STORM WATER POLLUTION PREVENTION PLAN

for

QUESTAR GAS COMPANY'S FEEDER LINE 20 REPLACEMENT PROJECT

Start: (41.134842°, -111.933576°) Approximately: 1800 East 7250 South Weber, End: (41.150780°, -111.939280°) Approximately: 6200 South 1550 East South Ogden

SWPPP CONTACT(S):

Tom Bradley P.O. Box 45360 Salt Lake City, UT 84145-0360 801-324-3062 office 801-231-4653 cell 801-324-3883 fax

PREPARED BY:

Tom Bradley May 2013

ESTIMATED CONSTRUCTION DATES:

June 2013-December 2013

Permit #: UTR363769

QUESTAR GASCOMPANY'S FEEDER LINE 20 REPLACEMENT PROJECT



CERTIFICATION STATEMENT - Storm Water Pollution Prevention Plan

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature:

Kim Heimsath, V.P. Environmental Health and Safety

Date:

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Signature: Kim Heimsah

Kim Heimsath, V.P. Environmental Health and Safety

Date:

5/31/2013

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III.	SITE ACTIVITY INFORMATION								
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	Receiving Water Body: Weber River (this is known W this is a guess)								
	Estimate of distance to the nearest water body?	ct with ft ft miles							
	List the Number of any other UPDES permits at the site:								
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	6. 🔽 Utility 7. \Box Contouring, Landscaping	8. D Other (Please List)							
V.	BEST MANAGEMENT PRACTICES								
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	7. 🔽 Other (Please list) Pocking, slope breakers								
VI.	ADDITIONAL								
	Estimated Area to be Disturbed (in Acres): 6.0	Total Area (in Acres):							
	A storm water pollution prevention plan has been approved for this s	ite and is to the best of my knowledge in							
	Compliance with State and/or Local Sediment and Erosion Plans and	Requirements. Y 🔽 N 🖵							
	(A pollution prevention plan is required to be on hand before submit	al of the NOI.)							
	Enter the best e-mail address to contact the permittee:tom.brad	lley@questar.com							
VII.	CERTIFICATION: I certify under penalty of law that I have read and un the general permit for storm water discharges from construction acti discharges and BMPs that have been scheduled and detailed in a poll 3 of this permit. I understand that continued coverage under this sto eligibility as provided for in Part 1.	vities. I further certify that to the best of my knowledge, all ution prevention plan will satisfy requirements of Part I, and Part							
	I also certify that under penalty of law that this document and all atta those who have placed their signature below, in accordance with a sy gather and evaluate the information, the information submitted is, to am aware that there are significant penalties for submitting false info knowing violations.	stem designed to assure that qualified personnel properly the best of my knowledge and belief, accurate, and complete. I							
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I. INTRODUCTION

Questar Gas Company (Questar) developed this Storm Water Pollution Prevention Plan for their planned Feeder Line (FL) 20 high-pressure pipeline replacement project. The replacement project of the existing FL 20 pipeline will take place in June 2013 through December of 2013.

The plan was developed following the guidelines presented in Part III of the Utah Pollutant Discharge Elimination System (UPDES) Storm Water General Permit for Construction Activities Permit No: UTR 363769, attached to and made a part hereof as Exhibit A. A copy of this plan shall be retained on site during construction. If an adequate on-site location to store the plan is not available, the plan will be kept at a reasonable local site. If the plan is kept off site, the location of the plan, along with the phone number of a contact person, shall be posted on-site. After construction, the plan will be kept at a reasonable local site. The project contractor shall read this plan and maintain a copy of the plan on-site prior to commencing with construction.

II. SITE DESCRIPTION

Description of Construction Activity

This project includes replacing approximately 1.11 miles of 14-inch pipeline with 12-inch pipeline. The segment is located southwest of Ogden Utah along the border of Davis and Weber Counties. The pipeline replacement segment begins on 1800 East 7250 South Weber where it crosses I-84 and the Weber River. The segment ends just off 6200 South 1550 East South Ogden. A map depicting the location is attached to and made a part hereof as Exhibit B.

Prior to construction and throughout construction, as needed, temporary erosion controls will be installed in environmentally sensitive locations as determined by Questar's onsite environmental inspector. Specifically, the controls will be installed to protect waterways (Drainages and other Canals/Ditches), along the downhill side of slopes, and other erosive areas. The temporary controls will generally consist of silt fence, weed-free hay bales, sediment logs, and similar products may also be used as needed.

