

Environmental Assessment (E.A. Form) Rev. 6/2017

Revised April 2019

Note: The EA provided herein provides information relevant to the major permit modification required at the Piney Creek Road/High Street (State Route 866) HDD Reroute in Blair County, Pennsylvania, and includes specific excerpts and information previously submitted by Sunoco Pipeline L.P. as part of the approved Pennsylvania Pipeline Project (PPP) Chapter 105 Joint Permit (E07-459).

Module S1: Project Summary

S1.A Overall Project Description

Sunoco Pipeline L.P. (SPLP) requests a major permit modification for a change in the route and installation method for the 16-inch diameter pipeline previously permitted as the Piney Creek Horizontal Directional Drill (HDD). This permit request is to convert the HDD to conventional open trench construction for the majority of the reroute, and a conventional auger bore under Piney Creek Road / High Street (State Route 866). During the pilot hole drilling phase on the permitted Piney Creek HDD for the 20-inch pipeline installation through this area, there were multiple inadvertent returns (IRs) in which drilling mud/fluid entered Waters of the Commonwealth, including Piney Creek and S-M33. In an attempt to address these incidents, SPLP received approval from the Pennsylvania Department of Environmental Protection (PADEP) to implement a Direct Pipe construction method. This method failed, however, and after receiving approval from PADEP, the 20-inch pipeline crossing was completed using the HDD method. During completion, the Piney Creek HDD continued to experience losses of circulation and IRs. Therefore, SPLP has elected to install the 16-inch pipeline through this area using an alternate route and method of installation that minimizes impacts to Waters of the Commonwealth.

The 0.57-mile reroute would involve conventional open trench excavation through three (3) streams including two that were crossed by the original route, and no wetlands (refer to *Attachments C and E* for additional information about these water resources): wetland M26 (PEM), an Exceptional Value (EV) wetland, crossed by the original route will be avoided. In accordance with PPP's original Chapter 105 Joint Permit Application, SPLP may utilize one or more of the following open-trench excavation methods for installation of the pipeline across waterbodies (refer to the E&S Plan standard typical drawings for details):

- **Dry Open Cut** - Minor waterbodies with no flow at the time of construction may be crossed using the open-cut crossing method.
- **Dry Flume** – A flumed crossing directs and contains the stream flow through an alternate mechanism across the stream channel to allow for the trenching and pipe installation to occur in dry conditions. Where practical, this allows for drier trenching, pipe installation, and restoration while maintaining continuous downstream flow.
- **Dry Pump Bypass** - The dam and pump bypass method may be used for crossings of waterbodies where pumps can adequately transfer stream flow volumes around the workspace. Similar to the flume crossing, this method allows for drier trenching, pipe installation, and restoration while maintaining continuous downstream flow.
- **Dry Cofferdam** – The cofferdam method, typically used on large streams/rivers, involves the installation of a cofferdam to isolate and divert flow around the workspace in two phases. The first phase consists of the cofferdam installation on one of the banks and approximately halfway into the river to allow safe and dry installation of the pipeline across the river. The second phase involves the same process but from the opposite bank. This method allows continuous flow around the workspace and eliminates concerns about sensitive species passage.

All work will be conducted in accordance with permit conditions/requirements as well as the E&S and restoration plans (refer to Appendix D of this permit modification). The crossing will not result in any loss of stream or wetland area or water quality/quantity, and the localized impacts are considered minor and temporary.

Please refer to *Attachment A* of this permit modification request packet for the Project Description and Alternatives Analysis for this proposed change in installation method and alignment.

CEA Requirements

Per PADEP Technical Policy Guidance Document No. 310-2137-006, a Comprehensive Environmental Assessment that analyzes the alternatives, impacts, mitigation and antidegradation for all structures and activities associated with the overall Project was included with the original PPP Chapter 105 Joint Permit Application submitted to PADEP (E07-459. APS 879354). Specifically, Attachment 11 EAF, Enclosure E Part 3 addresses alternatives; Part 2 includes impacts; Part 4 identifies impact avoidance minimization and mitigation; and, Part 5 discusses antidegradation.

Information applicable to this specific permit modification request are presented in this submittal as follows:

- Alternatives – Module S3, S3.F
- Impacts – Module S3, S3.B
- Avoidance, Minimization, and Mitigation – Module S4
- Antidegradation – Module S3, S3.E

S1.B Project Purpose, Need, Water Dependency, and Summary of Resources and Impacts

Project Purpose & Need

As presented in the original PPP Chapter 105 Joint Permit (E07-459), the overall Project will provide transportation service of natural gas liquids (NGLs) with the combined pipelines from the Utica and Marcellus Shale formations for both domestic and international markets. NGLs are separated from the natural gas stream before consumer ready (dry) natural gas is shipped on the natural gas pipeline network. Upstream shippers are currently limited by the shortage of NGL transport systems. In addition, the Project will provide various delivery points to local Pennsylvania distributors for supply of needed propane supplies, at affordable prices, for use as heating and/or cooking fuel by consumers in Pennsylvania and neighboring states, increasing these fuel access and supply during peak demand periods when supplies would otherwise become short. Butane will also be shipped to local markets as a component of gasoline to ensure gasoline suppliers can meet seasonal vapor pressure restrictions.

Water Dependency

As presented in the original PPP Chapter 105 Joint Permit (E07-459), constructing and operating a natural gas liquids pipeline is not, per se, a water-dependent project. However, because of Pennsylvania's abundant water and wetland resources, any project which travels approximately 300 miles west to east across the Commonwealth requires the crossing of, and therefore access to, waters and wetlands. The overall Project requires access and proximity to and siting in, on, over or under waters and wetlands in order to achieve its primary purpose to transport natural gas liquids from Houston, Washington County to SPLP's existing facility in Marcus Hook, Delaware

County. Therefore, the linear nature and approximately 300-mile length of the Project across 17 counties west to east in Pennsylvania makes the Project water-dependent.

