

PennEast Pipeline Company, LLC

PENNEAST PIPELINE PROJECT

L-3E – ANTIDegradation ANALYSIS

CARBON COUNTY

REVISED OCTOBER 2019

Submitted by:

PennEast Pipeline Company, LLC



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Acronym List

ABACT	Antidegradation Best Available Combination of Technologies
BMPs	Best Management Practices
BO	Biological Opinion
CAAP	Concentrated Aquatic Animal Production Facility
CAFO	Concentrated Animal Feeding Operation
CIA	Cumulative Impacts Analysis
CIAA	cumulative impacts assessment area
CWA	Clean Water Act
DCNR	Department of Conservation and Natural Resources
EA	Environmental Assessment
E&S	Erosion and Sediment
E&SCP	Erosion and Sediment Control Plan
E&SCGP	Erosion and Sediment Control General Permit
EV	Exceptional Value
FERC	Federal Energy Regulatory Commission
HDD	Horizontal Directional Drilling
HQ	High-Quality
JPA	Joint Permit Application
LOD	Limits of Disturbance
MP	Mile Post
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
PA	Pennsylvania
PADEP	Pennsylvania Department of Environmental Protection
PCC	Preparedness, Prevention and Contingency
PCSM	Post Construction Stormwater Management
PennEast	PennEast Pipeline Company, LLC
PEM	Palustrine Emergent
PFBC	Pennsylvania Fish and Boat Commission
PGC	Pennsylvania Game Commission



PFO	Palustrine Forested
PPC	Preparedness, Prevention and Contingency
Project	PennEast Pipeline Project
PSS	Palustrine Scrub-Shrub
ROW	Right-of-Way
T&E	Threatened and Endangered
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WQS	Water Quality Standards



1.0 Introduction

In accordance with the requirements contained within the Pennsylvania Department of Environmental Protection's (PADEP) Comprehensive Environmental Assessment of Proposed Project Impacts for Chapter 105 Water Obstruction and Encroachment Permit Applications Technical Guidance Document (TGD) (Document No. 310-2137-006, 12/16/2017) and the assessment criteria detailed in Module 3 of the Environmental Assessment (EA) Form (EA Form) Instructions (Document No. 3150-PM-BWEW0017, Revised 6/2017), PennEast Pipeline Company, LLC (PennEast) has prepared this Antidegradation Analysis to support its Joint Permit Application (JPA) for the PennEast Pipeline Project (Project). Impacts were assessed for consistency with state antidegradation requirements contained in Chapter 93, 95, and 102 (relating to water quality standards (WQS); wastewater treatment requirements; and erosion and sediment control) and the Clean Water Act (CWA) (33 U.S.C.A § §1251—1376). PennEast has provided a complete analysis and discussion of the antidegradation analysis of the proposed Project for the portion in Carbon County, Pennsylvania.

Antidegradation requirements promote the maintenance and protection of existing water quality for high-quality (HQ) and exceptional value (EV) waters, and protection of existing water quality and uses (PADEP 2003).

The sections of this document provide an overview of the water resources impacted by the Project and a summary of the avoidance and minimization measures proposed to reduce impacts. A comprehensive review of the regulations of antidegradation requirements of Chapter 93, 95, 102 and 105 as well as the CWA are provided in their respective sections herein for Carbon County, Pennsylvania for this Project.

2.0 Summary of Water Resource Impacts

PennEast completed a wetland and watercourse investigation of the Project area. The boundary of this site investigation and all environmental resources identified during this investigation are shown in the Erosion and Sediment Control Plan (E&SCP) drawings (JPA Section M). A Wetland and Watercourse Delineation Report is included in the Section 404/Chapter 105 JPA submittal under separate cover for wetlands' work completed in Pennsylvania (JPA Section L-2B).

The study area associated with the Project site is tributary to numerous receiving waters. The Aquatic Resources Impact Table in JPA Section A-1 lists the watercourses and their tributaries by mile post (MP) within the study area that have Pennsylvania (PA) Code, Title 25, Chapter 93 designated protected aquatic life.

The number of HQ and EV waters crossed by the Project in Carbon County, Pennsylvania is summarized in the Table CA-L3E-1 below.

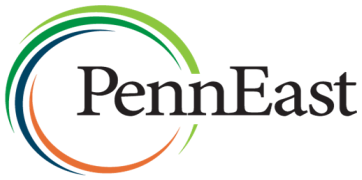


Table CA-L3E-1
Summary of Designated HQ Watercourses and EV Wetlands and Watercourses Impacted by the Project in Carbon County

Facility	PA Code Designated or Existing Use – HQ ¹	PA Code Designated or Existing Use – EV ¹	Special Protection Wetlands – EV ²
PennEast Mainline Pipeline	35	16	40
Blue Mountain Lateral	3	-	-
Kidder Compressor Station	1	-	3
Temporary Access Roads	2	-	-
Total	41	16	43

Notes:

1. Sources: PADEP Streams Chapter 93 Existing Use, dated 3/2019 and PADEP Streams Chapter 93 Designated Use, dated 3/2019. If a stream has an existing use, the designated use has been replaced with that value. Available at www.pasda.psu.edu.
2. Resource Value Definitions: Pennsylvania Exceptional Value Wetland as defined by PA Code §105.17 (relating to special criteria for projects affecting important wetlands). Criteria are:
 - (i) Serves as habitat for fauna or flora listed as “threatened” or “endangered”
 - (ii) Is hydrologically connected to or located within a 1/2-mile from habitat for fauna or flora listed as “threatened” or “endangered” and wetland dependent;
 - (iii) Located in or along the floodplain of the reach or tributaries of a wild trout watercourse or waters listed as exceptional value;
 - (iv) Located along an existing public or private drinking water supply.

PennEast selected the proposed pipeline route to avoid and minimize effects to watercourses to the greatest extent practicable while maintaining the economic and safety standards of the Project, as further discussed in the Alternatives Analysis (JPA Section S). The proposed construction work area has been reduced at watercourse and wetland crossings to minimize impacts wherever feasible. Construction of the proposed Project includes temporary short-term impacts during construction to surface water resources crossed by the pipeline or located within the Project workspace. Temporary impacts to surface waters include disturbance of watercourse banks, removal of riparian vegetation and in some instances, the temporary diversion of watercourse flow during dry crossing construction. PennEast will implement the written E&SCP (JPA Section M) to reduce the amount and duration of surface water disturbance and enable the contractor to meet the timing restrictions for in-watercourse disturbance.

