



December 2, 2016

**By FEDERAL EXPRESS**

Mr. John Hohenstein, P.E.  
Chief, Dams and Waterways Section  
Department of Environmental Protection  
Waterways and Wetlands – Southeast Regional Office  
2 East Main Street  
Norristown, PA 19401-4915

Re: DEP File E67-920  
Technical Deficiency Response  
Chapter 105 Dam Safety and Waterway Management Joint Permit Application  
Sunoco Pipeline L.P. – Pennsylvania Pipeline Project (Mariner East II)  
Fairview Township, York County

Dear Mr. Hohenstein:

On behalf of our client, Sunoco Pipeline L.P. (SPLP), Tetra Tech, Inc. provides the following responses to the Pennsylvania Department of Environmental Protection (DEP) Technical Deficiency letter dated September 6, 2016 regarding the Chapter 105 Joint Permit Application (Joint Permit Application) for the for the Pennsylvania Pipeline Project (Project or PPP as defined in the application). SPLP has had minor revisions to the proposed workspaces since submittal of the original application. These revisions have occurred as result of preparing a response to these technical deficiencies, landowner requests, further reduction of impacts to aquatic resources, or minor limit of disturbance (LOD) changes to facilitate construction. The supporting attachments represent a revision of the Joint Permit Application that not only addresses the DEP's technical deficiencies, but also provides revised sections that reflect the most current project areas. The attachment includes all necessary components of a complete application; however, it excludes previously submitted aquatic resource reports. Please consider the previously submitted aquatic resource reports as part of this application revision. We are providing one hard copy and a single CD of the revised application to your office and a hard copy of the application and two CDs to Mr. Edward Muzic at the SCRO, per the DEP's request.

For ease of your review, each DEP item is set forth verbatim below, followed by a narrative response with supporting attachments.

**Comments and Responses to September 6, 2016 Technical Deficiency Letter**

YO 1	1. General Information Form (GIF)/Application:	NA - Heading
YO 1.a	List the types and amounts of emissions to satisfy question 13.0.1 of the GIF. [1300-PM-BIT0001 5/2012 Instructions]	Question 13.0.1 of the General Information Form in Attachment 1 has been revised to address this comment.
YO 1.b	The Application and GIF have different titles for M.L. Gordon. Provide consistent titles for Mr. Gordon and a demonstration that he is authorized to sign the Application. [25 Pa. Code Sections 105.13(i) and 106.12(f)]	The Application has been revised to provide a consistent title for M.L. Gordon. A “Delegation of Authority” letter authorizing Mr. Gordon to sign the Application on behalf of the partnership is provided in Attachment 1 of the Application.
YO 2	Identify the proposed provisions for shut-off in the event of break or rupture for each crossing. Provide locations and description of how this action will be completed in the event a break or rupture occurs. [25 Pa. Code Section 105.301(9)]	The revised Project Description provided in Attachment 9 discusses block valves, their location, and the siting criteria that provides shutoff provisions. Valves are shut off remotely or manually. Block valves are also depicted on the aerial site plans provided in Attachment 7, Tab 7A.
YO 3	Site Plan, Drawings and Details (including Erosion and Sediment (E&S) Control Plan Drawings):	NA - Heading
YO 3.a	Several of the E&S Plan drawings appear to include design data or refer to the Mariner-1, 8-inch Anomaly Repair Project (see sheet ES-0.11, the dry bypass plan indicates a proposed 8" pipe). Perform a review of all plan drawings and remove all references to past projects. Typical detail data needs to be labeled appropriately and specific location details needs to reference specific locations. Typical cross sections need to be revised to indicate the proposed 20" and 16" diameter pipes. Typical	The plan drawings (Attachment 12) have been reviewed and only indicate the 8-inch project where the proposed Project crosses the ROW. Typical drawings, cross section, and details have been revised to indicate the appropriate pipes, widths, and depths, where applicable.

	trench details needs to indicate the appropriate trench width and include trench boxes, if appropriate for depth. [25 Pa. Code Section 105.13(e)(1)(i)(C); 105.13(e)(1)(iii)(A); 105.15(a); 105.21(a)(1)]	
YO 3.b	Stream and wetland crossing details are only provided in the “Notes” pages of the E&S Plan. Provide details on how each crossing will be constructed, associated E&S controls installed, and how restoration will be accomplished. To facilitate your response, this comment can be addressed by developing a table for placement on the drawings containing the requested information. [25 Pa. Code Sections 105.13(e)(1)(i)(C), 105.13(e)(1)(iii)(A), 105.13(e)(1)(iv), 105.15(a), and 105.21(a)(1)]	Stream and crossing “typical” crossing details are to be utilized at each crossing; therefore, the notes are applicable to all crossings and best presented in the upfront sheeting. The typical crossing details are relevant and applicable to each typical resource crossing, and will be implemented at each crossing without the need to specifically depict such typical details on the plan views of the E&S Plan drawings. In several cases, site-specific drawings have been created and are referenced within the E&S Plan sheets and provided after the standard sheeting (Attachments 7 and 12). These sites-specifics also reference the typicals which provide a consistent location for the same information.
YO 3.c	Provide site plans that depict proposed work for each ATWS within a floodway or floodplain. These plans needs to include, at a minimum, the duration of proposed activities, the expected layout, E&S controls, and size or quantity of materials or structures proposed. [25 Pa. Code Section 105.13(e)(1)(i)(C)]	The E&S Plan in Attachment 12 has been revised to identify the proposed work and durations for ATWS activities. The associated erosion and sediment controls used to minimize the potential for discharge of fill material to the stream are provided on the plan drawings and/or as referenced to the E&S plan standard typical details.
YO 3.d	A number of drawings in the package, for example, the auger bore drawings, state that the plans are for permitting purposes only. The plans, specifications, and reports in the application are part of a permit once a permit is issued and are considered final. Remove this	All drawings and maps provided in the Application have been revised to remove this language and are considered to be final plans.

	language from the plans and provide final plans. [25 Pa. Code Sections 105.13(e) and 105.44(a)]	
YO 3.e	The auger bore drawings reference cathodic protection being installed. Provide plans and/or details for any proposed cathodic protection and identify on the plans where and which type of cathodic protection is proposed to be installed. [25 Pa. Code Sections 105.3(4), 105.11(a), and 105.13(e)(1)(i)(C)]	The Project Description provided in Attachment 9 includes a narrative outlining SPLP's cathodic protection plans. A typical cathodic protection test station detail has been added to the E&S Plan Sheets in Attachment 12.
YO 3.f	Where cathodic protection is proposed to be installed in wetlands or other areas where vegetation is proposed to be undisturbed or replanted, identify how this cathodic protection will be maintained and replaced without vegetative disturbance. [25 Pa. Code Sections 105.15(a), 105.13(e)(1)(ix), and 105.18a]	The Project Description provided in Attachment 9 includes an updated narrative outlining SPLP's cathodic protection plans.
YO 3.g	For all Bore and Horizontal Directional Drilling (HDD) locations: Identify where all pipe pull back, assembly, lay out, and construction staging areas are located. Identify all temporary crossings and impacts to streams, wetlands, and floodways associated with these areas and revise the application accordingly to include these impacts. Include site-specific plans depicting the impacts and proposed temporary matting. [25 Pa. Code Sections 105.13(e)(1)(i) and 105.13(e)(1)(iii); 105.3(a)(4)]	To reduce overall impacts to the landscape and, in particular, wetlands and streams, pullback areas are sited within the same workspaces designed for the open cut installation of the pipeline to the maximum extent practicable. Pullback areas not proposed within the workspaces needed to install the pipelines via open cut are accommodated by adding Additional Temporary Workspace (ATWS). Although avoided to the maximum extent practicable, if streams and wetlands are crossed by the pullback activity within the ATWS, then temporary crossings or impacts, such as temporary bridges, are identified on the Aerial Site Plans and site-specific, E&S Plan sheets (Attachments 7 and 12). Additional temporary matting and bridges to accommodate the pullback activity including pipe layout and assembly in

		<p>the open cut areas are also identified on E&amp;S Plan sheets. Temporary bridges and matting will be installed and restored in accordance with the standard typical details provided within the E&amp;S Plan in Attachment 12. The impacts of these activities occur within the permanent and temporary workspaces within the LOD and included in the impact tables (Attachment 11).</p>
YO 3.h	<p>The site plan sheets and E&amp;S Plan sheets identify the 50-foot assumed floodway boundary to be measured from the centerline of the stream as opposed to the top of bank. Revise the drawings to indicate floodway boundaries that adhere to the definitions in Chapter 105. [25 Pa. Code Sections 105.13(e)(1)(i)(A) and 105.1]</p>	<p>In absence of a FEMA NFHL Floodway, the PA 50-foot floodways have been created by buffering the stream on each side of its centerline by one-half the bank width of the stream at the crossing plus 50 feet. For example, a stream that has a 5-foot bank width would be buffered by 52.5 feet on each side the stream's centerline, to ensure both the bank width and the 50-foot setback from the bank was encapsulated within the Chapter 105 floodway, as per the definitions identified in Chapter 105. FEMA NFHL data was downloaded and re-analyzed for this Project on September 27, 2016. The 105 and 102 E&amp;S Plans have been checked to assure consistent presentation of these areas.</p>
YO 3.i	<p>The Typical Wetland Crossing detail on the E&amp;S Plans, ES-0.09, indicates soil will be stockpiled in the wetland along the trench. Revise the detail to include a means of separating the stockpiled soil from the wetlands, such as geo-fabric and matting, to ensure full removal of the stockpiles soil and minimize impacts. [25 Pa. Code Sections 105.423, 105.18a(a), 105.18a(b), 105.15(a), 105.14(b)(4), 105.14(b)(11), and 105.14(b)(13)]</p>	<p>The standard typical detail has been revised to show topsoil segregation. The standard typical detail also notes that topsoil and wetland spoils are to have a physical separation to ensure full restoration and to minimize impacts. Separation may be achieved by geo-fabric, physical space, or matting.</p>