Summary of Resources & Impacts

The impacts associated with the Piney Creek Reroute will total approximately **2,590 ft² (0.06 acre)** of permanent impacts and 54 ft² (0.001 acre) temporary stream impacts, and approximately 12,496 ft² (0.29 acre) of permanent and 5,542 ft² (0.13 acre) of temporary floodway impacts, respectively. Although PADEP defines pipeline operation and maintenance activities as permanent impacts, the impacts are considered minor/localized and temporary as the entire disturbed area of the streams will be restored to preconstruction conditions (i.e., elevation, flow, stream substrate, stream banks, hydrologic conditions, etc.). Furthermore, the resource crossings will not involve any permanent fill; the streams will not be relocated, and there will be no permanent loss of streams or aquatic habitat associated with the reroute modification request. Please refer to *Attachment E* of this permit modification request packet for an updated Aquatic Resource Impact Table.

The proposed route would cross streams designated by the PAFBC as a Class A Trout and Trout Natural Reproduction (TNR) stream or Drains to Approved Trout Waters (ATW) streams. Therefore, SPLP will comply with timing window restrictions/limitations (i.e., 10/1 through 12/31 for TNR and 3/1 through 6/15 for ATW) during construction and will work with the appropriate agencies to avoid and minimize potential impacts to trout/spawning/migrating fish.

In addition, an updated PNDI review (PNDI-675711) identified the proposed Project reroute as located within the range of the thick-leaved meadow-rue (*Thalictrum coriaceum*), a state endangered plant, as well as habitat of the federally endangered Indiana bat (*Myotis sodalis*). Therefore, SPLP will coordinate with the Pennsylvania Department of Conservation and Natural Resources (PADCNR) and conduct botanical surveys as required for the newly proposed Piney Creek Reroute. SPLP will also implement its *Myotis* Conservation Plan pre-, during, and post-construction to avoid and minimize potential impacts to the Indiana bat. Specifically, SPLP will implement tree clearing avoidance measures (restricted between April 1 and November 14) and the USFWS Forest Management Guidelines for Indiana Bat Swarming/Summer Habitat when conducting tree harvesting.

SPLP will update PADEP of future agency coordination/responses as it becomes available. Please refer to Module 2, S2.C of this Environmental Assessment and *Attachment G* of this permit modification request packet for the updated PNDI and agency coordination.

Module S2: Resource ID & Characterization

S2.A Location Map & Wetland Delineation Report.

The original location of the Project is provided in the Location Map prepared and submitted for the Project's Chapter 105 Joint Permit Application for Blair County. The applicable page from the original application is provided in Appendix S2.A-1, and has been modified to reflect the location of the Project with the proposed Piney Creek Reroute as well as the locations of the streams affected.

Similarly, an *Aquatic Resources Report* for Blair County was prepared in August 2015 and submitted as part of the PPP Chapter 105 Joint Permit Application. The Aquatic Resources Report presents the results and conclusions of wetland and stream identification activities completed for the entire Project right-of-way. An additional wetland and stream delineation survey was conducted along the Piney Creek Reroute on December 13, 2018 for this permit modification request. Excerpts from the Aquatic Resources Report (prepared in August 2015) including information on Streams S-M30 and S-M33 and a supplemental Aquatic Resources Report (prepared in January 2019) including information on Stream S8r is included as Appendix S2.A-2.

No public water suppliers (PWS) were identified within 0.5 mile of the proposed Piney Creek Reroute.

S2.B Aquatic Resources

For this permit modification request, SPLP identified all aquatic resources present within the Project reroute area and the resources that would be affected by the proposed reroute including three (3) streams.

The aquatic resources that would be affected have been identified as streams S-M30 (Piney Creek), S-M33 (an unnamed tributary to Piney Creek), and stream S8r (an unnamed tributary to Piney Creek). Stream S-M30 is identified as a perennial stream, with bank to bank width of approximately 30 feet; Stream S-M33 is identified as a perennial stream with a bank to bank width of approximately 10 feet; and Stream S8r is an ephemeral stream that drains into Stream S-M33, with a bank to bank width of 1 foot. Based on review of eMapPA maintained by the PADEP and a review of Drainage List A of Pennsylvania Code, Title 25, Chapter 93, SS 93.9h, the designated/protected uses and fisheries classification for Streams S-M30 and S-M33 are classified as High Quality-Cold Water Fishery (HQ-CWF) streams while Stream S8r is classified as Drains to HQ-CWF. All three (3) streams are also classified as Migratory Fishes (MF) streams. The Pennsylvania Fish and Boat Commission (PAFBC) designates Stream S-M30 as a Class A Trout Stream and a TNR stream and Streams S-M33 and Stream S8r as Drains to ATW. Activities within these streams are jurisdictional by the USACE and are considered activities in the waters of the U.S.

S2.C PNDI T&E plant and animal species or State T&E Species or Species of Special Concern Agency Coordination and Search Receipts

For this permit modification, a request was submitted to the Pennsylvania Natural Diversity Index on January 28, 2019 (PNDI-675711) regarding the potential of species of concern of unique habitat within the proposed reroute corridor. Based on the results of this search, the thick-leaved meadow-rue and Indiana Bat were identified as threatened and endangered (T&E) or species of

concern possibly located within the area of the proposed reroute: thick-leaved meadow-rue is listed as PA endangered, and the Indiana bat as State and Federally endangered.