The Project has been co-located within, or parallel to, existing, previously disturbed and maintained right-of-ways (ROWs) to the extent practicable. Watercourse crossing methods were determined by individual watercourse conditions during final engineering design. The E&SCP (JPA Section M) will be followed for both standard and special construction, as well as, operation techniques at watercourse crossings. The procedures outlined in the E&SCP (JPA Section M) will minimize introduction of water pollutants into watercourses and minimize impacts on aquatic resources. Impacts from construction-related sedimentation and turbidity will be limited to short-term, temporary disturbances by following the time and duration limitation at each crossing.



PennEast evaluated dry crossing methods for each watercourse crossing, including conventional open cut and trenchless techniques. Several criteria were considered in determining the most appropriate crossing method:

- Size of the watercourse and flow regime;
- Sensitivity of the natural resource, including seasonal constraints to minimize impacts to trout fisheries;
- Anticipated time required to construct and stabilize the construction workspace;
- Constructability constraints posed by topography and proximity to roads and other man-made structures; and
- Landowner concerns and requests.

By utilizing dry crossing techniques, watercourse flow can be temporarily diverted, effectively isolating the workspace from the watercourse, which greatly reduces sedimentation within watercourses. Using these methods, the pipeline crossings can be constructed in a matter of hours as opposed to trenchless techniques that can take several weeks; thereby reducing the duration of earth disturbance associated with the Project.

Most watercourses crossed by the Project in Carbon County are relatively narrow and are likely to have low or no flow during the anticipated summer construction season. Besides working during low flow conditions, PennEast has planned to construct the watercourse crossings when impacts to stocked and wild trout watercourses are likely to be minimal based on Pennsylvania Fish and Boat Commission (PFBC) in-watercourse construction windows (with the exception of the Lehigh River/Frances E. Walter crossing, for which PennEast will request an instream construction waiver from the PFBC.)

The Project facilities will be operated and maintained in a way to ensure that a safe and environmentally-friendly conditions are maintained. No herbicides or pesticides will be used for the clearing or maintenance of the temporary or permanent ROW, or within 100 feet of a watercourse. A 30-foot cleared area in the 50-foot permanent ROW, in non-wetland resource areas, will be maintained over the centerline of the pipeline. A permanent 10-foot wide cleared corridor will be maintained through wetland areas in accordance with Federal Energy Regulatory Commission's (FERC's) requirements.

PennEast sited access roads to avoid and minimize impacts to wetlands and watercourses, utilizing existing access roads wherever possible. Within Carbon County, 15 of the 18 proposed access roads are existing roads that require no or only minor improvements. Two of the access roads would result in temporary impacts to wetlands or watercourses. One existing, permanent culvert will be replaced in kind and one new culvert will be installed. Impacts will occur at disturbed locations that have historically been forded with no environmental protection. To minimize impacts to watercourses, PennEast will install temporary equipment bridges that span from top of bank to top of bank, avoiding direct in-watercourse impacts. The temporary bridges on access roads will typically be constructed using wooden equipment mats and in accordance with the E&SCP (JPA Section M). Geotextile fabric will be installed between the



mats to catch sediment from equipment traffic. Wooden side boards will be installed to prevent sediment from running off of the bridge. Bridges will be inspected daily, and any damages will be repaired within 24 hours. Sediment deposits on the crossing or approaches will be removed within 24 hours. Similarly, PennEast will use timber mats or an equivalent to minimize impacts within wetlands. A maximum of two layers of mats would be installed to displace the weight of construction equipment, thereby reducing compaction. Flume pipes may be installed under the wetland mats, as needed, to maintain hydrology.

With the exception of minor impacts at the Kidder Compressor Station, PennEast does not anticipate any direct impacts to surface water resources from aboveground facilities. New aboveground facilities have been sited to avoid surface water resources wherever possible. At the Kidder Compressor Station, impacts to 0.036 acres of PEM wetlands and 0.024 acres of PFO wetland mosaic could not be avoided, and a new culvert must be installed within an unnamed tributary to Black Creek to access the proposed station. The site design for each aboveground facility was planned to avoid, or for the Kidder Compressor Station minimize, encroachment upon, disturbance of and alteration to natural features, which are sensitive to stormwater impacts. The facility location planning process involved early identification of floodplains, wetlands, watercourses, steep slopes and historic and natural resources to avoid these features to the maximum extent practicable. The proposed land cover will change throughout the duration of the proposed Project. During the initial construction stage of the Project, much of the area will be bare earth. Once the facilities are constructed, the site will be stabilized with vegetative cover and in some instances depending on the facility, impervious gravel cover. The stormwater best management practices (BMPs) for this Project have been designed to minimize the extent of the proposed earth disturbance, maximize protection of existing drainage features and vegetation, minimize soil compaction and employ measures and controls that minimize the generation of increased stormwater runoff. Stormwater management site planning techniques were used throughout the site design process to preserve natural systems and hydrologic functions to the maximum extent possible through the use of non-structural BMPs.

3.0 Chapter 93 Compliance

Chapter 93 sets the WQS for surface waters of the Commonwealth, including wetlands. WQS are based on water uses including designated and existing uses and are protected as such under the authority of the Clean Streams Law and other regulations protecting surface water quality. The sections of Chapter 93 related to antidegradation are discussed below.

PADEP regulations in §93.1 define a nonpoint source as “a pollution source which is not a point source discharge.” The same section of the regulation defines a point source discharge as “a pollutant source regulated under the National Pollutant Discharge Elimination System (NPDES).” The nature of the construction activities in Carbon County are associated with the PennEast Mainline Pipeline and five aboveground facilities with proposed stormwater infiltration basins and berms and, as such, do not generate any point source discharges. Non-point discharges are related to precipitation induced sources such as rainfall and snow melt runoff that contact the earth disturbance areas of the Project during the construction stage.

3.1 Section 93.4a – Antidegradation Requirements

Per this requirement, any activity conducted within a surface water of the Commonwealth shall do the following:

Section 93.4a(b): *Existing use protection for surface waters. Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.*

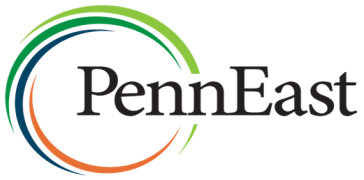
This level of protection is applicable to all surface waters where water quality may not be degraded below levels that protect the existing uses. For activities that may affect surface water and which requires a PADEP permit or approval, the existing uses of the water must be protected. These protections extend to the protection of federal and Pennsylvania-listed threatened and endangered (T&E) species.

