ENVIRONMENTAL REVIEW FOR CHAPTER 105 APPLICATIONS

Permittee: Sunoco Pipeline L.P. App. No. E22-619

Environmental Recommendation:

Approval ☒

Denial ☐ Reviewer: Jason M. Oscislyk Date 02/10/2017

Withdrawal ☐

Concur ☒ Super. Initials DZ/Kmm Date 02/10/2017

Not Concur ☐

Special Conditions - Permittee shall be responsible for compliance with each of the following special conditions. The Pennsylvania Department of Environmental Protection shall be referred to hereinafter as either "DEP" or the "Department."

Water Supplies:

A. At least 72 hours in advance of beginning any construction activities, the permittee shall notify all identified public and private water supplies along the project's corridor that may be affected by increased turbidity or other water quality changes caused by the permittee's construction activities.

1. If the project results in a pollution event which may impact any public or private water supplies, the permittee shall immediately notify the Department and the potentially affected public or private water supplies of the pollution event.

B. In the event the permittee's work causes adverse impacts to a public or private water supply source, the permittee shall also immediately notify the Department and implement a contingency plan, to the satisfaction of the public and private water supply owners that addresses all adverse impacts imposed on the public and private water supply as a result of the pollution event, including the restoration or replacement of the impacted water supply.

C. At least 72 hours in advance of beginning construction activities, the permittee shall notify all water users with downstream surface water intakes within one mile downstream, including but not limited to, drinking water users, industrial and commercial users that may be impacted by turbidity or water quality changes.

D. The permittee shall notify such downstream water users immediately of any pollution event or incident at its site that may endanger downstream users. The permittee shall also immediately implement its

approved contingency plan to prevent further adverse impacts and remediate all adverse impacts as a result of the pollution event or incident.

E. If a public or private drinking water source not previously identified by the permittee is discovered by the permittee during construction, the permittee shall immediately notify the Department of the identified water source and shall notify that source of the permittee's construction activities.

PHMC General Conditions:

F. The permittee and its agents shall visually inspect for archaeological artifacts and shall immediately cease earth disturbance activities upon discovery of archaeological artifacts.

G. If archaeological artifacts are discovered, the permittee shall immediately notify the DEP Regional Office in the DEP region where the artifact is found and shall concurrently notify the Pennsylvania Historical and Museum Commission (PHMC) at P.O. Box 1026, Harrisburg, PA 17120-1026, telephone 717.783.8947.

H. At all times, the permittee shall protect historic, cultural and archaeological sites as identified in the latest published version of the Pennsylvania Inventory of Historical Places and the National Register of Historical Places.

PHMC Areas Subject to Phase I or Phase II Surveys:

I. The permittee shall not begin work in areas subject to Phase I or Phase II archeological investigations recommended by the PHMC until the permittee secures the necessary clearances for these areas from PHMC. (Permit specific condition as applicable. Specify location in each permit).

Submerged Lands License Agreements:

J. The permittee shall comply with all terms and conditions of the Submerged Lands License Agreement entered into between the Department and the permittee for the (identification of crossing), which is incorporated herein by reference. (This condition is permit-specific. Add when applicable and attach finalized SLLA to permit).

Temporary Road Crossings:

K. All temporary road crossings of streams and wetlands must meet all of the following conditions:

1. The permittee shall restore and stabilize all temporary crossing sites, except fords, within five (5) days after termination of its permitted use.

2. Permittee shall not utilize or construct fords on any stream or watercourse within High Quality (HQ) and Exceptional Value (EV) watersheds as specified in 25 Pa. Code Chapter 93, or in watersheds tributary to drinking water intakes or reservoirs for public water supply users, where the ford is within 2,000 feet upstream of such intake or reservoir.

3. The permittee shall adequately block and stabilize all approaches for fords used as temporary crossings within five (5) days after termination of their permitted use in order to prevent future use.

4. The permittee is prohibited from skidding across fords.

5. Where a streambed at the site of a ford does not have a rock bottom, a layer of clean rock over geo-fabric must be placed and maintained. This layer of clean rock must not obstruct the stream flow. In addition, the ford's approaches must: (1) be maintained in a firm and stable condition; and (2) enter the stream on less than a 10% grade within 50 feet of the stream with the flow; and (3) exit the stream against the flow on the same grade and distance limitation as specified for the entrance. Permittee shall ensure that all roads cross all watercourses at a right angle to the stream, unless permittee obtains specific and separate approval from the Department.

6. Permittee shall ensure that all culverts provide a waterway area sufficient to adequately discharge the normal flow of the watercourse or stream, and that culverts are of sufficient length to extend beyond the toe of the clean rock fill.

7. Permittee shall ensure that culverts are installed in such manner that overtopping of the roadway will occur within the stream channel. This can be accomplished by providing a depressed roadway embankment.

8. Permittee shall minimize excessive fill and excavation of stream banks by utilizing culverts with as large a diameter as possible. The minimum diameter size of a culvert to be used is no less than 12 inches.

9. Road and causeway embankments shall only consist of clean rock material to prevent stream channel sedimentation during placement, removal, and periods of overtopping.

10. Bridges shall be single span from top of bank to top of bank, and must be structurally stable.

11. Approach roads to temporary road crossings shall utilize original grades. However, clean rock material or gravel to a depth of six inches above original grade can be utilized for approaches, as necessary.

12. Causeways shall not extend streamward a distance greater than one-half the width of the stream channel.

13. Temporary road crossings shall be kept open and functioning at all times by maintaining the crossings free of debris and other obstructions.

14. The permittee shall promptly repair any damage resulting from increased backwater caused by a temporary road crossing. The permittee shall remove temporary road crossings in the event of high waters to prevent increased backwater.

15. If permittee cannot avoid a wetland crossing, the crossing is permissible if it is located at the narrowest practicable point of the wetland.

16. All wetlands crossing sites shall be stabilized by any appropriate means, including, but not limited to, using removable, temporary mats, pads or other similar devices to ensure minimization of impact on the wetlands ecology.

17. Temporary embankments for roads across wetlands shall be installed to maintain the hydrology of the wetland.

18. Pollution of any waterway with harmful chemicals, fuels, oils, greases, bituminous material, acid, or other harmful or polluting materials, is prohibited.

19. Access roads should not approach the stream channel directly downslope, but should traverse the slope obliquely to prevent high velocity road drainage flows from directly entering the stream channel. Road drainage shall include proper erosion and sediment control Best Management Practices.

20. The permittee shall remove all or any portion of a temporary road crossing upon written notification to the permittee from the Department in the event the project is causing an adverse impact on public health, safety or the environment or in any other manner violates the requirements of the Pennsylvania Clean Streams Law, 25 Pa. Code Chapter 105, or both.

21. The permittee shall be responsible for determining and documenting which method of crossing is appropriate for each resource. This documentation shall be provided to the Department with the pre- and post-construction photographs. The permittee shall submit this documentation to the respective DEP Regional Office within ninety (90) days after completion of work under the respective permit.

Site Field Verification, Restoration and Monitoring:

L. Prior to installation of pipeline crossings, the permittee shall take new pre-construction photographs of the natural resources at each of the crossings. The permittee shall prepare and maintain a record of pre- and post- conditions of each stream and wetland crossing. The permittee shall submit this documentation to the respective DEP Regional Office within ninety (90) days after completion of work under the respective permit.

M. All wetlands within the project area shall be accurately field-delineated prior to the start of construction activities and up to the time that earth disturbance activities are completed and the site has been stabilized. An acceptable means of field-identification of wetlands includes but not limited to, the use of an orange construction safety fence and/or flags.

N. For a period of up to 5 years following construction, the permittee shall monitor for secondary impacts to hydrology, i.e., the loss of hydrology, to all watercourses with a drainage area of less than 100 acres, including those watercourses that originate within the project ROW. Reports shall be submitted to DEP in the spring and fall for the first two (2) calendar years following construction and annually for three (3) years thereafter.

1. The monitoring reports shall contain information describing the presence or absence of hydrology at the time of inspection, a narrative comparison to hydrology present in the watercourse during pre-permitting field investigation(s), and photographs of the watercourse.

2. If the monitoring identifies a diminution or complete loss of hydrology, the permittee shall evaluate whether the activities authorized by this permit caused the loss of hydrology and submit this evaluation to the Department for review.

3. If the Department determines that the activities authorized by this permit are contributing to the loss of hydrology, the permittee shall prepare a written plan to correct the loss of hydrology to the watercourse. The permittee shall implement the approved plan within ninety (90) and submit this plan to DEP for review and approval. If DEP identifies any deficiencies with permittee's plan, then

the permittee shall provide DEP a written response to address the stated deficiencies within 15 days of receiving written notice of DEP's deficiencies, unless DEP extends that timeframe in writing.

4. The permittee shall implement the DEP-approved plan within 90 days of receiving written approval from DEP, unless DEP extends that timeframe in writing.

5. In the event that loss of hydrology from activities conducted under this permit cannot be restored, the permittee shall submit a mitigation plan to DEP that sets forth the manner in which full loss of hydrology and associated water will be compensated for. If DEP identifies any deficiencies with the permittee's mitigation plan, then the permittee shall provide DEP a written response to address the stated deficiencies within 15 days of receiving written notice of DEP's deficiencies, unless DEP extends that timeframe in writing. The permittee shall implement the DEP-approved mitigation plan within 90 days of receiving written approval from DEP, unless DEP extends that timeframe in writing.

O. Wetland excavation shall segregate the soil horizons and replace the soil horizons to match pre-construction conditions. For areas where bore pits are proposed in or adjacent to wetlands, or if a restrictive layer, including but not limited to clay or fragipans, is encountered during the trench excavation, the permittee shall have a knowledgeable wetlands scientist on the Environmental Inspection Team that shall oversee backfilling of the trench and installation of trench plugs, in order to maintain wetland hydrology.

P. Topsoil shall be segregated from subsoil in all wetland areas.

Q. All disturbed areas are to be restored, stabilized and shall be replanted with indigenous plant species. Excess fill from disturbed areas and construction activities shall be located outside of the floodway, floodplain and wetlands. The permittee is responsible for stabilizing any excess materials spoiled onsite or offsite, whether the permittee owns the site or others own the site.

R. Rock riprap shall be used in the stream bed only where a shear stress analysis has determined that scour protection is necessary to ensure stability of the resource.

S. A trench in which the pipeline will be laid shall be backfilled in a manner that does not create the formation of a permanent ridge in a streambed or wetland.

T. Restored streams shall use a minimum of six (6) inches of native stream bed material. For streams where riprap is necessary to prevent scour, the riprap shall be depressed sufficiently to allow six (6) inches of native stream bed material over the riprap.

U. All PFO and PSS wetlands within the temporary ROW shall be replanted with woody species present in the wetland prior to the permittee conducting construction activities. The plantings need not mirror pre-construction maturity.

V. Forested Riparian Areas in the temporary ROW along watercourses shall be replanted with native tree species for a minimum distance of fifty (50) feet landward from the top of both banks of warm water fisheries and trout stocked fisheries, 100 feet from cold water fisheries, and 150 feet from HQ/EV streams, in a similar density as the trees existed prior to the permittee conducting construction activities. The density of replanted trees shall be similar to the density that existed prior to the permittee conducting construction activities but shall provide no less than 60% uniform canopy cover upon maturation and shall be appropriate to the geographic location. Maintenance and inspections shall ensure survival and growth of plantings and protection from competing plants and animals including noxious weeds and invasive species over a 5-year establishment period to ensure and proper functioning of riparian forest buffers, and shall include measures to repair damage to the buffer from storm events greater than the 2-year/24-hour storm.