As both T&E species were previously identified for the original Project route, SPLP has previously coordinated with the PADCNr and USFWS regarding these two species. Specifically, SPLP conducted a botanical survey of PADCNr identified areas of concern (up to/within 300 feet of the original proposed LOD) for thick-leaved meadow-rue between April 28, 2014 to September 16, 2015. Results of the 2015 botanical surveys identified no individual plants or suitable habitat for the species in the Project area. A courtesy copy of the negative results was sent to the PADCNr on November 4, 2015 and was included as part of the PPP Chapter 105 Joint Permit Application. The applicable excerpts from the survey are included herein as Appendix S2A-3. Nonetheless, in accordance with the latest PNDI results, SPLP will coordinate with PADCNr regarding the presence/absence of this species and/or suitable habitat for the proposed Piney Creek Reroute.

The latest PNDI review indicates that the USFWS recommends implementation of tree clearing avoidance measures (restricted between April 1 and November 14) and the USFWS Forest Management Guidelines for Indiana Bat Swarming/Summer Habitat when conducting tree harvesting for the Piney Creek Reroute. In accordance with these recommended measures, SPLP intends to conduct tree clearing between November 15 and March 31 as discussed in its *Myotis* Conservation Plan previously submitted as part of SPLP's original PPP Chapter 105 Joint Permit Application.

No other T&E plant and animal species, or State T&E Species, or Species of Special Concern were identified. However, as noted above, SPLP is aware of the timing window restriction associated with the designated trout streams (i.e., 10/1 through 12/31 for TNR and 3/1 through 6/15 for ATW) and will comply with timing window restrictions/limitations during construction and will work with the appropriate agencies to avoid and minimize potential impacts to trout/spawning/migrating fish. Again, SPLP will provide PADEP with future agency coordination/responses as they become available.

Please refer to *Attachment G* of this permit modification request packet for the updated PNDI request and agency submittal.

S2.D Resource Classification Information; Level 2 Rapid Condition Assessment Results, Resource Function, Riparian properties and any other relevant studies.

This permit modification request is for a change in route and installation method of the 16-inch diameter pipeline from an HDD to conventional open trench, and auger bore under Piney Creek Road/ High Street (State Route 866). Due to the proposed reroute and aquatic resources that would be directly or in directly impacted by the proposed reroute, a brief description of the streams and associated floodways are presented below for this permit modification request. Note, no wetlands will be affected by this permit modification request.

Piney Creek and the two other UNTs to Piney Creek are located within the physiographic province of the Ridge and Valley Appalachian Mountain section. The surrounding land uses are agricultural, and include open fields/pasture, rural housing and roads, and Piney Creek Road/High Street (State Route 866). There are existing trees or shrubs in the riparian buffer (refer to *Attachment B* of this permit modification for current photographs of the stream crossings).

Two (2) of the three (3) streams (S-M30 and S-M33) are identified as perennial streams. These streams provide potential habitat for seasonal spawning of game and non-game fish species.

These streams also have the potential to be used for resting by a variety of birds and mammals. However, wildlife is likely to utilize more remote and secluded areas that offer more protection/cover for resting. As these streams are perennial, these streams support a continuous flow of water with moderate rates of flushing and residence times. Stream S8r is an ephemeral stream and does not support a continuous flow of water. Stream S8r supports similar habitat as Streams S-M30 and S-M33, except for providing a year-round water source.

Although all three (3) streams are either classified as PAFBC Class A Trout/TNR stream or Drains to ATW streams, seasonal migration of trout during spawning would likely be limited to stream Streams S-M30 and S-M33 based on their perennial flow characteristics. Similarly, even though all three (3) streams are also designated HQ-CWF or drains to HQ-CWF, and MF streams, the potential for anadromous fish migration to occur is likely limited to Streams S-M30 and S-M33. Regardless, SPLP is aware of the timing window restriction associated with these streams (i.e., 10/1 through 12/31 for TNR and 3/1 to 6/15 for ATW) and will work with the appropriate agencies to avoid/minimize potential impacts to the streams' trout resources and comply with any agency restrictions or limitations. SPLP will provide PADEP with all future agency coordination/responses as they become available.

The streams also provide a food source for invertebrates, birds, reptiles, amphibians, and mammals. Growth of herbaceous plants constitute the food chain base that supports primary consumers such as invertebrates and small mammal herbivores. Secondary and tertiary consumers are supported by the diversity and abundance of prey in the wetland and stream ecosystems. In addition, most of the streams support photosynthetic algae, overhanging woody vegetation, and/or small aquatic vascular plants that support invertebrate herbivores. Such invertebrates are consumed by small reptiles and fish that can inhabit the streams. Both the wetland and streams likely support aquatic insects or amphibians that meet specific prey requirements of birds and mammals with an affinity for stream habitats such as raccoon (*Procyon lotor*). The streams are also likely utilized by a variety of wildlife species as a source of drinking water.

The water quality of the streams is considered good, as evidenced by their HQ-CWF and trout classifications. The area is relatively undeveloped with agricultural areas surrounding most of the streams. The stream designations offer high quality recreational and sport fishing opportunities; however, these opportunities may be limited due to property access issues (i.e., private property).

Module S3: Identification and Description of Potential Project Impacts

S3.A Impact Summary

**Table S3.A-1 Summary of Project Impacts
Permit Modification Request for the Piney Creek Reroute
Open Cut Crossing Method**

Resource Category	Corps 404		PADEP/105	
	Temporary (ft ²)	Permanent (ft ²)	Temporary (ft ²)	Permanent (ft ²)
Streams (S-M30, S-M33, S8r)	2,644	N/A	54	2,590
Floodway (S-M33, S8r)	N/A	N/A	5,542	12,496

S3B. Standard Information Responses

The requested permit modification for the Piney Creek Reroute will not impact any resources identified in Module S2, Part A with the exception of some Prime Farmland soils, Bicycle PA Route G, and the Canoe Creek Watershed Important Mammal Area (IMA #16) that are described below. The proposed reroute will also cross the Springfield Branch of the Pennsylvania Railroad, which is located within the Springfield Morrisons Cove Rural Historic District (a National Register of Historic Places (NRHP) eligible district) -- also discussed further below.

