROW.

**Estimated Size of Release Area:**

The release area will be project specific, but will generally include only the ROW and unpaved access roads. Generally, long hauls of soil or other “dusty” material will not be conducted.

### **Description of Fugitive Dust Emission Controls on Site**

#### **Types and Methods of Dust Controls:**

Throughout the construction process, erosion control measures will be implemented to retain the soil onsite. Sediment barriers (i.e. silt fences, straw bales, etc.) will be installed near sensitive and highly erosive areas. Areas that had vegetation prior to construction will be revegetated. Disturbed areas along roadways will be repaved or graveled. Mulch and tackifier or erosion control blankets may be applied on unstable slopes or sensitive areas to stabilize the area. Effort will be made to complete final reclamation and cleanup of a disturbed area within 10 days after backfilling. Generally, disturbed areas will be revegetated as soon as practicable after final reclamation and cleanup.

Fugitive dust from access roads and the construction ROW will primarily be controlled using water. If extreme conditions or public complaints dictate additional measures, magnesium chloride may also be applied. Water will be applied to the access roads and ROW using a rear spraying water truck or other comparable equipment. All visibly dry disturbed access roads and disturbed soil surface areas will be watered as necessary to control dust emissions. The frequency of water application will largely depend on weather conditions and/or soil type (fine, powdery soil will generally require more frequent applications).

#### **Triggers of Special Control Measures:**

In the event of severely dry conditions, high wind, or citizen complaints, additional water will be applied.

#### **Off-hour Measures:**

Construction generally takes place on a 6-day per week basis. If high winds are expected during off-hours (after hours and non-working days), additional water will be applied prior to the temporary shutdown. Erosion control measures will remain in-place.

### **Description of Fugitive Dust Control off Site**

Although not anticipated, any trucks hauling materials off site that have the potential to create dust will be adequately wetted-down or covered prior to leaving the project site. Any material capable of generating dust which is deposited on public or private paved roads will be promptly removed.

# Attachment A

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Pictures of Construction Sequence and Equipment Used



Figure A-1. Grading and trenching



Figure A-2. Pipeline placement (stringing)



Figure A-3. Welding



Figure A-4. Backfill/Shading



Figure A-5. Cleanup and Reclamation

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**APPENDIX C**  
**FIRE PREVENTION AND CONTROL PLAN**

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QUESTAR PIPELINE  
Main Line 3 – Weber Canyon  
Replacement Project

FIRE PREVENTION  
AND  
CONTROL PLAN

MAY 2012

C-1

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Table F-1. Emergency Fire Control Contacts ..... C-8

## 1.0 INTRODUCTION

This Fire Prevention and Control Plan identifies measures to be taken by Questar Pipeline Company (Company) and its construction contractor (Contractor) to prevent and suppress all fires in accordance with federal, state, and local regulations. Measures identified in this plan, apply to work within the project area defined as the right-of-way (ROW), access roads, all work and storage areas, and other areas used during construction of the project. It is the Contractor's responsibility and obligation to take the initial and independent action to control and suppress all fires resulting from its operations regardless of the location or extent of such fires.

## 2.0 PURPOSE

The risk of fire danger during pipeline construction is related to smoking, spark arresters, catalytic convertors, vehicle fires, welding and normal operation and refueling of equipment. This plan describes standard fire prevention measures, prevention measures to be taken during extreme fire hazard conditions, as well as procedures to be taken to control a fire in the event one is accidentally started. The fire prevention and suppression measures described in this plan will be in effect from the beginning to the end of construction.

## 3.0 STANDARD FIRE PREVENTION MEASURES

### 3.1 Training

The Contractor will ensure that all personnel are familiar with the measures and procedures of this plan. The Contractor will also inform each construction crew member of fire dangers, locations of extinguishers and equipment, and inform individuals of their responsibilities for fire prevention and suppression during regular safety briefings. The requirements of this plan will also be discussed in the Environmental Training Program.

### 3.2 Fire Guard

During construction activities in Weber Canyon, the Contractor will have a designated representative in charge of fire control on the job at all times. The Contractor will designate a Fire Guard to be on site during construction activities. The Fire Guard must be physically able, vigilant, and suitably trained to detect fires and use required fire-fighting equipment. The Fire Guard will not perform other functions during pipeline construction in addition to their Fire Guard responsibilities. The Fire Guard will be identified by a hard-hat decal and/or other appropriate/alternative designation.

### 3.3 Smoking

Smoking will be prohibited, except in designated areas. Designated areas will consist of an area cleared and graded to native rock (stone) or soil, and will be a minimum of 10 feet in diameter. All burning tobacco and matches will be extinguished before discarding. Smoking will also be prohibited while operating equipment or vehicles, except in enclosed cabs or vehicles.

### 3.4 Burning

Burning of slash, brush, stumps, trash, or other project debris will be prohibited on the project, unless written authorization and approval is given by the appropriate land management agency or owner.

### 3.5 Spark Arresters

Internal combustion engines will be equipped with spark arresters unless it is:

1. Equipped with a turbine-driven exhaust supercharger.
2. A passenger vehicle or light truck equipped with a factory designed muffler and exhaust system in good working condition.
3. A heavy truck or other vehicle used for heavy hauling, equipped with a factory designed muffler and with a vertical stack exhaust system extending above the cab.

### 3.6 Vehicle Parking, Operation, and Refueling

No motorized equipment, including worker transportation vehicles, will be driven or parked outside of the designated and approved working areas. Gasoline, oil and lubricants will be transported in approved containers in accordance with the National Fire Protection Association Code. Glass containers will not be used to store gasoline or other flammable materials.