Description of the Sequence of Major Activities

Prior to construction, Questar will locate and mark all existing utilities. Questar will flag and stake the centerline of the permanent right-of-way (ROW) and also stake the outside boundaries of the temporary working easement. Flag/stakes will be maintained as needed throughout construction.

The ROW will be cleared in accordance with landowner and Questar specifications. Aboveground vegetation and obstacles within the staked temporary working easements may be cleared, with surface disturbance limited to that required to ensure a safe working area. In areas where work will be located near side-slopes and/or sensitive areas, silt-fence will be installed and maintained throughout the duration of the project. Topsoil will be removed from the entire ROW and stored in separate stockpiles along the outer boundaries of the ROW and later used to rehabilitate disturbed areas. Excavated/subsoil material will be stored adjacent to the pipeline, in separate windrows than the topsoil, along the outer boundaries of the construction ROWs and later used as trench fill. All other materials not suitable for placement in areas prone to erosion (e.g., shrubs, etc.) will be disposed of by scattering the material over the disturbed ROWs after seeding is completed.

As soon as practicable after backfilling takes place (i.e. immediately to 1 week) a crew will reclaim the ROW, revegetate in non-agricultural areas, and remove temporary controls and install permanent erosion controls to stabilize the ROW.

Pressure testing and final clean-up will be conducted after the 3 mile replacement project is complete. All construction within the designated wetlands and streams will be performed in accordance with the guidelines of the U.S. Army Corps of Engineers Nationwide Permits.

Estimates of Total Area of the Site

Construction will be contained to an approximate 20-foot construction ROW, which is the area of previous disturbance. An additional temporary construction width will be required on steep slopes and road/waterbody crossings to accommodate equipment and soil stockpiling.

The total length of the pipeline for the project is 1.11 miles. The maximum total area of the site expected to be disturbed (e.g. by excavation, grading, etc.) will be 7 acres.

Estimate of the Runoff Coefficient after Construction Activities are Completed

This project includes the construction one pigging facility at the termination of the pipeline replacement. The facility will be fenced and the surface will be graveled. In areas to be restored, all original topsoil will be replaced and revegetated. No significant change to the runoff coefficient is expected after construction activities are completed.

Receiving Waters

This project will cross a natural drainage, the Weber River. This project will go under a jurisdictional wetland that is between the east and west bound lanes of I-84. The wetland will not be disturbed as the new pipe will be fed into existing buried casing located under the wetland. No debris will be introduced into receiving waters. At locations where construction will be close to receiving waters, including the removal of the existing span, appropriate erosion control devices (e.g., silt fences, hay bales, etc.) will be employed, where necessary, as shown in Appendix C, attached to and made a part hereof, and described in Section III. All necessary permits, including a Stream Alteration Permits, if required, will be acquired before construction begins in their vicinity.

Potential Sources of Pollution

Sediment is the major potential contaminant due to pipeline construction-related activities and can occur throughout the duration of the project and within each disturbed portion of the project. Other potential pollutants (such as oils, demolition material, etc.) are generally localized within certain portions of the project area. Sources of these pollutants are listed in Table 1.

Project/Site Area	Potential Pollutant
Material Equipment Storage and Maintenance Areas	Oil, Greases, Fuel, Sediment Washed from Equipment
Concrete Washout	Concrete/Cement and Water
Soil Storage Area	Sediment
Disturbed Slopes or Areas of High Erosion Potential	Sediment
Loading/Unloading Operations	Material Spills
Vehicle Entrance/Exits	Sediment
Disposal Areas and Construction Wastes	Cleared Vegetation, Packaging Materials, Scrap Pipeline Material, Paints/Thinners, Rubble from Concrete Demolition (Paved Areas)

Table 1: Source Identification

III. CONTROLS

Erosion and Sediment Controls

Construction activities associated with this project were designed to minimize surface disturbance. Previously disturbed areas, such as roads and existing utility corridors, will be used for access and working areas wherever possible. Specific staging areas may be used at various locations along the route.