The proposed reroute is located near State Game Land 147 (0.23 mile to the west, the Piney Creek Woods Biological Diversity Area (0.19 mile to the south), and Lock Mountain Land Conservation Area #3 (0.03 mile to the west). However, the proposed reroute is not anticipated to result in direct or long-term impacts to the purpose/functions of these areas/habitats as there would be no change in existing land use. Project construction/schedule may overlap with the hunting season near these areas (for the Project reroute near State Game Lands), but SPLP will work to adhere to “no work” schedules prescribed by the Pennsylvania Game Commission to minimize conflicts with hunting activities. Similarly, SPLP will work with private landowners to avoid conflicts with hunting, to the extent possible and for safety reasons.

Prime Farmland

The proposed Piney Creek Reroute would cross a small amount of designated prime farmland soils. Specifically, the reroute would cross approximately 0.15-mile of Prime Farmland including approximately 0.81-acre within the permanent ROW and approximately 0.64-acre in temporary workspace. Therefore, SPLP will take precautions during construction and restoration to protect these unique soils. Potential short-term impacts to prime farmland soils associated with construction of the Project may include increased soil erosion and sedimentation due to the removal of vegetation; compaction of soils caused by construction vehicles and equipment; and, poor revegetation. However, SPLP will prevent and minimize impacts on prime farmland soils. Specifically, SPLP will segregate and conserve topsoil, utilize decompaction if necessary, and compensate landowners for temporary suspension of crop production during the construction period. Because SPLP will restore the Project ROW and most agricultural activities will be allowed to resume following installation of the 16-inch pipeline, the Project would not have long-term impacts on Prime Farmland soils.

Bicycle PA Route G

Similar to the original proposed route, the proposed Piney Creek Reroute would cross Bicycle PA Route G; however, no aquatic resources were identified on this bicycle trail. As previously noted, Project impacts to this trail would be short term and limited to the time needed for construction of the proposed reroute. The bike route is associated with State Route 866 and will be bored under; therefore, there will be no interruption to the use of this trail during Project construction. Operation of the Project will not impact the long-term use of this recreational trail.

Canoe Creek Watershed IMA

The proposed Piney Creek Reroute would also cross the Canoe Creek Watershed IMA, which is reported to support a core population of several bat species including the Indiana bat, Little brown bat (*Myotis lucifugus*), and the silver-haired bat (*Myotis Lasionycteris noctivagans*), as well as the Allegheny Woodrat (*Neotoma magister*). Based on previous agency coordination for the original Project ROW through this area and on the latest PNDI review for the proposed Piney Creek Reroute, the species of concern in this IMA are likely limited to the Indiana bat. Therefore, as discussed above, SPLP will implement its *Myotis* Conservation Plan which was submitted as part of SPLP's original PPP Chapter 105 Joint Permit Application. As discussed therein, as standard practice to avoid impacts to this bat species, SPLP will conduct tree clearing between November 15 and March 31 within the identified Indiana bat habitat area. With implementation of this avoidance measure and conservation plan, SPLP will avoid take of Indiana bat species and the proposed reroute is not likely to adversely affect the Indiana bat species within the Canoe Creek Watershed IMA

Springfield Morrisons Cove Rural Historic District - Springfield Branch of the Pennsylvania Railroad

Based on cultural and archaeological surveys conducted between December 13 and 16, 2018, no cultural or archaeological resources were identified along the proposed pipeline reroute. A historic survey of the propose reroute shows that the 16-inch pipeline would cross the Springfield Branch of the Pennsylvania Railroad which is not listed in the NRHP but is located within the Northern Morrisons Cove Rural Historic District, a NRHP-eligible district. Tracks are no longer present along the now defunct line, and only some former railroad grade remains. No other historic resources associated with the railroad are present in the Project vicinity. Furthermore, SPLP will restore the railroad bed to pre-construction conditions, including existing elevation, grades and contours. Please see Negative Survey Form (ER# 2013-1862-042) submitted to the Pennsylvania State Historic Preservation Office (SHPO) – Pennsylvania Historical and Museum Commission (PHMC) on January 30, 2019 (refer to *Attachment F*).

S3.C Subfacility Details

Information related to the proposed water obstruction, encroachment activities, and temporary/permanent impacts associated with the requested permit modification to open cut Piney Creek and associated streams was provided in the original PPP Chapter 105 Joint Permit Application (E07-459. APS 879354) and is summarized within this Environmental Assessment, as well as the other attachments comprising this permit modification packet.

S3.D Direct and Indirect Impacts

As discussed above, direct and indirect impacts for the overall Project were presented in Attachment 11, Enclosure E (Part 2) of the original PPP Chapter 105 Joint Permit Application (E07-459. APS 879354). Excerpts from the submittal relevant to the Piney Creek Reroute and this permit modification request are presented below.

The open cut (open trench) crossing of Streams S-M30, S-M33, and S8r (including floodways) will result in approximately 2,590 ft² (0.06 acre) of permanent and 54 ft² (0.001 acre) temporary impacts, and approximately 12,496 ft² (0.29 acre) of permanent and 5,542 ft² (0.13 acre) of temporary floodway impacts. As defined by PADEP, permanent impacts include direct and indirect impacts resulting from the placement or construction of the pipeline and impacts to those areas necessary for the operation and maintenance of the pipeline. Temporary impacts include areas affected during the construction of the Project that will be restored when construction is completed. All physical/ecological impacts are considered minor and temporary as the streams would be restored to their original condition (i.e., elevation, flow, stream substrate, hydrologic conditions, etc.). In addition, the Project would not involve any permanent fill and there would be no permanent loss of streams associated with the Project.

Impacts to the streams would occur as a result of in-stream construction activities and would result in a temporary localized increase in turbidity levels and downstream sediment deposition. Sediments that become suspended during the short period of in-stream disturbance are expected to settle out of the water column relatively quickly.