YO 3.j	Installation of the trench plugs as depicted in the Trench Plug Detail is likely to result in adverse impacts to the hydrology of Waters of the Commonwealth. Provide a revised detail showing the trench plug continuing to the bottom of the trench instead of the top of the bedding material. [25 Pa. Code Sections 105.18a and 105.15(a)]	The typical standard trench plug detail provided within the E&S Plan (Attachment 12) has been revised to show the trench plug continuing to the bottom of the trench.
YO 3.k	The Typical Wetland Crossing detail on the E&S Plans states that the detail does not apply to active cultivated or rotated cropland. Revise the detail to apply to all wetland crossings or provide a separate detail for wetland crossings in active cropland. [25 Pa. Code Sections 105.18a and 105.15(a)]	The note for this standard typical detail has been removed so that the detail is applicable to all wetland crossings.
YO 3.l	Provide a description of the expected duration each temporary stream crossing will remain in place. If the temporary stream crossing will be in place for greater than 1 year, then risk analysis will be necessary. [25 Pa. Code Section 105.13(1)(iii)(A)]	The temporary stream crossings will remain in place for no greater than one.
YO 3.m	Additional comments relating to the drawings can be found in specific comments below.	NA - Heading
YO 4	There are several comments regarding Agency Coordination, including Pennsylvania Natural Diversity Inventory (PNDI) and Pennsylvania Historical and Museum Commission (PHMC). See specific comments below.	NA - Heading
YO 5	There are several comments regarding the Environmental Assessment (EA). See specific comments below.	NA - Heading

YO 6	There are several comments regarding the Avoidance, Minimization, and Mitigation Plan. See specific comments below.	NA - Heading
YO 7	There are several comments regarding the Alternatives Analysis. See specific comments below.	NA - Heading
YO 8	Comprehensive Environmental Evaluation - The following technical deficiencies are related to the overall project comprised by the 17 Chapter 105 Water Obstruction and Encroachment permit applications associated with this pipeline. Provide the Department with a Comprehensive Environmental Assessment of the Entire Pipeline Project as a Whole (“Comprehensive Environmental Evaluation”) which, at a minimum, includes the following:	NA - Heading
YO 8.a	Use the Environmental Assessment Form (3150-PM- BWEW0017, 2/2013) as a guide and provide a detailed narrative and other appropriate documentation that comprehensively evaluates the project as a whole under each of the categories therein (Part 1 – Resource Identification; Part 2 – Project Description – including all the analyses listed in the form, as well as in 25 Pa. Code Sections 105.13(f)(1)(vii-x), (2), (3), (g), and (j); 105.15; Article I, Section 27 (Pa. Constitution).	A Comprehensive Evaluation of Compliance for the Project has been added to the application materials and is located in Attachment 11, Enclosure E, Part 1. This Comprehensive Evaluation of Compliance references application materials that apply to each requirement pursuant to 25 Pa. Code § 105.18a and associated referenced regulations, including 25 Pa. Code §§ 105.13(e)(1)(vii-x), (2), (3), (g), and (j); and 25 Pa. Code § 105.15. In addition, a Project-wide impacts analysis has been prepared consistent with the EA Form and is provided in Attachment 11, Enclosure E, Part 2.
YO 8.b	The Comprehensive Environmental Evaluation also needs to provide a detailed narrative and other appropriate documentation that comprehensively evaluates the project as a whole for compliance with the requirements	A Comprehensive Evaluation of Compliance for the entire project has been added to the application materials and is located in Attachment 11, Enclosure E, Part 1. This Comprehensive Evaluation of Compliance references application materials that apply to each requirement

	associated with the Department’s review of the application listed in 25 Pa. Code Section 105.14 in its entirety, with particular emphasis on:	pursuant to 25 Pa. Code § 105.18a and associated referenced regulations, including 25 Pa. Code § 105.14.
YO 8.b.i	Antidegradation Analysis - Prepare and submit an analysis and information that addresses 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 (33 U.S.C. §§ 1251—1376) for this entire project and other potential or existing projects. 25 Pa. Code Section 105.14(b)(11).	An Antidegradation Analysis consistent with 25 Pa. Code § 105.14(b)(11) has been prepared and is provided in Attachment 11, Enclosure E, Part 5.
YO 8.b.ii	Secondary Impact Analysis – Prepare and submit an analysis and information that addresses secondary impacts associated with but not the direct result of the construction or substantial modification of the water obstruction or encroachment in the areas of the entire project and in areas adjacent thereto and future impacts associated with water obstructions or encroachments, the construction of which would result in the need for additional dams, water obstructions or encroachments to fulfill the project purpose. 25 Pa. Code Section 105.14(b)(12).	A Secondary Impact Analysis consistent with 25 Pa. Code § 105.14(b)(12) has been prepared and is provided in Attachment 11, Enclosure E, Part 2.
YO 8.b.iii	Project Wide Cumulative Impacts Analysis. Prepare and submit an analysis and information that addresses the cumulative impact for this entire project and other potential or existing projects. As part of this analysis evaluate whether numerous piecemeal changes	A stand-alone Cumulative Impacts Analysis has been added to the application materials and is located in Attachment 11, Enclosure E, Part 6.



	<p>associated with all the Chapter 105 applications related to this pipeline project may result in a major impairment of the wetland resources. The analysis must be undertaken for each alternative prepared for the proposed pipelines and facilities of Mariner East II, on a statewide basis and must be completed for the entire project, as a whole referencing each of the applications for the entire project. 25 Pa. Code Sections 105.14(b)(14); 105.15.</p>	
YO 8.b.iv	<p>Comprehensive Evaluation of Compliance with 25 Pa. Code § 105.18a. Prepare and submit an analysis and information that evaluates the project as a whole with all the requirements found in 25 Pa. Code §105.18a for each wetland or wetland complex in or along the project area as a whole. 25 Pa. Code Section 105.18a.</p>	<p>A Comprehensive Evaluation of Compliance for the Project has been added to the application materials and is located in Attachment 11, Enclosure E, Part 1. This Comprehensive Evaluation of Compliance cross-references the application materials that address each requirement in 25 Pa. Code § 105.18a.</p>
YO 8.b.v	<p>Comprehensive Alternatives Analysis, Avoidance and Minimization and Mitigation. The applicant needs to demonstrate that the alternatives chosen for the entire project will avoid cumulative impacts to the maximum extent practicable, and where such impacts are not avoidable, describe in detail with appropriate supporting documentation, how such impacts will be minimized and mitigated to the satisfaction of the Department. 25 Pa. Code Section 105.1.</p>	<p>A comprehensive Alternatives Analysis (Attachment 11, Enclosure E, Part 3) and Impact Avoidance, Minimization, and Mitigation Procedures report (Attachment 11, Enclosure E, Part 4) have been added to the application materials to address this comment. In addition, a Cumulative Impacts Analysis has been added to the application materials to address this comment and is located in Attachment 11, Enclosure E, Part 6.</p>
YO 1	<p>General Information Form</p>	<p>NA - Heading</p>
YO 2	<p>Application Fee and Worksheet - No additional comments.</p>	<p>NA - Heading</p>

YO 3	Act 14 Notification - No additional comments.	NA - Heading
YO 4	Cultural Resources	NA - Heading
YO 4.a	<p>Provide clearance or approval from the PHMC for cultural, archeological, and historic resources for the proposed water obstructions and encroachments and areas necessary to construct the water obstructions and encroachments. [25 Pa. Code Sections 105.13(e)(1)(x), 105.14(b)(5), 105.15(a), 105.15(a)(1), and 105.14(b)(4); EA Form Instructions &amp; Joint Permit Application Instructions for a Water Obstruction and Encroachment Permit Application, III., Section F., d; Implementation of the Pennsylvania State History Code: Policy and Procedures for Applicants for DEP Permits and Plan Approvals, Document No. 012-0700-001]</p>	<p>While DEP is required to consider potential impacts to historic resources under 25 Pa. Code Chapter 105 when DEP conducts reviews of a water obstruction, encroachment or dam permit application, none of the regulations or guidance referenced in DEP’s comment require SPLP to provide clearance or approval from the PHMC as part of a Chapter 102 or Chapter 105 permit application. Furthermore, as noted in a letter from Alexandra C. Chiaruttini, Esq., DEP’s Chief Counsel concerning the SPLP Pennsylvania Pipeline Project, “the [Pennsylvania] History Code does not authorize our agency or any Commonwealth agency to stop the processing of permits solely due to possible or actual presence of archaeological or historic resources, unless the agency’s enabling legislation contains specific statutory authorization for such action. DEP does not have such authorization here.” A copy of the February 1, 2016, letter from Ms. Chiaruttini is provided in Attachment 4. See also Pennsylvania History Code §508(a)(4). Accordingly, SPLP requests that DEP continue its review of SPLP’s applications. SPLP will continue to work with the PHMC to ensure that impacts to cultural resources are avoided where possible. In addition, SPLP has included with its Chapter 102 application a Cultural Resources Unanticipated Discovery Plan to be implemented during construction that outlines the protocols SPLP will follow if SPLP unexpectedly encounters archaeological or historic resources, including notification to DEP and PHMC and cessation of earth disturbance.</p>

YO 4.b	<p>The project description provided in the Cultural Resource Notice states that the second pipe is to be installed within 5 years. The application Project Description or other descriptions in the application do not mention that the second pipe will be installed within 5 years. Revise and clarify the application to clearly identify if both pipelines will be installed at the same time, or if they will be installed at separate times. If the pipelines will be installed at separate times, revise the application to indicate this, and identify the temporary and permanent impacts from the second pipeline installation separately, and discuss the alternative of installing them at the same time to avoid and minimize impacts. [25 Pa. Code Sections 105.13(e)(1)(iii)(A), 105.13(e)(1)(iii)(B), 105.15(a), 105.15(a)(1), 105.14(b)(4), 105.18a(a), 105.18a(b), and 105.13(e)(1)(ix)]</p>	<p>The Project Description in Attachment 9 to the Application has been updated to reflect the timing of the installation of the 20-inch and the 16-inch pipeline. The two pipelines will be installed during the same time period, with the 20-inch pipeline preceding the 16-inch pipeline. For safety purposes, the installation would be staggered by what is estimated to be no more than 60 days. At some HDDs with longer drills, however, the time period between installations of the two pipelines may exceed 60 days. Both pipelines will be installed within the same limit of disturbance so there would be no additional, temporary disturbance resulting from a second separate installation. Any temporary stabilization required would be implemented in accordance with project's E&amp;S Plans.</p>
YO 5	PASPGP Cumulative Impact Form.	NA - Heading
YO 5	<p>PASPGP-4 has expired. Prepare and submit PASPGP-5 Reporting Checklist and Aquatic Impact Table forms and/or acknowledgement of application of Section 404 Permit Application to U.S. Army Corps of Engineers. [25 Pa. Code Section 105.13]</p>	<p>DEP has agreed that if the USACE does not require the PASPGP-5 Reporting Checklist and Aquatic Impact Table form that it would not be needed for this application. The USACE Districts have, in fact, agreed that the checklist and form are not required. The acknowledgement from USACE is provided in Attachment 5. Furthermore, the aquatic resource impact tables found in Attachment 11 have all of the information required in the PASPGP-5 forms.</p>
YO 6	PNDI and Agency Coordination	NA - Heading