### 3.7 Welding

In addition to the standard fire equipment required in all vehicles, one 5-gallon backpack and pump containing water will be required with each welding unit.

### 3.8 Fire Control Equipment

Each clearing and construction crew will have fire tools, including extinguishers, shovels and axes, available in the event a fire occurs. All motorized vehicles will be equipped with a minimum 10-pound ABC extinguisher. All motorized equipment operated off roads will be equipped with a fire shovel and axe.

The Contractor shall have on-site and available for use, within 1-hour response time, a water tanker having a capacity of 500 gallons. The tanker will have a pressure pump, an adjustable nozzle, and a minimum of 200 feet of hose.

### 3.9 Restricted Operations

The Contractor will comply with all fire restrictions on federal lands at the direction of the Authorized Officer. Restrictions may vary from stopping specific operations at a given time or completely shutting down operations. The Company may obtain approval, in the form of a written waiver, to continue some or all operations if acceptable precautions are approved and implemented. A list of precautions that will be taken during a fire restriction is provided in Section 4.0.

## 4.0 EXTREME FIRE PREVENTION MEASURES

In the event of extreme fire conditions, fire closures may result in all or part of the construction operations being suspended. Depending on site-specific fire danger and hazards, the local land management agency may elect to waive all or part of the prohibitions in the fire closure. Conditions that shall be met in the event a waiver is granted shall be specified by the local land management agency. The following measures may be implemented, if approved by the appropriate land management agency.

1. All work areas will be inspected one hour after the end of authorized activities each day to ensure no ignitions have occurred.
2. A mobile water tank, containing a minimum of 200 gallons of water, with 200 feet of hose line will be located within 1000 feet of any type of machine that is powered by an internal combustion engine and any motor vehicles (including heavy equipment) being operated off Forest Roads.
3. A water tank, containing a minimum of 125 gallons of water, with pump and a 200-foot hose line will be positioned within 200 feet of any welding or cutting activities.
4. A look out, familiar with operations of the pump and hose line, will be posted in the immediate vicinity of each exempted activity, and dedicated to watch for fire ignitions.

## 5.0 FIRE CONTROL PROCEDURES

The Company will notify the Authorized Officer of any fires during construction of the pipeline. The Contractor will comply with all rules and regulations administered by the Authorized Officer concerning the use, prevention and suppression of fires on federal lands. In the event of a fire, the following actions will be taken:

1. The Contractor will take the initial fire suppression action in the work area and the Fire Guard will be notified.
2. The Fire Guard will direct the suppression activities, contact the Company and appropriate Authorized Officer and fire dispatch center, and determine whether or not to request assistance from the local fire emergency response agency (see Table F-1). The Company or Authorized Officer may also determine to contact a fire emergency response agency.
3. Suppression actions will continue until the fire is out or until the crew is relieved by a fire emergency response agency or authorized representative of the agency on whose land the fire occurs.
4. Heavy equipment will not be used for fire suppression outside the limits of the approved ROW without prior approval of the Authorized Officer or private landowner, unless there is imminent danger to life or property.
5. The Fire Guard will remain at the fire scene until the fire is fully extinguished. The Fire Guard will prepare a report for any fire indicating its location, cause, and action taken. The report will be submitted to the Company, the spread's Lead Environmental Inspector, the Authorized Officer, and appropriate agencies.

## 6.0 COMPLIANCE MONITORING

The third-party Environmental Inspectors and the Company's Construction Inspectors will inspect the job site and the Contractor's operations for compliance with all provisions of this plan. In addition, federal, state, and local fire control agencies may perform random inspections in areas under their jurisdiction. At the discretion of the Authorized Officer, an inspection of the project area on federal lands may be initiated at any time to check for compliance with this plan.

Table C-1 Emergency Fire Control Contacts.

County	Phone Number	Office Location
<b>State, Federal, and Private Lands</b>		
For out-of-control fires in Ogden City Area and Morgan County	Northern Utah Interagency Fire Center: 801-495-7600	14324 Pony Express Rd. Draper, UT 84020
<b>County and Utility Contacts</b>		
Weber Area Consolidated Dispatch	911 (Emergency) or 801-629-8211 (Ogden) or 801-845-4049 (Morgan)	2186 Lincoln Avenue Ogden, UT 84401
Pioneer Pipeline Company	801-299-3622 Colt Farley 801-299-3617 Dale Baxter	North Salt Lake North Salt Lake
Plains/Rocky Mountain Pipeline	866-800-7677	Plains Control Center
Rocky Mountain Power	877-508-5088	Salt Lake City, Utah Dispatch Center

Some typical questions you should be prepared to answer.

1. Fire location? - Use landmarks, be exact if possible.
2. Type of fire? - Vegetation fire, vehicle fire, structure fire.
3. Type of fuels? - Grass, brush, trees, etc.
4. Threats to structures, people, work equipment, etc.?
5. Special hazards present? - Powerlines, fuel tanks, explosives, etc.
6. Color of smoke, rate of spread?
7. Your name and phone number for additional information.

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**APPENDIX D**  
**PHOTOGRAPHS OF VIEWSHED ALONG**  
**PROJECT RIGHT-OF-WAY**

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Photo 1 – Eastbound viewshed from I-84



Photo 2 –Rest Area viewshed from I-84 looking west



Photo 3 – Westbound Viewshed from I-84