Temporary impacts would occur to aquatic life in the streams at or downstream from the construction site (pipe crossing), including potential degradation of benthic habitat due to direct disturbance to the bottom substrate in the trench zone, and associated disturbances to aquatic vegetation and invertebrates with the construction ROW. Indirect impacts from sedimentation may affect areas downstream, but generally conditions would be expected to resolve relatively quickly (e.g., dry crossing methods involving in-stream excavation would have a limited effect on downstream sedimentation for a period of 1 to 3 days).

Indirect, long-term impacts to fish spawning/migration could occur if substantial changes to Streams S-M30 and S-M33 (as these are perennial streams) substrate or current patterns result from Project construction. However substantial changes to stream substrate and current patterns are not anticipated because the native stream substrate will be replaced, and stream bed and banks will be restored as closely as possible to the original contours following construction. Furthermore, SPLP is aware of the timing window restriction associated with these streams (i.e., 10/1 through 12/31 for TNR streams and 3/1 to 6/15 for ATW) and will work with the appropriate agencies to avoid/minimize potential impacts to the streams' trout resources and comply with any agency restrictions or limitations. No impacts to fish spawning/migration are anticipated during Project operations.

Project construction will result in the clearing of areas located 100-150 feet landward of HQ streams (i.e., riparian buffer area), but the impacts have been minimized to the maximum extent practicable while allowing safe installation of the pipeline. In addition, riparian buffers and stream banks will be revegetated (seeded/planted) following construction as soon as practicable to facilitate vegetative growth along the stream channel in accordance with the included E&S Plan (*Attachment D* of this permit modification packet). For more information please refer to

Attachment 11, Enclosure E (Part 4) Impact Avoidance, Minimization and Mitigation Procedures of PPP's Chapter 105 Joint Permit Application.

In addition to the above, no fill, aboveground facilities or alteration of surface elevations/contours are proposed within the streams' floodways as they will be restored to pre-construction conditions. As such, the Project would not result in long-term impacts to the associated floodways.

Construction of the proposed Project is not expected to affect the flushing characteristics of the streams. SPLP has sited the ROW such that the stream crossings are generally perpendicular and thereby of minimal impact. In addition, the Project will not alter the volume of water or flow rates that the streams typically/naturally experience. Furthermore, the stream channels will be restored to pre-construction contours, thereby restoring pre-existing flushing characteristics and patterns within the streams crossed. Similarly, operation of the Project would not have any impact on natural drainage patterns.

Construction of the proposed Project is not expected to affect groundwater discharge that may be important for supporting stream baseflow or hydrology. Trench plugs will be installed in the trench at the entry and exit of all streams crossed to prevent draining of streams along the trench line. In addition, there are no groundwater control features or interceptor structures incorporated into the Project design. Topographic contours and drainage patterns will be restored following construction of the Project and impacts to groundwater discharge are not anticipated.

As there are no proposed aboveground facilities associated with this permit modification request, construction will not negatively impact the ability of the streams to either store or control storm and flood waters.

SPLP has designed the Project to avoid and minimize impacts to stream resources to the greatest extent possible. SPLP will conduct all activities in accordance with the Chapter 102 Permit requirements and will implement erosion and sediment control best management practices (BMPs) and ABACT measures, as necessary. Thus, this requested permit modification will not cause long-term degradation of water quality, alter flow volumes, or change the direction of flow.

S3.E Antidegradation Analysis

An Antidegradation Analysis was prepared for the overall Project and submitted as part of the PPP Chapter 105 Joint Permit Application (E07-459. APS 879354) in Attachment 11, Enclosure E (Part 5). The Antidegradation Analysis was prepared in accordance with 25 Pa. Code § 105.14(b)(11). Specifically, SPLP's Joint Permit Application for a Pennsylvania Water Obstruction and Encroachment Permit Application and U.S. Army Corps of Engineers (USACE) Section 404 Permit Application for the Project needed to ensure consistency with State antidegradation requirements contained in Chapters 93, 95 and 102 (relating to water quality standards; wastewater treatment requirements; and erosion and sediment control) and the Clean Water Act (CWA) (33 U.S.C.A. § § 1251—1376).

PADEP has implemented an Antidegradation Program to promote the maintenance and protection of existing water quality for High Quality (HQ) and Exceptional Value (EV) waters, and the protection of existing uses for all surface waters (PADEP 2003). Piney Creek (S-M30) and both UNTs to Piney Creek are classified as HQ-CWF streams/Drains to HQ-CWF streams, MF streams, Class A Trout/TNR and/or ATW streams. Therefore, the antidegradation requirements applicable to this permit modification include protection of existing instream water uses (93.4a(b)) and the level of water quality (93.4a(c)) of HQ streams.

- **Section 93.4a(b)** states that “Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.” In order to reduce water use impacts, SPLP has reduced the construction right-of-way (ROW) to 50 feet across Streams S-M30, S-M33 and S8r; limited the land disturbance to the excavated trench line, and temporary minor grading of the stream banks at the travel lane crossing, as required; limited the time/duration of in-stream construction (typically less than 2 days); designed the crossings such that the pipeline will be 5 feet under the streams, as compared to the PADEP 3 foot depth requirement; and, implemented erosion and sediment control measures for all land disturbances in accordance with PADEP’s Erosion and Sediment Pollution Control Program Manual (PADEP 2012) as demonstrated throughout the Project’s ESCGP Permit applications. With the proper implementation and maintenance of these protective measures, construction-related Project impacts to water quality such as increased turbidity related to sedimentation and in-stream construction will be minor, temporary, and localized and will not adversely impact or degrade the water resources. Specifically, the water quality and designated/existing uses of streams S-L6, S-L7, and the floodways of S-Q69 and S-Q70 will be maintained and protected post-construction.
- **93.4a(c): Protection for High Quality Waters** states that “The water quality of High Quality Waters shall be maintained and protected”. The proposed Project will protect and maintain the existing/designated stream uses and water quality of the HQ streams crossed by this requested permit modification. Specifically, SPLP has reduced the construction right-of-way (ROW) to 50 feet across the streams; limited the land disturbance to the excavated trench line and minor grading of the stream banks at the travel lane crossing, as required; limited the time/duration of in-stream construction; implemented the HDD crossing method for the 20-inch pipe and will implement a dry construction method for the 16-inch crossing; designed the crossings such that the pipeline will be 5 feet under and the streams, as compared to PADEP’s 3 foot depth requirement; and, will implement erosion and sediment control measures for all land disturbances in accordance with PADEP’s Erosion and Sediment Pollution Control Program Manual (PADEP 2012) as demonstrated throughout the Project’s ESCGP Permit applications.