YO 6.a	Provide details and status of Migratory Bird issue requested by the U.S. Fish and Wildlife Service (USFWS). [25 Pa. Code Section 105.13; 105.14; 105.21; 105.411(3)]	A revised Migratory Bird Conservation Plan was submitted to the USFWS in correspondence dated November 23, 2016. That correspondence and plan are included in Attachment 6, Tab 6B. The Conservation Plan incorporates many of the USFWS recommendations for linear projects. In addition, many of USFWS' recommendations have previously been implemented during planning and design of the Project, including paralleling the ROW for the Project with existing utility ROWs and reducing workspaces when possible. Clearance or approval of the Conservation Plan is not a requirement. As stated in the letter, the Migratory Bird Treaty Act (MBTA) has no provision for authorization of take for migratory birds.
YO 6.b	The results of the consultations with the agencies [Pennsylvania Game Commission (PGC), Pennsylvania Fish and Boat Commission (PFBC), Pennsylvania Department of Conservation and Natural Resources (DCNR), and the USFWS] has resulted in the incorporation of avoidance measures, seasonal restrictions, and other recommendations being provided to the applicant in the various agency clearance letters. In an effort to clarify and implement these measures and restrictions, the applicant needs to prepare a table clearly listing all avoidance measures, seasonal restrictions, and other recommendations and provide this table for York County to DEP as a supplement to their application. These conditions also need to be included in the Notes of the Erosion and	SPLP has developed a state-of-the-art web-based mapping application that is required to be used by the contractor to determine all special environmental restrictions such as PNDI and trout stream restrictions. All of the restrictions and avoidance measures committed to and approved by PNDI agencies are included in the Project Description within a summary table and within the PNDI agency final determination letters and accepted Conservation Plans included in Attachment 6, Tab B. The same notes in the Project Description are reflected within the E&S Plan notes. Trout stream restrictions and other sensitive species restrictions are also noted on aerial site plans and E&S Plans, however due to the sensitive nature of some of the information not all is depicted. SPLP will implement a comprehensive Environmental Training and Inspection program designed specifically to ensure contractors are appropriately notified and are adhering to such restrictions.

	Sedimentation Control Plan. [25 Pa. Code Sections 105.13; 105.14; 105.16(c)(3); 105.21]	
YO 7	Site Plans	NA - Heading
YO 7.a	Provide 50 ft ROW width through all regulated features, including floodways. [25 Pa. Code Sections 105.15(a)(1), 105.14(b)(4), 105.14(b)(7), and 105.13(e)(1)(i)]	The “Permanent ROW” and “Permanent Easement” are both shown through all regulated areas, including floodways, on the revised site plans where it is proposed.
YO 7.b	At Aquatic Resource crossing at S-H58 on E&S Plan sheet ES-4.20, this impact is not depicted on the impact table or site plans. Provide the impact information on the table and in the EA and project description and detail plans of the crossing. Also provide an alternative analysis detailing what measures were taken to avoid the impact. [25 Pa. Code Sections 105.15(a)(1), 105.14(b)(4), 105.14(b)(7), 105.13(e)(1)(i), 105.13(e)(1)(iii), 105.13(e)(1)(iv), 105.13(e)(1)(viii), 105.13(e)(1)(ix), and 105.13(e)(1)(x)]	Stream S-H58 is presented on the previously supplied impact tables on sheet 12 of 13, on the east side of the pullback ATWS. Stream S-H58 was the fifth stream listed in Table 3 of the aquatic resource tables and impacts were tallied as crossing ID number 29 in table 1. The permanent impact to the floodway proposed is 0.484 acre and the temporary impact to the floodway is 0.267 acre, with 1,776 square feet of impact to the stream body. The streams are presented in the site plans (Attachment 7) and a site-specific evaluation of the proposed crossing of stream S-H58 is provided in the Alternatives Analysis (Attachment 11, Enclosure E, Part 3).
YO 7.c	Aquatic Resources S-A22 and W-A18 are identified in the HDD Table as “Drive Through” but is not identified on the plan set or impact table. Provide this information. [25 Pa. Code Sections 105.3(a)(4), 105.11(a), 105.13(e)(1)(i), 105.13(e)(1)(iii), 105.13(e)(1)(x), and 105.14(b)(4)]	The impact table and plans in the IR Plan have been updated to show Stream S-A22 and Wetland W-A18 as “Drive Through” (see Attachment 12).
YO 7.d	Provide plans and cross sections indicating pipe size, placement, and locations for all wetlands, streams, floodways, and floodplains where the proposed water withdrawal piping is to be installed. The cross sections need to depict, at a minimum, the proposed structures, resource	No surface water withdrawals are planned for York County. Therefore, no water withdrawal piping is proposed to be installed.

	boundaries, stream bed and banks, water surface elevation. [25 Pa. Code Sections 105.3(a)(4), 105.11(a), 105.13(e)(1)(i), 105.14(b)(4), 105.301, and 105.151(1)]	
YO 7.e	Provide plans showing the location, type, size, and height of the proposed culvert modifications for piping placed in existing stream culverts and along and within stream channels for water withdrawals. Provide an analysis of the hydraulic capacity demonstrating that the structures do not materially alter the natural regimen of the stream or increase velocities or direct flows in a manner which results in erosion of stream beds and banks. [25 Pa. Code Sections 105.3(a)(4), 105.11(a), 105.13(e)(1)(i), 105.14(b)(4), 105.301, 105.151(1) and (3), and 105.161(a)(3) and (4)]	No surfacewater withdrawals are planned for York County. Therefore, there are no proposed culvert modifications, nor any analysis of hydraulic capacity.
YO 7.f	Provide plans and cross sections indicating pipe size, placement, and locations for all wetlands, streams, floodways, and floodplains where the testing discharges are proposed for Mainline Testing and HDD Testing and revise the impact tables to include these impacts. The cross sections need to depict, at a minimum, the proposed structures, resource boundaries, stream bed and banks, and water surface elevations. [25 Pa. Code Sections 105.3(a)(4), 105.11(a), 105.13(e)(1)(i), 105.14(b)(4), 105.301, and 105.151(1)]	SPLP has obtained a DEP PAG-10 General NPDES Discharge Permit to allow discharge of hydrostatic test waters.  All discharge outfall locations are shown on the Chapter 105 drawings. Supporting information such as typical discharge details are included in the Chapter 102 E&S drawings which are referenced in the Chapter 105 drawings. Per a conference call with DEP on 09/27/16, it was agreed that call-out notes will be added on Chapter 102 drawings to refer to typical discharge structure details instead of supplying full cross sections.

		The locations of wetlands, streams, floodways, and floodplains in relation to the outfall locations are captured on the Chapter 102 and 105 drawings.
YO 7.g	On Drawing No. PA-CU-0203.000-WX-16, resource No. S-136, covering pipe stations 13+00 to 15+00, commencing from reference point N40.192167, W76.916447; the positioning of the pipeline exactly under Yellow Breeches Creek is not “as near horizontal as possible” as per 25 Pa Code Section 105.313(b). The change in elevation of the proposed pipe from the beginning to end of the stream cross section is almost 7 feet. Redesign the HDD process protocol to meet the regulatory provision supra.	The design radius is a standard accepted minimum for a 20-inch pipe which allows the driller some leeway during the drilling process to make corrections to the drill path. Starting with a smaller design radius increases the risk significantly of the drill being installed with stress levels that will exceed the maximum combined stresses dictated by API RP2A. In order to make this crossing horizontal under the entire length of the stream, we would have to shift the profile 200 ft to the east. The drill equipment would then be very close to a farmhouse and SPLP would be outside the negotiated ROW. The ROW is currently designed to turn north and go around this farmstead. Extending the drill will negate this. If SPLP were to decrease the radius to come up at an increased rate after crossing the stream, this presents an increased the risk that the pipe will exceed the combined stresses dictated by the design criteria in API RP2A. This will also increase the exit angle for the rig to 17°, which exceeds our normal maximum of 15° for safe working conditions on the rig.
YO 7.h	For the same cross section mentioned in Item 2, provide the water surface elevation on the cross sectional drawing with the low and high water marks indicated as per 25 Pa Code Section 105.302(1).	The water is to be drilled under with no surface disturbance or structure proposed to be in the water. The presentation of this data does not appear to be applicable to this type of crossing.
YO 7.i	On Drawing No. PA-YO-0063.000-RRb-16, covering pipe stations 0+00 to 50+00, commencing from reference point N40.203475, W76.782083, provide the water surface elevation on the cross sectional drawing with	The water is to be drilled under with no surface disturbance or structure proposed to be in the water. The presentation of this data does not appear to be applicable to this type of crossing.

	the low and high water marks indicated as per 25 Pa Code Section 105.302(1).	
YO 7.j	Provide details, including cross sections, of all access road crossing streams and wetlands as per 25 Pa Code Sections 105.302(3), 105.13(e)(1)(A) and (G), and 105.301.	Site-Specific Plans located within the E&S Plan sheet sets have been revised to address complex aquatic resource crossings, and will aid in the restoration of contours and hydrology. For other areas, the construction and restoration methods are the same methods commonly used and standard for the industry, and are described in the Impact Minimization, Avoidance, and Mitigation Procedures (Attachment 11, Enclosure E, Part 4). These standards include adhering to DEP's General Permit 5 - Utility Line Stream Crossings and the USACE's Pennsylvania State Programmatic General Permit – 5 requirement that original grades must be restored after trenching and backfilling of streams, and that any excess fill material must be removed. These performance standards will be adhered to for this Project. These standard stream utility installation crossing methods have been documented to result in successful restoration of cross sections and profiles. The E&S Plan provides typical cross section profiles for temporary access for those less complex crossings not covered by the site-specific drawings. Additional cross-sections are provided within Attachment 7, Tab7G for all those noted as intermittent and perennial stream crossings.
YO 7.k	Provide detail cross sections for all stream crossings as per 25 Pa Code Sections 105.302 and 105.13(e)(1)(A) and (G), so DEP can adequately review your permit application as per 25 Pa Code Section 105.311. Your present submission does not provide cross sections for an unnamed tributary (UNT) to Yellow	Site-Specific Plans, including cross sections, for the following identified streams have been included within Attachment 12 with the E&S Plan sheet sets: Breeches Creek, SH65, UNT to Yellow Breeches Creek, SH63, UNT to Yellow Breeches Creek, S-133, UNT to Yellow Breeches Creek, S-132, UNT to Marsh Run, S-



