APPENDIX B

PROJECT SPECIFIC ENVIRONMENTAL CONSTRUCTION PLANS
Bayou Bridge Pipeline, LLC

BAYOU BRIDGE PIPELINE PROJECT

SPILL PREVENTION AND RESPONSE (SPAR) PLAN

October 2017
1.0 GENERAL DESCRIPTION OF SPILL PREVENTION AND RESPONSE PLAN

Bayou Bridge Pipeline, LLC (BBP) has prepared a Spill Prevention and Response (SPAR) Plan which is designed to minimize hazards to human health and/or the environment from any unplanned sudden or non-sudden releases of oils, toxic, hazardous, or other polluting materials to the air, soil, surface water or groundwater. BBP through its Contractors and Inspectors shall be responsible for the administration and implementation of this plan. This plan is intended to provide minimum requirements for spill prevention and response during construction activities. The Contractor may develop their own spill prevention and response plan or use an existing plan provided that the plan used contains, at a minimum, all of the provisions of BBP’s SPAR Plan.

This plan identifies the:

- Measures taken for spill preparedness and prevention;
- Emergency response procedures describing the actions that BBP and Contractor personnel will take in response to leaks, spills, or discharges of oil and hazardous substances/materials;
- Designated emergency coordinator(s) and his/her responsibilities;
- Spill incident reporting procedures; and
- Contact numbers for the local police and fire departments, hospitals, and state and local emergency planning committees.

Prior to the start of construction in an area, the Contractor shall designate storage, refueling, loading, and unloading locations which minimize the environmental and safety impacts associated with releases of fuel, lubricants, or hazardous substances. These areas will be designated using the following guidelines.

- Refueling shall not occur within 100 feet of a waterbody or in an upland area at least 100 feet from a wetland boundary without BBP Environmental Inspector coordination and approval.
- Hazardous materials, including chemicals, fuels, and lubricating oils, shall not be stored within 100 feet of a wetland, waterbody, or designated municipal watershed area without BBP Environmental Inspector coordination and approval.
- Refueling and storage of hazardous materials, including chemicals, fuels, and lubricating oils is prohibited within 200 feet of private wells and 500 feet of community and municipal wells.
- No potentially hazardous materials, other than essential equipment fuels (gasoline, diesel, etc.) or standard lubricants (engine oils, grease, etc.) shall be transported into the right-of-way or construction area without BBP Environmental Inspector coordination and approval.

CONTRACTOR will be required to comply with all applicable requirements of the 40 CFR 112, Oil Pollution Prevention, for any facility set up for the storage of fuel, oil, or other hydrocarbons, or refueling of vehicles and equipment, if the facility triggers compliance with the rule. This would include the development and implementation by CONTRACTOR of a Spill Prevention, Control, and Countermeasures (SPCC) Plan if necessary.
The following table provides a list of the fuels, lubricants, and coolants that could be present on the pipeline construction right-of-way and identifies the typical total volumes.

<table>
<thead>
<tr>
<th>Fluids</th>
<th>Typical Amounts</th>
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<tr>
<td>Diesel</td>
<td>6,000 - 12,000 Gallons</td>
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<tr>
<td>Gasoline</td>
<td>5,000 - 10,000 Gallons</td>
</tr>
<tr>
<td>Engine Oil</td>
<td>&lt; 100 Gallons</td>
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<tr>
<td>Transmission/ Drive Train Oil</td>
<td>&lt; 50 Gallons</td>
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<tr>
<td>Hydraulic Oil</td>
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<tr>
<td>Gear Oil</td>
<td>&lt; 50 Gallons</td>
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<td>Lubricating Grease</td>
<td>20-30 cases of 24 cans per case</td>
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<td>Ethylene Glycol</td>
<td>&lt; 100 Gallons</td>
</tr>
<tr>
<td>Propylene Glycol</td>
<td>&lt; 100 Gallons</td>
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2.0 SPILL AND LEAK PREVENTION AND PREPAREDNESS

2.1. PREVENTION AND PREPAREDNESS

The Contractor will take the following precautions to prevent a spill from occurring and to be prepared in the event that a spill does occur.

2.1.1. Containers

- All containers shall be stored on pallets and surrounded with temporary containment. Small cans of gasoline, diesel, solvents, etc., should be stored within the temporary containment when not in use.
- No incompatible materials shall be stored in the same containment area.
- Containment areas shall be capable of containing 110% of the volume of the largest container in the storage area plus sufficient freeboard for rainfall.
- All container storage areas shall be inspected daily for leaks and deterioration.
- Leaking and/or deteriorated containers shall be replaced as soon as the condition is first detected.
- No storage area shall be unattended for periods longer than (1) day.

2.1.2. Tanks

- The contractor shall operate only those tanks for fuel and material storage which meet the approval of BBP. Single wall tanks shall be provided with temporary containment as described in Section 2.1.1 for containers.
- Self-supporting tanks shall be constructed of carbon steel or other materials compatible with the contents of each tank.
- All tanks and storage areas shall be inspected daily for leaks and deterioration.
- Vehicle mounted tanks shall be equipped with flame/spark arrestors on all vents to ensure that self ignition does not occur.
Tanks will not be used to store incompatible materials in sequence unless first thoroughly decontaminated.

2.1.3. Loading/Unloading Areas

- Transferring of liquids and refueling shall only occur in pre-designated locations at least 100 feet from all waterbodies and wetlands, 200 feet from any water well, and 500 feet from municipal or community water supply wells unless prior approval is obtained from the BBP Environmental Inspector.
- All loading/unloading areas will be inspected for spills prior to and immediately after each use and closely monitored during use to prevent leaks and spills, and ensure immediate response in the event of a spill.
- All hose connections shall be inspected for leaks. If leaks should occur, the operation shall cease until the leak is repaired or a containment pan is placed under the leaking connection.