In addition, SPLP has incorporated ABACT BMPs into their E&S Plan to further reduce potential erosion and sediment impacts to the HQ stream crossings. Specifically, standard and ABACT BMPs that SPLP will implement to control/manage erosion and sedimentation within the Project area include:

- Use of wash racks at rock construction entrances;
- Placement of compost filter socks on the downgradient side of the filter bags and/or dewatering structure;
- Application of erosion control blanket within 100 feet of receiving waters and on slopes 3:1 (H:V) or steeper;
- Installation of compost filter socks at slope breaker outlets to provide additional filtration prior to discharge to surface waters;
- Installation of berms and trenches to promote infiltration and manage flow rate;

- Implementation of the PPC Plan; and,
- Application of permanent seeding for site restoration.

As previously stated, Project impacts to streams, including the HQ resources, will be minor, temporary, and localized. As further demonstrated above, Project implementation of the requested crossing method, PADEP-approved ABACT BMPs identified above, and the revised 102 drawings (*Attachment D* of this permit modification request packet) will ensure the maintenance and protection of the overall water quality of the HQ streams by reducing/controlling turbidity associated with sedimentation and in-stream construction activities.

Chapter 93.4c(a)(2) requires the protection of endangered or threatened species if PADEP has confirmed the presence, critical habitat, or critical dependence of endangered or threatened Federal or Pennsylvania species in or on a surface water. Accordingly, SPLP has coordinated and will continue to coordinate with Federal and State agencies to identify and ensure protection of any endangered and threatened species and/or their critical habitat, or dependence on the surface waters crossed by this requested permit modification. Please refer to Module 2, S2.C of this Environmental Assessment and *Attachment G* of this permit modification request packet for additional information related to the protection of endangered/threatened species (i.e., thick-leaved meadow-rue and Indiana bat) associated with the requested open cut dry crossing of Streams S-M30, S-M33, and S8r and associated floodways.

Chapter 93.6 states that a project will not introduce/discharge any substance “in concentrations or amounts sufficient to be inimical or harmful to the water uses to be protected or to human, animal, plant, or aquatic life,” including actions that could produce turbidity. The requested permit modification will result in minor, temporary, and localized impacts to surface waters of the Commonwealth primarily associated with increased turbidity during construction activities. The requested permit modification does not involve any permanent structures/facilities that will discharge any treated or created industrial wastewater, nor will it alter the existing natural conditions (chemical, biological, or physical) of the water resources crossed by the Project. In addition, the Project does not involve the addition or discharge of any toxic (Section 93.8a) or harmful substances into the waters of the Commonwealth. All water resources will be restored to their pre-existing conditions following Project construction such that their designated/existing water uses are not impacted by the Project. Accordingly, the proposed Project does not have the potential to alter the water quality such that the existing water uses or aquatic life of the HQ and EV resources will be affected.

Please refer to the table below (red text indicates updates) and the complete *Antidegradation Analysis* for additional details/information.

Resource	HQ/EV	Cover Type Conversion	Antidegradation Requirement		ABACT Measure	Justification	Erosion & Sediment Sheet No.
			Non-Discharge	ABACT			
S-M33	HQ	Yes		X	Compost filter socks, immediate stabilization, PPC plan, RCE with Wash Rack & Erosion Control Blanket	Procedural BMPs such as immediate stabilization and the PPC plan are implemented for areas requiring ABACT and throughout the project. Compost filter sock, rock construction entrances with wash racks, and erosion control blanket for 100' from the top of stream bank are all approved ABACT measures to manage the potential for an increase in stormwater discharge during construction. The combination of these technologies ensures that when implemented properly the stormwater discharge will be a non-degrading discharge.	ES-3.57
S8r	HQ	Yes		X	Compost filter socks, immediate stabilization, PPC plan, RCE with Wash Rack & Erosion Control Blanket	Procedural BMPs such as immediate stabilization and the PPC plan are implemented for areas requiring ABACT and throughout the project. Compost filter sock, rock construction entrances with wash racks, and erosion control blanket for 100' from the top of stream bank are all approved ABACT measures to manage the potential for an increase in stormwater discharge during construction. The combination of these technologies ensures that when implemented properly the stormwater discharge will be a non-degrading discharge.	ES-3.57
S-M30	HQ	Yes		X	Compost filter socks, immediate stabilization, PPC plan, RCE with Wash Rack & Erosion Control Blanket	Procedural BMPs such as immediate stabilization and the PPC plan are implemented for areas requiring ABACT and throughout the project. Compost filter sock, rock construction entrances with wash racks, and erosion control blanket for 100' from the top of stream bank are all approved ABACT measures to manage the potential for an increase in stormwater discharge during construction. The combination of these technologies ensures that when implemented properly the stormwater discharge will be a non-degrading discharge.	ES-3.57-RR

S3.F Alternatives Analysis

An Alternatives Analysis was prepared and submitted as part of the PPP Chapter 105 Joint Permit Application (E07-459) in Attachment 11, Enclosure E (Part 3). For this permit modification request, an Alternatives Analysis specific to the Piney Creek Reroute has been prepared.