W. Each stream channel shall be restored and properly stabilized upon completion of the associated stream crossing. Where riprap is proposed, the riprap shall be depressed and covered with a minimum of 6-inches of streambed material. The restored streambed elevation shall not exceed the pre-existing streambed elevation.

X. The permittee shall avoid wetland impacts, to the extent practicable, and minimize any such impacts. The permittee shall immediately restore all disturbed wetland areas to original contours, and replant with indigenous wetland vegetation in accordance with their restoration plans as presented in their permit application. Streambank and wetland disturbances shall be minimized and stabilized with indigenous vegetation within ten (10) calendar days of final earthmoving to prevent erosion and provide cover, shading, and food source for aquatic life. Any temporary wetland crossings shall be made by low ground pressure machinery and wetland mats or similar devices. Excess fill shall not be deposited in any wetland, watercourse, floodway, floodplain, or other body of water.

Y. For a period of up to five years, the permittee shall monitor the stream and wetland plantings. Monitoring reports shall be submitted to the respective DEP Regional Office in the spring (May15) and fall (November 15) for the first two (2) calendar years following construction and annually (November 15) for four (4) years thereafter.

1. The monitoring reports shall contain information describing the success of the site at the time of each inspection, an inventory of the surviving plant species and percent areal coverage, photographs of the replacement site 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.

Z. Permittee shall ensure at least an 85 percent survival rate. Additional plantings and or reports in subsequent years beyond the initial five (5) years may be required if an 85 percent survivability of planted species is not achieved.

AA. For a period of at least three years, the permittee shall monitor any exceptional value wetlands under 25 Pa. Code §§ 105.17(1)(i) and 105.17(1)(ii) that are disturbed, as authorized pursuant to this permit. Monitoring reports shall be submitted to the respective DEP regional office in the spring (May 15) and fall (November 15) for the first two (2) calendar years following construction and once (November 15) in the third year. The monitoring reports shall contain information describing the wetland restoration and function and values at the time of inspection, photographs of the wetland with plans showing the location and orientation of each photograph, and a written plan to correct any deficiencies identified during the monitoring phase.

BB. Streambank disturbance shall be minimized and stabilized with indigenous vegetation within 24 hours upon completion of final earthmoving to prevent erosion and provide cover, shading, and food source for aquatic life.

Wetland Compensatory Mitigation and Monitoring:

CC. The permittee shall create Palustrine Forested (PFO) wetlands in accordance with their "Permittee-Responsible Compensatory Wetland Mitigation Plan" to compensate for the function and value loss associated with permanently converting 0.405 acres of PFO wetlands to Palustrine Emergent (PEM) wetlands.

DD. The proposed compensatory wetland mitigation site in Cumberland County: The permittee shall only plant the 0.58 acres in the seasonally saturated areas identified in the Compensatory Wetland Mitigation

Plan and shall not plant in the areas identified as saturated in the present condition in the Compensatory Wetland Mitigation Plan.

EE. For at least five (5) years after the restoration activities are completed, the permittee shall monitor the compensatory mitigation sites, wetland restoration sites, streams restoration sites and floodway restoration sites. Within sixty (60) days of completing construction, the permittee shall submit "as-built" drawings for the forested wetland creation project to the DEP. Monitoring reports shall be submitted to the respective DEP Regional Office where the mitigation project(s) is(are) located at a frequency of every six (6) months for the first two (2) years after mitigation site construction and annually for three (3) years thereafter.

1. 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 each site 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.

2. If the restoration sites and compensatory forest wetland enhancement sites have not achieved design objectives within the monitoring period, the permittee will undertake remedial work to assure establishment of functional wetland habitats.

FF. Restored and enhanced habitats shall be considered successful when they meet the design objectives.

GG. Wetland compensation construction shall occur prior to or concurrently with wetland impacts requiring compensation as authorized by this permit.

HH. Compensatory wetland mitigation shall be started and completed within one (1) growing season from the commencement of the activities authorized by this permit. Within thirty (30) days of completing the planting plan, the permittee shall submit revised plans to the respective DEP Regional Office if as-built conditions are significantly different from the original approved plans.

II. The permittee shall provide copies of the recorded deed restrictions or conservation easements for the compensatory wetland mitigation sites within 60) days after permit issuance. Time-stamped copies of the instruments shall be sent to the respective DEP Regional Office.

Horizontal Directional Drilling:

JJ. The permittee shall construct and operate the Horizontal Directional Drilling (HDD) crossings at wetlands, streams and floodways in accordance with Tables 2, 3, and 4 of the Joint Permit Application

(Section F, Attachments, Environmental Assessment, Attachment 11, Resource Tables) in a manner to prevent a release of drilling fluid to "Regulated waters of this Commonwealth" (RWC). The permittee shall immediately notify the Department at 866-825-0208 in the event of an Inadvertent Return occurring, and immediately activate and implement the Pollution Prevention Control Plans (PPC Plans) including the HDD Inadvertent Return Contingency Plan (IRCP), Water Supply and Karst PPC Plans to prevent any impacts to RWC and other natural resources.

KK. The permittee shall take measures to avoid mine voids and utilities.

LL. The permittee shall visually monitor the ground surface and within RWC generally along the path of the Horizontal Directional Drilling while drilling operations are occurring. This monitoring shall include walking, wading and use of a boat, as necessary to effectively observe and monitor for any return to the surface during all RWC crossings. If loss of circulation of drilling fluid occurs or drilling fluid pressure is lost, the permittee shall immediately investigate the drilling pathway and general surrounding area for an inadvertent return. If an inadvertent return is discovered, then drilling shall immediately cease.

MM. Inadvertent returns that impact or discharge to streams, floodways or wetlands during the Horizontal Directional Drilling operations shall be remediated in compliance with the Inadvertent Return Contingency Plans. If clean-up operations differ from the submitted plans, prior approval from the respective DEP Regional Office will be necessary for any modifications to the Inadvertent Return Contingency Plan for additional mitigation.

NN. HDD additives which are certified for conformance with ANSI/NSF Standard 60 (Drinking Water Treatment Chemicals - Health Effects) are deemed acceptable to DEP, when used in the manner indicated in the certification of the additive. All conditions included as part of the additive's certification should be followed. A current listing of certified drilling fluids is maintained by NSF at http://www.nsf.org/Certified/PwsChemicals/Listings.asp?ProductFunction=Drilling+Fluid&. Use of drilling additives certified for conformance with ANSI/NSF Standard 60 does not relieve operators from the requirement to obtain the necessary permits to conduct HDD operations. Use of certified additives does not relieve the operator of liability should an inadvertent return or other pollution of the waters of the Commonwealth occur as a result of drilling operations.

Habitat Conservation Plans and Threatened and Endangered Species Protection:

OO. The permittee shall comply with all applicable provisions of the Habitat Conservation Plan submitted and approved by the U.S. Fish and Wildlife Service (USFWS), PA Game Commission (PGC), PA Fish and

Boat Commission (PFBC) and PA Department of Conservation and Natural Resources (DCNR) to protect federal and state listed species. Provide a copy of the plan to the Department prior to initiation of any work under this permit.

PP. The permittee shall implement the approved Habitat Conservation Plan and in accordance with all PA Game Commission approvals for the Allegheny Woodrat (*Neotoma magister*). This includes no blasting or the use of herbicide on the project or in the vicinity of the project on PA DCNR lands as identified in the PGC clearance. Provide a copy of the plan to the Department prior to initiation of any work under this permit.

QQ. The permittee shall implement the Migratory Bird Conservation Plan approved by the USFWS. Provide a copy of the plan to the Department prior to initiation of any work under this permit.

RR. The permittee shall implement all Avoidance Measures identified by the jurisdictional resource agencies for any threatened or endangered species or species of special concern. (permit specific avoidance measures should be listed).

SS. The permittee shall implement the Avoidance Measures identified in Appendix A of the permit for all open trench wetland crossings in bog turtle (*Clemmys muhlenbergii*) counties identified by the USFWS as occupied, potentially occupied or adjacent habitats, unless otherwise specified by the USFWS.

TT. The permittee shall comply with all protocols set forth by the USFWS for protection of the Rusty Patch Bumble Bee.

UU. Prior to conducting any future maintenance activities on the pipeline or right of way which involves disturbance, the Permittee shall conduct a then current Pennsylvania Natural Diversity Inventory search, shall obtain clearance(s) for any species or resource where a potential impact is identified, provide the avoidance and mitigation plan to the Department prior to initiating such maintenance work and shall implement and adhere to all avoidance measures outlined in such clearance(s).

Seasonal Restrictions:

VV. The permittee shall not perform any in-stream work in waters listed by the PAFBC as trout stocked streams and their tributaries between March 1 and June 15 without the prior written approval from the Pennsylvania Fish & Boat Commission's Division of Environmental Services, 450 Robinson Lane, Bellefonte, PA 16823-9620; telephone 814.359.5147.

WW. The permittee shall not perform any in-stream work in waters listed by the Pennsylvania Fish and Boat Commission as Class A wild trout fishery streams and their tributaries between October 1 and April1 without the prior written approval of the Pennsylvania Fish & Boat Commission's Division of Environmental Services, 450 Robinson Lane, Bellefonte, PA 16823-9620; telephone 814.359.5147.

XX. The permittee shall not perform any in-stream work in waters listed by the Pennsylvania Fish and Boat Commission's other wild trout streams or their tributaries between October 1 and December 31 without the prior written approval of the Pennsylvania Fish and Boat Commission's Division of Environmental Services, 450 Robinson Lane, Bellefonte, PA 16823-9620; telephone 814.359.5147. (In addition to those listed in the application this special condition also applies to streams S-CJ2, S-CJ3, S-CJ4. (the specific streams listed are permit specific).

YY. Other seasonal restrictions stated in the various Habitat Conservation Plans shall be complied with unless a written variance is issued by the appropriate resource agency.

Miscellaneous:

ZZ. Maintenance mowing or herbicide spraying of wetlands is not authorized by this permit. The permittee shall place and maintain signs or other demarcation around the boundary of each wetland to clearly delineate the areas where this maintenance is not authorized. The permittee shall place the signs or other demarcations when all restoration work is completed and prior to permit termination.

AAA. This permit does not convey any real property rights or interests or authorization to trespass on privately-owned riparian land. By accepting this permit, the permittee certifies that he/she holds title, easement, right or other real interest in the riparian land. Any dispute over ownership of this land is solely a matter for private litigation.

BBB. The permittee may not commence construction activities on Pennsylvania Game Commission (PGC) lands without prior written approval from PGC.

CCC. Riprap and stone used throughout the project, including the construction of causeways and coffer dams, shall be free of fines and silts, or other non-erodible material.

DDD. All temporary water withdrawal intake structures and all appurtenant works shall be removed from the watercourse, body of water, floodway, and floodplains within sixty (60) days of initial placement, unless otherwise extended in writing by the Department.

EEE. Trench plugs shall be placed at each of the following locations:

1. At ten (10) feet from the top of each bank of a stream
2. At fifty (50) feet from the top of each bank of a stream
3. At ten (10) feet from the edge of a wetland
4. At fifty (50) feet from the edge of a wetland

FFF. Place a minimum of one (1) trench plug at a maximum spacing of 100 feet between trench plugs within a wetland. Wetland crossings less than fifty (50) feet do not require an internal trench plug.