2.1.4. Spill Response Kits

- Any service vehicle used to transport lubricants and fuel must be equipped with an oil spill response kit adequately stocked to respond to a minor oil/fuel spill event.
- Chemical spill response kits, adequately stocked to respond to a minor chemical spill event, shall be available in areas where appropriate.
- Additionally, spill response kits shall be available on the right-of-way and on or near operating equipment as deemed appropriate by the BBP Environmental Inspector.
- Equipment such as hydraulic track hoes and hydraulic pumps that could fail and cause a reportable spill must be equipped with an oil spill response kit adequately stocked to respond to a minor oil/fuel spill event.

2.2. EMPLOYEE TRAINING

All personnel involved in the construction of the proposed facilities will be trained on the contents of the SPAR Plan. Training briefings will be conducted by the Contractor Superintendent or his designee and the BBP Environmental Inspector on the job site.

2.3. SPILL RESPONSE EQUIPMENT

The construction project will have adequate manpower and equipment necessary to divert any spill from reaching waterbodies and wetland areas. Emergency equipment may include, but is not limited to, shovels, backhoes, dozers, front-end loaders, oil absorbent booms, pillows, socks and/or mats and chemical absorbent pulp, pillows, socks and/or mats.

3.0 INITIAL SPILL RESPONSE PROCEDURES

This section provides a description of spill response procedures to be performed to address spills that occur during this construction project.
3.1. COMPANY AND CONTRACTOR RESPONSIBILITIES

The Contractor and BBP on-site personnel have responsibilities for spill prevention and response. In addition to the oversight of initial spill response activities, BBP’s Environmental Inspector and Environmental Project Manager will determine if state and/or federal notifications are required and make notification accordingly.

The Contractor will have a designated Environmental Coordinator for the site. The Contractor’s Environmental Coordinator will be responsible for the Contractor’s initial spill response activities. The responsibilities of the Contractor and BBP will be as follows:

3.1.1. Contractor Responsibilities

- The Contractor will be responsible for taking immediate action to safely control and contain any spills or releases of oil, petroleum products, and hazardous substances/materials.
- All spills or releases (including any sheen created on water or releases to the atmosphere) must be reported immediately to the BBP Environmental Inspector. The Contractor shall supply necessary manpower and equipment to control, contain, and clean up all spills and releases resulting from their operations.

3.1.2. BBP Environmental Inspector Responsibilities

- BBP’s Environmental Inspector or his designee will be responsible for making appropriate agency notifications of spills and releases.
- BBP will be responsible for the oversight of the initial spill response activities.
- BBP will provide supporting personnel and equipment to address releases as required.
- In the event of a spill the Environmental Inspector shall obtain as much information as possible regarding the cause of the event, the type and amount of material spilled or released, and corrective measures or response activities being taken.
- Consult the BBP Environmental Project Manager immediately and determine if the spill or release is a reportable event. The Environmental Inspector will also notify the BBP Field Construction Office for releases of:
  - One pound or more of a solid material;
  - Five gallons or more of a liquid material;
  - Any spill to water, including any sheen on water.
- Obtain a copy of the Contractor’s written spill report as soon as it is available and forward a copy to the Environmental Project Manager.

3.1.3. BBP Environmental Project Manager Responsibilities

- Upon receiving spill information from the Environmental Inspector, determine if the release requires reporting to any federal, state, or local regulatory agencies.
• If reporting is required, direct the Environmental Inspector to notify the appropriate regulatory agencies. This includes both verbal and any follow-up written reports.

• Contact outside remediation services if necessary, in coordination with the BBP Environmental Inspector, to assist with incidents which require additional resources.

3.2. UNPLANNED AND PLANNED CRUDE OIL RELEASES

3.2.1. Unplanned Crude Oil Releases

Unplanned crude oil releases are reportable events in some of the states that BBP operates in. In the event that an unplanned release of crude oil occurs during activities related to the project the Contractor shall immediately notify the BBP Environmental Inspector of the event.

3.2.2. Planned Crude Oil Releases

Some of the states that BBP operates in require prior notification and/or approval for planned releases of crude oil to the atmosphere such as blowdowns. In the event that a planned release of crude oil is scheduled to occur during activities related to the project the Contractor shall contact the BBP Environmental Inspector a minimum of two weeks prior to the event and confirm that notifications have been made and/or approvals obtained if required.

3.3. SPILL CLEAN-UP AND WASTE DISPOSAL

Spill clean-up and subsequent waste disposal of contaminated media will be the responsibility of the Contractor subject to the approval of the BBP Environmental Project Manager.

4.0 KEY EMERGENCY CONTACTS

The key personnel who will be contacted in the event of an emergency or spill incident include the following: (Information to be supplied prior to construction.)

I. BBP Emergency Contacts

1. BBP Emergency Coordinator
2. Field Construction Office
3. Environmental Project Manager: C. Gus Borkland, O: 610-859-5419; C: 215-620-5934
4. Area Office (in case of pipeline liquid spills)

II. Contractor Emergency Contact

1. Contractor Emergency Coordinator

III. Federal Authorities

1. EPA – National Response Center: 1-800-424-8802

IV. State Authorities

1. Louisiana Oil Spill Coordinator’s Office: 877-925-6595

V. Local Authorities
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<td>Calcasieu</td>
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<td>337-431-1331</td>
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<td>337-439-5501</td>
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Stormwater Pollution Prevention Plan

Bayou Bridge Pipeline Project

January 2017
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List of Acronyms

BBP  Bayou Bridge Pipeline, LLC
BMPs  Best Management Practices Figures
CEI  Chief Environmental Inspector
CM  Construction Manager
EI  Environmental Inspector
EPA  Environmental Protection Agency
MP  Milepost
NPDES  National Pollutant Discharge Elimination System
Project  Bayou Bridge Pipeline Project
ROW  Right-of-way
SPAR  Spill Prevention and Response Plan
SWPPP  Stormwater Pollution Prevention Plan
1.0 INTRODUCTION

Bayou Bridge Pipeline, LLC (BBP) will implement this Stormwater Pollution Prevention Plan (SWPPP) during construction of the Bayou Bridge Pipeline Project (Project). The primary purpose of this SWPPP is to minimize the impacts of stormwater runoff during Project construction activities through the implementation of Best Management Practices (BMPs).