Chapter 93 water uses designation and Pennsylvania state-wide existing use classifications have been determined for each watercourse impacted by the Project and is provided in the Aquatic Resources Impact Table in JPA Section A-1. In instances where a watercourse has both a designated use and an existing use, the existing use designation is listed.

PADEP's comprehensive stormwater management policy goals are to improve and sustain ground and surface water quality and quantity through the use of planning practices and BMPs that minimize the generation of stormwater runoff, provide groundwater recharge and minimize the adverse effects of stormwater discharge on ground and surface water resources.

Through the development and implementation of the selected alternatives presented in the Alternative Analysis (JPA Section S), the erosion and sediment control measures provided in the Chapter 102 Erosion and Sediment Control General Permit (ESCGP) Application and the Project's Mitigation Plan (JPA Section L-4), BMPs will be applied that will minimize the generation of stormwater runoff, minimize the adverse effects of stormwater discharge on ground and surface water resources therefore, protecting the water quality and quantities. Primarily, this is accomplished through minimization of workspace, following the requirements of the written E&SCP (JPA Section M) for earth disturbance activities in accordance with PADEP's Erosion and Sediment Pollution Control Program Manual (PADEP 2012), and execution of dry crossing techniques for all watercourse crossings. Reduction of construction workspace limiting the limits of disturbance (LOD) at watercourse and wetland crossings; limiting the crossing time and duration of in-watercourse activities associated with each individual resource crossing, execution of dry crossing methods and placement of the pipeline such that a minimum of 5 feet of cover under watercourse crossings, in addition to the implementation of erosion and sediment control BMPs, further protect water resources existing uses.

PennEast has prepared a Preparedness, Prevention and Contingency (PPC) Plan (JPA Section L-3B) for the Project. The purpose of this plan is to reduce the probability and risk of a potential spill or release of oil or hazardous materials by PennEast and/or contractor(s) during construction-related activities by providing instruction and expediting spill response and clean-up. An Unanticipated Discovery of Contamination Plan that provides work, investigation and reporting procedures for responding to the unanticipated discovery of contamination in soil, groundwater or sediment during excavation,



construction or maintenance activity associated with construction has also been prepared for the Project. PennEast has developed an HDD Inadvertent Returns and Contingency Plan (JPA Section L-3C) for the Project to address preconstruction preparation and establish operational procedures and responsibilities for the prevention, containment and clean-up of inadvertent returns associated with any direction drilling. The development and integration of these plans further protect and maintain water quality through preventative protection and proactive containment and control of any potential releases.

Section 93.4a(c): Protection for HQ Waters - The water quality of HQ Waters shall be maintained and protected, except as provided in §93.4c(b)(1)(iii) (relating to implementation of antidegradation requirements).

Chapter 93 water uses designation and Pennsylvania state-wide existing use classifications have been determined for each watercourse impacted by the Project and is provided in the Aquatic Resources Impact Table in JPA Section A-1. In instances where a watercourse has both a designated use and an existing use, the existing use designation is listed. All HQ waters crossed by the Project are identified in the Aquatic Resource Impact Table. Through the development and implementation of the selected alternatives presented in the Alternative Analysis (JPA Section S), the erosion and sediment control measures provided in the Chapter 102 ESCGP Application and the Project's Mitigation Plan (JPA Section L-4), BMPs will be applied that will minimize the generation of stormwater runoff, minimize the adverse effects of stormwater discharge on ground and surface water resources therefore, protecting the water quality and quantities. Primarily this is accomplished through minimization of workspace, following the requirements of the written E&SCP for earth disturbance activities in accordance with PADEP's Erosion and Sediment Pollution Control Program Manual (PADEP 2012), and execution of dry crossing techniques for all watercourse crossings. Reduction of construction workspace limiting the LOD at watercourse and wetland crossings; limiting the crossing time and duration of in-watercourse activities associated with each individual resource crossing, execution of dry crossing methods, and placement of the pipeline such that a minimum of 5 feet of cover under watercourse crossings in addition to the implementation of erosion and sediment control BMPs further protect water resources existing uses.

In addition, Antidegradation Best Available Combination of Technologies (ABACT) will be utilized in HQ and EV watersheds to provide environmentally sound and cost-effective ABACT BMPs to demonstrate that any change in stormwater runoff rate, volume, or quality will maintain and protect the existing quality and water uses of receiving surface waters and preserve existing baseflow. The E&SCP (JPA Section M) shows the locations of all planned ABACT BMPs and details for construction of these facilities.

The following is a summary of the combination of ABACT BMPs that have been incorporated into the site design and the features that make them ABACT:

Site Access: 100-foot long Rock Construction Entrance(s).

Sediment Barriers: Compost filter socks will generally be utilized for all linear perimeter controls for the Project and particularly within HQ and EV watersheds.



Stabilization: Disturbed areas immediately stabilized upon completion, or temporary cessation, of earth disturbance activity. Disturbed areas stabilized with erosion control blanket within 100 feet of special protection surface waters, within 50 feet of all other receiving surface waters and on slopes 3H:1V or steeper.

As described in Section 2.0, Project impacts to watercourses, including HQ waters, are temporary short-term impacts during construction to surface water resources crossed by the pipeline or located within the Project workspace. Through the development and implementation of avoidance and minimization, the E&SCP (JPA Section M) with integration of ABACT, and other Project Plans including the PPC Plan (JPA Section L-3B), the Project will maintain and protect water quality of HQ waters.

Section 93.4a(d): Protection for Exceptional Value Waters - The water quality of Exceptional Value Waters shall be maintained and protected.