GGG. If during excavation, a groundwater seep is encountered, a trench plug shall be placed at ten (10) feet from each side of the seep.

HHH. Any french drains installed as part of de-watering for construction activities shall be removed or otherwise rendered inoperable prior to final site restoration.

III. Water pumped from any construction area shall be diverted into a sediment trap, basin, or a filter bag discharging into an appropriate vegetated filter area to prevent sediment from being discharged into any waters of the Commonwealth.

JJJ. Open Trench Crossings: The permittee shall construct open trench pipeline crossings in dry conditions by constructing during periods of no water flow and/or by installing stream flow bypass systems (flumed or pumped) through the affected area.

1. Each crossing shall be conducted in an uninterrupted process in the shortest period of time possible. Impacts to RWC shall be avoided, to the extent practicable, and if not practicable, then minimized in accordance with the permittee's approved plans.
2. The permittee may cross dry channels, swales and ephemeral streams without the use of stream flow bypass systems if the channel has no flow and the stream crossing and stabilization can be completed in dry conditions and within twenty-four (24) hours. Standby sandbag dams and pumps shall be located on-site and installed in the event of precipitation resulting in channel flow.

KKK. The permittee shall cross intermittent and perennial streams through the use of trenchless methods (HDD or Direct Boring [DB]) or through the use of stream flow bypass systems. Bypass systems must stay in use until streambeds and banks are adequately stabilized. Downstream flow must be maintained during the construction.

LLL. Depth of Pipeline in Stream Bed: The permittee shall locate all pipelines under stream beds such that there will be a minimum of three feet of cover between the top of the pipe or encasement and the lowest point in the stream bed, unless the pipeline is in rock, where a minimum cover of one foot shall be provided.

MMM. Aids to Navigation Plan: The permittee shall implement the approved Aids to Navigation (ATON) Plan as received under the Fish and Boat Code, 30 Pa C.S. §§5121-5124, and 58 Pa Code Chapter 113.

NNN. This permit authorizes specific impacts to *RWC* that were specifically described in the permit applications and revisions. Any proposed changes regarding the specific impacts will require a permit modification.

OOO. Any additional impacts to *RWC*, such as temporary access roads, lay-down areas, staging areas, or temporary work spaces that have not been specifically identified in the permit application are not authorized by this permit.

PPP. No deviation in the construction methodology or project design that is shown on the approved drawings is authorized under this permit unless approved through an amendment by the Department.

QQQ. This permit does not relieve the permittee of the obligation of complying with all Federal, interstate compact, State laws, regulations and standards, and local ordinances applicable to the construction, operation or maintenance of the water obstruction or encroachment.

RRR. The permittee shall follow the measures specified in the Preparedness, Prevention, and Contingency Plan during construction.

SSS. The permittee shall maintain a copy of the Preparedness, Prevention, and Contingency Plan is on-site at all times during construction, train all staff to use and implement this plan, and have this plan available to provide at the request of any Department inspector.

I. Record of Decision

Has any portion of the regulated work already occurred? ( ) Yes (X) No

Initial Proposed Acreage to be Impacted: 7.10 (ac.) Final Wetland Area Impacted: 1.891 (ac.)

Compensatory Mitigation PFO Wetland Area Replaced: Minimum Replacement 1:1 acre (Statewide)

Length of Channel Impacted: 2271 (feet) Length of Channel Replaced: 0 (feet)

Area of Open Water Impacted: 0 (ac.) Area of Open Water Replaced: 0 (ac)

A. Review of Application:

This Record of Decision (ROD) is based on the review of the Dauphin County Joint Permit Application (JPA) prepared by Tetra Tech on behalf of their client Sunoco Pipeline, L.P. (SPLP) for the Pennsylvania Pipeline Project (a.k.a., Mariner East 2). The overall project includes work in seventeen (17) counties. The applicant seeks a Water Obstructions and Encroachment permit to conduct activities detailed in the project description. The applicant submitted a JPA on August 17, 2015 which was determined to be incomplete on October 26, 2015. The applicant responded with general revisions to their JPA on December 8, 2015 but the JPA remained incomplete. Subsequently a revised JPA was submitted and determined to be complete on June 14, 2016. However, after review the JPA was deemed technically deficient on September 6, 2016. SPLP requested a time extension on October 31, 2016 to submit additional information. An extension was granted allowing supporting information to be submitted on or before December 7, 2016. SPLP submitted a revised entire JPA on December 6, 2016. DEP sent subsequent email comments to SPLP (between December 6, 2016 and February 2, 2017) requesting additional clarifications. Final responses to the requests for additional clarifications were received on February 7, 2017. In addition to the applicant's supplemental information, public comments have been accepted by the DEP beginning on June 25, 2016 and a public meeting was held in West Chester on August 10, 2016. These submittals and comments are available in the administrative record.

Project Description:

Sunoco Pipeline, LP (SPLP), 535 Fritz-town Road, Sinking Spring, PA 19608. Mariner East II Pennsylvania Pipeline Project, in Highspire and Middletown Boroughs, Lower Swatara, Londonderry, Conewago, and Derry Townships, Dauphin County, ACOE Baltimore District. The proposed project starts at Lower Swatara Township, PA Quadrangle Steelton N: 40°, 11`, 57"; W: 76°, 47`, 50" and ends at Derry Township, PA Quadrangle Elizabethtown N: 40°, 15`, 13"; W: 76°, 35`, 30". The project consists of the installation and maintenance of approximately 11.5 miles long, of 20 inch and 16-inch pipeline and appurtenant structures. The proposed project impacts in Dauphin County include a total of 293 linear feet of temporary impacts to 1 unnamed tributary to Spring Creek (WWF, MF), 1 unnamed tributary to Swatara Creek (WWF, MF), 1 unnamed tributary to Lisa Lake (WWF, MF), and a total of

1978 linear feet of permanent impacts to 1 unnamed tributary to the Susquehanna River (WWF), Spring Creek (WWF), 19 unnamed tributaries to Spring Creek (WWF), Swatara Creek (WWF), 10 unnamed tributaries to Swatara Creek (WWF), 8 unnamed tributaries to Iron Run (WWF), 9 unnamed tributaries to Lisa Lake (WWF, MF), and 6.393 acres of permanent floodway impacts, and 4.967 acres of temporary floodway impacts, and 0.366 acres of temporary impacts to Palustrine Emergent (PEM) wetlands and 1.525 acre of permanent wetland impacts to PEM, Palustrine Forested (PFO) and Palustrine Scrub-Shrub (PSS) wetlands. No compensation is being proposed by the applicant for the proposed permanent project impacts in Dauphin County. The proposed project impacts in this permit application are associated with a proposed transmission pipeline project extending approximately 306 miles and 255 miles in Pennsylvania between Houston Borough, Washington County, PA and Marcus Hook Borough, Delaware County, PA.

Purpose and Need:

SPLP has identified a shortage of natural gas liquids (NGL) transportation options. Natural gas liquids (NGL) are separated from the natural gas stream before it is shipped on the natural gas piping network. SPLP has identified a shortage of natural gas liquids (NGL) transportation options and proposes the Pennsylvania Pipeline Project in response to the identified demand. In addition, the proposed project will provide exit points along its route across Pennsylvania for the provision of what are described as desperately needed propane supplies to local Pennsylvania distributors for use as heating and/or cooking fuel by consumers in Pennsylvania and neighboring states. The proposed project will also allow butane to be shipped to local markets as a component of gasoline to ensure gasoline suppliers can meet seasonal vapor pressure restrictions.

Surface Waters:

The Dauphin County portion of the proposed project includes the crossing of a total of thirty-two (32) surface waters of the Commonwealth. These include twenty (20) perennial streams, ten (10) intermittent streams and two (2) ephemeral streams (See attached Table 3. Waterbody Impacts Summary for the Pennsylvania Pipeline Project-Dauphin County). All streams impacted by the proposed project will be restored to pre-existing conditions following construction. Stream impacted by the proposed project will be restored in accordance with the E&S Plan (Attachment 12) that dictates the restoration of pre-existing elevation/contours, channel substrate, stream bank conditions and flow conditions/patterns.

No permanent fill is proposed for any stream crossing except where rip-rap is deemed necessary to protect the restored stream channel from excessive scour or erosion. No permanent loss of stream area is anticipated to result from the proposed project. Proposed project impacts to streams within Dauphin

County include approximately 0.705 acre of permanent and 0.102 acre of temporary impacts. Permanent impacts are defined by PADEP as those areas affected by a water obstruction or encroachment that consist of both direct and indirect impacts that result from the placement or construction of a water obstruction or encroachment and includes areas necessary for the operation and maintenance of the water obstruction or encroachment located in, along or across, or projecting into the floodway. Therefore, the calculated permanent stream impact areas include the entirety of the proposed ROW across stream resources. However, as stated above, all streams affected by the proposed project will be restored to pre-construction conditions including the elevation/contours, channel substrate, stream bank conditions and flow conditions/patterns. Temporary impacts are defined by PADEP as those areas affected during the construction of a water obstruction or encroachment that consists of both direct and indirect impacts located in, along or across, or projecting into a watercourse, floodway or body of water that are restored upon completion of construction. This does not include areas that will be maintained as a result of the operation and maintenance of the water obstruction or encroachment located in, along or across, or projecting into the floodway. The designated water uses for the streams proposed to be crossed by the pipeline within the project limits are Warm Water Fishes (WWF)/Migratory Fishes (MF) with the exception of one (1) stream that carries only a Warm Water Fishes designated use.

The proposed stream crossings for the portion of the overall project within Dauphin County will be accomplished using open trenches, conventional boring and horizontal directional drilling (HDD) methods where appropriate. Open trench methods will utilize appropriate stream diversions that may include the pump bypass, flume, cofferdam or, in the case of channel crossings where stream flow is absent, dry open-cut crossing methods. Selection of which dry method will be used will be determined in the field at the time of crossing and will be based on an assessment by the contractor and SPLP's Environmental Inspector. The method selected will be the method that is determined to be best suited to the physical stream conditions, provides the least disturbance and ensures the most expedient crossing to minimize the overall stream impact.

In an effort to facilitate the restoration of the stream areas impacted by the proposed pipeline installation, native stream bed material will be separated from other trench spoil for reinstallation after pipeline installation. Evaluations were completed for sheer stress of stream flow against restored native stream bed material for each open trench location. If the evaluation determined that expected shear stress would result in instability where using native stream bed material for restoration, then rip rap will be used for post-construction stabilization. In those areas where rip rap is proposed and the stream bed

is composed of rock, cobble, or gravel, native stone will be used for the top six inches of rip rap. Rip rap will be used to the minimum extent necessary to stabilize the stream bank. Areas of stream bank above the ordinary high water mark will be stabilized with erosion control blanket and revegetated. Following construction, SPLP proposes to monitor all stream areas crossed using an open trench method and to address any crossings that are failing to achieve restoration goals. Monitoring reports will be submitted to PADEP and will coincide with SPLP's proposed Post-Construction Wetland Monitoring Plan.