1.1 RESPONSIBILITY FOR IMPLEMENTATION

The Construction Manager is responsible for implementation of the SWPPP. As stated in the construction contract or as otherwise agreed, the Contractor may be responsible for all or part of the implementation of the SWPPP. Where Environmental Inspectors (EI) or Chief Inspectors (CI) are utilized, they will fulfill the responsibilities as described herein. If neither an EI nor CI is utilized for the Project, those responsibilities will be assumed by the Construction Manager (CM) or a designee.

2.0 SITE DESCRIPTION

2.1 PROJECT NAME, LOCATION, AND PURPOSE

Project Name: Bayou Bridge Pipeline Project

Project Purpose: BBP’s primary objective for the proposed Project is to allow for transport of approximately 280,000 barrels per day of crude oil from the Clifton Ridge Marine Terminal in Lake Charles, Louisiana to various crude oil terminals located near St. James, Louisiana. Overall, the Project’s purpose is to provide an efficient, safe, and reliable transportation solution to move crude oil within the United States markets, which meets the need to improve United States energy independence and provide a more reliable supply of crude oil to United States refineries for processing to meet domestic needs for fuels and other petroleum derivative products.

Project Location: The proposed Project is located in Calcasieu, Jefferson Davis, Acadia, Vermilion, Lafayette, Iberia, St. Martin, Iberville, Ascension, Assumption, and St. James Parishes, Louisiana. BBP proposes to construct, own, and operate approximately 162.68 miles of new 24-inch-diameter crude oil pipeline that will commence south of Lake Charles in Calcasieu Parish, Louisiana and will terminate near St. James in St. James Parish, Louisiana. The 162.68 miles of pipe will consist of a 161.56-mile mainline and a 1.12-mile lateral. The proposed Project also involves the construction of two pump stations and other ancillary facilities along the proposed pipeline. The pump stations will be located near milepost (MP) 41.20 and MP 99.00 in Jefferson Davis and St. Martin parishes, respectively.
2.2 NATURE OF THE CONSTRUCTION ACTIVITY
BBP proposes to install the new pipeline within a variable-width construction right-of-way (ROW). Actual workspace width will depend on site engineering and available workspace constraints. In general, the pipeline will be constructed using an approximate 100-foot-wide construction ROW, which includes a 50-foot-wide permanent easement and a 50-foot-wide temporary easement. The temporary easement will be allowed to revert to its original land use following construction.

2.3 SEQUENCE OF MAJOR SOIL-DISTURBING EVENTS
To minimize impacts, construction will be expedited as practical to reduce the time soils are exposed. The following represents a typical sequence of major soil-disturbing events during the Project.

- Installation of stabilized construction entrances and surface water (including wetlands) protection BMPs.
- Wetland and waterbody boundaries and buffers will be marked and maintained until ground disturbing activities are completed. A 15-foot buffer will be maintained where practicable, except in non-flowing streams and during the period of trenching, pipe laying, and backfilling within flowing streams.
- Clearing of the Project area as necessary. This may include clearing of brush and trees to create ROW needed for temporary workspace, soil storage, construction activities, and areas needed for access to particular construction sites within the Project area. Raw timber and slash to support equipment crossing of wetlands will not be utilized.
- Installation of additional BMPs for erosion and stormwater management, as needed; including temporary bridges and mates where necessary to prevent heavily silt-laden trench water from reaching any wetland or waterbody directly or indirectly.
- Pipe stringing, bending, welding, and testing.
- Excavation of ditch (trackhoes or similar equipment will be used to excavate the ditch to the required depth).
- Installation of pipe in ditch.
- Tie-ins of the sections of pipeline which will be welded together in the ditch.
- Backfilling the ditch line (excavated soil will be used to cover the pipe).
• Hydrostatic testing of the pipeline as necessary.

• Removal of temporary erosion/sediment controls when other construction activity is completed, temporary controls are replaced by permanent controls and/or final stabilization is achieved.

3.0 CONTROLS

This section describes controls used to prevent or control stormwater pollution. BBP’s BMPs are based on the current best accepted practices endorsed by the American Gas Association, Gas Research Institute, Association of Pipeline Contractors, Environmental Protection Agency (EPA), and U.S. Army Corps of Engineers (USACE). Appendix A contains diagrams showing typical installation of BMPs.

The Project's EIs are responsible for determining the schedule and placement of BMPs. This plan will be updated by the Contractor, EI, and/or CI to identify the location and schedule of planned or installed controls as the need for these controls is determined.

When used from this point forward in this Plan, "EI" will refer to the responsible person, whether it is the EI, CI, Health, Safety and Environmental Coordinator, or Project Manager or other responsible person.

The following represents a typical sequence of major soil-disturbing events during the Project and the control measures that will be implemented.