Sediment and erosion controls, as required, such as silt barriers and silt fences (see Appendix C) will be used to retain sediment on site. All controls will be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. All controls will be maintained until the roadway surface has been replaced or final stabilization controls have been installed including temporary perimeter controls. The project contractor shall install and remove control structures as directed by Questar. If sediment escapes the construction site, off-site accumulations of sediment will be removed in order to minimize off-site impacts.

Litter, construction debris, and construction chemicals exposed to storm water shall be picked up

prior to anticipated storm events or otherwise prevented from becoming a pollutant source for storm water discharges.

Where necessary, areas to be seeded will be scarified as necessary to eliminate compaction of the seed bed and to aid in permeability. Seeding will be accomplished by drilling or broadcasting. In areas where drilling is not possible, seed will be broadcasted and raked or chained to cover the seed. The seed mixture will be doubled if the broadcasting technique is utilized.

Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 10 days after the construction activity in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 10th day after construction activity temporarily or permanently ceases and is precluded by deep snow or frozen ground conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing will resume within 15 working days, temporary stabilization measures will be initiated on the portion of the site.

Storm Water Management Controls

Silt barriers and/or silt fences will be installed as necessary along perennial and ephemeral streams in order to dissipate the velocity of any storm water discharge from the construction site. Vegetation present along both sides of the construction site will also serve to dissipate storm water flows from the site. Because the site will be graded to match the original contour using the original topsoil and then revegetated with a seed mix designed to match the original vegetation, storm water flows are expected to return to pre-construction levels and, therefore, no post-construction storm water management measures will be installed.

Other Controls

All wastes created during construction (e.g., trash, excess construction material, etc.) will be removed from the construction area and disposed of in an approved disposal site. No trash or other pollutants will be buried within the construction ROW. No solid materials, including building materials, shall be discharged to waters of the State. All applicable state and/or local waste disposal regulations will be complied with.

The generation of fugitive dust will be minimized by accepted practices. If precipitation occurs during the course of construction, vehicular traffic along the ROW will be minimized to reduce the potential for erosion.

Gasoline, diesel fuels, lubricants, and other potential pollutants will be stored in containers that will prevent their accidental release. Additional steps to prevent the accidental discharge of potential pollutants are described further in the project-specific spill prevention plan, attached to and made a part hereof as Appendix D.

Other Laws and Requirements

All other laws affecting erosion and sediment control will be complied with. Other permits regarding the consideration of water quality and resource protection may be required throughout the duration of the project. Required environmental permits will be acquired before construction, and may include (but are not limited to): UPDES Construction Dewatering/Hydrostatic Testing permits, Stream Alteration permits, and individual or general permits regarding Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act, as required by the U.S. Army Corps of Engineers. All requirements within these permits will be followed with particular consideration given their relationship with existing storm water pollution prevention controls and best management practices.

A Biological Resources Survey and a Class III Cultural Resources Inventory was completed by Cardno Entrix (3rd party consultant) in December 2012. The potential for occurrence of threatened or endangered species is unlikely along this project right of way. The Class III Cultural Resources Inventory found that the project will not affect ay historic or prehistoric properties. An unanticipated discovery plan is also in place for any encountered sites during installation and work will be ceased.

IV. MAINTENANCE

Where necessary, final grading and seeding of the disturbed areas will begin as soon as possible after construction activities are completed. Where final restoration is delayed, temporary erosion control measures will be implemented. Any needed maintenance, identified in inspections or by other means, shall be accomplished before the next anticipated storm event, or as necessary to maintain the continued effectiveness of the storm water controls.

V. INSPECTIONS

Qualified personnel (provided by Questar) shall inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site at least once every 14 days. Inspections shall also be performed before anticipated storm events (or series of storm events such as intermittent showers over one or more days) expected to cause a significant amount of runoff and within 24 hours of the end of a storm event of at least 0.5 inches of rainfall. Inspections shall be conducted at least once every month where runoff is unlikely due to winter conditions.

An inspection report form, attached to and made a part hereof as Appendix E, will be completed and signed by the inspector at the time of each inspection. If the report describes deficiencies in pollution control structures or procedures, such deficiencies will be corrected as soon as possible. Copies of the reports will be retained at the construction site. After construction is completed, copies of the reports will be retained by Questar for a minimum of three years.

VI. SWPPP AMENDMENTS

This document will be modified and updated as the project evolves. Additions and amendments to this document shall be attached to and made a part of hereof in this section of the plan.