Chapter 93 water uses designation and Pennsylvania state-wide existing use classifications have been determined for each watercourse impacted by the Project and is provided in the Aquatic Resources Impact Table in JPA Section A-1. In instances where a watercourse has both a designated use and an existing use, the existing use designation is listed. All EV waters crossed by the Project are identified in the Aquatic Resources Impact Table, including EV wetlands. The designation of EV wetlands is based on specific characteristics or uses. EV Wetlands are a category of wetlands that deserve special protection. In accordance with Pennsylvania Code 025 §105.17, EV wetlands are to exhibit one or more of the following five characteristics detailed in Sections 105.17(1)(i) through 105.17(1)(v):

- (i) Wetlands which serve as habitat for fauna or flora listed as “threatened” or “endangered” under the Endangered Species Act of 1973 (7 U.S.C.A. § 136; 16 U.S.C.A. § § 4601-9, 460k-1, 668dd, 715i, 715a, 1362, 1371, 1372, 1402 and 1531—1543), the Wild Resource Conservation Act (32 P. S. § § 5301—5314), 30 Pa.C.S.(relating to the Fish and Boat Code) or 34 Pa.C.S. (relating to the Game and Wildlife Code).
- (ii) Wetlands that are hydrologically connected to or located within 1/2-mile of wetlands identified under subparagraph (i) and that maintain the habitat of the threatened or endangered species within the wetland identified under subparagraph (i).
- (iii) Wetlands that are located in or along the floodplain of the reach of a wild trout watercourse or waters listed as exceptional value under Chapter 93 (relating to water quality standards) and the floodplain of watercourses tributary thereto, or wetlands within the corridor of a watercourse or body of water that has been designated as a National wild or scenic river in accordance with the Wild and Scenic Rivers Act of 1968 (16 U.S.C.A. § § 1271—1287) or designated as wild or scenic under the Pennsylvania Scenic Rivers Act (32 P. S. § § 820.21—820.29).
- (iv) Wetlands located along an existing public or private drinking water supply, including both surface water and groundwater sources, that maintain the quality or quantity of the drinking water supply.

- (v) Wetlands located in areas designated by the Department as “natural” or “wild” areas within State Forest or Park lands, wetlands located in areas designated as Federal wilderness areas under the Wilderness Act (16 U.S.C.A. § § 1131—1136) or the Federal Eastern Wilderness Act of 1975 (16 U.S.C.A. § 1132) or wetlands located in areas designated as National natural landmarks by the Secretary of the Interior under the Historic Sites Act of 1935 (16 U.S.C.A. § § 461—467).

Using the definitions above, PennEast evaluated the classification of each wetland that was delineated within the 400-foot-wide survey corridor.

- (i) PennEast consulted with agencies that regulate threatened and endangered (T&E) species. These agencies requested targeted surveys for several species that utilize wetlands as habitat, including: bog turtle (*Glyptemys muhlenbergii*, federal endangered), eastern redbelly turtle (*Pseudemys rubriventris*, state threatened), northeastern bulrush (*Scirpus ancistrochaetus*, federal endangered), northern cricket frog (*Acris crepitans*, state endangered), Collin’s sedge (*Carex collinsii*, state endangered), bog sedge (*Carex paupercula*, state threatened), variable sedge (*Carex polymorpha*, state endangered), sweetgale (*Myrica gale*, state threatened), white-fringed orchid (*Platanthera blephariglottis*, proposed state endangered and sensitive), screw-stem (*Bartonia paniculata*, state rare), rough-leaved aster (*Eurybia radula*, proposed state threatened), and creeping snowberry (*Gaultheria hispidula*, state rare). Within Carbon County, these survey requests included all of the previously listed species except eastern redbelly turtle. Some of the target species were observed in Carbon County wetlands; therefore, several EV wetlands in Carbon County met this parameter.
- (ii) In consultation with federal and state agencies that regulate T&E species and through T&E species surveys, several wetlands that are hydrologically connected to and maintaining the habitat of T&E species were identified within Carbon County. Therefore, several EV wetlands in Carbon County met this parameter.
- (iii) The Project crosses multiple wild trout streams and tributaries thereto. The Project also crosses a few EV watercourses and their tributaries. PennEast evaluated each delineated wetland to determine if it was located within the floodplain of a wild trout stream or EV stream. In most instances, wetlands within a wild trout or EV watershed were categorized as EV. However, in some instances in these watersheds, no watercourses were located near a wetland, so it was classified as “other”. Wetlands that were not in wild trout or EV watersheds were also classified as “other” wetlands. Therefore, several EV wetlands in Carbon County met this parameter.
- (iv) As discussed in Section Module 2 (JPA Section L-2), PennEast used desktop analysis, consulted with public water suppliers, and contacted landowners to determine the locations of public or private drinking water supplies. Private wells were identified near the Project workspace in Carbon County, but none were located within 50 feet of a wetland. PennEast has concluded that no wetlands in Carbon County are located along the water supply that would maintain the quality or quantity of the drinking water supply. Therefore, no EV wetlands in Carbon County met this parameter.



- (v) The Project does not cross and wild or scenic rivers, nor is the Project located in any “natural” or “wild areas” within state forests or park lands, areas designated as federal wilderness areas, or areas designated as National Natural Landmarks. Therefore, no EV wetlands in Carbon County met this parameter.

Through the development and implementation of the selected alternatives presented in the Alternative Analysis (JPA Section S), the erosion and sediment control measures provided in the Chapter 102 ESCGP Application and the Project’s Mitigation Plan (JPA Section L-4), BMPs will be applied that will minimize the generation of stormwater runoff, minimize the adverse effects of stormwater discharge on ground and surface water resources therefore, protecting the water quality and quantities. Primarily this is accomplished through minimization of workspace, following the requirements of the written E&SCP (JPA Section M) for earth disturbance activities in accordance with PADEP’s Erosion and Sediment Pollution Control Program Manual (PADEP 2012), and execution of dry crossing techniques for all watercourse crossings. Reduction of construction workspace limiting the LOD at watercourse and wetland crossings; limiting the crossing time and duration of in-watercourse activities associated with each individual resource crossing, execution of dry crossing methods, and placement of the pipeline such that a minimum of 5 feet of cover under watercourse crossings in addition to the implementation of erosion and sediment control BMPs further protect the water resources existing uses.

In addition, ABACT will be utilized in HQ and EV watersheds to provide environmentally sound and cost-effective ABACT BMPs to demonstrate that any change in stormwater runoff rate, volume or quality will maintain and protect the existing quality and water uses of receiving surface waters and preserve existing baseflow. The E&SCP (JPA Section M) shows the locations of all planned ABACT BMPs and details for construction of these facilities.

The following is a summary of the combination of ABACT BMPs that have been incorporated into the site design and the features that make them ABACT:

Site Access: 100-foot long Rock Construction Entrance(s).

Sediment Barriers: Compost filter socks will generally be utilized for all linear perimeter controls for the Project and particularly within HQ and EV watersheds. Silt fence may be utilized for linear perimeter controls outside of HQ and EV watersheds except where a compost filter sock is required due to steep slope and slope length.

Stabilization: Disturbed areas immediately stabilized upon completion, or temporary cessation, of earth disturbance activity. Disturbed areas stabilized with erosion control blanket within 100 feet of special protection surface waters, within 50 feet of all other receiving surface waters, and on slopes 3H:1V or steeper.