• Clearing of the Project area as necessary. This may include clearing of brush and trees in the ROW, in additional temporary workspace areas adjacent to the ROW needed for soil storage, and/or in areas needed for access to particular construction sites within the Project area. The Project's EIs will implement such measures as temporary slope breakers, silt fencing, and hay/straw bales prior to any soil-disturbing activities, and will install additional BMPs for erosion and stormwater management, as needed based on existing site conditions.

• Excavation of ditch (trackhoes or similar equipment will be used to excavate the ditch to the required depth). The Project's EIs will implement such measures as temporary slope breakers, silt fencing, and hay/straw bales prior to excavation activities, and will install additional BMPs for erosion and stormwater management, as needed based on existing site conditions.
• Backfilling the ditch line (excavated soil will be used to cover the pipe). The Project's EIs will implement such measures as temporary slope breakers, silt fencing, and hay/straw bales prior to backfilling, and will install additional BMPs for erosion and stormwater management, as needed based on existing site conditions.

• Performing cleanup and stabilization. This phase will begin after backfilling and will continue throughout the remainder of the Project's construction. This phase will include minor grading to level small areas, and revegetation. Project areas to be stabilized by vegetation will be seeded and mulched.

• The Project's EIs will remove temporary erosion/sediment controls when other construction activity is completed and final stabilization is achieved.
**Temporary Slope Breakers:** Temporary slope breakers (water bars/terraces) will be installed as necessary (at the EI's discretion) diagonally across the ROW on slopes to control erosion by reducing and shortening the velocity, length and concentration of runoff according to the figures provided in Appendix A. These breakers will divert water to a well-vegetated area. If a vegetated area is not available, erosion control barriers will be installed to filter the runoff at the outlet of the slope breakers and off of the construction ROW. Silt fence, hay/straw bales, or sandbags may be used in place of temporary slope breakers at the discretion of the EIs.

Natural vegetation acts as an effective filter medium for silt removal from surface runoff. Its use as a sediment barrier results in less disturbance to the land than other methods. In areas where natural vegetation is not present or does not constitute a suitable barrier, temporary sediment and/or erosion control barriers will be installed. Temporary sediment barriers, typically hay/straw bale filters or silt fences, dissipate the energy of flowing water to allow settlement of sediment from surface water runoff.

**Silt Fence/Hay/Straw Bales:** Silt fences and hay/straw bales will be installed in accordance with figures provided in Appendix A. Sediment barriers will be placed around delineated wetlands and waterbodies within the ROW during times of construction, regardless of the presence of flowing or standing water. The silt fences and/or hay/straw bales will be installed as necessary to prevent erosion and sediment laden runoff from stormwater discharges. These measures will remain in place until permanent revegetation measures have reached a minimum of 70 percent cover as compared to similar cover in an adjacent area that is undisturbed by construction. Noxious weeds within the revegetated area will not exceed the comparable percent cover to that of adjacent undisturbed areas.

For open waterbodies, floating sediment curtains will be used in place of straw bales and silt fences in waterbodies with no or low water flow when the depth of the non-flowing water exceeds the height of straw bales and the silt fencing. The floating sediment curtains will be placed along the edge of each side of the construction ROW to ensure sediment containment.

Silt fence and hay bale structures are also used to control erosion and sedimentation for hydrostatic test water discharges. Bale filters are effective for small rills that can be spanned by one or two bales. Bales are constructed of hay (or straw) that is securely bound to form a berm, which is held in place by two stakes driven through each bale. The first stake is driven at an angle toward the previously positioned bale, and the second stake is driven perpendicular to ground surface. The bindings of the bales will be horizontal. Filter fabric fences (silt fences) perform the same function as hay bale berms, but have the advantage of ease of installation, versatility, and light weight.
A silt fence is a geotextile fabric with fence posts spaced no more than 10 feet apart. Both silt fences and hay/straw bales will be installed according to the manufacturer's instructions where site conditions allow. Otherwise, the silt fence will be imbedded in the ground a minimum of 6 inches. Where two sections are joined, they will be overlapped a minimum of 6 inches. Accumulated sediment will be removed regularly and the silt fencing inspected to ensure the bottom of the silt fence remains imbedded in the ground. A sufficient stockpile of silt fence will be maintained on-site for emergency use.

Hay bales may be left in place. These barriers are required after the initial disturbance of the soil and are typically installed at the following locations:

- At the outlet of a temporary slope breaker when vegetation is not enough to control erosion.
- Along banks of waterbodies between the graded ROW and the waterbody after clearing.
- Downslope of any stockpiled soil in the vicinity of waterbodies and wetlands.
- At the base of slopes adjacent to road crossings where vegetation has been disturbed.
- At sideslope and downslope boundaries of the construction where runoff is not otherwise directed by temporary slope breakers.
- In the ROW at boundaries between wetlands and adjacent disturbed upland areas to prevent flow of sediment into the wetland where runoff is not otherwise directed by a temporary slope breaker.
- At the edge of the ROW to prevent siltation of ponds, wetlands, or other waterbodies adjacent to the downslope of the ROW or as necessary to contain spoil and sediment within the ROW.
- For hydrostatic test water discharges, the water should be released directly into the silt fence/hay bale structures in conjunction with other approved velocity dissipating devices.

Temporary Trench Plugs: Temporary trench plugs prevent water diversion from waterbodies or drainage tiles into upland portions of the pipeline trench during construction and prevent silt-laden stormwater from flowing down the trench into waterbodies. The EIs or CI will determine the need for and spacing of trench plugs. Otherwise, the Contractor will install hard trench plugs (undisturbed soil) on either side of waterbody crossings or drain tiles. Topsoil will not be used for trench plugs.
Temporary Spoil Storage: Waterbody crossing spoil, including upland spoil from crossing of streams up to 30 feet in width, will be stored in the construction ROW at least 10 feet from the water’s edge or in additional temporary workspace areas. Temporary in-stream spoil storage in streams larger than 30 feet in width will be performed in accordance to any required federal permit and any federal or state statutes, rules and standards.