Appendix A. UPDES Storm Water General Permit For Construction Activities, Permit No.: UTR 300000

Appendix B. Project Location Map

Environmental Notes:

- All wastes generated during construction (trash, construction waste, etc.) will be removed and disposed of appropriately.
- Fugitive dust will be minimized by accepted practices.
- Fuels, lubricants and all other potential pollutants will be stored in containers that will prevent their accidental release.
- Sediment barriers will be placed around storm water drains.
- Silt Fences and other environmental controls shall be installed as directed on drawings.
- No equipment shall be allowed to enter the river without prior agency notification and approval.
- Silt fence to be installed along east and west river banks
- Water bars required on hillside construction.
- Erosion control material to be installed on hillside construction area after seeding has been completed.



FL 20 Replacement Project



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Appendix C. Typical Storm Water Controls











C.1 Erosion Control Methods

Temporary control measures are designed to effectively reduce erosion and sedimentation to sensitive resources during construction. These temporary erosion control measures will be installed concurrently with construction earthwork and will be maintained throughout the course of construction. When necessary, these measures may be left in place along with permanent measures during the post construction period until effective revegetation has been reestablished. Sediment barriers and water bars (as described below) will be the primary measures for temporary erosion control used on the project.

Permanent erosion control measures are designed to minimize erosion and sedimentation after construction until revegetation efforts have effectively stabilized the construction area. Installation of permanent erosion control measures should be performed within 14 days following backfilling of the trench except as follows: In areas where the construction ROW has been restricted, the zone over the backfilled trench will be used temporarily for spoil storage as contractors continue construction along the ROW. Contractors will install permanent erosion control measures within ten days, if possible, following "temporary" use of these areas for spoil storage. In general, temporary erosion control measures will be removed after permanent erosion control measures have been installed.

The following sections review materials, installation requirements, and performance criteria for temporary, interim, and permanent erosion and sediment control measures.

C.1.1 Sediment Barriers

Straw bale sediment barriers (certified to be free of noxious weeds) and silt fence sediment barriers are temporary sediment barriers designed to slow down water flow and to intercept suspended sediment conveyed by sheet flow, while allowing runoff to continue down gradient. These installations are used to prevent sediment delivery from the construction area as well as to divert water off the construction area. Temporary sediment barriers will be installed, as necessary, at the following locations immediately after initial ground disturbance:

Across the ROW at the base of slopes where the ROW crosses roadways, water bodies, springs, wetlands and other sensitive resources;

Along the edge of the ROW adjacent to and up slope of roadways, water bodies, springs, wetlands or other sensitive resources; and

Around topsoil or subsoil piles where necessary (e.g. adjacent to water bodies or wetlands)

The requirement to install a sediment barrier is dependent on the slope angle (when a hillside slopes in multiple directions, the slopes can off-set each other and reduce the need for sediment barriers), slope length, and soil type (texture and coarse fragment content). While typically used only during construction, silt fences and straw bale sediment barriers will be left in place following seeding, possibly for a complete growing season.

C.1.1.2 General Requirements

Straw bale or silt fence sediment barriers placed at the toe of a slope will be at least 6 feet from the toe of the slope, where possible, in order to increase ponding volume. The ends of the sediment barrier will be turned upslope to capture sediment.

If sediment barriers are necessary, they will be placed so as not to hinder construction activities and outside of (above the high water mark) active stream channels. If silt fences or straw bale sediment barriers are placed across the construction area (adjacent to water bodies, wetlands, or roads) where construction traffic is allowed to cross, provisions will be made for traffic flow. An approximately 15-foot-wide gap will be provided along the silt fence or straw bale row, with the ends of the sediment barrier turned slightly up slope. Drivable earth berms will be installed and maintained across the gap immediately up slope of the sediment barrier. Alternatively, straw bales will be installed across the gap with 24 inches of overlap with the adjacent sediment barrier at the end of each day.

If sediment loading is noted during regular inspections of temporary sediment barriers to be at or greater than 40 percent of barrier capacity, sediment behind the barrier will be spread on the disturbed ROW uphill of the sediment barrier. Loose stakes, loosely abutted bales, damaged bales, or damaged or under-mined sections of silt fence will be repaired or replaced as necessary.