As described in Section 2.0, Project impacts to watercourses, including EV waters, are temporary short-term impacts during construction to surface water resources crossed by the pipeline or located within the Project workspace. Through the development and implementation of avoidance and minimization, the E&SCP (JPA Section M) with integration of ABACT, and other Project Plans including the PPC Plan (JPA Section L-3B), the Project will maintain and protect water quality of EV waters.



3.2 Section 93.4c – Implementation of Antidegradation Requirements

Per this requirement, any activity associated with the waters of the Commonwealth shall do the following:

Section 93.4c(a)(2): Existing Use Protection. Endangered or threatened species. If the Department has confirmed the presence, critical habitat, or critical dependence of endangered or threatened Federal or Pennsylvania species in or on a surface water, the Department will ensure protection of the species and critical habitat.

PennEast has coordinated with U.S. Fish and Wildlife Service (USFWS) PA Field Office, National Marine Fisheries Service (NMFS), PFBC, Pennsylvania Game Commission (PGC), and Department of Conservation and Natural Resources (DCNR) to identify the potential presence of federal and state listed T&E species within the Project area. Each agency evaluated the potential for the Project to affect T&E species under their jurisdiction. Species-specific and habitat related surveys for threatened and endangered species have been completed by qualified biologists in accordance with applicable state or federal survey guidelines between 2015 and 2019.

The species that may be impacted by the Project in Carbon County include northern long-eared bat (*Myotis septentrionalis*, federal threatened), bog turtle, eastern small-footed bat (*Myotis leibii*, state threatened), timber rattlesnake (*Crotalus horridus*, delisted), Allegheny woodrat (*Neotoma magister*, state threatened), northern flying squirrel (*Glaucomys sabrinus macrotis*, state endangered) northern cricket frog, variable sedge, northern panic grass (*Dicanthelium boreale*, state status tentatively undetermined), rough-leaved aster, thread rush (*Juncus filiformis*, state species of concern), Appalachian climbing fern (*Lygodium palmatum*, state species of concern), white fringed orchid, golden club (*Orontium aquaticum*), and Torrey's bulrush (*Schoenoplectus torreyi*, state endangered). The bog turtle, northern cricket frog, and several of the plant species are aquatic species that have habitat within or critical dependence on surface waters.

The DCNR, PFBC, and PGC have provided clearance letters for the Project dated August 24, 2018, October 11, 2018, and January 9, 2019, respectively. These letters are provided in JPA Section G-1. On November 28, 2017, the USFWS issued a Biological Opinion (BO) for impacts that the Project may have on the bog turtle. In the USFWS's 2017 BO, the USFWS concluded that an auger bore that is proposed under an occupied bog turtle wetland in Carbon County is not likely to adversely affect the species. However, other project sub-activities including use of vehicles and heavy machinery, impacts of sediment disturbance, watercourse crossings at tributaries that feed into bog turtle wetlands, rock blasting near bog turtle wetlands, access roads, and tree/vegetation removal are likely to adversely affect the bog turtle. PennEast has committed to implementing the conservation measures listed in Module 2 Section S2.C.2 to minimize impacts to the species. FERC has since re-initiated consultation with the USFWS to modify the 2017 BO, and the USFWS issued an amended BO on July 29, 2019. In the revised BO, the USFWS determined that the modifications will not result in affects above what was analyzed in the November 28, 2017, Opinion. The amended BO concludes formal consultation regarding the Project between the USFWS and FERC.



Section 93.4c(b)(1): Protection of HQ and EV Waters. Point Source Control.

Per Chapter 93.1 and 92a.2, a point source discharge is defined as “a discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, Concentrated Aquatic Animal Production Facility (CAAP), Concentrated Animal Feeding Operation (CAFO), landfill leachate collection system, or vessel or other floating craft, from which pollutants are or may be discharged.” The Project does not involve the construction/installation of any permanent point source discharges directly into HQ and EV waters.

Once the pipeline is completed and before it is placed into service, it will be hydrostatically tested for structural integrity. PennEast will be discharging hydrostatic test water associated with the pressure testing of the pipelines prior to commissioning. The discharge locations will be located outside of HQ and EV watershed per PAG-10 General Permit requirements, and will be sited in well-vegetated upland locations away from floodways and wetlands in other watersheds. Details of the hydrostatic test water discharge equipment and structures will be provided in the PADEP PAG-10 NPDES Discharge Permit NOI Applications submitted to PADEP. The equipment and structures will only be in place as long as necessary to conduct the required tests and discharge the water. Hay bale discharge structures will typically be used according to BMPs, and ABACT BMPs will be implemented as necessary. Details of the discharge structures are included in the E&SCP (JPA Section M).

No new, additional or increased discharge is proposed to HQ or EV Waters. Primarily this is accomplished through minimization of workspace, following the requirements of the written E&SCP (JPA Section M) for earth disturbance activities in accordance with PADEP’s Erosion and Sediment Pollution Control Program Manual (PADEP 2012), and execution of dry crossing techniques for all watercourse crossings. Reduction of construction workspace limiting the LOD at watercourse and wetland crossings; limiting the crossing time and duration of in-watercourse activities associated with each individual resource crossing, execution of dry crossing methods, and placement of the pipeline such that a minimum of 5 feet of cover under watercourse crossings in addition to the implementation of erosion and sediment control BMPs further protect the water resources. PennEast has also incorporated BMPs and ABACT BMPs (compost filter socks) into the E&SCP (JPA Section M) to further reduce potential erosion and sediment impacts to HQ and EV water resources crossed by the Project or located within the limits of disturbance. Therefore, the proposed Project does not include the direct discharge of pollutants associated with Project construction into HQ and EV water resources.

Section 93.4c(b)(2): Protection of HQ and EV Waters. Nonpoint source control. The department will ensure that cost-effective and reasonable best management practices for nonpoint source control are achieved.

PennEast has incorporated cost-effective and reasonable BMPs as well as ABACT BMPs throughout the Project plans, specifically detailed in the E&SCP (JPA Section M) to maintain and protect the water quality of all waters including HQ and EV water resources from nonpoint source discharges associated with the temporary and short-term impacts of the construction of the pipeline and associated facilities.



3.3 Section 93.6 – General Water Quality Criteria

Section 93.6(a): Water may not contain substances attributable to point or nonpoint source discharges in concentration or amounts sufficient to be inimical or harmful to the water uses to be protected or to human, animal, plant or aquatic life. (b) In addition to other substance listed within or addressed by this chapter, specific substances to be controlled include, but are not limited to, floating materials, oil, grease, scum and substances that produce color, tastes, odors, turbidity or settle from deposits.