	<p>Breeches Creek, S H67, UNT to Yellow Breeches Creek, S-H66, UNT to Yellow Breeches Creek, SH65, UNT to Yellow Breeches Creek, SH64, UNT to Yellow Breeches Creek, SH63, UNT to Yellow Breeches Creek, S-I33, UNT to Yellow Breeches Creek, S-132, UNT to Marsh Run, S-125, UNT to Marsh Run, S-128, UNT to Susquehanna River, S-BB118, UNT to Susquehanna River S-H61, UNT to Susquehanna River, S-H61, UNT to Susquehanna River, S-H60, UNT to Susquehanna River, S-H62, UNT to Susquehanna River, S H59, UNT to Susquehanna River, S-H58, UNT to Susquehanna River, S H56, and UNT to Susquehanna River, S-H57.</p>	<p>125, UNT to Marsh Run, S-128, UNT to Susquehanna River, S-BB118, UNT to Susquehanna River S-H61, UNT to Susquehanna River, S-H61, UNT to Susquehanna River, S-H62, UNT to Susquehanna River, S H59, UNT to Susquehanna River, S-H58, UNT to Susquehanna River, S H56, and UNT to Susquehanna River, S-H57.</p> <p>The Site Specific Plan sheets have been revised to address complex aquatic resource crossings, and will aid in the restoration of contours and hydrology.</p> <p>The following stream are ephemeral: Breeches Creek, S H67, UNT to Yellow Breeches Creek, S-H66, UNT to Yellow Breeches Creek, SH64, UNT to Yellow Susquehanna River, S-H60, UNT to</p> <p>For these streams, the construction and restoration methods are the same methods commonly used and standard for the industry, and are described in the Impact Minimization, Avoidance, and Mitigation Procedures (Attachment 11, Enclosure E, Part 4).</p> <p>These standards include adhering to DEP's General Permit 5 - Utility Line Stream Crossings and the USACE's Pennsylvania State Programmatic General Permit – 5 requirement that original grades must be restored after trenching and backfilling of streams, and that any excess fill material must be removed. These performance standards will be adhered to for this Project. These standard stream utility installation crossing methods have been documented to result in successful restoration of</p>
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		cross sections and profiles. The E&S Plan provides typical cross section profiles for the less complex crossing such as those noted. Additional cross-sections are provided within Attachment 7, Tab7G for all those noted as intermittent and perennial stream crossings.
YO 7.1	Include the Yellow Breeches Creek (S-I36) in the HDD Table (Attachment A). [25 Pa. Code Sections 105.13(e)(1)(ix), 105.1, Mitigation and 105.14(b)(4) and 105.14(b)(12)]	The HDD table in IR Plan (IR Plan) was updated to include Yellow Breeches Creek (S-I36) (see Attachment 12, Tab 12C).
YO 8	Location Map - No additional comments.	NA - Heading
YO 9	Project Description	NA - Heading
YO 9.a	Provide a description of how the water will be withdrawn, the methods to be utilized, what equipment and structures are proposed to be placed and utilized in Waters of the Commonwealth, the length of time which obstructions will remain in place, and revise the impact tables to include these impacts. [25 Pa. Code Sections 105.3(a)(4), 105.11(a), 105.13(e)(1)(iii), 105.13(e)(1)(x), 105.14(b)(4), 105.301, 105.151(1) and (3), and 105.161(a)(3) and (4)]	No surface water withdrawals are planned for York County.
YO 9.b	Provide a description of how the testing discharges are proposed for Mainline Testing and HDD Testing and revise the impact tables to include these impacts and how the water will be discharged, the discharge capacity, the methods to be utilized, what equipment and structures are proposed to be placed and utilized in Waters of the Commonwealth, the length of time which obstructions will remain in place, and other details. Identify what authorizations	SPLP has obtained a DEP PAG-10 General NPDES Discharge Permit to allow discharge of hydrostatic test waters. The permit application captures the details of the mainline and HDD testing discharges including discharge capacity, methods, and structures. All discharge structures are located within the LOD. The length of time the structures will be used is also captured in the PAG10 permit application.

	for these discharges are required from DEP and any permit or application numbers and statutes. [25 Pa. Code Sections 105.3(a)(4), 105.11(a), 105.13(e)(1)(iii), 105.13(e)(1)(x), 105.14(b)(4), 105.301, 105.151(1) and (3), and 105.161(a)(3) and (4)]	In addition to the information provided in the PAG-10 permit application, all discharge outfall locations are shown on the Chapter 105 drawings and supporting information such as typical discharge details are included in the Chapter 102 E&S drawings which are referenced in the Chapter 105 drawings.
YO 9.c	Provide the provisions to be used to protect the environmental resource in the event of break or rupture. These provisions needs to be explained in the Project Description and referenced on the drawings. [25 Pa. Code Section 105.302(5)].	The revised Project Description provided in Attachment 9 discusses block valves, their location, and the siting criteria that provides shutoff provisions. Values are shut off remotely or manually. Block valves are also depicted on the aerial site plans provided in Attachment 7, Tab 7A.
YO 10	Color Photographs - No additional comments.	NA - Heading
YO 11	Environmental Assessment (EA)	NA - Heading
YO 11.a	Section F, Attachment 11, EA Form, page 2, Item 7 states, "Is the water resource part of or located along a private or public water supply?" The Applicant checked "No." However, no documentation validating this statement is provided in the application. DEP is concerned that private and perhaps public water supply wells are located along crossed stream and wetland water resources and/or along the length of the HDD operations.	Water supply impacts have been analyzed and addressed within three supplemental plans to the PPC Plan, the Water Supply Assessment, Preparedness Prevention and Contingency Plan, the IR Plan, and the Void Mitigation Plan for Karst Terrain and Underground Mining. These plans are provided in Attachment 12.
YO 11.a (cont.)	The applicant needs to propose measures to protect all public water uses, both surface intakes and groundwater sources, located along and/or downstream of the proposed work areas. Special attention needs to be applied to the potential unplanned impacts that HDD and inadvertent releases (IR) may have on groundwater sources. In addition, where a	Water supply impacts have been analyzed and addressed within three supplemental plans to the PPC Plan, the Water Supply Assessment, Preparedness Prevention and Contingency Plan, the IR Plan, and the Void Mitigation Plan for Karst Terrain and Underground Mining. These plans are provided in Attachment 12.

	<p>structure or activity is in a wetland, the applicant must demonstrate that this project will not cause or contribute to the pollution of groundwater or surface water resources or diminution of resources sufficient to interfere with their uses, including use as a public or private water supply. Your assessment needs to include identification, notification and consultations with water suppliers, and/or well owners. A notification contact list needs to be included in your PPC Plan and Inadvertent Release Plan. [25 Pa. Code Sections 105.13; 105.14(b)(4), 105.14(b)(5), 105.18a(5), and 105.18a(b)(5)]</p>	
YO 11.b	<p>Item B.2.a of Section F, Attachment 11, Enclosure D of the EA states the natural drainage patterns of the wetlands and small or headwater streams will be maintained. However, no information has been provided or detailed contours or cross sections depicting the drainage patterns, or what the drainage patterns are in the wetlands in the existing conditions. Provide site-specific cross sections for the streams and wetlands which depict the existing and proposed conditions of the streams and wetlands, proposed pipes and depths, and the existing stream bed and banks dimensions. [25 Pa. Code Sections 105.13(e)(1)(i)(G), 105.13(e)(1)(x), 105.14(b)(4), 105.14(b)(13), 105.13(e)(1)(ix), 105.1, Mitigation and 105.14(b)(11), 105.15(a), 105.15(a)(1), 105.15(b), 105.16(d), 105.18a(a)(1),</p>	<p>Site Specific Plans located in Attachment 7, Tab 7D have been revised to address complex aquatic resource crossings. As recommended by the DEP at a September 12, 2016, technical deficiency meeting, several site-specific, cross sectional typical details are provided in the E&amp;S Plan Sheets to accommodate the variety of typical stream and wetland crossings.</p>

	105.18a(a)(5), 105.18a(b)(1), 105.18a(b)(5), 105.301(3), 105.301(4), and 105.301(5)]	
YO 11.c	Revise Section A.9 of Enclosure D of the EA to discuss and identify impacts to preserved farms and/or farms with agriculture preservation easements or restrictions. Discuss how the minimization measures would affect preserved farms and how they will be affected, such as not able to replant an orchard or vineyard. [25 Pa. Code Sections 105.13(e)(1)(x), 105.21(a)(1), 105.15(a), 105.15(a)(1), 105.14(b)(5), and 105.14(b)(4) and an EA Form Instructions]	Impacts of the Project, which includes an evaluation of water resource impacts, on these designations are provided in Attachment 11, Enclosure D, A.11 and Enclosure E, Part 2.
YO 11.d	Revise the EA to discuss the impact of the water obstructions and water withdrawals from the obstructions on the resources. This needs to include details on and an assessment of the impact to the watercourse. Where approval is being obtained from the Susquehanna River Basin Commission, provide approval from them for the water withdrawals. [25 Pa. Code Sections 105.3(a)(4), 105.11(a), 105.13(e)(1)(x), 105.14(b)(4), 105.15(a)(1), and 105.15(b)]	No surface water withdrawals are planned for York County.
YO 12	Erosion and Sediment Control Plan	NA - Heading
YO 12.a	The E&S Plan drawings and plan sheets indicate that no improvements are proposed for the resource crossings. However, the impact plan drawings and impact tables indicate temporary crossings and bridges are proposed. Revise the application accordingly to be accurate. If temporary crossings are proposed, revise the E&S Plan drawings to depict the	The E&S Plan has been revised to clarify that there are no permanent improvements at the referenced resource crossings. Project areas identified as Temporary Access Roads will need varying level of improvement to facilitate construction, but are to be restored to pre-existing conditions. Temporary impacts to the floodway at existing culverted crossings are quantified and accounted for within the application. Attachment 11, Enclosure A