Straw Bales

Straw bale sediment barriers consist of a row of tightly abutted straw bales placed perpendicular to the runoff direction with the ends turned up slope. The barriers are typically one bale high, placed on the fiber-cut edge in a 4-inch trench (tie not in contact with the ground), and anchored securely with two wooden stakes driven through each bale. A small amount of soil is then piled across the up slope side of the straw bale barrier. Only certified, weed-free straw will be used in these bales which will be identified by multicolored, orange and blue, baling twine. Excelsior logs may be substituted for straw bales. Installation will be as recommended by the manufacturer. When straw bales are used as a temporary substitute for water bars, the same spacing noted for water bars will be used (see Section C.3.2).

Silt Fences

Commercial filter fabrics, with sufficient strength to prevent failure will be provided by contractors. The height of a silt fence will not exceed 36 inches and the fabric will be cut from a continuous roll of fabric with splices only at support posts, with a minimum 6-inch overlap and both ends of fabric securely attached to the post. Support posts will be a maximum of 10 feet apart.

The bottom edge of silt fences will be installed in a trench excavated approximately 4 inches wide by 6 inches deep and refilled with compacted soil, unless on-site constraints dictate otherwise (e.g., rock). Silt fences will be attached to supporting posts by staples or wire.

If additional support is needed to contain wet spoil or to provide added protection near a sensitive resource, either wire mesh or straw bales may be placed immediately behind the silt fence on the down-gradient side. If wire mesh is used, the wire will be attached to the support

posts, prior to installation of the fabric, with heavy duty wire staples at least one inch long, wire ties, or hog rings. The wire will be keyed into the trench at least 2 inches, and extended up the posts to the top of the filter fabric.

C.2 STABILIZATION PRACTICES

C.2.1 Mulching

Mulching is the application of noxious weed-free straw or wood fiber to disturbed soils to minimize the effects of wind or rain on exposed soils. During rainy conditions, mulch reduces the impact of rainfall and slows the flow of water down the slope. Mulch, rather than erosion control mats, would typically be used across large sections of the ROW to reduce wind erosion and raindrop impact, if needed.

If mulching is necessary, it will be monitored for adequacy in area coverage and cover thickness during application. Application rates will be adjusted, as necessary, to provide adequate coverage. Mulch will be reapplied to areas where erosion repairs are necessary.

Mulch as Temporary Erosion Control

Application of mulch for temporary erosion control 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.

During construction, water or non-toxic, organic tackifier may be applied to topsoil storage mounds composed of soils with high wind erodibility at 120 pounds/acre. Tackifier will not be applied within 100 feet of a watercourse or wetlands.

If reclamation and seeding is deferred more than 10 days after final grade restoration near water bodies or wetlands, all disturbed slopes above the water body or wetland will be temporarily stabilized by applying 2000 pounds/acre of straw mulch for a minimum distance of 100 feet above the edge of the water body or wetlands. Similar temporary stabilization may be used on slopes steeper than 30 percent. Interim seeding may also be performed. Seed bed preparation, including thinning or removal of the mulch, will be repeated as necessary prior to application of the final seed mix.

Mulch as Permanent Erosion Control

If needed after final restoration and seeding, permanent mulch applications will be applied to slopes greater than 30 percent, slopes within 100 feet of water bodies and wetlands, and other sensitive sites (dry, sandy, steep slopes, etc.) to control erosion. Where appropriate, contractors will randomly distribute any windrowed shrubs or other remaining vegetation debris over the ROW. Large unmerchantable trees may be placed on the ROW to provide slope stabilization and erosion control benefits. On steep slopes and other areas where broadcast rather than drill seeding must be employed, trees and shrubs will be spread or placed during final cleanup and prior to seeding. Where any spreading woody debris results in an adequate mulch layer, mulch

rates may be reduced or eliminated.

Straw Mulch

Weed-free straw mulch, if necessary, will be applied and anchored into the seed bed using a mechanical crimper specifically designed to crimp mulch to a depth of 2 to 3 inches. The straw will be crimped perpendicular to slope. Acceptable straw mulch crimpers include:

Mechanical crimper, backhoe with crimper forks,

Racked equipment tracking across slopes (restricted to areas where other methods will not work), Hand-punching with round-pointed shovel.

Sheep's foot packers will not be used, though organic liquid mulch binders may be used in accordance with manufacturer's recommendations. If a straw mulch blower is used, strands of the mulching material will be long enough to allow anchoring.