SPLP proposes to utilize the HDD trenchless method to cross nine (9) streams in Dauphin County. This construction method eliminates surface impacts to streams when compared to the conventional open cut method. There is, however, a potential for an inadvertent return of the drilling fluids used to facilitate the boring into the streams being crossed with this method. SPLP has prepared an HDD Inadvertent Return Assessment, Preparedness, Prevention and Contingency Plan for the overall proposed project (Attachment 12, Tab C) that details the impact minimization measures and response measures to be implemented in the event of an inadvertent return in proximity to a stream. An evaluation of baseline geology as well as site-specific geotechnical soil borings were used at each proposed HDD location to assist in the selection and design of each planned HDD activity. All HDD planning was reviewed by the applicant's Pennsylvania licensed professional geologists and hydrogeologists in an effort to minimize the potential for inadvertent returns.

All restored stream areas will be monitored post-construction by a qualified specialist and in accordance with the monitoring plan submission schedule specified in PADEP's guidance document entitled "Design Criteria - Wetlands Replacement/Monitoring". A Special Condition to the permit will ensure the implementation of the proposed post construction stream restoration area monitoring plan and will include a description of what the Department anticipates will be included in the monitoring reports.

Wetlands:

The Dauphin County portion of the overall project includes twenty-five (25) wetland crossings. The wetland resources proposed to be crossed within Dauphin County include a variety of different wetland types including palustrine emergent (PEM), palustrine scrub-shrub (PSS), palustrine forested (PFO), and combinations of these cover types (See attached Table 2. Wetland Impacts Summary for the Pennsylvania Pipeline Project-Dauphin County). Of the twenty-five (25) wetlands crossed by the proposed project in Dauphin County, 12 of the crossings are less than 100 wide, 2 are greater than 100 feet wide, and 6 are greater than 200 feet wide. Fifteen (15) wetlands will be crossed using conventional open cuts, six (6) wetlands will be crossed using a trenchless method (HDD or conventional bore), three

(3) wetlands will be crossed with temporary matting and one (1) wetland will be crossed with a combination of temporary matting and an open cut. Wetland impacts have been calculated based on the entire limit of disturbance during construction. Wetland crossings will be restored in accordance with the E&S Plans (Attachment 12) and the applicant's Impact Avoidance, Minimization and Mitigation Procedures plan (Attachment 11, Enclosure E, Part 4) that dictates the restoration of the existing topography, wetland soils, hydrology, and vegetation.

Proposed project impacts to wetlands within Dauphin County include 1.525 acres of permanent impacts and 0.366 of temporary impacts. Permanent wetland impacts are defined by the Department as those areas affected by a water obstruction or encroachment that consist of both direct and indirect impacts that result 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 the floodway. Therefore, the calculated permanent wetland impact areas include the entirety of the proposed ROW across wetland resources. However, as stated above, all wetlands affected by the proposed project will be restored to pre-construction conditions including the presence of wetland soils, hydrology, and hydrophytic vegetation. In addition, the project does not propose any permanent fill in wetlands and there is no anticipated loss of wetland area associated with the project. SPLP will not maintain the ROW through wetland areas through mowing. All wetland areas impacted by the proposed project will be restored to original function and values, and replanted to pre-construction conditions with the exception of 0.029 acre of forested wetlands (PFO), which will be converted to palustrine emergent wetlands (PEM).

Temporary wetland impacts are those areas affected during the construction of a water obstruction or encroachment that consists of both direct and indirect impacts located in, along or across, or projecting into a watercourse, floodway or body of water that are restored upon completion of construction. The temporary wetland impacts calculated for the proposed project therefore do not include those areas that will be maintained as a result of the operation and maintenance of the pipeline.

In all cases where direct impacts to wetlands involving excavation are proposed, hydric soils will be segregated and reused to facilitate restoration efforts. Emergent wetlands impacted by the proposed project will be revegetated following construction through the use of the addition of Ernst Conservation Seed Mix No. ERNMX-122 Facultative Wet (FACW) Meadow Mix, which will be applied during the recommended planting season. PFO and PSS wetlands impacted by the proposed project will be replanted with native trees and shrubs respectively. During restoration, temporary workspaces in PFO wetlands will be planted with native tree species and the permanent ROW will be planted no closer than

ten (10) feet from the proposed or existing pipelines with native trees. The remainder of the PFO wetland areas within the permanent ROW will be restored to the wetland's pre-construction condition. The need to refrain from planting trees in close proximity to the proposed or existing pipelines will result in permanent conversion of PFO wetlands to PEM wetlands. All temporarily impacted PSS wetlands will be replanted in both the temporary workspaces and the permanent ROW with native wetland shrubs. Native vegetation similar to what was identified in the various PFO and PSS wetland areas prior to construction will be used. PSS impacted wetland areas where the root system was not removed may not require replanting.

All restored wetland areas will be monitored post-construction by a qualified wetland specialist and in accordance with the terms specified in PADEP's guidance document entitled "Design Criteria - Wetlands Replacement/Monitoring". A Special Condition to the permit will ensure the implementation of the proposed post construction wetland restoration areas monitoring plan.

As detailed above, the overall project will ultimately result in a total of 0.405 acres of unavoidable permanent conversion of forested wetland (PFO) to emergent wetlands (PEM) which will require off-site compensatory wetland mitigation. SPLP proposes to mitigate for this cumulative conversion impact by enhancing portions of offsite emergent wetlands with forest plantings.

Comprehensive Environmental Assessment:

On December 5, 2016, SPLP submitted a Comprehensive Environmental Assessment (CPA) as required by Chapter 105 for the Water Obstruction and Encroachment Permit. The purpose of the CPA is to ensure that the regulatory requirements related to the Environmental Assessment in Ch. 105 are met by permit applicants proposing project impacts to waters of the Commonwealth. Specifically, the following items were addressed:

1. Measures taken to avoid and minimize the overall project's impact on waters of the Commonwealth, to the maximum extent practicable. The submittal addresses this item and references application materials that apply to each requirement pursuant to 105.18a and associated referenced regulations including 105.13(e)(1)(vii-x), (2),(3), (g) and (j); and 105.15.

2. Specific measures taken to mitigate for impacts that could not be avoided or minimized. The submittal addresses this item and references application materials that apply to each requirement pursuant to 105.18a and associated referenced regulations including 105.14.

3. Overall consistency with Antidegradation. The submittal addresses consistency with State Antidegradation requirements contained in Chapters 93, 95, 102 and 105.

4. Address alternatives analysis, impacts analysis and mitigation measures in each County-specific application. This item is addressed within the corresponding section of the Record of Decision for each county specific Ch. 105 Joint Permit Application.

5. Assess the cumulative impact of the project and other existing and potential projects on wetland resources. The applicant must utilize due diligence when identifying these impacts. The submittal addresses this item through a stand-alone Cumulative Impacts Analysis which includes: A comprehensive evaluation of compliance that addresses each requirement in 105.18a; Impact Avoidance, Minimization and Mitigation Procedures; and Agency Coordination.

☒ Additional sheets attached.

	YES	NO
B. Potential Project Impacts		
1. Potential Threats to Life or Property	☒	☐
2. Potential Threats to Safe Navigation	☒	☐
3. Riparian Rights Above, Below or Adjacent to Project	☒	☐
4. Regimen and Ecology of		
a. Watercourse	☒	☐
b. Body of Water	☐	☒
5. National/State Natural Areas, Wildlife Sanctuary/Refuge	☐	☒
6. National/State/Local Park or Recreation Area	☒	☐
7. National/State/Local Cultural, Archaeological, or Historical Site	☒	☐
8. Public Water Supply	☒	☐
9. Non-compliance with Applicable laws	☐	☒
10. Non-water Dependent Project	☐	☒
11. Future Development Potential	☐	☒
12. State Water Plan Program Area	☐	☒
13. Coastal Zone Management Program Area	☐	☒
14. Scenic River Corridor Status- (N/A)	☐	☒
15. Chapter 93 Classification- WWF/MF & WWF	☐	☒
a. Exceptional Value Watershed	☐	☒
b. High Quality Watershed	☐	☒

	YES	NO
c. Antidegradation Consistency	☐	☒
16. Secondary Impacts	☒	☐
17. Cumulative Impacts (temporary and permanent impacts)	☒	☐
18. Wetlands		
a. Vegetation (NWI Designation – PEM/PSS/PFO)	☒	☐
b. Soils	☒	☐
c. Hydrology	☒	☐
19. Exceptional Value Wetlands	☐	☒
20. Stocked Trout Stream	☐	☒
21 Wild Trout Stream	☐	☒
22. Threatened or Endangered Species	☒	☐
23. Other Species of Special Concern	☒	☐

C. Record of Decision for Project Impacts

1. Exceptional Value Wetlands - (check the criteria that makes the wetland EV):

☐ natural or wild areas ☐ wild or scenic river ☐ wild trout stream

☐ public or private water supply ☐ EV waters ☐ threatened or endangered species habitat

☐ threatened or endangered species (results of PNDI search)

a. Describe the primary function(s) or value(s) of the wetland: N/A-No Exceptional Value Wetland impacts are proposed in Dauphin County.

b. Will the project have an adverse impact on the wetlands functions or values? ☐ ☐

Explain: N/A-See above.

If Yes, has applicant affirmatively demonstrated that the project is necessary to abate a substantial threat to the public health and safety? ☐ ☐

Has applicant demonstrated that requirements of Section 105.18a(b)(2)-(7) are met? ☐ ☐

c. Is project water-dependent? (A project is water dependent when the project requires access or proximity to or siting within the wetland or waters to fulfill the basic purpose of the project.) ☐ ☐

Explain: N/A-See above.

d. Is project the least environmentally damaging alternative? ☐ ☐

List alternatives considered and provide rationale that the least damaging alternative has been selected.

N/A-See above.

	YES	NO
e. Will project violate a State water quality standard?	☐	☐
Explain: N/A-See above.		
f. Will project contribute to the pollution of groundwater or surface water or diminution of resources sufficient to interfere with their uses?	☐	☐
Explain: N/A-See above.		
g. Will the cumulative effect of this project and other projects result in impairment to exceptional value wetland resources?	☐	☐
Explain: N/A-See above.		

h. Explain how wetlands have been replaced in accordance with 105.20a and list which compensatory replacement method was used.

Explain and List: N/A-See above.

2. Other Wetlands

a. Describe the primary function(s) or value(s) of the wetland:

Wetlands proposed to be impacted by this project may include none or one or more of the following functions and values: groundwater recharge/discharge, floodflow alteration, sediment/toxicant retention, nutrient removal, wildlife habitat, shoreline stabilization and production export.

Explain: All wetland areas proposed to be crossed by the pipelines were evaluated using the U.S. Army Corps of Engineers (USACE) Highway Methodology (USACE 1999). Please refer to the Pennsylvania Pipeline Project Wetland Functions and Values Assessment -Dauphin County for further discussion.

b. Will the project have an adverse impact on the wetland's functions or values?	☐	☒

Explain: All impacts to wetland functions and values are anticipated to be temporary in nature, and therefore do not represent an adverse impact. All wetland areas temporarily impacted by the proposed project will be restored to original conditions immediately following construction and

the revegetation of temporarily impacted wetlands (with the exception of forested wetlands) will occur within the first growing season. No permanent adverse impacts to any wetland's functions or values are expected.

	YES	NO
c. Will the project have a significant adverse impact on the wetland's functions or values?	☐	☒

Explain: Although the minor conversion of forested wetland areas to emergent wetlands within the permanent ROW can be construed as a significant adverse impact on wetland functions or values, SPLP proposes to offset the forested wetland conversion function or value impacts by enhancing existing emergent wetlands offsite to create forested wetlands for the cumulative project forested wetland conversion impacts. Also, none of the functions and values identified for forested wetland areas that will be converted to emergent wetland areas following construction are expected to be lost completely and should return to some extent following the cover type conversion.