Construction of the Project includes temporary short-term impacts during construction to surface water resources crossed by the pipeline or located within the Project workspace. Temporary impacts on surface waters include disturbance of watercourse banks, removal of riparian vegetation and in some instances, the temporary diversion of watercourse flow during dry crossing construction resulting in a temporary increase in turbidity during construction activities. Through the development and implementation of the selected alternatives presented in the Alternative Analysis (JPA Section S), the erosion and sediment control measures provided in the Chapter 102 ESCGP Application and the Project's Mitigation Plan (JPA Section L-4), BMPs will be applied that will minimize the generation of stormwater runoff, minimize the adverse effects of stormwater discharge on ground and surface water resources therefore, protecting the water quality and quantities. Primarily this is accomplished through minimization of workspace, following the requirements of the written E&SCP (JPA Section M) for earth disturbance activities in accordance with PADEP's Erosion and Sediment Pollution Control Program Manual (PADEP 2012), and execution of dry crossing techniques for all watercourse crossings. Reduction of construction workspace limiting the LOD at watercourse and wetland crossings, limiting the crossing time and duration of in-watercourse activities associated with each individual resource crossing, execution of dry crossing methods, placement of the pipeline such that a minimum of 5 feet of cover under watercourse crossings, and restoring pre-construction contours to affected resources, in addition to the implementation of erosion and sediment control BMPs, further protect the water resources existing uses. The Project does not include new point source discharges or include the discharge of substances that would alter the long-term chemical, biological or physical conditions of water resources within the Project area. Consequently, the potential does not exist for the construction of the Project to modify the water use of aquatic life of the resources impacted.

PennEast has prepared a PPC Plan (JPA Section L-3B) for the Project. The purpose of this plan is to reduce the probability and risk of a potential spill or release of oil or hazardous materials by PennEast and/or contractor(s) during construction-related activities by providing instruction and expediting spill response and clean-up. An Unanticipated Discovery of Contamination Plan that provides work, investigation and reporting procedures for responding to the unanticipated discovery of contamination in soil, groundwater or sediment during excavation, construction or maintenance activity associated with construction has also been prepared for the Project. PennEast has developed an HDD Inadvertent Returns and Contingency Plan (JPA Section L-3C) for the Project to address preconstruction preparation and establish operational procedures and responsibilities for the prevention, containment and clean-up of inadvertent returns associated with any direction drilling. The development and integration of these plans further protect and maintain water quality through preventative protection and proactive containment and control of any potential releases.



4.0 Chapter 95 Compliance

Chapter 95 applies to wastewater treatment requirements. As this Project does not involve the treatment or discharge of wastewater, this chapter is not applicable to the Project.

5.0 Chapter 102 Compliance

According to Chapter 102 “persons proposing or conducting earth disturbance activities to develop, implement and maintain BMPs to minimize the potential of accelerated erosion and sedimentation and to manage post construction stormwater. The BMPs shall be undertaken to protect, maintain, reclaim and restore water quality and the existing and designated use of waters of this Commonwealth” (25 PA Code § 102). PennEast has developed a full E&SCP for the PA Chapter 102 ESCGP Application (JPA Section M). The E&SCP consists of a written narrative and its attached appendices including plan drawings. It was developed to be in accordance with the requirements of 25 PA Administrative Code Chapters 78 and 102, as well as the Clean Streams Law (35 P. S. §§ 691.1001), as amended, utilizing guidelines and BMP information provided in the Erosion and Sediment Control BMP Manual.

The components of Chapter 102 associated with antidegradation requirement have been identified and Project compliance with these regulatory requirements are discussed in detail below. This document in combination with the ESCGP Application provides additional information related to the Chapter 102 antidegradation requirements that the Project proposes for earth disturbance activities.

5.1 Section 102.4(b) – Erosion and Sediment Control Requirements

Section 102.4(b) applies to earth disturbance activities other than agricultural plowing and tilling or animal heavy use areas and requires the implementation and maintenance of E&S BMPs. The development of a written E&SCP is required if one or more of the criteria apply to the earth disturbance activities: total earth disturbance is 5,000 square feet or more, E&SCP is a requirement under other department regulations, and/or earth disturbance activities have the potential to discharge to a water classified as a HQ or EV water under Chapter 93. The Project fulfills all three of the criteria for the development of a written E&SCP as earth disturbance activities are over 5,000 square feet, the development of a written E&SCP is a requirement of the Chapter 105 Joint Permit and Chapter 102 ESCGP Application process, and it is located within HQ and EV watersheds as discussed above in Section 2.0. In accordance with these requirements, a written E&SCP (JPA Section M) has been prepared by a person trained and experienced in E&S controls methods and techniques for the size and scope of this Project.

The E&SCP (JPA Section M) describes the plan and implementation process for minimizing the extent and duration of the earth disturbance, maximizing protection of existing drainage features and vegetation and minimizing and mitigating soil compaction. The LOD delineated on the E&SCP drawings has been established to restrict construction activities to the minimum area needed to effectively and efficiently construct the proposed facilities. In addition to limiting the extents of the proposed earth disturbance, construction activities have been planned to limit the duration of earth disturbance. Installation of the pipeline will typically proceed from one end of the construction spread to the other in an assembly line or "mainline" fashion. The spacing between the individual crews responsible for each interdependent

activity is based on anticipated rate of progress. Construction is sequenced to limit, to the extent possible, the amount and duration of disturbed ROW and open trench sections, to prevent excessive erosion or sediment flow into environmental resource areas.

5.2 Section 102.4(b)(6) – Erosion and Sediment Control Requirements

Per this requirement and in accordance with Chapter 11 of PADEP’s antidegradation guidelines (PADEP 2003), any earth disturbance activity associated with HQ and EV waters/wetlands shall do the following:

Section 102.4(b)(6)(i): Evaluate and include non-discharge alternatives in the E&SCP, unless a person demonstrates that non-discharge alternatives do not exist for the project.

The proposed Project has been evaluated for non-discharge alternatives for compliance with state regulatory agency antidegradation requirements. Non-discharge alternatives are defined as “environmentally sound and cost effective BMPs that individually or collectively eliminate the net change in stormwater volume, rate and quality for storm events up to and including the 2-year/24-hour storm when compared to the stormwater rate, volume and quality prior to the earth disturbance activities to maintain and protect the existing quality of the receiving surface waters of the Commonwealth.”