Wood Fiber Mulch

If wood fiber mulch is used, it will be made of 100-percent wood fiber or equivalent and will be applied by a hydroseeder with non-toxic, organic tackifier (except within 100 feet of a water body or wetland) such as a guar-based tackifier.

C.2.2 Erosion Control Matting

After final grade restoration, erosion control matting may be installed, as necessary, to reduce rain impacts on soils, to control erosion and to stabilize steep slopes and water body banks. Erosion control matting will typically be used on stream banks and slopes steeper than 3:1.

Mats will typically be furnished in continuous rolls of 30 feet or greater with a minimum width of 4 feet. Staples will be made of wire, 0.091 inch in diameter or greater, and have a U-shape with legs 8 inches in length and a 2-inch crown. Wire staples will be driven into the ground for the full length of the staple legs. Alternatively, wood pegs (2-inch diameter) may be used to secure the erosion control fabric.

For stream bank installations, mats will generally be laid parallel (upper mat overlapping lower mat in a shingle pattern) to the water body to a point above the top of the bank. The erosion control mats identified above for stream bank stabilization are designed to handle flow and can be placed under the ordinary high water mark of the stream bank. Native materials (rocks, logs, etc.) may be used in conjunction with the matting to aid in stabilization of banks. During regular erosion control monitoring, erosion control matting will be inspected for washouts, adequate staking, and loss of matting. Damaged or undermined matting will be repaired or replaced as necessary.

Revegetation

Revegetation will follow, as soon as possible after final clean-up of a ROW or a site, with the agreement of the land owner or land management agency. In some areas, such as the desert, seeding is not required and the desert erosion control plan will be implemented. This may be true in other areas. Generally, seed mixes, rate of application, and types and rates of application of fertilizer will be project specific and agreed upon with the land owner or land management

agency. Ground cover will be established to a level of 70% of the original cover density or other stabilization practices will be installed before the Notice of Termination, described in Part 4 of the General Construction Permit UTR 300000, is submitted. Weather related conditions may determine the schedule for revegetation and/or final stabilization.

C.3 STRUCTURAL PRACTICES

In addition to the stabilization and erosion methods above, structural practices are used to divert flows from exposed soils, store flows, or otherwise limit runoff and discharge of pollutants from exposed areas of the site. To the extent practical, structural devices will not be placed in floodplains. Additionally, the appropriate sediment basin requirements provided in the general permit will be implemented when necessary.

C.3.1 Trench Breakers

Trench breakers will be installed in the trench to restrict or slow ground water flow along the trench line. They will be installed prior to backfilling on slopes that drain into water bodies (natural or artificial stream, river, or drainage with perceptible flow at the time of crossing, and ponds, or lakes), wetlands, and improved roads. Trench breakers will also be constructed immediately down slope of any location where groundwater could enter and migrate along the trench at any time of year.

Breakers will be installed at the same spacing as, and up slope of, permanent slope breakers. In agricultural fields where water bars are typically not required, trench breakers will be installed on the same spacing as if permanent slope breakers were required. The number of water bars and trench breakers need not be the same due to site specific conditions. Trench breakers can be constructed from sandbags or polyurethane foam. If the sandbag method is selected, topsoil will not be used as a fill material.

C.3.2 Water bars

Water bars are utilized in various forms (e.g., rolling dips on access roads, derivable 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 will be installed concurrently with initial grading operations and will be maintained throughout construction. Permanent water bars will be installed after the ROW grade is restored if needed. Water bars will also be installed near the base of slopes adjacent to wetlands and watercourses except at those specific sites (e.g., terrain slopes away from a canal) where water bars are not necessary to prevent discharge of sediment into a wetland or watercourse. Though site-specific details may differ, the spacing for temporary and permanent water bars will be generally as follows:

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

Alternative spacing may be requested by the landowner or land management agencies for isolated, site-specific areas and conditions (i.e., in areas of highly erodible soils). Water bar spacing is based on a site-specific evaluation of the ROW and standard construction protective measures. This spacing takes into account the soils, timing of construction, and area of disturbance anticipated for construction of the project. Water bars will be generally sited so that they do not outlet into sensitive resource areas (cultural sites, rare plant sites, etc.).