If Yes, has applicant affirmatively demonstrated that project is necessary to abate a substantial threat to the public health and safety?	☐	☐
d. Have adverse impacts been avoided or reduced to maximum extent possible?	☒	☐

Explain: As stated in SPLP's Impact Avoidance, Minimization, and Mitigation Procedures (EA Enclosure E-Part 4) included in the application, efforts have been made to avoid or reduce adverse impacts to wetlands. In some cases, impacts to wetlands have been eliminated through the proposed use of trenchless pipeline installation methods. Timber mats will be used for travel lanes and equipment work through wetlands. Where possible, wetland vegetation will be cut at ground level, leaving the existing root system in place. Wetland topsoil will be segregated to be used for restoration following construction. Trench plugs will be utilized at all open trench wetland crossing locations. Disturbed wetlands will be restored to the original contours, surface flows and vegetative cover type where possible, contours and surface flow. Wetland restoration details can be found in Attachment 12- E & S Plan-Section ES-0.05.

e. Is project the least environmentally damaging alternative?	☒	☐

List alternatives considered and provide rationale that the least damaging alternative has been selected.

SPLP has considered major and minor route alternatives in their consideration of options available for the proposed project. From the start of the route selection process, SPLP has

attempted to co-locate the proposed pipelines within existing ROW in an effort to minimize additional environmental impacts. Proposed wetland crossings were evaluated to determine if a trenchless construction method was feasible, and where it was determined that a trenchless crossing method is not feasible, an alternate route analysis around the wetland was considered. The alternate route analysis considered construction cost, technology limitations, logistical constraints and the opportunity to utilize an existing ROW when determining the practicality of minor route deviations. A detailed discussion of alternatives considered can be found in the Alternatives Analysis (Attachment 11, Enclosure E, Part 3).

	YES	NO
f. Will project violate a State water quality standard?	☐	☒

Explain: SPLP's implementation of their Inadvertent Release Plan, Preparedness, Prevention and Contingency Plan, along with their proposed wetland restoration measures and compensatory wetland mitigation, will protect water quality. In addition, 25 Pa. Code § 105.18a was incorporated into the Department's federally-approved water quality standards program on February 12, 1994. *See* 24 Pa.B. 922. The DEP assures compliance with water quality standards by requiring applicants proposing impacts in wetlands to take measures to maintain and protect these wetland resources. Moreover, 25 Pa. Code § 93.4c(a)(2), also incorporated into the Commonwealth's federally-approved water quality standards program, provides that the DEP will assure protection of Federal and Pennsylvania endangered and threatened species and their critical habitat in or on a surface water, including wetlands. The general and special conditions of this Chapter 105 Permit for the protection of threatened and endangered species and habitat, along with those in the Water Quality Certification, and the applicant's implementation of their incorporated habitat conservation plans will assure protection of endangered and threatened species and their critical habitat and meet water quality standards.

g. Will project contribute to the pollution of groundwater or surface water or diminution of resources sufficient to interfere with their uses?	☐	☒

Explain: For open cut and conventional bore crossings, the implementation of the appropriate erosion and sediment control measures should ensure no diminution of resources sufficient to interfere with surface water uses. In areas where HDD is proposed, there exists the potential for drilling fluids to be conveyed to groundwater or to rise into surface waters including wetlands. Known as an inadvertent return, this situation can occur when unforeseen fissures or fractures in the subsurface presents less resistance to the drilling fluids than the bore hole itself. The

components of the drilling fluids to be used are water and bentonite clay. In addition to HDD feasibility assessments that were done for all crossings, SPLP has prepared Inadvertent Return Plan that details how the contractor must respond to evidence of an inadvertent return to the surface.

	YES	NO
h. Will the cumulative effect of this project and other projects result in impairment to wetland resources?	☐	☒

Explain: SPLP has included a project-wide Cumulative Impacts Assessment in their application. The assessment concludes that the proposed project, along with the consideration of other related and unrelated SPLP projects will not result in a significant impairment to wetland resources of the Commonwealth. While a cover type conversion of 0.405 acre forested wetlands to emergent wetlands is proposed, SPLP proposes to mitigate for this conversion impact by enhancing portions of offsite wetlands with forest plantings.

i. Explain how wetlands have been replaced in accordance with 105.20a and list which compensatory replacement method was used.

Explain and List: As stated above, SPLP proposes to offset the proposed project-wide forested wetland conversion impacts by enhancing offsite wetlands to include sections of forested wetlands. The proposed enhancement will exceed the minimal requirement of a 1:1 replacement of functions or values.

3. Watercourses (check all that apply)

☐ TSF ☐ HQ ☐ CWF ☐ Wild Trout ☐ EV ☒ WWF

a. Name of watercourse(s): See attached Table 3. Waterbody Impacts Summary for the Pennsylvania Pipeline Project-Dauphin County.

b. Will the project have an impact on the following values of the environment?

Natural	☒	☐
Scenic	☐	☒
Historic	☐	☒
Aesthetic	☒	☐

c. Have impacts been avoided and minimized? ☒ ☐

Explain: SPLP has implemented numerous construction related efforts and restoration efforts into the proposed project in order to avoid and minimize stream impacts to the greatest extent

practicable. These efforts include the consideration of trenchless pipeline installation where applicable, temporary stream crossings for equipment access, dry crossing construction methods for open trench locations, stockpiling native stream bed material for reuse following construction and minimal use of rip rap where it is determined to be required.

	YES	NO
d. Is project the least environmentally damaging alternative?	☒	☐

List alternatives considered and provide rationale that the least damaging alternative has been selected.

SPLP has considered major and minor route alternatives in their consideration of options available for the proposed project. From the start of the route selection process, SPLP has attempted to co-locate the proposed pipelines within existing ROW in an effort to minimize additional environmental impacts. Based on the linear nature of the proposed project, complete avoidance of streams is not practicable. Where determined to be feasible, a trenchless construction method was selected for stream crossings. Where streams will be crossed with an open trench, native stream bed material will be stockpiled for reuse during stream restoration. Dry crossing methods will be utilized to minimize downstream sedimentation. Stabilized temporary stream crossings will be used for equipment movement across all stream. A detailed discussion of alternatives considered can be found in the Alternatives Analysis (Attachment 11, Enclosure E, Part 3).

e. Has the applicant demonstrated that the public benefits of the proposed project outweigh the harm to the environment? ☒ ☐

Public benefits include:

1. Correction and prevention of pollution.
2. Protection of public health and safety.
3. Reduction of flood damages.
4. Development of energy resources.
5. Creation or preservation of significant employment.
6. Provision of public utility services.
7. Other essential social and economic development which benefits a substantial portion of the public.

Explain: The proposed project includes the development of energy resources. The impacts to streams and wetlands are temporary in nature, with no permanent loss of aquatic resources expected. All impacts to stream and wetlands will be restored to original conditions

following construction. The restoration of streams and wetlands will be verified through the proposed monitoring plan.

	YES	NO
f. Is the project located in or within 100 feet of a watercourse or body of water that has been designated as a National or State wild or scenic river?	☐	☒
g. Is the project located in or within 100 feet of a Federal wilderness area?	☐	☒
h. Is the project located within an area which serves as a habitat of a threatened or endangered species?	☐	☒
i. Is the project located in waters classified as exceptional value in Chapter 93?	☐	☒
j. If yes to any "f" thru "i", has the applicant demonstrated that the project will not have an adverse impact upon the public natural resource? N/A.	☐	☐

D. Sources Utilized for Review

1. Quad Sheet (_) (N) (_) (W)	☒	☐
2. National Wetlands Inventory Map	☒	☐
3. Special Protection Watersheds Map	☒	☐
4. Scenic Rivers Candidates Map	☒	☐
5. Coastal Zone Management Map	☒	☐
6. County Soil Survey	☒	☐
7. P.N.D.I. (Search Area-Linear Project Format)	☒	☐
8. State Water Plan	☒	☐
9. Other Agencies' Reviews (See E)	☒	☐
10. Environmental Review Committee (See F)	☒	☐
11. Other (_____)	☐	☒
12. Site Inspection: N/A (date)	☐	☒
13. Jurisdictional Determination from ACOE	☐	☒
14. Applicants Environmental Assessment	☒	☐

E. Other Agencies' Comments

	Recommendations			
	Approve	*Approve w/Conditions	**Deny	No Comments
1. Pennsylvania Fish & Boat Commission	☒	☐	☐	☐
2. Pennsylvania Game Commission	☒	☐	☐	☐
3. Pennsylvania Department of Conservation and Natural Resources	☒	☐	☐	☐
4. U.S. Fish & Wildlife Service	☐	☒	☐	☐
5. Pennsylvania Historical & Museum Commission	☐	☐	☐	☐
6. U.S. Army Corps of Engineers	☐	☐	☐	☒
7. National Marine Fisheries	☐	☐	☐	☒
8. Environmental Protection Agency	☐	☐	☐	☒
9. County Conservation District	☐	☐	☐	☐
10. Other _____	☐	☐	☐	☒

* Provide explanation of how agency comments were addressed, and attach letters, memos, etc.:

PA Fish and Boat Commission (PFBC)

Potential impacts identified and resolved for all counties. No specific concerns were identified for the Dauphin County portion of the overall project.

The Pennsylvania Fish and Boat Commission's Division of Environmental Services found no significant impact to aquatic resources in Dauphin County as a result of the proposed actions of this project as long as all required E&S Controls are properly implemented.

PA Game Commission (PGC)

Potential impacts identified and resolved for all counties. No specific concerns were identified for the Dauphin County portion of the overall project.

PA Department of Conservation and Natural Resources (DCNR)

Potential impacts identified and resolved for all counties. No specific concerns were identified for the Dauphin County portion of the overall project.

U.S. Fish and Wildlife Service (USFWS)

Potential impacts identified and resolved for all counties. USFWS determined that the proposed project is within the range of the bog turtle (Clemmys muhlenbergii). Phase 1 surveys were conducted at all wetlands within the Dauphin County project area. It was determined, as evidenced in the

USFWS letter dated October 31, 2016, that none of the wetlands within the Dauphin County project area were found to have the combination of soils, vegetation and hydrology typical of habitat occupied by bog turtles.

Pennsylvania Historical & Museum Commission (PHMC)

SPLP has complied with the Pennsylvania State History Code. Final resolution of potential historic property impacts has not yet been received for this project. The project requires a federal permit, and as such potential impacts to historic properties will need to be resolved prior to the federal permit issuance. The permit will also include a Special Condition stipulating that SPLP shall protect and promptly report any archeological artifacts discovered during its project to the Bureau for Historical Preservation, Historical and Museum Commission.

Conservation District

DEP will issue an individual Chapter 102 ESCGP-2 Permit for Earth Disturbance Associated with Oil and Gas Exploration, Production, Processing or Treatment issued pursuant to Pennsylvania's Clean Streams Law and Storm Water Management Act (32 P.S. §§ 680.1-680.17) and all applicable implementing regulations (including 25 Pa. Code Chapter 102).

U.S Army Corps of Engineers (ACOE)

ACOE will issue any federal authorization that they deem is required.