Please refer to *Attachment A* of this permit modification request packet for the updated Project Description and Alternatives Analysis for the Piney Creek Reroute.

S3.G Potential Secondary Impact Evaluation

A Resource ID and Project Impacts Report was prepared and submitted as part of the PPP Chapter 105 Joint Permit Application (E07-459) in Attachment 11, Enclosure E (Part 2). Potential secondary impacts to streams and the aquatic habitat, water quantity, and water quality resulting from the Project were discussed in Section 4.1 of the report. Excerpts applicable to the proposed permit modification for Streams S-M30, S-M33 and S8r are presented below.

Potential secondary impacts to stream habitats could result from the Project including short-term release of sediments into waterways and vegetation clearing, that could result in the temporary displacement of wildlife to adjacent areas. These short-term impacts adjacent to and downgradient of the LOD could temporarily alter substrate and make it less suitable for spawning and foraging, and may create temporary turbidity that could alter the feeding habits of local wildlife. In addition, the clearing of vegetation reduces the shelter and buffer capacity to adjacent habitats and creates new edge habitat when located through greenfield areas. SPLP has mitigated for these potential secondary impacts by minimizing/reducing the area of disturbance and clearing, and minimizing the duration of construction activities in stream and wetland areas, implementing the E&S BMPs (Attachment D) and appropriate ABACT measures, and restoring the disturbed areas with vegetation to avoid impacts off the ROW.

Potential secondary impacts on adjacent stream/aquatic habitat functions could result from the short-term release of turbid waters and vegetation clearing, resulting in the temporary displacement of wildlife that use adjacent areas for spawning, foraging, nesting, rearing, and resting. However, the potential secondary impacts from the release of turbid waters, at most, will be negligible in nature given the short duration of in-stream construction, the intermittent flow characteristics of the streams, and through implementation of temporary and permanent E&S controls (refer to Attachment D of this permit modification packet). As noted above, the streams are buffered by riparian areas which would be revegetated. Restoration of these areas with native plant species will minimize potential secondary impacts to adjacent habitat from the establishment of invasive or exotic vegetation.

Potential secondary impacts on water quantity or the hydrology of streams could result from changes in natural/current drainage patterns and alteration in flow and water levels from construction. However, the Project does not involve any stream relocations, enclosures, channel deepening/dredging activities, and addition of structures or impervious surfaces in the wetland/stream complex. Given that the Project does not involve direct impacts to natural and current drainage patterns, the Project will likewise not result in secondary impacts to natural and current drainage patterns. Temporary dam and flow bypass methods will be used to maintain a continuous downstream flow during construction.

Potential secondary impacts to stream water quality beyond the Project's limit of disturbance could result from: release of sediments/turbid waters from trenching, dewatering, clearing and

grading of adjacent land and stream banks, and post-construction stream bank subsidence; and, release of pollutants from construction equipment or activities adjacent to waters. However, in accordance with the Chapter 102 E&S requirements, trench dewatering will be monitored and directed into appropriate receiving structures located in well-vegetated uplands to allow for filtration. Released water will naturally infiltrate to prevent secondary impacts to water quality of streams outside the ROW. Potential secondary impacts from stream bank subsidence will be avoided by leaving roots/stumps in place, except for over the trench, and by stabilizing/revegetating stream banks as soon as possible after construction. Post-construction monitoring will ensure that successful restoration occurs, or necessary corrective actions are implemented to result in successful restoration, thereby avoiding potential secondary impacts from stream bank subsidence/subsequent downstream erosion and sedimentation. Additionally, aerial and ground inspections during Project operation will identify stream bank subsidence and soil erosion issues which will be rectified by repairs or installation of temporary erosion control devices until permanent erosion control measures become effective.

Potential secondary impacts to adjacent resources will be avoided and minimized to the extent possible such that there is no loss of aquatic habitat, water quantity, or water quality.

S3.H Potential Cumulative Impacts

A Cumulative Impact Analysis (CIA) was prepared for the overall Project and submitted as part of the PPP Chapter 105 Joint Permit Application (E07-459) in Attachment 11, Enclosure E (Part 6). The CIA addresses the cumulative impact for the entire Project and other potential or existing SPLP and other oil and gas projects within the Cumulative Impact Assessment Area (CIAA) of the Project.

Since there are no wetland impacts related to this permit modification request, the cumulative impacts to streams (including floodways) associated with the open cut crossing methodology proposed for the Piney Creek Reroute would be limited to the aggregate impacts of the Project (and other potential or existing SPLP projects, and other evaluated projects within the CIAA) on waterbodies. As reported in the CIA, implementation of the Project, including the addition of 208 linear feet associated with open cutting of the streams, and other potential or existing SPLP projects and other projects evaluated within the CIAA will result in a cumulative waterbody disturbance of approximately 65,783 linear feet. These disturbances will result in no loss of waters. As documented in the CIA, with the implementation of each potential or existing project in compliance with best management practices and permit conditions, all of the disturbances to streams are (existing projects) or are anticipated to be (potential projects) minor and temporary; therefore, no more than minimal and temporary individual and cumulative adverse environmental effects are anticipated.