Except for site-specific situations as determined by land owners and land management agency representatives (e.g., extremely long slopes with highly erodible soils), temporary water bars will not be constructed on slopes with less than five-percent gradient. Water bars are not typically installed in residential or active agricultural areas.

Water bars will be constructed of existing suitable material (compacted soil), a series of tightly abutted straw bales, excelsior logs, or burlap bags filled with native soil. The installation angle will be approximately 2 to 5 percent down slope and will extend beyond the edge of the disturbed construction area. Where possible, water bars will 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 will 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 will be offset (staggered) on slopes greater than 20 percent.

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

Appendix D. Spill Prevention Plan

Spill Prevention and Response Plan

The purpose of this plan is to detail specific measures that will be taken to clean up and dispose of any accidental discharge of hazardous materials associated with the installation of pipeline construction projects.

All measures necessary and appropriate for the prevention and containment of accidental discharges will be taken. The only hazardous materials that will be used at the site are gasoline and diesel fuels and lubrications.

Prevention Methods

To prevent environmental damage from potential fuel or lubricant spills during the servicing or operating equipment, the following measures will be taken:

All equipment is to be in good operating order and inspected on a regular basis.

All employees handling fuels and other hazardous materials shall be trained on proper handling procedures.

Storage of fuels and lubricants will not be allowed within 100 feet of wetlands and waterbodies. This does not apply to normal operation or use of equipment in these areas.

Equipment will not be allowed to be parked, refueled, and/or serviced within 100 feet of wetlands or waterbodies unless approved by Questar qualified personnel, as defined in UTR 300000 Part 3.5.4 section d, and appropriate steps (including secondary containment structures) to prevent spills and provide prompt cleanup in the event of a spill are implemented. Any used engine oil or unused lubricants will be stored in containers and removed from the site and disposed of at an approved facility.

Service truck operators will not allow residual fuels or lubricants in hoses to drain on the ground. Construction crews will have on hand sufficient tools and material to stop leaks.

Spill Response and Cleanup

In case of a spill, the following measures will be followed:

If possible, contain the spill by installing containment booms or barriers.

Call Questar's project Environmental or Safety Coordinator at (801) 324-3466. If neither the environmental or safety coordinator is available ask for the on-call safety representative. ESS personnel will direct further cleanup and reporting requirements.

If the spill occurs after hours, contact dispatch at 801-324-1911, who will contact appropriate personnel.

Where required, Questar Environmental/Safety personnel shall notify the appropriate regulatory agencies regarding the spill. Reporting requirements are contained in 40 CFR §110, 40 CFR §117 and 40 CFR §302.

The following flowchart can be utilized in evaluating whether further reporting is required:



Reporting Numbers:

National Response Center (NRC):800-424-8802EPA Region 8 - Emergency Response Spill
Report Hotline:800-227-8914

Utah Division of Water Quality

801-538-6146 or 801-536-4123

Personnel reporting spills should be prepared with the following information:

Your name, location, organization, and telephone number Name and address of the party responsible for the incident Date and time of the incident Location of the incident Source and cause of the release or spill Types of material(s) released or spilled Quantity of materials released or spilled Danger or threat posed by the release or spill Number and types of injuries (if any) Weather conditions at the incident location

*Any other information that may help emergency personnel respond to the incident

Appendix E. Inspection Report Form

Storm Water Construction Site Inspection Report

Project Name	Feeder Line 20 Replacement Project				
Date of Inspection Start/End Time					
Inspector's Name(s)					
Inspector's Title(s)					
Inspector's Contact Information					
Describe present phase of construction					
Type of Inspection: Regular	Pre-storm event During storm event Post-storm event				
Weather Information					
Has there been a storm event since	the last inspection? No Yes				
If yes, provide: Storm Start Dat	e & Start Time: Storm Duration (hrs):				
Weather at time of this inspection?	• •				

BMP (e.g. silt fence, hay bales, sediment bags, sweeping, etc.)	BMP Installed?	BMP Maintenance Required?	Notes*
1	□Yes □No	□Yes □No	
2	□Yes □No	□Yes □No	
3	□Yes □No	□Yes □No	
4	□Yes □No	□Yes □No	
5	□Yes □No	□Yes □No	
6	□Yes □No	□Yes □No	

* Use the back side of this document for additional Notes/Information as necessary.