	<p>impacts. If an existing road with existing obstructions crossing streams or wetlands is proposed to be utilized with no improvements are proposed to the road, then provide color photographs of the resources and existing road crossings. Note: the provided photographs do not depict or clearly depict these crossings. [25 Pa. Code Sections 105.13(e)(1)(i)(C), 105.13(e)(1)(iii)(A), 105.13(e)(1)(iv), 105.15(a), and 105.21(a)(1) and an EA Form Instructions]</p>	<p>provides photographs of the resources identified in York County and crossed by the Project, including those associated with temporary access roads.</p>
YO 12.b	<p>Stream and wetland crossing details are only provided in the “Notes” pages of the E&amp;S Plan. Provide details on how each crossing will be constructed, associated E&amp;S controls will be installed, and how restoration will be accomplished. To facilitate your response, this comment can be addressed by developing a table containing the requested information. [25 Pa. Code Sections 105.13(e)(1)(i)(C), 105.13(e)(1)(iii)(A), 105.13(e)(1)(iv), 105.15(a), and 105.21(a)(1) and an EA Form Instructions]</p>	<p>Stream and “typical” crossing details are to be utilized at each crossing; therefore, the notes are applicable to all crossings and best presented in the upfront sheeting. The typical crossing details are relevant and applicable to each typical resource crossing, and will be implemented at each crossing without the need to specifically depict such typical details on the plan views of the E&amp;S Plan drawings. In several cases, site-specific drawings (Attachment 7) have been created and are referenced within the E&amp;S Plan sheets (Attachment 12) and provided after the standard sheeting. These sites-specifics also reference the typicals which provide a consistent location for the same information.</p>
YO 12.c	<p>The “typical” wetland crossing details shown on the E&amp;S Plans, ES-0.09, indicates Trench Breakers are to be installed in the trench in the wetlands; however, it is not clear what Trench Breakers are, or if Trench Plugs are what is meant. Revise this detail to identify if Trench Plugs are meant by this term or provide a detail for trench breakers. In addition, if trench plugs</p>	<p>The standard typical detail on the E&amp;S plans has been revised to better detail ditch trench plug installation (Attachment 12). Additionally, the trench plugs have been moved to the outside of the wetland boundaries and a note added that additional trench plugs will be installed for long open-cut wetland crossings. The project’s Environmental Compliance Program team will ensure appropriate spacing.</p>

	are proposed to maintain wetland hydrology, revise the detail to include trench plugs within the wetland for wetland crossings and specify the distance increments. Furthermore, the E&S Plan drawings depict trench plugs which are inconsistent with the detail. Revise the site plans to be consistent with the detail. [25 Pa. Code Sections 105.18a(a)(1), 105.18a(a)(3), 105.18a(a)(4), 105.18a(a)(5), 105.18a(b)(2), 105.18a(b)(3), 105.18a(b)(4), 105.18a(b)(5), 105.15(a)(1), 105.14(b)(4), 105.14(b)(11), 105.14(b)(13), and 105.13(e)(1)(i)]	
YO 12.d	Provide Riparian Forest Buffer (TYP) details, as cited on the E&S Plans. [25 Pa. Code Sections 105.15(a)(1), 105.14(b)(4), and 105.13(e)(1)(i)]	The (TYP) indication on the plan drawings does not reference a typical detail but rather indicates that the symbology used to show the riparian forest buffer at that location is typical on the plan drawings.
YO 12.e	ES-0.11 Sheet needs cross section revised to indicated 20" and 16" pipes (w/trench box, if appropriate), and width of trench. Dry bypass plan shows 8" pipe (from ME1?). This sheet needs to be revised. [25 Pa. Code Section 105.13(e)(1)(i)©	The E&S Plan notes and detail sheets have been revised accordingly. The 8" reference has been removed. The pipes are indicated as "proposed pipe" because the details are a general typical representation of the proposed work.
YO 12.f	Proposed plantings relating to immediate stabilization on restoration plans need to eliminate Crown Vetch ( <i>Coronilla varia</i> ).	Crown vetch has been eliminated for use on the Project.
YO 13	Hydrologic and Hydraulic Analysis - No additional comments.	NA - Heading
YO 14	Stormwater and Floodplain Management Analysis	NA - Heading
YO 14.a	An Act 167 Stormwater Management Plan has been prepared/adopted by York County under the Stormwater Management Act. Provide an	25 PA Code Section 105.13 (e)(1)(v) states that a letter from the county or the municipality commenting on the analysis shall be included with an application for or a

	<p>analysis of the project's impact on, and consistency with, the stormwater management plan, along with a letter from the municipal and county commenting on this analysis. If a letter is not provided, provide all correspondence with the county and municipality on this subject. [25 Pa. Code Section 105.13(e)(1)(v)]</p>	<p>registration of a Chapter 105 permit. SPLP submitted an analysis of the Project's potential impacts on and provided information on the Project's consistency with the County's Stormwater Management Plan in its request for a consistency determination letter dated November 10, 2015. On November 24, 2015, York County responded confirming that the Project is consistent with York County's Act 167 Stormwater Management Plan. As excerpted from the letter SPLP sent to the County, the Project ROW is located within York County, which has adopted the York County Integrated Water Resource Plan to serve as the County's Stormwater Management Plan. The Project will be designed, constructed, and operated in compliance with all applicable provisions of 25 Pennsylvania Code, Chapter 102 Regulations (Erosion and Sediment Control and Post Construction Stormwater Management Best Management Practices including the implementation of Antidegradation Best Available Combination of Technologies (ABACT methods) where applicable, to maintain the designated use of receiving waters in the area and no increase in stormwater runoff, rate or volume would occur. See Attachment 14 for copies of correspondence with York County.</p> <p>SPLP submitted an analysis of the Project's potential impacts on and provided information on the Project's consistency with Fairview Township's Stormwater Management Plan in two requests for consistency determination letters dated November 10, 2015 and February 8, 2016. However, Fairview Township has not responded to SPLP's requests for stormwater consistency determination for the Project. Copies of correspondence</p>
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		requesting consistency with the Town's stormwater management program is also provided in Attachment 14.
YO 14.b	The proposed project is located within a floodway delineated on the municipal FEMA map. Provide an analysis of the project's consistency with municipal flood plain management programs, and provide a letter from each local municipality indicating consistency with their respective municipal flood plain management programs. If a consistency letter is not provided, provide all correspondence (including municipal requests for more information) with the municipalities on this subject. [25 Pa. Code Section 105.13(e)(1)(vi)]	<p>SPLP submitted an analysis of the Project's consistency with Fairview Township's flood plain management program in two requests for consistency determination letters dated November 10, 2015 and February 8, 2016. However, Fairview Township has not responded to SPLP's requests for floodplain consistency determination for the Project. Fairview Township's regulates activities within floodplains under Chapter 151, the Township's Floodplain Management Ordinance (Ordinance). Per DEP's request, analysis of the Project's consistency with the Township's program is provided below.</p> <p>No new aboveground facilities or access roads are proposed within FEMA designated floodways or floodplains. However, the pipeline Project will cross Yellow Breeches Creek and the Susquehanna River, both designated FEMA floodway and floodplain areas, using HDD techniques to minimize surface disturbance and potential Project impacts to these waterbodies. Therefore, the Project is not anticipated to result in or increase flood heights or increase the risk of flood damage within the area (in accordance with the technical provisions of Section 151-22 of the Ordinance). No FEMA designated floodplains are located in areas where open cut trenching construction methods will occur. The pipeline will be buried and preconstruction contours and elevations will be restored following pipeline installation. No fill will be required for the project and E&amp;S best management practices will be implemented for the Project following construction (in accordance with Section 151-24 (A) and 151-24 (D)). Therefore, flows will remain similar to</p>

		<p>existing conditions, and adequate drainage will be maintained to minimize the potential for exposure to flood hazards or the chance of impairment during a flood. The Project is designed to prevent the infiltration of floodwaters into the system and discharges from the system into floodwaters (in accordance with Section 151-24 (M)), and the Project will not produce or store materials and substances which are considered dangerous to human life (in accordance with Section 151-25).</p> <p>In addition to the above, Section 151-5 of the Ordinance requires that permits be obtained before any construction or development is undertaken within any identified floodplain area. However Chapter 151-6E requires that, "no encroachment, alteration, or improvement of any kind shall be made to any watercourse until all adjacent municipalities which may be affected by such action have been notified by the Township and until all required permits or approvals have been first obtained from the Department of Environmental Protection Regional Office." In accordance with these requirements, SPLP will procure a permit from the Township once the DEP Chapter 105 permit has been issued for the Project and prior to construction or development occurring within a floodplain.</p> <p>Copies of correspondence requesting consistency with the Township's floodplain management program are provided in Attachment 14.</p>
YO 15	Risk Assessment - No additional comments.	NA - Heading
YO 16	Professional Engineer's Seal/Certification - No additional comments.	NA - Heading
YO 17	Alternatives Analysis (AA)	NA - Heading

YO 17.a	<p>The AA needs to include a summary of major actions taken to avoid/minimize impacts. The AA must be a detailed analysis of alternatives, including alternative locations, routings, or designs to avoid or minimize adverse impacts. Document and provide evidence that there is no practicable alternative which would not involve a wetland or that would have less adverse impact on a wetland. Revise the AA to provide a detailed analysis of alternative routings, locations, and designs to avoid and minimize impacts and provide detailed documentation and evidence that there are not practicable alternatives which would further avoid and minimize impacts. [25 Pa. Code Sections 105.13(e)(1)(viii), 105.14(b)(7), 105.18a(a)(2), 105.18a(a)(3), 105.18a(b)(2), and 105.18a(b)(3)]</p>	<p>The Alternatives Analysis in Attachment 11, Enclosure E, Part 3 has been revised to provide a detailed analysis of alternative routings, locations, and designs to avoid and minimize impacts and to provide documentation/evidence that there are no practicable alternatives that would further avoid and minimize impacts.</p>
YO 17.b	<p>The applicant has selected HDD to cross selected sensitive environmental and residential/commercial areas but has not presented supporting data that documents the suitability of the substrate and geology for HDD utilization. The Revised Bog Turtle Conservation Plan (February 20, 2016) prepared by the applicant includes geotechnical data that was obtained at selected sites. However, similar geotechnical and risk analysis were not included in the application package for all proposed HDD crossings. The applicant needs to submit such data and documentation. In addition, the applicant has not presented</p>	<p>The revised IR Plan provided in Attachment 12C includes an IR risk assessment for each of the HDDs. SPLP is requesting a Chapter 105 permit to perform the crossing as presented within the application. The planned HDDs are not expected to fail, therefore contingencies for failure are not presented. Each HDD is carefully engineered for success. The project has proposed 237 HDDs (132 20-inch and 105 16-inch). Contingency planning and impact assessment for failure for all 237 HDDs would be considered unnecessary, given the historic success SPLP has had with HDD installation on other projects along this alignment. If an HDD were to fail, alternate crossing methods or routing would be assessed at that time and the appropriate agency authorizations sought.</p>