** If "Deny" is checked, provide response to agency recommendation:

N/A for this project.

F. Environmental Review Committee Comments Date Presented (_____)

N/A for this project.

☐ Minutes attached Do minutes accurately reflect discussion? ☐ Yes ☐ No

G. Attach Meeting Minutes if available or provide a Summary of Preapplication Meeting - Include dates and attendees

N/A for this project.

Table 2. Wetland Impact Summary for the Pennsylvania Pipeline Project (PPP) – Dauphin County – 12/01/2016

Wetland ID	USFWS Cowardin Classification[1]	Coordinates	12-Digit HUC Code	Crossing Method[2,3]	Length of Centerline Crossing (feet)[4]	PADEP Permanent Impact[5]	PADEP Temporary Impact[6]	PADEP & USACE Permanent Loss[7]	Conversion Impact (acre)[8]	Exceptional Value	Site Plan/E&S Plan/HDD Sheet Number	Permit	USACE District	USACE Section 10/404 Activity	Fee Crossing Reference Number
A16	PEM	40.2136, -76.7472	020503051011	Open Cut	20	0.022	-	-	-	-	15 / ES-4.11	Individual	Baltimore	Activity in WOUS	15
A17	PEM	40.2145, -76.7428	020503051011	Open Cut	33	0.039	-	-	-	-	16 / ES-4.12	Individual	Baltimore	Activity in WOUS	16
A18	PFO	40.2030, -76.7857	020503051011	HDD	80	0.006	-	-	-	-	4 / ES-4.03 PA-YO-0063.0000-RR & -16	Individual	Baltimore	Non-jurisdictional	2
A22	PEM	40.2411, -76.6457	020503050904	Open Cut	-	0.002	-	-	-	-	38 / ES-4.29	Individual	Baltimore	Activity in WOUS	58
A23	PEM	40.2450, -76.6276	020503050904	Open Cut	219	0.232	-	-	-	-	42 / ES-4.33	Individual	Baltimore	Activity in WOUS	64
A25	PEM	40.2476, -76.6165	020503050904	Open Cut	113	0.133	-	-	-	-	44 / ES-4.35	Individual	Baltimore	Activity in WOUS	68
A27	PEM	40.2527, -76.5969	020503050904	Open Cut	-	0.002	-	-	-	-	49 / ES-4.38 S-A47 (A&B)	Individual	Baltimore	Activity in WOUS	74
B55	PEM	40.2283, -76.6907	020503050906	Open Cut	27	0.012	-	-	-	-	29 / ES-4.21	Individual	Baltimore	Activity in WOUS	35
B56	PEM	40.2318, -76.6809	020503050906	Temporary Matting	-	0.003	-	-	-	-	31 / ES-4.23	Individual	Baltimore	Non-jurisdictional	39
B57	PEM	40.2315, -76.6804	020503050906	HDD/ Temporary Matting	33	0.036	-	-	-	-	31 / ES-4.23 PA-DA-0056.0000-RD & -16	Individual	Baltimore	Non-jurisdictional	40
B58	PEM	40.2334, -76.6745	020503050906	HDD	31	0.002	-	-	-	-	32 / ES-4.24 PA-DA-0056.0000-RD & -16	Individual	Baltimore	Non-jurisdictional	47
	PFO	40.2333, -76.6748	020503050906	HDD	327	0.023	-	-	-	-	32 / ES-4.24 PA-DA-0056.0000-RD & -16	Individual	Baltimore	Non-jurisdictional	47
B59	PEM	40.2207, -76.7204	020503050906	Open Cut	62	0.066	-	-	-	-	21 / ES-4.16 S-B69 (A&B)	Individual	Baltimore	Activity in WOUS	27
B60	PEM	40.2201, -76.7213	020503050906	Open Cut	56	0.028	-	-	-	-	21 / ES-4.16 S-B69 (A&B)	Individual	Baltimore	Activity in WOUS	25
B61	PEM	40.2366, -76.6620	020503050906	Open Cut	203	0.146	-	-	-	-	35 / ES-4.26, 4.27	Individual	Baltimore	Activity in WOUS	53
	PFO	40.2373, -76.6622	020503050906	Open Cut	-	0.051	-	-	0.004	-	35 / ES-4.26, 4.27	Individual	Baltimore	Activity in WOUS	53
B64	PEM	40.2078, -76.7677	020503051011	Temporary Matting	-	-	0.050	-	-	-	9 / ES-4.07	Individual	Baltimore	Non-jurisdictional	6
	PFO	40.2072, -76.7672	020503051011	Open Cut	34	0.042	-	-	0.025	-	9 / ES-4.07	Individual	Baltimore	Activity in WOUS	6
B76	PSS	40.2105, -76.7637	020503051011	Open Cut	47	0.059	-	-	-	-	10 / ES-4.08 S-B73 (A&B)	Individual	Baltimore	Activity in WOUS	12
BB36	PEM	40.2325, -76.6819	020503050906	Temporary Matting	-	-	0.024	-	-	-	31 / ES-4.23	Individual	Baltimore	Non-jurisdictional	38
BB39	PEM	40.2205, -76.7208	020503050906	Open Cut	-	0.016	-	-	-	-	21 / ES-4.16 S-B69 (A&B)	Individual	Baltimore	Activity in WOUS	26
C26	PEM	40.2342, -76.6710	020503050906	HDD	1,314	0.090	-	-	-	-	33 / ES-4.24, 4.25 PA-DA-0056.0000-RD & -16	Individual	Baltimore	Non-jurisdictional	48
	PFO	40.2341, -76.6704	020503050906	HDD	1,379	0.095	-	-	-	-	33 / ES-4.24, 4.25, 4.26 PA-DA-0056.0000-RD & -16	Individual	Baltimore	Non-jurisdictional	48
C27	PEM	40.2355, -76.6665	020503050906	Open Cut/ Temporary Matting	130	0.068	-	-	-	-	34 / ES-4.26	Individual	Baltimore	Activity in WOUS	52

Wetland ID	USFWS Cowardin Classification[1]	Coordinates	12-Digit HUC Code	Crossing Method[2,3]	Length of Centerline Crossing (feet)[4]	PADEP Permanent Impact[5]	PADEP Temporary Impact[6]	PADEP & USACE Permanent Loss[7]	Conversion Impact (acre)[8]	Exceptional Value	Site Plan/E&S Plan/HDD Sheet Number	Permit	USACE District	USACE Section 10/404 Activity	Fee Crossing Reference Number
	PSS	40.2357, -76.6665	020503050906	Open Cut	-	0.031	-	-	-	-	34 / ES-4.26	Individual	Baltimore	Activity in WOUS	52
C28	PEM	40.2145, -76.7363	020503050906	Open Cut	232	0.268	-	-	-	-	17 / ES-4.13	Individual	Baltimore	Activity in WOUS	18
CC22	PEM	40.2226, -76.7121	020503050906	HDD	53	0.004	-	-	-	-	24 / ES-4.18 PA-DA-0039.0000-RD & -16	Individual	Baltimore	Non-jurisdictional	30
J47	PEM	40.2538, -76.5923	020503050904	HDD	462	0.032	-	-	-	-	50 / ES-4.39 PA-LE-0001.0000-SR & -16	Individual	Baltimore	Non-jurisdictional	80
	PFO	40.2533, -76.5931	020503050904	HDD	158	0.011	-	-	-	-	1/ES-4.39 PA-LE-0001.0000-SR & -16	Individual	Baltimore	Non-jurisdictional	80
K23	PEM	40.2509, -76.6042	020503050904	Open Cut	11	0.006	-	-	-	-	47 / ES-4.37	Individual	Baltimore	Activity in WOUS	72
S2	PEM	40.2212, -76.7227	020503050906	Temporary Matting	-	-	0.292	-	-	-	21 / ES-4.16	Individual	Baltimore	Non-jurisdictional	24
			25 Wetlands	**23 Temp. Crossings**	**5,024 feet 0.952 miles**	**1.525 acres**	**0.366 acre**	**0 acre**	**0.029 acre**						

Notes:

[1] Field classification based on Cowardin et al. 1979. PEM = palustrine emergent wetland, PSS = palustrine scrub-shrub wetland, PFO = palustrine forested wetland, PuB = Palustrine unconsolidated bottom (pond).

[2] All open cut wetlands will also require a temporary road crossing (using wetland matting) placed on the travel lane within the workspace limits. HDD areas will not be traveled through unless "Travel Lane" or "Clearing LOD" is indicated. Travel Lane areas are HDD crossings where travel through with equipment is necessary to facilitate installation. Wetland matting will be placed in the Travel Lane in these cases and the impact is presented in the PADEP Temporary Impact columns. "Clearing LOD" areas are areas between HDD exit and entry points where clearing of vegetation is planned to maximize aerial inspection of the line to meet Department of Transportation regulations. "Temporary Matting" is the crossing method used when wetlands are crossed by temporary access roads.

[3] Additional crossing details can be found in Attachment 12 which includes the Project's Erosion and Sediment Control Plan; Additional site-specific drawings (HDD, bore, and site-specific open-cut) can be found in Attachment 7.

[4] A "-" in length of centerline crossing indicates the wetland is located in the construction limits of disturbance but is not directly crossed by the pipeline centerlines.

[5] According to the Instructions for the Joint Permit Application, permanent impacts "are those areas affected by a water obstruction or encroachment that consist of both direct and indirect impacts that result 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.". As per the Chapter 105 Fee(s) Calculation Worksheet and for fee purposes only, permanent impacts have been calculated using the area in each wetland or watercourse that is within the 50-foot-wide permanent right-of-way, even if the area is restored to pre-construction conditions. The only permanent impacts are noted in column labelled "PADEP and USACE Permanent Loss" and "Conversion Impact". Per PADEP direction, Permanent disturbance impacts at HDD and bore crossings are calculated on the width of the pipes multiplied by the length of the crossing. Although PADEP defines operation and maintenance activities as permanent impacts, all wetlands affected by the Project will be restored to pre-construction conditions including the presence of wetland soils, hydrology, and hydrophytic vegetation. In addition, the Project does not involve any permanent fill and there will be no permanent loss of wetland area associated with the Project. SPLP will not maintain the ROW through wetland areas (i.e., no mowing); therefore, the pre- and post-construction conditions of the wetland areas will be the same, except for any noted wetland cover type conversion impacts.

[6] According to the Instructions for the Joint Permit Application, temporary impacts "are those areas affected during the construction of a water obstruction or encroachment that consists of both direct and indirect impacts located in, along or across, or projecting into a watercourse, floodway or body of water that are restored upon completion of construction. This does not include areas that will be maintained as a result of 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.". For purposes of the fee calculation, temporary impact areas consist of areas such as additional temporary workspace and temporary access roads.

[7] Loss of wetland acreages due to permanent fill.

[8] Total conversion after on-site restoration and plantings. More details regarding restoration and planting of these areas can be found in Tab 11, Enclosure F.