Module S4: Mitigation Plan

S4.A Avoidance, Minimization and Unavoidable Impacts

The crossing of Streams S-M30, S-M33, S84 (as well as floodways) is unavoidable due to the linear nature of the proposed PPP Project and as described above in S1.B – Water Dependency. SPLP originally proposed an HDD installation of both the 20” and 16” pipe to avoid direct impacts to Piney Creek and Piney Creek Road/High Street (State Route 866). However, as described in the Project Description (Attachment A of this permit modification request), During the pilot hole drilling phase on the permitted Piney Creek HDD for the 20-inch pipeline installation through this area, there were multiple inadvertent returns (IRs) in which drilling mud/fluid entered Waters of the Commonwealth, including Piney Creek and S-M33. In an attempt to address these incidents, SPLP received approval from the Pennsylvania Department of Environmental Protection (PADEP) to implement a Direct Pipe construction method. This method failed, however, and after receiving approval from PADEP, the 20-inch pipeline crossing was completed using the HDD method. During completion, the Piney Creek HDD continued to experience losses of circulation and IRs. Therefore, SPLP has elected to install the 16-inch pipeline through this area using an alternate route and method of installation that minimizes impacts to Waters of the Commonwealth.

SPLP evaluated an open cut of the existing permitted right-of-way and determined this would impact an EV wetland. Subsequently, they considered a Direct Pipe construction method through the area but determined that this could fail based on the previous attempts with the 20-inch pipeline.

SPLP evaluated other routes around the area but are limited due to the roads and residential properties to the south of the existing SPLP easement. In addition, a route to the south would likely impact more forested areas, possibly wetlands, and require a “greenfield”, or new, right-of-way through these areas resulting in more permanent forested impacts. The proposed route to the north avoids all wetlands, minimizes the number of residential and developed areas disturbed during construction, and reduces the amount of forested area crossed. In addition, the route to the north provides an open field for a perpendicular conventional bore under Piney Creek Road / High Street (State Route 866).

In conclusion, given the geologic conditions at the Piney Creek HDD location and numerous IRs that occurred during the 20-inch HDD, the HDD evaluation staff has elected to install the 16-inch pipeline through this area using an alternate route and method of installation. Alternative construction methods including an open cut and/or bore of the resources within the existing permitted right-of-way are not considered desirable due to the EV wetland impacts, and unfeasible alternative construction methods. Therefore, SPLP has elected to abandon installing the 16-inch pipeline within their existing easement and has identified an alternate route north of the currently proposed right-of-way. Analysis of other potential routes to the south would result in potentially more environmental (forested area and wetlands), residential, and developed (roads) impacts. Consequently, the professional opinion of the HDD Reevaluation Team, consisting of the Geotechnical Evaluation Leader, Professional Geologists, Professional Engineers, and other construction specialists is that an open cut, dry crossing will have the least impact, as the work area and stream flow will be managed in accordance with all permit conditions and can be completed in the most efficient and timely manner, including restoration/stabilization of all the streams.

As demonstrated within SPLP's Chapter 105 Joint Permit Application (JPA), SPLP has avoided and minimized potential impacts to waters from the Project. In so doing, there is no practicable alternative to each of the crossings that would have less effect on each waterbody, and not have other significant adverse effects on the environment, taking into consideration construction costs, existing technology, safety, and logistics. Those remaining unavoidable impacts are outlined within the resource impact tables located within the Impact Avoidance, Minimization, and Mitigation Procedures provided in Attachment 11, Enclosure E, Part 4 of the PPP Chapter 105 Joint Permit Application (E07-459) and *Attachment E* of this permit modification request.

S4.B Repair, Rehab, and Restoration Actions/Proposed Preservation and Maintenance Operations

SPLP will construct the stream crossings in accordance with the Chapter 102 Permit requirements and will implement erosion and sediment control best management practices (BMPs) as required and presented throughout this permit modification request, during all construction and restoration activities. Please refer to *Attachment D* of this permit modification request packet for the updated E&S and Restoration plans specific to the requested open cut (open-trench) dry crossing of Streams S-M30, S-M33 and S8r, and the floodways of Streams S-M33 and S8r.

In addition, SPLP will implement all protective and/or preventative requirements required by the agencies with regard to wild trout resources and species of concern. Please refer to *Attachment G* of this permit modification request packet for the PNDI Update and Agency Coordination specific to the crossing of Streams S-M30, S-M33, and S8r, as well as the floodways of Streams S-M33 and S8r.

S4.C Compensatory Mitigation

This permit modification request for a construction methodology change to an open cut (open-trench) dry crossing at the Piney Creek Reroute would result in minor, short-term, and temporary impacts. No permanent fill or stream relocations would occur. The streams would be restored to their original conditions and there will be no loss of resource function; therefore, compensatory mitigation is not required or offered.

S4.D Project Monitoring Plan

Utility Inspection Program & Environmental Compliance Program

All aspects of construction, operation, and maintenance of the PPP Project are supervised by SPLP personnel. Utility or "Craft" inspectors working on behalf of SPLP are staffed throughout all phases of construction to ensure the facilities are constructed and installed in accordance with SPLP, state, local, and federal specifications and standards.

Supplemental to their Utility Inspection Program, SPLP has implemented a comprehensive Environmental Compliance Program (ECP). The ECP encompasses highly integrated and essential program elements designed to ensure compliance with the requirements of the E&S Plan, permit conditions, and approved mitigation measures and conditions. The primary elements of the ECP are environmental training; environmental inspection; biological and cultural resource monitoring/training; and, agency and Project team notification and documentation requirements. Each of these elements is incorporated into the single integrated ECP organization structure and execution plan.

Post-Construction Monitoring

Streams S-M30, S-M33 and S8r, as well as the floodways of S-M33 and S8r will be temporarily impacted and restored to original grade, stabilized, and vegetated in accordance with the E&S Plan (refer to *Attachment D* of this permit modification request packet). Post-construction, the streams will be monitored in accordance with the Project's Impact Avoidance, Minimization, and Mitigation Procedures provided in Attachment 11, Section E, Part 4 of the PPP Chapter 105 Joint Permit Application (E07-459. APS 879354) as well as all applicable permits and clearances, including any specific requirements/reporting associated with species of concern (i.e., thick-leaved meadow-rue and Indiana bat).