Various BMPs identified as non-discharge alternatives in the Erosion and Sediment Pollution Control Program Manual (PADEP 2012) were considered and evaluated for implementation as part of the proposed activities. These alternatives were evaluated individually, and in various combinations, for their ability to minimize accelerated erosion and sedimentation during the earth disturbance activity in order to achieve no net change from pre-development to post-development volume, rate, and concentration of pollutants in stormwater runoff. The following summarizes the non-discharge alternatives utilized or considered for implementation on this Project as presented in the E&SCP Narrative (JPA Section M).

- Alternative Routes were evaluated as part of the process during routing study and Critical Issues Assessment (CIA). An Alternative Analysis is presented as JPA Section S. Relocation of the Project outside of special protection watersheds was not feasible. Avoidance of wetland and watercourse impacts by routing the pipeline around and siting the workplace outside of protected resources where possible, and minimization of impacts through reduced LOD and perpendicular angles across wetlands and watercourse crossings was completed through alternative route evaluations.
- Minimization of earth disturbance by reduction of LOD to restrict construction activities to the minimum area needed to effectively and efficiently construction the proposed facilities. Reduced LODs for each watercourse crossing are shown on Site-Specific Crossing Plans.
- Limiting extent and duration of the disturbance through implantation of “mainline” construction techniques that sequence the construction to limit the amount and duration of each stage to prevent excessive erosion or sediment flow in environmental resource areas.
- The feasibility of protecting, converting or establishing a riparian forest buffer meeting the requirements of 25 PA Code §102.14 was analyzed for the Project. Due to the linear nature of the Project that requires the crossing of riparian forest buffers, impact to riparian forest buffers were limited by reducing workspace at watercourses crossing located within HQ and EV watersheds.

- Combination of cost-effective and environmentally sound BMPs for installation in a “treatment train” that collectively eliminate the net change in stormwater volume, rate and quality from pre-development to post-development conditions.

A summary of the BMPs and associated explanations are presented in Table CA-L3E-2 below.

Table CA-L3E- 2
Summary of Non-Discharge Alternative BMPs for the Project in Carbon County

Non-discharge alternative BMP	Implemented in Project Design	Explanation
Alternative Routes	No	Alternative routes were evaluated and implemented, but none that would avoid special protection watersheds. Based on the linear nature of the Project and various natural gas delivery points, special protection watersheds cannot be avoided.
Limited Disturbed Area	Yes	The proposed LOD restrict construction activities to the minimum area needed to effectively and efficiently construct the Project.
Limiting Extent and Duration of the Disturbance	Yes	Earth disturbance will be limited to the respective stage of work in the construction sequence. Temporary or permanent stabilization will occur as soon as possible upon the completion of each stage.
Riparian Buffers and Riparian Forest Buffers	Yes and No	Yes: Forested riparian buffers were avoided to the extent practicable for above-ground facilities. Within Carbon County, the Kidder Compressor Station and the Blue Mountain Interconnect would impact riparian buffers. PennEast has requested a riparian buffer waiver for these impacts. No: Based on the linear nature of the pipeline, forested riparian buffers cannot be avoided during construction. Forested riparian buffers along the pipeline ROW will be seeded with a riparian buffer conservation mix and replanted with trees and shrubs, with the exception of a 30-foot wide ROW that will be free of trees, maintained as such to protect the integrity of the pipeline coating.



Non-discharge alternative BMP	Implemented in Project Design	Explanation
Treatment Train Combination of BMPs	No	There is no combination of non-discharge alternative BMPs that would result in no net change from pre-development to post-development volume, rate and concentration of pollutants in stormwater runoff; therefore, PennEast proposes to use ABACT BMPs for the Pennsylvania portion of the Project.

Furthermore, erosion and sediment control BMPs will be deployed during earth disturbance activities to protect existing drainage features and vegetation, minimize and mitigate soil compaction and minimize the generation of increased runoff as detailed in the E&SCP (JPA Section M). Post-construction BMPs will also be employed for the life of the Project to address restoration and operation of the pipeline ROW to further ensure the minimization of potential erosion and sedimentation on the ROW:

Waterbars: Earthen waterbars (slope breakers) are specified on the E&SCP drawings in hillside locations where it will be necessary to divert both upslope and disturbed area runoff to vegetated areas to help minimize accelerated erosion and sedimentation. A construction detail is provided on Drawing 000-03-09-003 (Figure 9) of the E&SCP. They are to be aligned such that runoff will be directed towards the downslope side of the disturbed area and avoid flowing back into the ROW. The construction details call for a sediment barrier (typically a compost filter sock or silt fence) at the waterbar point of discharge. Waterbars on ROWs shall be left in place after permanent stabilization has been achieved. Waterbars will be removed from agricultural use parcels to allow for the continuation of farming activities. Maintenance of waterbars shall be provided until ROW has achieved permanent stabilization.

Trench Plugs: Temporary trench plugs are specified on the E&SCP drawings to inhibit channelized flow which may occur in the trench when open during construction and also after backfilling of the trenchline. Permanent trench plugs shall be installed to prevent the trench from draining the wetlands and or changing the hydrology. The construction details are presented on Drawings 000-03-09-003 (Figures 12 and 13) of the E&SCP.

Rock Construction Entrances: Rock construction entrances are specified on the E&SCP view drawings to control sediment tracking from the construction site at egress points. Vehicle access locations are shown in plan view on the E&SCP alignment sheets and access road drawings. The rock construction entrance detail is presented on Drawing 000-03-09-001 (Figure 1). In special protection watersheds, rock construction entrances will be extended to a minimum 100-foot length, as shown on Drawing 000-03-09-007 (Figure 42) of the E&SCP.

Erosion Control Blanket: In accordance with the notes listed on Drawing 000-03-09-004 (Figure 11-1) of the E&SCP, erosion control blankets are to be placed on disturbed areas within 50 feet of watercourses



and on slopes steeper than 3H:1V. In HQ/EV watersheds, an erosion control blanket is to be placed on disturbed areas within 100 feet of watercourses. Areas to be blanketed are indicated on the E&SCP view drawings.

Sediment Barriers: Approximate compost filter sock locations are shown in plan view on the E&SCP alignment sheet drawings. The compost filter sock details are presented on Drawing 000-03-09-002 (Figures 5A-5C).