Table 3. Waterbody Impact Summary for the Pennsylvania Pipeline Project (PPP) – Dauphin County – 01/30/2017

Stream ID	Stream Name	Coordinates	Flow Regime[1]	Bank to Bank Width (feet)[2]	Length of Centerline Stream Crossing at HDD/Bore[3]	Stream Disturbance Length in ROW (feet)[4]			Crossing Method[5,6]	Stream Permanent Impact (square feet)[7, 8]	Stream Temporary Impact (square feet)[7, 9]	PADEP Permanent Floodway Impact (acre)[8]	PADEP Temporary Floodway Disturbance (acre)[9]	Ch. 93 Designated Use[10]	PAFBC Stream Designation[11]	Site Plan/E&S Plan/HDD Plan Sheet Number	Permit[12]	USACE District	USACE Section 10/404 Activity	Fee Crossing Reference Number
						Perm	*Temp*	Total												
S-A21	UNT to Susquehanna River	40.2143, -76.7426	Perennial	5	-	*50*	-	50	Dry Crossing	250	-	0.121	0.043	Drains to WWF, MF	n/a	16 / ES-4.12	Individual	Baltimore	Activity in WOUS	17
S-A22*†	Susquehanna River	40.2004, -76.7908	Perennial	3,100	3,896	-	-	-	HDD	11,688	-	0.320	0.736	WWF, MF	n/a	2 / ES-4.02 PA-YO-0063.0000-RR & -16	Individual	Baltimore	Section 10/ SLLA	1
S-A31a	UNT to Spring Creek	40.2415, -76.6451	Intermittent	3	-	-	-	-	Floodway Only	-	-			Drains to WWF, MF	n/a	38 / ES-4.30	Individual	Baltimore	Non-jurisdictional	55
S-A32	UNT to Spring Creek	40.2413, -76.6456	Intermittent	3	-	-	-	-	Floodway Only	-	-	0.122	0.039	Drains to WWF, MF	n/a	38 / ES-4.29, 4.30	Individual	Baltimore	Non-jurisdictional	56
S-A33	UNT to Spring Creek	40.2412, -76.6456	Ephemeral	1.5	-	-	-	-	Floodway Only	-	-			Drains to WWF, MF	n/a	38 / ES-4.29	Individual	Baltimore	Non-jurisdictional	57
S-A34	UNT to Spring Creek	40.2414, -76.6431	Perennial	8	-	*51*	-	51	Dry Crossing	408	-	0.128	0.091	WWF, MF	n/a	39 / ES-4.30	Individual	Baltimore	Activity in WOUS	59
S-A34a	UNT to Spring Creek	40.2416, -76.6433	Perennial	8	-	-	-	-	Floodway Only	-	-			WWF, MF	n/a	39 / ES-4.30	Individual	Baltimore	Non-jurisdictional	60
S-A35	UNT to Spring Creek	40.2428, -76.6383	Intermittent	6	-	-	-	-	Floodway Only	-	-	0.004	0.045	Drains to WWF, MF	n/a	40 / ES-4.31	PADEP-Waived	Baltimore	Non-jurisdictional	61
S-A36	UNT to Spring Creek	40.2436, -76.6337	Perennial	4.5	-	*63*		63	Dry Crossing	283.5	-	0.156	0.116	WWF, MF	n/a	41 / ES-4.32	Individual	Baltimore	Activity in WOUS	62
S-A37	UNT to Spring Creek	40.2441, -76.6319	Perennial	12	-	*51*	-	51	Dry Crossing	612	-	0.151	0.125	WWF, MF	n/a	41 / ES-4.32	Individual	Baltimore	Activity in WOUS	63
S-A38	UNT to Spring Creek	40.2457, -76.6243	Perennial	5	-	*62*	-	62	Dry Crossing	310	-	0.192	0.069	WWF, MF	n/a	43 / ES-4.33	Individual	Baltimore	Activity in WOUS	65
S-A39	UNT to Spring Creek	40.2456, -76.6245	Perennial	2	-	*51*	-	51	Dry Crossing	102	-			WWF, MF	n/a	43 / ES-4.33	Individual	Baltimore	Activity in WOUS	66
S-A41	UNT to Spring Creek	40.2465, -76.6190	Intermittent	5	-	-	-	-	Floodway Only	-	-	-	0.023	Drains to WWF, MF	n/a	44 / ES-4.34	PADEP-Waived	Baltimore	Non-jurisdictional	67
S-A42	Spring Creek	40.2478, -76.6164	Perennial	6	-	*62*	-	62	Dry Crossing	372	-	0.138	0.032	WWF, MF	n/a	45 / ES-4.35	Individual	Baltimore	Activity in WOUS	69
S-A43	UNT to Spring Creek	40.2490, -76.6114	Perennial	11	-	*65*	-	65	Dry Crossing	715	-	0.170	0.050	WWF, MF	n/a	46 / ES-4.35,4.36	Individual	Baltimore	Activity in WOUS	70
S-A45	UNT to Spring Creek	40.2506, -76.6041	Ephemeral	4	-	*6*	-	6	Dry Crossing	24	-	0.105	0.050	Drains to WWF, MF	n/a	47 / ES-4.37	PADEP-Waived	Baltimore	Activity in WOUS	71
S-A46	UNT to Spring Creek	40.2518, -76.6002	Intermittent	6	-	*51*	-	51	Dry Crossing	306	-	0.124	0.064	Drains to WWF, MF	n/a	48 / ES-4.37, 4.38	Individual	Baltimore	Activity in WOUS	73
S-A47	UNT to Spring Creek	40.2526, -76.5957	Perennial	12	12	*311*	*17*	328	HDD/ Dry Crossing	3,732	204			WWF, MF	n/a	49 / ES-4.38, 4.39 PA-LE-0001.0000-SR & -16 S-A47 (A&B)	Individual	Baltimore	Activity in WOUS	75
S-A48	UNT to Spring Creek	40.2534, -76.5953	Ephemeral	3	-	-	-	-	Floodway Only	-	-			Drains to WWF, MF	n/a	49 / ES-4.38	Individual	Baltimore	Non-jurisdictional	76
S-K17	UNT to Spring Creek	40.2521, -76.5962	Perennial	17	n/a	-	-	-	HDD Floodway	-	-	0.729	0.394	Drains to WWF, MF	n/a	49 / ES-4.38 S-A47 (A&B)	Individual	Baltimore	Non-jurisdictional	77
S-K18	UNT to Spring Creek	40.2529, -76.5933	Perennial	10	10	-	-	-	HDD	30	-			WWF, MF	n/a	49 / ES-4.38, 4.39 PA-LE-0001.0000-SR & -16	Individual	Baltimore	Non-jurisdictional	78
S-K19	UNT to Spring Creek	40.2532, -76.5924	Intermittent	8	n/a	-	-	-	HDD Floodway	-	-			Drains to WWF, MF	n/a	50 / ES-4.39 PA-LE-0001.0000-SR & -16	Individual	Baltimore	Non-jurisdictional	79
S-A75	UNT to Swatara Creek	40.2227, -76.7117	Intermittent	12	12	-	-	-	HDD	36	-	0.062	-	WWF, MF	n/a	24 / ES-4.17, 4.18 PA-DA-0039.0000-RD & -16	Individual	Baltimore	Non-jurisdictional	31
S-B60	UNT to Iron Run	40.2316, -76.6806	Intermittent	5	5	*51*	-	51	HDD/ Temporary Bridge	255	-	0.125	0.025	Drains to WWF, MF	n/a	31 / ES-4.23 PA-DA-0056.0000-RD & -16	Individual	Baltimore	Non-jurisdictional	36
S-B61	UNT to Iron Run	40.2313, -76.6790	Intermittent	1	1	-	-	-	HDD	3	-	0.034	0.011	Drains to WWF, MF	n/a	31 / ES-4.23 PA-DA-0056.0000-RD & -16	Individual	Baltimore	Non-jurisdictional	41
S-B62	UNT to Iron Run	40.2335, -76.6756	Perennial	6	6	-	-	-	HDD	18	-	0.079	-	Drains to WWF, MF	n/a	32 / ES-4.24 PA-DA-0056.0000-RD & -16	Individual	Baltimore	Non-jurisdictional	42
S-B62a	UNT to Iron Run	40.2332, -76.6756	Intermittent	6	n/a	-	-	-	HDD Floodway	-	-			Drains to WWF, MF	n/a	32 / ES-4.24 PA-DA-0056.0000-RD & -16	Individual	Baltimore	Non-jurisdictional	43