	contingency plans in case HDD fails at certain sites. Such contingency plans must be developed and submitted to DEP. Resultant impacts of utilizing other construction methods must also be documented and submitted to DEP. [25 Pa. Code Section 105.13(e)(1)(viii), 105.14(b)(7), 105.18a(a)(2), 105.18a(a)(3), 105.18a(b)(2), and 105.18a(b)(3)]	
YO 18	Avoidance, Minimization, and Mitigation Plan	NA - Heading
YO 18.a	The application references stream and wetland restoration, but sufficient details and plans for stream and wetland restorations have not been provided. Provide a mitigation/restoration plan for the impacted streams and wetlands in accordance with Section 105.20a(a) and (b). This plan needs to include all phases of restoration and replacement, including detailed grading plans, stabilization, in-stream control measures, planting plans, schedules, and monitoring plans. [25 Pa. Code Sections 105.13(e)(1)(ix), 105.1, Mitigation and 105.14(b)(4), 105.14(b)(13), 105.18a(a)(1), 105.18a(a)(3), 105.18a(a)(6), and 105.18a(b)(1)]	Stream and wetland restoration methods are identified in the Impact Avoidance, Minimization, and Mitigation Procedures (Attachment 11, Enclosure E, Part 4). The E&S Plan drawings in Attachment 12 also provide notes and details on stream and wetland crossing methods and restoration. Detailed grading plans are not provided for streams and wetlands, as the preconstruction grades will be restored in accordance with pre-construction photos and visual estimation/matching of the elevations and contours with adjacent undisturbed areas. Stabilization will be achieved through restoration of grade, seeding, use of erosion control blanket (where required), and installation of temporary erosion controls until revegetation is successful. No in-stream control measures will be placed as obstructions in streams. Seeding plans are provided in the E&S Plan Drawings, and planting plans for restoration of woody species in PSS and PFO wetland areas are provided in the Impact Avoidance, Minimization, and Mitigation Procedures (Attachment 11, Enclosure E, Part 4). Site Specific Plans located within the E&S Plan sheet set address complex aquatic resource crossings and will aid in the restoration of contours. For other areas, the construction and restoration methods are

		the same methods commonly used and standard for the industry, and are described in the Impact Minimization, Avoidance, and Mitigation Procedures (Attachment 11, Enclosure E, Part 4). These standards include adhering to DEP's General Permit 5 - Utility Line Stream Crossings and the USACE's Pennsylvania State Programmatic General Permit – 5 requirement that original grades must be restored after trenching and backfilling in wetlands, and that any excess fill material must be removed from the wetland and not spread onsite. These performance standards will be adhered to for this Project.
YO 18.b	Revise Enclosures C&D to assess the condition and discuss the condition of and impacts to forested and scrub shrub riparian areas. Revise the enclosures to discuss the primary and secondary impacts, as well as consideration of antidegradation, on watercourses for each watercourse crossing from the riparian vegetation impacts. [25 Pa. Code Sections 105.15(a); 105.13(E)(1)(x); 105.14(b)(4); 105.14(b)(11); 105.14(b)(12); 105.14(b)(14)]	The sections have been revised from the initial submission and the information within Enclosures C & D in now included within Attachment 11, Enclosure E. Attachment 11, Enclosure E, Part 2 discusses primary and secondary impacts to forested and scrub-shrub riparian areas; and Attachment 11, Enclosure E, Part 5 provides an analysis of Chapter 105 antidegradation requirements related to forested riparian buffer impacts along watercourses crossed by the Project.
YO 18.b.i	Evaluate the riparian areas from the top of bank landward 100ft, and if the area utilized is less than 100ft, justification should be given as to why. [25 Pa. Code Sections 105.15(a); 105.13(E)(1)(x); 105.14(b)(4); 105.14(b)(11); 105.14(b)(12); 105.14(b)(14); Riparian Forest Buffer Guidance, Document # 394-5600-001]	Riparian areas have been evaluated for each stream 100 feet from each bank according to DEP's recommendation. The analysis discussing the effects of the Project on the riparian areas is provided in Attachment 11, Enclosure E, Part 2 (Project-wide Resource Identification and Project Impacts).
YO 18.b.ii	To avoid and minimize the impacts to the watercourses, provide a plan to replace the vegetation lost in both permanent and temporary ROW and workspaces. Alternatively,	Except at above ground facilities including valve and pump stations, all previously vegetated temporary and permanent workspaces are restored to a vegetated state in accordance with the E&S Plan provided in Attachment

	<p>where it cannot be replaced and protected from clearing during the proposed project's operation and maintenance, provide an explanation as to why it cannot be replaced. [25 Pa. Code Sections 105.15(a); 105.13(E)(1)(x); 105.14(b)(4); 105.14(b)(11); 105.14(b)(12); 105.14(b)(14); 105.1; 105.14(b)(7)]</p>	<p>12. Also the BMPs for restoring and maintenance of these areas are discussed within the Impact Avoidance, Minimization, and Mitigation Procedures found in Attachment 11, Enclosure E, Part 4.</p>
<p>YO 18.b.iii</p>	<p>Revise the application plan drawings and project description, to clearly and specifically state if vegetation clearing, cutting, removal, or other alteration is proposed as part of the proposed projects' construction, operation, and maintenance. Revise the plan drawings to clearly indicate all locations where maintenance clearing, cutting, removal, or other alteration is not part of proposed maintenance activities. [25 Pa. Code Sections 105.13(e)(1)(ix); 105.14(b)(4); 105.14(b)(12); 105.14(b)(13); 105.14(b)(14); 105.11(d)]</p>	<p>SPLP did not revise the plan drawings. Instead, SPLP revised both the Project Description located in Attachment 9 to define the terms used within the plan drawings such as "Permanent Access Road," "Permanent ROW," "Temporary ROW," and "Additional Temporary Workspace" and the aerial site plans located in Attachment 7, Tab 7A to more clearly explain these designated areas. The Impact Avoidance, Minimization, and Mitigation Procedures in Attachment 11, Enclosure E, Part 4 details the construction, operation, and maintenance procedures in these designated areas.</p> <p>As depicted on the aerial site plans, the DEP Chapter 105 jurisdictional areas defined as "Permanent Impact" are areas where the "Permanent ROW", "Permanent Access Road", "ROW-Travel and Clearing LOD", "Station-LOD", and "Block Valve Setting-LOD" intersect waters of the Commonwealth. These areas will receive both direct and indirect impacts resulting from the placement or construction of a water obstruction or encroachment and include areas necessary for the operation and maintenance of the water obstruction or encroachment located in, along or across, or projecting into a watercourse, floodway or body of water. These "Permanent Impacts" areas are proposed for permanent</p>

		<p>vegetation clearing, cutting, grubbing, removal, and maintenance. However, wetlands will not be cut or mowed during general operation and maintenance.</p> <p>As depicted on the aerial site plans, the DEP Chapter 105 jurisdictional areas defined as “Temporary Impacts” are areas where “Temporary ROW”, Additional Temporary Workspace (“ATWS”), “ROW-Travel LOD”, and “Temporary Access Road” intersect waters of the Commonwealth. These areas will receive both direct and indirect impacts resulting from the construction of a water obstruction or encroachment located in, along or across, or projecting into a watercourse, floodway or body of water that are restored upon completion of construction. These “Temporary Impacts” areas are proposed for temporary vegetation cutting, clearing, grubbing, and removal. These areas will be allowed to revert, no future maintenance or operations will occur.</p> <p>The “Permanent Easement” depicted on the aerial site plans identifies the limits of SPLP’s agreement with the affected landowner, and is an independent designation from proposed “Permanent Impacts” and “Temporary Impacts”. In areas not identified as “Permanent Impacts” or “Temporary Impacts” within the “Permanent Easement”, no permanent or temporary vegetation cutting, clearing, grubbing, removal, and/or maintenance is proposed. The “Permanent Easement” is depicted on the aerial site plans in response to previous DEP requests to show the limits of the permanent easement in areas where “Permanent Impacts” and “Temporary Impacts” are not proposed, and does not represent a DEP Chapter 105 jurisdictional area.</p>
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YO 18.c	<p>In regards to the mitigation plan, explain how preexisting conditions (bank grades, bank slopes, bed and bank elevations, and habitat) will be documented and used as a basis to restore impacted streams and wetlands to preexisting or better habitat conditions. Explain under what conditions the restoration design based on preexisting design will be modified when the preexisting conditions are degraded (areas of severe bank erosion, bank undercutting, unnatural substrate and similar conditions). Provide plans and details for the restoration of stream habitat at open cut stream crossings. This needs to include stock piling and segregation and replacement of native stream bed material. Contingency plans addresses measures to stabilize the work area in the event of sudden precipitation needs to be included. [25 Pa. Code Sections 105.13(e)(1)(i)(G), 105.13(e)(1)(i)(C), 105.311(2), 105.15(a), 105.14(b)(4), and 105.16(d)]</p>	<p>The Impact Avoidance, Minimization, and Mitigation Procedures provided in Attachment 11, Enclosure E, Part 4 includes the details for stream restoration. The E&amp;S Plan included in Attachment 12 provides the plan and details, including standard typical details and site-specific plans for select crossings, as well as conditions for stream bed materials segregation and installation of BMPs to protect on-site and adjacent waters from storm-event sedimentation and erosion. The Environmental Inspection Program and conditions for inspection of BMPs post-significant rain events is also discussed.</p> <p>The construction and restoration methods are the same methods commonly used and standard for the industry, and are described in the Impact Minimization, Avoidance, and Mitigation Procedures (Attachment 11, Enclosure E, Part 4). These standards include adhering to DEP's General Permit- Utility Line Stream Crossings and the USACE's Pennsylvania State Programmatic General Permit requirement that original grades, hydrology, and wetland vegetation must be restored after trenching and backfilling of wetlands, and that any excess fill material must be removed. These performance standards will be adhered to for this Project. These standard stream utility installation crossing methods have been documented to result in successful restoration of cross sections and profiles.</p>
YO 18.d	<p>The application states that temporarily impacted Palustrine Scrub Shrub (PSS) and Palustrine Forested Wetlands (PFO) wetlands will be replanted with native trees and shrubs, PSS wetlands in the permanent ROW will be planted with wetland shrubs, and PFO wetlands in the</p>	<p>The planting plans for the restoration of PSS and PFO areas is provided in the Impact Avoidance, Minimization, and Mitigation Procedures provided in Attachment 11, Enclosure E, Part 4. The procedures provide for the locations, species to be planted, density, size, timing,</p>