3.1.3 Stabilization Practices

The stabilization measures of the pipeline ROW incorporate permanent erosion and sedimentation measures. However, in the event that final restoration cannot be implemented immediately post-construction, temporary erosion and sedimentation control measures will be employed as specified by the Contractor until the weather is suitable for final cleanup.

3.1.3.1 Upland Areas

Temporary Stabilization:

- Temporary stabilization measures will be initiated as soon as practicable in portions of the ROW where construction activities have temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day is precluded by weather, stabilization measures will be initiated as soon as machinery is able to access the ROW. If activities resume within 21 days from when the activities ceased, stabilization measures do not have to be initiated by the 14th day following cessation of the activity. These guidelines are based on National Pollutant Discharge Elimination System requirements and may be modified based on state-specific PDES regulations.

- In the event that construction is completed more than 30 days before the seeding season for perennial vegetation, areas adjacent to waterbodies will be mulched with 3 tons/acre of straw, or its equivalent, to a minimum of 100 feet on either side of the waterbody. These guidelines are based on National Pollutant Discharge Elimination System (NPDES) requirements and may be modified based on state-specific PDES regulations.

- Temporary sediment barriers may be removed from an area when that area is successfully revegetated (i.e., if the ROW surface condition is similar to adjacent undisturbed lands). These guidelines are based on NPDES requirements and may be modified based on state-specific PDES regulations.

Permanent Stabilization:

- Erosion and sedimentation control practices (installation of structures, revegetation, and
maintenance practices) will be implemented to minimize the potential for soil erosion or sedimentation of streams and to restore the ROW and any other disturbed areas. Final grading will be completed within 10 days of construction completion (including the installation of permanent erosion control measures in the areas of steep slopes only), weather permitting. Construction debris will be removed from the ROW and the ROW will be graded so that the soil is left in proper condition for planting.

- The disturbed ROW will be graded to pre-construction contours, as practical, with a small crown of soil left over the ditch to compensate for settling, as approved by the CM, EIs, and/or CI. Openings will be left in the completed crown to restore lateral surface drainage to pre-construction patterns.

- Where topsoil has been segregated, the topsoil will be spread back along the ROW in an even layer.

- Fences that were cut and replaced by gaps during construction will be repaired to at least their equivalent state during pre-construction activities.

- Permanent slope breakers will be constructed after final grading and prior to seeding in accordance with the applicable regulations to replace temporary barriers at pedestrian, trail, road, waterbody, and wetland crossings.

### 3.1.3.2 Revegetation and Seeding

Seed, fertilizer, and agricultural lime application will be accomplished at the following rates and mixtures unless otherwise instructed by applicable permits or land managing agency requirements:

- **Seed Mixture:** Seed mixes have been developed through consultation with local Natural Resources Conservation Offices

- **Fertilizer:** 5-19-19 at a rate of 300 pounds per acre, but could vary based on landowner/site-specific conditions.

- **Agricultural Lime:** at a rate of 2,000 pounds per acre, but could vary based on landowner/site-specific conditions.

- **Final revegetation standards that will be used by BBP for stabilization of the ROW will be determined through discussions with the individual state and local agencies and through the permit process.**

- **The ROW will be seeded after final grading in accordance with recommended seeding**
dates, weather, and soil conditions permitting.

- Turf, ornamental shrubs, and other landscaping materials will be restored in accordance with landowner agreements. Selection is based on adaptation of plants to the soils and climate, ease of establishment, suitability for specific use, longevity or ability to re-seed, maintenance required, aesthetic values, and landowner agreement. Personnel familiar with local horticultural and turf establishment practices must perform the restoration work.

- Where broadcast or hydro seeding is to be done, the seedbed will be prepared as necessary to ensure sites for seeds to lodge and germinate.

- Where hand broadcast seeding is used, the seed will be applied at one-half the rate in each of two separate passes.

- The seedbed will be prepared to a depth of 3 to 4 inches using appropriate equipment to provide a firm, smooth seedbed that is free of debris.

- The Project area should be seeded as deemed appropriate by the CM and/or EIs. If seeding cannot be done soon after final grading, temporary erosion and sediment controls will be used and seeding of permanent cover will be done at the beginning of the next seeding season. Meanwhile, temporary stabilization measures will be implemented as appropriate.

- Seed will be purchased in accordance with the Pure Live Seed specifications for seed mixes and used within 12 months of testing.

- Legume seed will be treated with an inoculant specific to the species. The manufacturer's recommended inoculant rates will be used.

- The seed will be uniformly applied and covered 0.5 to 1 inch deep, depending on seed size. A seed drill equipped with cultipacker is preferred, but broadcast or hydro seeding can be used at double the recommended seeding rates. Where broadcast seeding is used, the seedbed will be firmed with a cultipacker, roller, or similar method after seeding.

- Other alternative seed mixes specifically requested by the landowner or land-managing agency may be used.

- Areas that are seeded after the recommended seeding date should be mulched if permitted.

3.1.3.3 Wetland Restoration

- BBP’s approach to wetland mitigation and restoration involves a combination of impact
minimization during construction, substrate and hydrology restoration, and vegetation establishment involving successful natural processes as a key component.

- The construction workspace for the Project will be designed to limit impacts to wetlands.
- During the restoration phase, segregated topsoil will be replaced over the trench line and wetland contours and drainage patterns will be restored to approximate original condition. Surface rocks and boulders that had been windrowed during the construction phase will be distributed in a natural pre-construction configuration in the temporary work areas. Following restoration of the substrate, wetlands will typically be seeded with annual ryegrass or other seed mixture as directed by regulatory agencies.