Stream ID	Stream Name	Coordinates	Flow Regime[1]	Bank to Bank Width (feet)[2]	Length of Centerline Stream Crossing at HDD/Bore[3]	Stream Disturbance Length in ROW (feet)[4]			Crossing Method[5,6]	Stream Permanent Impact (square feet)[7, 8]	Stream Temporary Impact (square feet)[7, 9]	PADEP Permanent Floodway Impact (acre)[8]	PADEP Temporary Floodway Disturbance (acre)[9]	Ch. 93 Designated Use[10]	PAFBC Stream Designation[11]	Site Plan/E&S Plan/HDD Plan Sheet Number	Permit[12]	USACE District	USACE Section 10/404 Activity	Fee Crossing Reference Number
						Perm	*Temp*	Total												
S-B63	Iron Run	40.2335, -76.6733	Perennial	15	59	-	-	-	HDD	45	-			WWF, MF	n/a	32 / ES-4.24, 4.25 PA-DA-0056.0000-RD & -16	Individual	Baltimore	Non-jurisdictional	44
S-B64	UNT to Iron Run	40.2335, -76.6733	Intermittent	2	n/a	-	-	-	HDD Floodway	-	-			WWF, MF	n/a	32 / ES-4.24, 4.25 PA-DA-0056.0000-RD & -16	Individual	Baltimore	Non-jurisdictional	45
S-B65	Iron Run	40.2338, -76.6712	Perennial	2.5	n/a	-	-	-	HDD Floodway	-	-			WWF, MF	n/a	33 / ES-4.25 PA-DA-0056.0000-RD & -16	Individual	Baltimore	Non-jurisdictional	46
S-B66	UNT to Iron Run	40.2355, -76.6666	Intermittent	3	-	*98*	-	98	Dry Crossing/ Temporary Bridge	294	-			Drains to WWF, MF	n/a	34 / ES-4.26	Individual	Baltimore	Activity in WOUS	49
S-B67	UNT to Iron Run	40.2352, -76.6671	Perennial	5	-	-	-	-	Floodway Only	-	-	0.316	0.168	Drains to WWF, MF	n/a	34 / ES-4.25, 4.26	Individual	Baltimore	Non-jurisdictional	50
S-B68	UNT to Iron Run	40.2354, -76.6664	Ephemeral	2	-	-	-	-	Floodway Only	-	-			Drains to WWF, MF	n/a	34 / ES-4.26	Individual	Baltimore	Non-jurisdictional	51
S-B69	UNT to Swatara Creek	40.2205, -76.7211	Perennial	6.5	-	*226*	*56*	282	Dry Crossing/Temporary Bridge	1,469	364	0.458	0.222	WWF, MF	n/a	21 / ES-4.16 S-B69 (A&B)	Individual	Baltimore	Activity in WOUS	23
S-B70*	Swatara Creek	40.2189, -76.7249	Perennial	200	215	-	-	-	HDD	600	-			WWF, MF	n/a	20 / ES-4.15 PA-DA-0030.0000-RR & -16	Individual	Baltimore	SLLA	22
S-C54	UNT to Swatara Creek	40.2181, -76.7268	Perennial	5	5	-	-	-	HDD	15	-	0.843	0.841	WWF, MF	n/a	20 / ES-4.15 PA-DA-0030.0000-RR & -16	Individual	Baltimore	Non-jurisdictional	21
S-C55	UNT to Swatara Creek	40.2176, -76.7272	Intermittent	5	-	*86*	-	86	Dry Crossing	430	-			Drains to WWF, MF	n/a	19 / ES-4.15	Individual	Baltimore	Activity in WOUS	20
S-B71	UNT to Iron Run	40.2370, -76.6624	Intermittent	4	-	*17*	-	17	Dry Crossing	68	-	0.114	0.031	Drains to WWF, MF	n/a	35 / ES-4.26, 4.27	Individual	Baltimore	Activity in WOUS	54
S-B72	UNT to Lisa Lake	40.2103, -76.7627	Perennial	19	-	*132*	-	132	Dry Crossing	2,508	-			WWF, MF	n/a	10 / ES-4.08 S-B73 (A&B)	Individual	Baltimore	Activity in WOUS	7
S-B73	UNT to Lisa Lake	40.2103, -76.7637	Perennial	8	-	*61*	-	61	Dry Crossing	488	-	0.378	0.244	Drains to WWF, MF	n/a	10 / ES-4.08 S-B73 (A&B)	Individual	Baltimore	Activity in WOUS	8
S-B74	UNT to Lisa Lake	40.2107, -76.7624	Intermittent	2	-	*18*	-	18	Dry Crossing	36	-			Drains to WWF, MF	n/a	11 / ES-4.08 S-B73 (A&B)	Individual	Baltimore	Activity in WOUS	9
S-B75	UNT to Lisa Lake	40.2071, -76.7673	Perennial	3	-	*55*	-	55	Dry Crossing	165	-	0.172	0.146	Drains to WWF, MF	n/a	9 / ES-4.07	Individual	Baltimore	Activity in WOUS	4
S-CC15	UNT to Lisa Lake	40.2073, -76.7671	Intermittent	6	-	-	-	-	Floodway Only	-	-			Drains to WWF, MF	n/a	9 / ES-4.07	Individual	Baltimore	Non-jurisdictional	5
S-BB36	UNT to Iron Run	40.2325, -76.6813	Perennial	15	-	-	-	-	Floodway Crossing	-	-	-	0.052	Drains to WWF, MF	n/a	31 / ES-4.23	Individual	Baltimore	Non-jurisdictional	37
S-BB38	UNT to Lisa Lake	40.2153, -76.7572	Perennial	16	-	-	-	-	Floodway Crossing	-	-	-	0.011	WWF, MF	n/a	13 / ES-4.10	Individual	Baltimore	Non-jurisdictional	13
S-BB39	UNT to Lisa Lake	40.2148, -76.7559	Intermittent	3	-	-	*20*	20	Temporary Bridge	-	60	-	0.054	WWF, MF	n/a	13 / ES-4.10	Individual	Baltimore	Non-jurisdictional	14
S-BB122	UNT to Swatara Creek	40.2226, -76.7174	Perennial	4	-	-	-	-	Middletown Station	-	-	0.161	-	WWF, MF	n/a	22 / ES-4.16	PADEP-Waived	Baltimore	Non-jurisdictional	28
S-BB123	UNT to Swatara Creek	40.2230, -76.7164	Ephemeral	1.5	-	-	-	-	Middletown Station	-	-			Drains to WWF, MF	n/a	22 / ES-4.16	PADEP-Waived	Baltimore	Non-jurisdictional	29
S-C46	UNT to Swatara Creek	40.2252, -76.7036	Intermittent	4.5	-	-	-	-	Floodway Only	-	-	0.879	0.821	Drains to WWF, MF	n/a	26 / ES-4.19 S-C48 (A&B)	Individual	Baltimore	Non-jurisdictional	32
S-C48	UNT to Swatara Creek	40.2242, -76.7058	Intermittent	15	-	*256*	*34*	290	Dry Crossing/ Temporary Bridge	3,840	510			WWF, MF	n/a	25 / ES-4.18, 4.19 S-C48 (A&B)	Individual	Baltimore	Activity in WOUS	33
S-C47	UNT to Swatara Creek	40.2246, -76.7043	Ephemeral	13	-	*104*	-	104	Floodway Only	1,352	-	0.145	0.068	Drains to WWF, MF	n/a	26 / ES-4.19 S-C48 (A&B)	PADEP-Waived	Baltimore	Non-jurisdictional	34
S-C52	UNT to Swatara Creek	40.2171, -76.7314	Ephemeral	5	-	*51*	-	51	Dry Crossing	255	-	0.167	0.091	Drains to WWF, MF	n/a	19 / ES-4.14	PADEP-Waived	Baltimore	Activity in WOUS	19
S-CC16	UNT to Lisa Lake	40.2113, -76.7603	Ephemeral	4	-	-	-	-	Floodway Only	-	-	-	0.159	Drains to WWF, MF	n/a	11 / ES-4.09	PADEP-Waived	Baltimore	Non-jurisdictional	10
S-CC17	UNT to Lisa Lake	40.2114, -76.7603	Ephemeral	8	-	-	-	-	Floodway Only	-	-			Drains to WWF, MF	n/a	11 / ES-4.09	PADEP-Waived	Baltimore	Non-jurisdictional	11
S-CJ1	UNT to Susquehanna River	40.2046, -76.7869	Perennial	20	-	-	*166*	166	Intake Piping/ Existing Culvert	-	3,320	-	0.146	WWF	n/a	4 / ES-4.03	Individual	Baltimore	Non-jurisdictional	3
					TOTAL	***1,978***	***293***	***2,271***												

Stream ID	Stream Name	Coordinates	Flow Regime[1]	Bank to Bank Width (feet)[2]	Length of Centerline Stream Crossing at HDD/Bore[3]	Stream Disturbance Length in ROW (feet)[4]			Crossing Method[5,6]	Stream Permanent Impact (square feet)[7,8]	Stream Temporary Impact (square feet)[7,9]	PADEP Permanent Floodway Impact (acre)[9]	PADEP Temporary Floodway Disturbance (acre)[9]	Ch. 93 Designated Use[10]	PAFBC Stream Designation[11]	Site Plan/E&S Plan/HDD Plan Sheet Number	Permit[12]	USACE District	USACE Section 10/404 Activity	Fee Crossing Reference Number
						Perm	*Temp*	Total												
						55 Streams			42 Temp. Crossings	30,710 sq. ft 0.705 acre	4,458 sq. ft 0.102 acre	6.393 acres	4.967 acres							

Notes:

Many streams share a FEMA NFHL 100-year floodway or a PADEP assumed 50-foot buffer. These features have therefore been grouped together.

All direct stream impacts are temporary, and the stream bank, bed, and channel will be restored to the pre-construction conditions in accordance with the Erosion and Sediment Control Plan.

*At this location, minor temporary impacts for temporary water withdrawals to facilitate hydrostatic testing of the mainline and/or HDD pipeline will occur in addition to the pipeline installation. This includes temporary intake structures and appurtenant works, including portable pumps and hoses and anchors.

†At this location, minor temporary impacts for temporary water discharge to facilltate hydrostatic testing of the mainline and/or HDD pipeline will occur in addition to the pipeline installation. This includes temporary discharge structures and appurtenant works.

[1] Flow regime is defined according to field classification. Ephemeral streams are identified herein as "intermittent" features according to PADEP guidance on the definitions set forth in Chapter 105.

[2] The bank-to-bank width is defined at the crossing location, and may not reflect the data presented in the wetland report and stream data forms, which is an estimated measurement taken of the survey area in the field, and not at the centerline crossing.

[3] Pipe length crossing the stream is measured from bank to bank at HDDs and bores. The values listed may therefore not always be identical to the bank to bank width presented in the stream data forms, which is an estimated measurement taken of the survey area in the field, and not at the center line crossing.

[4] Length of stream traversing limits of disturbance. A "-" length indicates that the stream is not located within the construction workspaces, and only the floodway extends into the construction workspaces. The disturbance length has been supplied to show the impact to the waterbody within the 50 foot permanent ROW and temporarily impacted areas for construction, except at HDD crossing where the permanent impacts are limited to the width of the pipelines (3 feet).

[5] All streams that will be crossed using a "Dry Crossing" method will also require a temporary bridge crossing. "Open Cut Floodway" will require a travel lane across the floodway, but no matting or bridge will be used unless a wetland is present.

[6] Crossing Methods: "Dry Crossing" designates a "dry pump bypass", "dry flume", "cofferdam" or "dry open-cut" methods which temporarily convey stream flow around the in-stream workspace or construction is conducted when the waterway is and is anticipated to be dry during the crossing. Horizontal Directional Drill (HDD) avoids all surface impacts in waters, wetlands and floodways, and involves drilling below the stream; however, a travel lane across the stream may be required during construction in some cases and is noted by "Travel-LOD" or "Clearing and Travel LOD." Details of the crossing methods are provided in Attachment 12 which includes the Project's Erosion and Sediment Control Plan; additional site-specific drawings and cross sections can be found in Attachment 7.

[7] For non-HDD crossings, this number is calculated on the Bank to Bank Width multiplied by the Length of stream disturbance in the ROW for permanent and temporary workspaces. At HDD and bore crossings, this is based on 3 feet (width of the two pipes) represented in the bank width column multiplied by the Length of Centerline Stream Crossing at HDD/Bore.

[8] According to the Instructions for the Joint Permit Application, permanent impacts "are those areas affected by a water obstruction or encroachment that consist of both direct and indirect impacts that result 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." As per the Chapter 105 Fee(s) Calculation Worksheet and for fee purposes only, permanent impacts have been calculated using the area in each wetland or watercourse that is within the 50-foot-wide permanent right-of-way. All stream bed and banks are to be restored to pre-construction conditions. Per PADEP direction, Permanent disturbance impacts at HDD and bore crossings are calculated on the width of the pipes multiplied by the length of the crossing. This calculations also accounts for the temporary placement of an HDD telemetry wire along the HDD alignment. See Impact Avoidance, Minimization, and Mitigation Procedures provided in Attachment 11, Enclosure E, Part 4 for discussion of the telemetry wire installation. Although PADEP defines operation and maintenance activities as permanent impacts, all streams affected by the Project will be restored to pre-construction conditions including the elevation/contours, channel substrate, stream banks, and flow conditions/patterns. In addition, the Project does not involve any permanent fill and there will be no permanent loss of stream area associated with the Project.

[9] According to the Instructions for the Joint Permit Application, temporary impacts "are those areas affected during the construction of a water obstruction or encroachment that consists of both direct and indirect impacts located in, along or across, or projecting into a watercourse, floodway or body of water that are restored upon completion of construction. This does not include areas that will be maintained as a result of 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." For purposes of the fee calculation, temporary impact areas consist of areas such as additional temporary workspace and temporary access roads.

[10] Information listed is based on Pennsylvania Data File Access (PASDA) "Designated Use" GIS shapefile (2016/08, from PASDA). Where delineated streams are not directly classified according to Chapter 93, they have been designated as "drains to." It is assumed that all streams classified as "drains to" are afforded the same designation as the immediately downstream surface water it drains to.

[11] PAFBC Designations: ATW = Approved Trout Water; STS = Stocked Trout Stream; TNR = Trout Natural Reproduction, Class A = Class A Water, WTS = Wilderness Trout Stream. Where delineated streams are not directly classified according to PAFBC data, they have been designated as "drains to". It is assumed that all streams classified as "drains to" are afforded the same protection and analysis as streams classified directly as trout waters.

[12] Streams that drain less than 100 acres at the point of intersection are waived from PADEP Chapter 105 permitting pursuant to 25 Pa. Code §105.12(a)(2).