	<p>permanent ROW will be allowed to revert to PSS/PEM wetlands. PFO areas in temporary impacted areas, outside the 50-ft right-of-way will be replanted with native forest tree species. Provide planting plans and details for these restoration areas, including the replanting of PFO areas in the permanent ROW. Identify the locations of the plantings and wetlands, the species to be planted, the planting density, the proposed size of the plantings, planting timing, goals and objectives for success, and a monitoring plan to ensure reestablishment. [25 Pa. Code Sections 105.13(e)(1)(ix), 105.1, Mitigation and 105.14(b)(4), 105.14(b)(13), 105.18a(a)(1), 105.18a(a)(3), 105.18a(a)(6), 105.18a(b)(1), 105.18a(b)(2), and 105.18a(b)(6)]</p>	<p>goals, and objectives, and monitoring for successful restoration.</p>
<p>YO 18.e</p>	<p>Section 2.2.2.1 of the Mitigation Plan identifies that wetlands will be reseeded with a native wetland seed mixture; however, the mixture is not specified nor is it proposed on the plans. Revise the application to identify the seed mixture to be used and revise the E&amp;S Plans to indicate its use for wetland restoration. Provide similar information for the replanting of wetland shrubs and forest species (as discussed in 1.c). Note that not planting and allowing natural colonization of impacted areas will likely result in colonization of invasive, nonnative species is not an acceptable approach to restoration. [25 Pa. Code Sections 105.13(e)(1)(ix), 105.1, Mitigation and</p>	<p>The Impact Avoidance, Minimization, and Mitigation Procedures provided in Attachment 11, Enclosure E, Part 4 includes the details for standard and site-specific (including restored PSS and PFO habitats ) wetland restoration, as well as invasive species control, monitoring, and reporting. The E&amp;S Plans have been revised accordingly.</p>

	105.14(b)(4), 105.14(b)(13), 105.18a(a)(1), 105.18a(a)(3), 105.18a(a)(6), 105.18a(b)(1), 105.18a(b)(2), and 105.18a(b)(6)]	
YO 18.f	<p>The Mitigation Plan and an EA state that conversion of PFO is proposed to occur, that there will be a functional loss, but the loss is de minimis; however, the application does not evaluate the cumulative conversion of PFO wetlands for the entire project. Revise the application to assess the impacts to the affected forested wetlands, evaluate the cumulative effect on all counties of the proposed project, and provide compensatory replacement for the lost functions and values. Provide plans for compensatory mitigation to replace PFO permanently loss due to forest conversion. Provide your definition of de minimis and the source of this definition. [25 Pa. Code Sections 105.13(e)(1)(ix), 105.1, Mitigation and 105.14(b)(4), 105.14(b)(14), 105.14(b)(13), 105.18a(a)(1), 105.18a(a)(3), 105.18a(a)(6), 105.18a(b)(1), 105.18a(b)(2), 105.18a(b)(6), 93.4a(b), 93.4a(c), Article I, Section 27 (Pa. Constitution)]</p>	<p>A stand-alone Alternatives Analysis document has been added to the application materials, which evaluates the cumulative conversion of PFO wetlands for the entire project, and is located in Attachment 11, Enclosure E Part 3. The stand-alone compensatory mitigation plan has been revised (Attachment 11, Enclosure F) and provides plans for compensatory mitigation to replace PFO permanently lost due to forest conversion. In addition, Attachment 11, Enclosure D and Enclosure E, Part 2 both describe the PFO conversions.</p>
YO 18.g	<p>Section 2.2.2.1 of the Mitigation Plan, Construction in Wetlands with Unsaturated Soils, conflicts with the rest of the application, which identifies that all wetland crossings will be crossed with mats or pads. Crossing unsaturated wetlands without timber mats would contribute to soil compaction, rutting, and disturbance of the cut vegetation's roots.</p>	<p>The Impact Avoidance, Minimization, and Mitigation Procedures provided in Attachment 11, Enclosure E, Part 4 has been revised to indicate that temporary wetland matting will be used along the travel lane where any staging or work areas are proposed in wetlands regardless of the wetlands' saturated condition.</p>

	Therefore, revise the Mitigation Plan to identify that all wetland crossings shall use mats or pads. [25 Pa. Code Sections 105.21(a)(1), 105.13(e)(1)(ix), 105.13(e)(1)(i), 105.13(e)(1)(iii), 105.13(e)(1)(x), 105.14(b)(4), 105.18a(b)(7), 105.14(b)(13), 105.15(a), 105.15(a)(1), 105.15(b), 105.18a(b)(1), 105.18a(b)(2), and 105.422]	
YO 18.h	Provide details of SPLP’s annual Wetland Monitoring and Environmental Inspection Programs. [25 Pa. Code Sections 105.13(e)(1)(ix), 105.1, Mitigation and 105.14(b)(4), 105.18a(b)(1), 105.18a(b)(2), and 105.18a(b)(6); 105.53(4); 105.54]	Details of SPLP's annual Wetland Monitoring Program are provided in the Project Impact Avoidance, Minimization, and Mitigation Procedures (Attachment 11, Enclosure E, Part 4; refer to Section 11.0). Details of SPLP's Environmental Inspection Program are provided in the Project Description (Attachment 9), and also in the Project Impact Avoidance, Minimization, and Mitigation Procedures (Attachment 11, Enclosure E, Part 4).
YO 18.i	The Mitigation Plan does mention placement of “No Mowing” signs as replanted PSS areas, but this does not provide for long-term protection if repairs are needed, replanting of these areas if accidental mowing, and the signs a subject to long-term damage and could become not visible. Provide “No Mowing” stones to demarcate the area. Stones needs to be placed and of size to prevent mowing equipment access. [25 Pa. Code Sections 105.13(e)(1)(ix), 105.1, Mitigation and 105.14(b)(4), 105.14(b)(13), 105.18a(b)(1), 105.18a(b)(2), and 105.18a(b)(6)]	PSS and PFO restoration areas will be sufficiently protected with “no mow” signs or other restrictive barriers as determined by SPLP. Use of “mowing stones” would deviate from the stated plan of restoring the area to preconstruction contours. In addition, SPLP has an easement but not the surface rights necessary to place large stones in the right of way. Finally, such mowing stones could impede access to the area in the event of an emergency. For these reasons, SPLP has elected to use “no mow” signs, consistent with DEP regulations.  The Impact Avoidance, Minimization, and Mitigation Procedures in Attachment 11, Enclosure E, Part 4 details the construction, operation, and maintenance procedures in these designated areas.

YO 18.j	<p>Prepare a monitoring plan verifying that the permittee will monitor the stream and wetland restoration sites for at least 5 years. Monitoring reports shall be submitted to DEP every 6 months for the first 2 years after construction and annually for 3 years thereafter. The monitoring reports shall contain information describing the success of the site at the time of inspection, an inventory of the surviving plant species and percent aerial coverage, photographs of the replacement sites with plans showing the location and orientation of each of the photographs, and a written plan to correct any deficiencies identified during the monitoring phase. [25 Pa. Code Sections 105.20a, 105.18a(a)(7), 105.18a(b)(7), 105.13(e)(1)(ix), 105.16(a), and 105.1 (defn. of mitigation) 105.53(4); 105.54]</p>	<p>The Project Impact Avoidance, Minimization, and Mitigation Procedures presents details of SPLP's annual Wetland Monitoring Program (Attachment 11, Enclosure E, Part 4). The program reflects the elements noted in this comment.</p>
YO 18.k	<p>DEP disagrees with the statement made in several sections of the application that secondary effects will not occur to impacted wetlands. Secondary (indirect) effects are defined in the EPA Regulations (40 CFR Section 230.11) as effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Secondary effects that may occur on the impacted wetlands include alteration of wildlife and aquatic habitats, changes in hydrology due to factors such as over-compaction of soils, changes species</p>	<p>The project impact assessment document has been revised to include a Secondary Impact Analysis for the entire project, adjacent areas thereto, and future impacts, and is located in Attachment 11, Enclosure E, Part 2.</p>

	composition and densities and colonization by invasive species. Address secondary impacts, their monitoring, prevention of such impacts, and control strategies, in the requested restoration and mitigation plan. [25 Pa. Code Sections 105.14(b)(12), 105.21(a)(1), 105.13(e)(1)(ix), 105.13(e)(1)(i), 105.13(e)(1)(iii), 105.13(e)(1)(x), 105.14(b)(4), 105.14(b)(13), 105.15(a), 105.15(a)(1), 105.15(b), 105.18a(a)(3), 105.18a(a)(1), 105.18a(b)(1), 105.18a(b)(2), and 105.422]	
YO 19	General and Other Comments	NA - Heading
YO 19.a	The application will need a comprehensive Preparedness Prevention Contingency Plan (PPC) combined with the Inadvertent Release Plan (IRP). The Plan needs to include downstream notification lists of public and other water intakes and public and private water wells along the ROW, noting those water users along areas where HDD will be utilized.	The PPC Plans provided in Attachment 12, Tabs 12 A-C provide instructions and procedures to facilitate the avoidance and minimization of impacts and provides the framework to investigate and resolve impacts caused by spills, releases, and other pollution events should they occur. Applicable public private downstream user information is compiled within the Water Supply Plan and identification, notification, and testing procedure for private wells discussed.
YO 19.b	The application includes separate documents covering PPC activities. Due to the scope of this project, you must consolidate these plans into one stand-alone document that can be used in the field. This single document will be the primary document used for emergency response, and as such, needs to provide a complete and useable reference for contractors and other on-site personnel. The PPC needs to include the following:	The Preparedness, Prevention, and Contingency Plan (PPC Plan) has been updated to be applicable project-wide, and is the overarching plan to three supplemental plans: the Water Supply Assessment, Preparedness Prevention and Contingency Plan, the Inadvertent Return Assessment, Preparedness, Prevention and Contingency Plan (IR Plan), and the Void Mitigation Plan for Karst Terrain and Underground Mining. Due to the size and distinct subject matters of each plan, these three plans are separate but reference each other and work together to provide protection to on-site and off-site water resources.