3.1.3.4 Riparian Areas
Riparian areas are defined as "on or pertaining to the bank of a natural course of water" (stream, pond, lake, or wetland). The EPA defines "riparian areas" as areas adjacent to streams and lakes where the high water table creates distinct soil and vegetative characteristics from the adjacent uplands.

- Following installation of the pipeline, stream banks and riparian areas will be re-contoured and stabilized. Banks will typically be stabilized with an herbaceous mixture and erosion control fabric such as jute netting. Rock rip-rap may be used to stabilize particularly erosive or unstable areas at the recommendation/approval of the state agencies and by the USACE.

3.1.4 Other Surface Applications
Other surface applications will be applied as outlined below unless otherwise instructed by applicable permits or land managing agency requirements:

(a) Mulch: After seeding, mulch may be applied as determined necessary by the EIs at a rate of approximately 2 tons/acre on the entire ROW except on wetlands, lawns, agricultural crop areas, and areas where hydro-mulch is used. Mulching before seeding may be done if construction or restoration activity is interrupted for an extended period, such as when seeding cannot be completed due to seeding period restrictions. Except for site-specific locations that may be identified during construction, mulch before seeding if final cleanup (including final grading and installation of permanent erosion controls in the areas of steep slopes) is not completed in an area within approximately 10 days after construction completion.
If mulching occurs before seeding, the Contractor shall increase mulch application on slopes within 100 feet of waterbodies and wetlands to a rate of 3 tons/acre. Up to 1 ton/acre of wood chips may be added to mulch if areas are top-dressed with 11 pounds/acre available nitrogen (at least 50 percent of which is slow release).

If a mulch blower is used, the strands will not be shredded to less than 8 inches in length to allow anchoring. The mulch will be anchored immediately after placement to minimize loss by wind and water. When anchoring by mechanical means, the Contractor shall use a mulch-anchoring tool to properly crimp the mulch to a depth of 2 to 3 inches.

When anchoring with liquid mulch binders, the Contractor shall use the rates recommended by the manufacturer. The Contractor shall not use liquid mulch binders within 100 feet of wetlands or waterbodies.

(b) Matting/Netting: Matting or netting consists of jute, wood excelsior, or similar materials, and will be installed by the Contractor to anchor mulch and stabilize the surface of the soil during the critical period of vegetative establishment, where directed by the EIs.

Matting or netting will be applied to critical, sensitive areas (e.g., steep slopes, banks of waterbodies, bar ditches) as specified by the EIs. On waterbody banks, the matting or netting will be installed at the time of the final bank re-contouring. In the event that erosion control fabric is not readily available, BBP will temporarily use mulch anchored via crimping (or some other means) or hydro mulch until the erosion control fabric material becomes available. Matting or netting will be anchored with pegs or staples as recommended by the manufacturer.

3.2 STORMWATER MANAGEMENT

Stormwater management will be conducted through stormwater flow attenuation, velocity dissipation devices, and water filtration. BBP’s construction procedures describe the criteria for placement and use of stormwater control methods/devices. The EIs will have the authority to determine the location of these controls.

If herbicides or pesticides are to be used for vegetation maintenance, the applications of those substances will be in accordance with applicable landowner and land management or state agency specifications. BBP will not use herbicides or pesticides in or within 100 feet of any waterbody except as specified by the appropriate land management or state agency.
3.3 OTHER CONTROLS

3.3.1 Waste Materials

(a) Trash, litter, and debris will be collected for off-site disposal; it will not be discarded along the ROW. Refuse will be disposed of according to state and local regulations.

(b) Solid waste that contains (or at any time contained) oil, grease, solvents, or other petroleum products, falls within the scope of the oil and hazardous substances control, cleanup and disposal procedures of BBP’s Spill Prevention and Response (SPAR) Plan (Appendix B). This material shall be segregated for handling and disposal as hazardous waste under the provisions of the SPAR Plan.

3.3.2 Offsite Vehicle Tracking

(a) A stabilized construction entrance will be used, if appropriate, to reduce vehicle tracking of soil and sediments. Access to the ROW will normally be from existing public roads. Attempts will be made to locate roadway crossings/access points to ensure that safe and accessible conditions exist throughout the construction phase. Use of 50-foot-long crushed stone or mat access pads, sweeping, culvert installation, and other forms of rutting protection may be used subject to local permit conditions. Periodic sweeping and scraping will remove sediment tracked onto public roads. If crushed stone access pads are used in active agricultural areas, the stone will be placed on a synthetic fabric to facilitate later removal.

(b) The stabilized construction entrances will be installed before clearing and grading. Once other construction activities permanently cease in an area, that area will be stabilized by reseeding and/or mulching as needed. Once revegetation has been judged successful, temporary erosion/sediment control structures will be removed.

4.0 MAINTENANCE

Erosion and sediment control measures and other protective measures identified in this SWPPP must be maintained in effective operating condition. If site inspections required by Section 5 of this SWPPP identify erosion control devices that are not operating properly, maintenance shall be performed before the next anticipated storm event, or as necessary to maintain the continued effectiveness of erosion controls. If maintenance prior to the next anticipated storm event is impractical, maintenance must be scheduled and accomplished as soon as practicable. Temporary sediment barriers will remain in place until permanent revegetation measures have been judged successful.
5.0 INSPECTIONS

The EIs will inspect disturbed areas of the Project area that have not been finally stabilized (including areas used for storage of materials that are exposed to precipitation, staging areas, temporary contractor yards, access roads, structural control measures, and locations where vehicles enter or exit the site). The Project area should be considered stabilized when construction activity ceases and a uniform vegetative cover (see below) has been established.