		These plans are found in Attachment 12 of this application are also consistent and part of the Chapter 102 application.
YO 19.b.i	Instructions and procedures to facilitate the avoidance and minimization of impacts and provide the framework to investigate and resolve impacts caused by spills, releases, and other pollution events should they occur.	The PPC Plans provided in Attachment 12, Tabs 12 A-C provide instructions and procedures to facilitate the avoidance and minimization of impacts and provide the framework to investigate and resolve impacts caused by spills, releases, and other pollution events should they occur.
YO 19.b.ii	Notification protocols and an up-to-date list of agencies and local governments. Specifically missing from the current submitted application is the contact information for the U.S. Fish and Wildlife Service, PADEP Southeast Regional Office and Counties in the Southeast Region.	The IR Plan in Attachment 12C, Tab 12C has been updated and contains a complete list of contacts, should an IR occur.
YO 19.b.iii	The management of excess drilling mud/liquids that may be encountered at the individual bore pits.	The PPC Plan and the IR Plan were updated to include standard operating procedures pertaining to conventional bore drilling. These plans are provided in Attachment 12.
YO 19.b.iv	Appendix B needs to be revised to state that all discharges to a stream, wetland or groundwater must be contained, and PADEP must be notified. [25 Pa. Code Sections 105.2(1 and 2), 91.33(a) and (b)]	Attachments 12A, 12B, 12C, and 12D discuss in depth groundwater and surface water protection preparedness, prevention, and mitigation measures, including all required notifications.
YO 19.c	While you provided a narrative discussing how impacts to private water supplies will be investigated and addressed, a formal plan has not been provided. Revise the PPC Plan to include the following on public and private water supplies: [25 Pa. Code Sections 105.14(b)(4) and 105.14(b)(5)]	NA - Heading
YO 19.c.i	A copy of the FERC standards SPLP plans to use in accepting and investigating landowner	The PPC Plan has been revised to remove the reference to FERC standards in accepting and investigating landowner

	<p>complaints of spring and well water supply impairment.</p>	<p>complaints of spring and well water supply impairment. A separate, stand-alone Water Supply Assessment, Prevention, Preparedness, and Contingency Plan has been prepared that details the procedures and standards for accepting and investigating landowner complaints regarding spring and well water supply impairment. This Water Supply Assessment, Prevention, Preparedness, and Contingency Plan is provided in Attachment 12, Tab 12B.</p>
<p>YO 19.c.ii</p>	<p>Measures the applicant will take to investigate for the presence of public and private water supplies in areas where HDD crossings are proposed. Utilize the attached instructions for searching eMAP for Public Water Supply locational information. You will not be able to obtain the exact source location, but you will be able to find any in the vicinity and obtain the name of the Public Water Supplier. If any are identified in the vicinity of your project, you need to contact the water supplier to discuss the project with them and work to determine if your project will have an impact on the water supply. Both surface and groundwater supplies need to be evaluated and included in your review and response documents.</p>	<p>Water supply impacts have been analyzed and addressed within three supplemental plans to the Preparedness, Prevention, and Contingency Plan (PPC Plan): the Water Supply Assessment, Preparedness Prevention and Contingency Plan, the IR Plan, and the Void Mitigation Plan for Karst Terrain and Underground Mining. These plans are provided in Attachment 12.</p> <p>SPLP used DEP’s eMapPa system (DEP 2016) to identify Public Water Supply (PWS) areas that utilized “Groundwater Wells” and “Surface Water Intakes” as their source. The PWS data was used to create a file of all known public water supply areas located within 1 mile of the Project workspace, and notification letters and maps were sent to these identified PWS authorities. In the letters, SPLP requested the locations of the authority’s PWS groundwater wells and/or surface intakes.</p> <p>SPLP used the DCNR’s Pennsylvania Groundwater Information System (PAGWIS) well data (PADCNR 2016) to identify private groundwater wells located within 150 feet of the proposed Project’s HDD locations. The DCNR recommends that PAGWIS data not be used for mapping purposes; therefore, SPLP has conducted independent identification and verification of private</p>

		wells with landowners to determine the exact location(s) of their water well(s) prior to construction. SPLP's Water Supply Assessment, Preparedness, Prevention, and Contingency Plan (Attachment 12, Tab12B) provides a summary of well identification efforts completed to date as well as SPLP's mitigation plan.
YO 19.c.iii	Procedures that will be followed to investigate and resolve impacts to public and private water supplies should they occur as a result of the proposed activities. This procedure needs to discuss how water supply owners will be alerted in the event of an inadvertent return.	Attachment 12, Tab 12B includes a Water Supply Assessment, Prevention, Preparedness, and Contingency Plan that addresses potential impacts and describes the procedures to prevent and prepare for resolution of water supply impacts should they occur, including notification procedures.
YO 19.c.iv	Here are some options for the pipeline drilling to protect drinking water wells.	NA - Heading
YO 19.c.iv.1	Map where the pipeline crosses sensitive geology and aquifers. Maps are available from the state geologic survey of unconsolidated sand and gravel, carbonate, and known karst feature density.	Attachment 12D - Void Mitigation Plan for Karst Terrain and Underground Mining, has been created to address and map sensitive geology.
YO 19.c.iv.2	Location and contact information for drinking water wells in the vicinity of the pipeline. Well contact information can be searched for by location in the eMAP PA's website for public wells and PAGWIS's website for driller registered private wells.	SPLP used DEP's eMapPa system (DEP 2016) to identify Public Water Supply (PWS) areas that utilized "Groundwater Wells" and "Surface Water Intakes" as their source. The PWS data was used to create a file of all known public water supply areas located within 1 mile of the Project workspace, and notification letters and maps were sent to these identified PWS authorities. In the letters, SPLP requested the locations of the authority's PWS groundwater wells and/or surface intakes. SPLP used the DCNR's Pennsylvania Groundwater Information System (PAGWIS) well data (PADCNR 2016) to identify private groundwater wells located within 150 feet of the proposed Project's HDD locations. The DCNR



		<p>recommends that PAGWIS data not be used for mapping purposes; therefore, SPLP has conducted independent identification and verification of private wells with landowners to determine the exact location(s) of their water well(s) prior to construction.</p> <p>Potential impacts to public and private water supplies have been analyzed and addressed within three supplemental plans to the PPC Plan, the Water Supply Assessment, Preparedness Prevention and Contingency Plan, the IR Plan, and the Void Mitigation Plan for Karst Terrain and Underground Mining. The IR Plan outlines the preconstruction activities implemented to ensure sound geological features are included in the drill profile, the measures to prevent impact, and the preparedness plan if an impact were to occur. These plans are provided in Attachment 12.</p>
YO 19.c.iv.3	<p>Within 0.5 mile, wells are potentially vulnerable over a long time period, and within 400 feet wells are vulnerable in short time periods. Some wells may have more accurately modelled protection zones available.</p>	<p>Potential impacts to public and private water supplies have been analyzed and addressed within three supplemental plans to the PPC Plan, the Water Supply Assessment, Preparedness Prevention and Contingency Plan, the IR Plan, and the Void Mitigation Plan for Karst Terrain and Underground Mining. The IR Plan outlines the preconstruction activities implemented to ensure sound geological features are included in the drill profile, the measures to prevent impact, and the preparedness plan if an impact were to occur. These plans are provided in Attachment 12.</p>
YO 19.c.iv.4	<p>Continuous monitoring of water levels in nearby wells could show a hydraulic connection that may have quantity or quality impacts. Water quality sampling and analysis of nearby wells could monitor for quality impacts.</p>	<p>Water supply impacts have been analyzed and addressed within three supplemental plans to the Preparedness, Prevention, and Contingency Plan (PPC Plan), the Water Supply Assessment, Preparedness Prevention and Contingency Plan, the Inadvertent Return Assessment,</p>

		Preparedness, Prevention and Contingency Plan, and the Void Mitigation Plan for Karst Terrain and Underground Mining. These plans are provided in Attachment 12. The Water Supply Plan indicates the sampling of over 120 wells.
YO 19.d	The HDD Inadvertent Return Contingency Plan includes profiles identifying Geotechnical profiles; however, no analysis has been provided on the risk of an inadvertent return occurring. Provide an analysis on the risk of an inadvertent return occurring for all proposed HDD crossings. Include in-depth detail, discussion, and data in the analysis of the risk of a return occurring. [25 Pa. Code §§105.14(b)(7); 105.18a(b)(3); 105.18a(b)(4); 105.18a(b)(5), 105.14(b)(4); 105.14(b)(11)]	The revised IR Plan provided in Attachment 12, Tab 12C includes an IR risk assessment for each of the HDDs.
YO 19.d.i	Provide information/details on previous HDD activities on the prior Mariner East pipeline project where IRs occurred. At a minimum, this needs to include a topographic map with locations and latitude/longitude of each occurrence, description of event, amount of discharge, whether the discharge entered waterways and/or wetlands, mitigation/clean-up measures taken, etc. Also, provide a list of areas where Mariner East 1 had issues with inadvertent returns to the surface when conducting HDD crossings, and discuss how you have taken these historic issues into account in your design of the proposed project.	An HDD Risk Assessment is included as part of the revised Inadvertent Return Assessment, Prevention, Preparedness and Contingency Plan (IR Plan) provided in Attachment 12C. The assessment discusses previous inadvertent returns (IR) and provides the data and analysis requested.
YO 19.d.ii	A stand-alone attachment needs to be created to address the pre-boring geologic evaluation of	Water supply impacts have been analyzed and addressed within three supplemental plans to the PPC Plan: the

	<p>the existence and potential to impact local drinking water supplies or aquifers around the boring location. The Plan needs to include what measures will be employed to verify that no supplies or aquifer are impacted (i.e. pre and post water quality and quantity analysis). The Plan also needs to specify what notifications and remediation measures will be employed if there are impacts.</p>	<p>Water Supply Assessment, Preparedness Prevention and Contingency Plan, the IR Plan, and the Void Mitigation Plan for Karst Terrain and Underground Mining. These supplemental plans are provided in Attachment 12. The Water Supply Plan provides for the assessment of the existing public and private water supplies in or along the Project, as well as identifies prevention and preparedness measures to be implemented to protect those supplies. The IR Plan outlines the preconstruction activities implemented to ensure sound geological features are included in the drill profile, the measures to prevent impact, and the preparedness plan if an impact were to occur. These plans are provided in Attachment 12.</p>
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SPLP appreciates your timely review of the revision. Please contact Sandy Lare of Tetra Tech, Inc. with any questions at 716-849-9419, or email [sandy.lare@tetratech.com](mailto:sandy.lare@tetratech.com).

Sincerely,  
Tetra Tech, Inc.



Sandra J. Lare  
Environmental Planner/Permitting Specialist

Enclosures: Revised Chapter 105 Joint Permit Application

cc: Ann Roda, DEP Headquarters / Program Integration (letter only)  
Sachin Shankar, DEP Southeast Region (letter only)  
Dominic Rocco, DEP Southeast Region (letter only)  
Ed Muzic, DEP South-central Region (letter and application)  
Jared Pritts, U.S. Army Corps of Engineers, Pittsburgh District (letter only)  
Wade Chandler, U.S. Army Corps of Engineers, Baltimore District (letter only)  
Sam Reynolds, U.S. Army Corps of Engineers, Philly District (letter only)  
Monica Styles, Sunoco Logistics  
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Brad Schaeffer, Tetra Tech, Inc.