Areas that are not revegetated should be considered to have achieved final stabilization when they have a permanent cover that will prevent erosion of soil by wind or water. At that time, activity under this plan, including inspections, will cease. Inspections shall be conducted as follows and/or in accordance with the applicable National or State-Specific Pollution Discharge Elimination System guidelines:

- **Conduct daily inspections and following any storm event of 0.5 inch of precipitation or greater**, except those portions of the site that have been finally or temporarily stabilized, for which inspections will be conducted at least weekly. Inspections should continue until disturbed areas are completely stabilized (for areas to be revegetated, this means that perennial vegetation cover has reached a uniform cover of at least 70 percent of the preconstruction cover).

- **Inspect control measures** daily in areas of active construction or equipment operation and on a weekly basis in areas with no construction. Inspect within 24 hours of the end of a storm event that is 0.5 inch of rainfall or greater. Control measures will be maintained in good working order; if repair is necessary, it should be initiated within 24 hours of report.

- **Inspect disturbed areas** for evidence of or potential for pollutants entering the drainage system. Sediment from silt fences should be removed regularly and the fence inspected to ensure that the bottom of the fence remains imbedded in ground. Damaged hay/straw bales will be replaced with new bales as necessary.

- **Inspect material storage areas** where materials are exposed to precipitation for evidence of potential for pollutants entering the drainage system.

- **Inspect vehicle entrances** for evidence of off-site sediment tracking.

- **Inspect discharge points**, if accessible, to determine if erosion control measures are effective in preventing significant impacts to receiving waters. If these points are inaccessible, inspectors should inspect nearby downstream locations.
- **Inspect vegetation** after the first and second growing season after seeding to determine the success of revegetation. Wetland revegetation is considered successful if at least 80 percent of the total cover is native species and the level of diversity of the native species present after construction is at least 50 percent of the level originally found in the wetland. Restoration shall be considered successful if the ROW surface condition is similar to adjacent undisturbed lands.

- **Complete an inspection report of each inspection.** Inspection forms and form instructions provided in Appendix C provide additional guidance.

See Section 7 for additional detail on requirements for construction activity and inspection documentation and record keeping.

### 6.0 PLAN MODIFICATION

This plan may need to be modified and/or updated based on information and experience gathered during actual construction activities (e.g., include or modify BMPs designed to correct problems, etc.). If changes to the design, construction, or maintenance that can have significant effect on the potential for discharging pollutants in stormwater at the site occur, this plan should be modified accordingly by the Contractor, EI, and/or CI. In addition, if the plan proves to be ineffective in controlling pollutants, any necessary modifications to the application of the practices presented in this plan should be made by the Contractor, EI, and/or CI in order to prevent the discharge of pollutants into stormwater.

### 7.0 REQUIRED REPORTS, DOCUMENTATION, AND RECORDKEEPING

#### 7.1 RECORDS RETENTION

All documents will be retained as part of the SWPPP for at least three years from the date that the site is finally stabilized as required by BBP’s document retention policies. The following documentation will be kept on file at the construction site:

- A copy of this SWPPP and referenced attachment(s)
- Inspection reports
- Log of construction and BMP installation/maintenance activities and/or construction alignment sheets/construction plans showing the placement of BMPs.
7.2 INSPECTION REPORTS
A separate report will be developed for each inspection. Inspection reports will identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report will contain a certification that the facility is in compliance with this SWPPP. In addition, inspection reports should:

- Summarize the scope of the inspection.
- Provide the name(s), title(s), and qualifications of personnel making the inspection.
- Indicate the date(s) of the inspection.
- Provide weather information and a description of any discharges occurring at the time of the inspection.
- Provide weather information for the period since the last inspection (or since commencement of construction activity if first inspection), including:
  - A best-estimate of the beginning of each storm event,
  - Duration of each storm event,
  - Approximate amount of rainfall for each storm event (in inches), and
  - If any discharges occurred.
- Indicate the location(s) of discharges of sediment or other pollutants from the site.
- Indicate the location(s) of BMPs that need to be maintained.
- Indicate the location(s) of BMPs that failed to operate as designed or proved inadequate for that particular location and plans for correction of the problem (including implementation dates of corrective action).
- Indicate location(s) where additional BMPs are needed that did not exist at the time of inspection.

7.3 LOG OF CONSTRUCTION AND BMP INSTALLATION AND MAINTENANCE ACTIVITIES
In addition to inspection and maintenance reports, keep a record of construction activity on the site with this SWPPP. In particular, keep record of the following:
• The dates when major grading activities occur in a particular area.

• The date when construction activities cease in an area, temporarily or permanently.

• The date when an area is stabilized, temporarily or permanently.

• Erosion control maintenance activities.

8.0 SWPPP CERTIFICATION

8.1 BBP’S CERTIFICATION
I certify under penalty of law that this document and its appendices 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.

Signed: __________________________ Date: ________________
Print Name: _______________________
Title: ___________________________
Company: _________________________

8.2 CONTRACTOR'S/SUBCONTRACTOR'S CERTIFICATION
I certify under penalty of law that I understand the terms and conditions of the governing PDES permit that authorizes the stormwater discharges associated with industrial activity from the construction site identified as part of this certification.

Signed: __________________________ Date: ________________
Print Name: _______________________
Title: ___________________________
Company: _________________________
I certify under penalty of law that I understand the terms and conditions of the governing PDES permit that authorizes the stormwater discharges associated with industrial activity from the construction site identified as part of this certification.

Signed: _______________________________  Date:___________________
Print Name: _______________________________
Title: _______________________________
Company: _______________________________

I certify under penalty of law that I understand the terms and conditions of the governing PDES permit that authorizes the stormwater discharges associated with industrial activity from the construction site identified as part of this certification.

Signed: _______________________________  Date:___________________
Print Name: _______________________________
Title: _______________________________
BBP: _______________________________
APPENDIX A

BEST MANAGEMENT PRACTICES FIGURES
GENERAL NOTES:

1. EXTRA DEPTH MAY BE REQUIRED FOR CONCRETE COATED PIPE OR WEIGHTS

SIDEBOOM WITH COUNTERWEIGHT EXTENDED

* MATING WILL OCCUR IN WORKING LANE, OPTIONAL UNDER SKOS AND PIPE

CONSTRUCTION ROW WIDTH

SPILL SIDE

TEMP. ROW WIDTH

PERM. ROW WIDTH

30'

75'

6' (MAXIMUM)

10' (MAXIMUM)

10' TOPSOIL (MAXIMUM)

6'

* CONSTRUCTION MATS

WORKING SIDE

25'

45'

50'

EDGE OF CONSTRUCTION ROW

EDGE OF CONSTRUCTION ROW

DITCH

SPILL STORAGE
NOTES:

1. CROSSING INSTALLATION SHALL BE IN ACCORDANCE WITH APPLICABLE PERMITS.
2. PIPE IN THIS AREA SHALL BE CONCRETE COATED PER DWG. WEI-STD-A-016 OR PER DWG. WEI-STD-A-015 IF CONCRETE WEIGHT COATING IS SPECIFIED. PIPE SHALL BE LEVEL UNDER CROSSING TO THE LENGTH AND DEPTH SHOWN.
3. CONTINUOUS CONCRETE COATING MATERIALS FOR PIPE WILL BE FURNISHED AND INSTALLED BY CONTRACTOR.
4. INSTALL TRANSITION PIECE AS REQUIRED FOR DIFFERENT WALL THICKNESS PIPE AT CROSSING PER ALIGNMENT SHEETS.
5. THIS STANDARD DRAWING IS APPLICABLE TO ALL FABRICATED CANAL/STREAM CROSSINGS UNLESS NOTED OTHERWISE IN THE CONSTRUCTION DRAWINGS OR SPECIFICATIONS.
6. CONCRETE-LINED AND ABOVE-GROUND CANAL CROSSINGS SHALL BE INSTALLED BY BORING RIGHT-OF-WAY TO RIGHT-OF-WAY. BELOW GROUND CANALS/STREAMS MAY BE INSTALLED BY OPEN CUT IF ALLOWED BY THE PERMIT.
7. OPEN CUT CANAL CROSSING BACKFILL SHALL BE OF SELECT MOIST BACKFILL MATERIAL, PLACED IN LAYERS AND THOROUGHLY COMPACTION BY MECHANICAL TAMPER TO 95% OF COMPACTION, AS PER ASTM D-1557-70, OR AS REQUIRED BY CANAL OWNER.
NOTES:
1. CROSSING INSTALLATION SHALL BE IN ACCORDANCE WITH APPLICABLE PERMITS.
2. PIPE SHALL BE LEVEL UNDER CROSSING TO THE LENGTH AND DEPTH SHOWN.
3. PIPE SHALL BE LAID TO EXTRA DEPTH AT THESE LOCATIONS TO ACCOMMODATE FREE-STRESS BENDING.
4. THIS STANDARD DRAWING IS APPLICABLE TO ALL FREE-STRESS CANAL/STREAM CROSSINGS UNLESS NOTED OTHERWISE IN THE CONSTRUCTION DRAWINGS OR SPECIFICATIONS.
5. ABOVE-GROUND CANAL CROSSINGS SHALL BE INSTALLED BY BORING RIGHT-OF-WAY TO RIGHT-OF-WAY. BELOW-GROUND CANALS/STREAMS MAY BE INSTALLED BY OPEN CUT.
6. OPEN CUT CANAL CROSSINGS BACKFILL SHALL BE OF SELECT LOAM BACKFILL MATERIAL, PLACED IN LAYERS AND THOROUGHLY COMPACTED BY MECHANICAL TAMING TO 95% OF COMPACTION, AS PER ASTM D-1557-78, OR AS REQUIRED BY CANAL OWNER.
7. 3 FT COVER ON MAINLINE; 4 FT COVER ON AGRICULTURAL LANDS.
No fill shall be placed underneath board mats during project construction.
Results you can rely on

PLAN VIEW
NOT TO SCALE

IMPROVED SURFACE ROAD
(Concrete-Gravel-Asphalt)

NOTE: 12" MIN. CULVERT SIZE
(AS REQUIRED)

C/L ACCESS ROAD
C/L STREAM OR WETLAND

15' (TYP.)

SHOULDER OF ROAD

PIPELINE NORTH

PLAN VIEW
NOT TO SCALE

SECTION A-A
NOT TO SCALE

BOTTOM OF DITCH

6" (MIN.)

ROCK FILL (COMPACTED)

NOTES:
1. CONTRACTOR SHALL FURNISH AND INSTALL ADEQUATE TRAFFIC CONTROL SIGNS, MARKERS, FLASHERS, ETC.
2. CONTRACTOR SHALL FURNISH AND INSTALL COMPANY APPROVED GEOTEXTILE MATERIAL.

SECTION B-B
NOT TO SCALE

6" AGGREGATE (MIN.)

GEOTEXTILE MATERIAL
(SEE NOTE 2)

15' (TYP.)

3

11

ROCK FILL (COMPACTED)

TYPICAL CULVERT INSTALLATION IN STREAM/WETLAND CROSSING
1. To be used only where specified on the construction drawings.

2. Not to be used to filter steady stream flow.
Results you can rely on