The J-hook sediment barrier configuration detail is presented on Drawing 000-03-09-002 (Figure 7). This configuration becomes necessary when a sediment barrier is needed but cannot be oriented parallel to the contour. It is intended to intercept runoff from disturbed areas and capture some of the flow in a "J-hook" at the low end of each section of sediment barrier. J-hook sediment barriers are necessary at the discharge end of waterbars where a well vegetated area is not available.

Revegetation: The construction workspace will be reseeded and revegetated to ensure proper restoration. The ROW will be monitored after construction to identify any areas not successfully restored to ensure all disturbed areas reach 70% uniform revegetation in order to return the area to its pre-construction state.

Based on the evaluation of the non-discharge alternatives and implementation of the E&S control BMPs there is no combination of non-discharge alternative BMPs that enable the earth disturbance activities to achieve no net change from pre-development to post-development volume, rate and concentration of pollutants in stormwater runoff up to and including the 2-year/24-hour storm. In the absence of feasible non-discharge alternatives, ABACT BMPs will be utilized to address antidegradation requirements for the Pennsylvania portion of the Project.

Section 102.4(b)(6)(ii): If the person makes the demonstration in subparagraph (i) that non-discharge alternatives do not exist for the project, the E&SCP must include ABACT, except as provided in §93.4c(b)(1)(iii).

As demonstrated in the previous section, non-discharge alternatives do not exist for the proposed Project. Environmentally sound and cost-effective ABACT BMPs will be utilized to demonstrate that any change in PA stormwater runoff rate, volume or quality will maintain and protect the existing quality and water uses of receiving surface waters and preserve existing baseflow. The E&SCP (JPA Section M) shows the locations of all planned ABACT BMPs and details for construction of these facilities. The following is a summary of the combination of ABACT BMPs that have been incorporated into the site design and the features that make them ABACT:

Site Access: 100-foot long Rock Construction Entrance(s)

Sediment Barriers: Compost filter socks will generally be utilized for all linear perimeter controls.

Stabilization: Disturbed areas immediately stabilized upon completion, or temporary cessation, of earth disturbance activity. Disturbed areas stabilized with an erosion control blanket within 100 feet of special



protection surface waters, within 50 feet of all other receiving surface waters, and on slopes 3H:1V or steeper.

Non-discharge alternatives and ABACT and their design standards were developed according to the *Erosion and Sediment Pollution Control Program Manual*, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 363-2134-008 (March 2012).

5.3 Section 102.8(h) – Post Construction Stormwater Management Requirements

Per this requirement, any earth disturbance activity associated with HQ and EV waters/wetlands shall do the following in relation to post construction stormwater management (PCSM):

Section 102.8(h)(1): Evaluate and include non-discharge alternatives in the PCSM Plan unless a person demonstrates that non-discharge alternatives do not exist for the project.

For pipeline construction, the approximate original contours of the workspace will be maintained and/or restored to their original condition following construction, and disturbed areas will be re-vegetated or restored with pervious material. Existing drainage patterns will be maintained, and the volume and rate of stormwater runoff from the Project area in the post-construction condition is not expected to exceed that of the existing condition.

The above-ground facilities that are proposed within Carbon County (the Kidder Compressor Station, Blue Mountain Interconnect, and Blue Mountain Side Valve) are sited in special protection watersheds; therefore, a non-discharge alternatives analysis was conducted in developing the PCSM Plans. As described in the PCSM Plans in the ESCGP application (Section 3-3), the Project has been designed eliminate the net change in stormwater volume, rate, and quality for stormwater events up to and including the 2-year/24-hour storm. Various structural and non-structural BMPs will be used to meet water quantity and quality requirements.

Section 102.8(h)(2): If the person makes the demonstration in paragraph (1) that non-discharge alternatives do not exist for the project, the PCSM Plan must include ABACT, except as provided in §93.4c(b)(1)(iii).

No new, additional or increased discharge is proposed to HQ or EV Waters. The approximate original contours of the workspace will be maintained and/or restored to their original condition following construction, and all disturbed areas will be re-vegetated or restored with pervious material. ABACT measures are proposed for the Project.

5.4 Section 102.14 – Riparian Buffer Requirements

The pipeline mainline route will cross riparian buffers regulated under 25 Pennsylvania Code Chapter 102.14. Specifically, these regulated areas include 150 feet from perennial and intermittent waters located within EV and HQ watersheds. The proposed Project requires site reclamation or restoration as part of its



permit authorization in Pennsylvania Code Chapters 78, 86-90 and 102. Chapter 105 Water Obstruction and Encroachment Permits (JPAs) are being sought for the watercourse and wetland crossings associated with the Project. These permits would authorize impacts to the Riparian Areas associated with each crossing, and pipeline construction would be an allowable activity as per Chapter 102.14(f)(2)(ii). Impacts to the 150-foot riparian buffer have been minimized to the extent possible in accordance with Title 25, Chapter 102.14(d)(1)(vii). The proposed activities will leave existing riparian buffers undisturbed to the extent practicable and where not feasible, the appropriate revegetation will be completed to mitigate for the temporary impact. Forested riparian buffers along the pipeline ROW will be seeded with a riparian buffer conservation mix and replanted with trees and shrubs, with the exception of a 30-foot wide ROW that will be free of trees, maintained as such to protect the integrity of the pipeline coating.

6.0 Chapter 105 Compliance

6.1 Section 105.14 – Review of Applications

Per this requirement, any activity associated with the waters of the Commonwealth shall do the following:

Section 105.14(b)(11): Consistency with state antidegradation requirements contained in Chapters 93, 95 and 102 (relating to WQS; wastewater treatment requirements; and E&S control) and the CWA (33 U.S.C.A. § §1251-1376).

Section 3.0 of this analysis details the compliance of the Project with the Chapter 93 antidegradation requirements to maintain and protect the existing and designated water use for surface waters impacted by the Project. Chapter 95 applies to wastewater treatment requirements, as this Project does not involve the treatment or discharge of wastewater, this chapter is not applicable to the Project and is discussed in Section 4.0 of this document. Chapter 102 is related to E&S Control Requirements and ABACT BMPs for special protection waters. The Project compliance with these protection requirements are detailed above in Section 5.0. The CWA antidegradation requirements and the Project compliance with these requirements are discussed below in Section 7.0. These sections, in combination with specific Project plans demonstrate that the Project will not cause or contribute to a violation of the state WQS.

6.2 Section 105.16 – Environmental, Social and Economic Balancing

Per this requirement, any activity associated with the waters of the Commonwealth shall do the following:

Section 105.16c: An application for a permit will not be approved by the Department in the following areas unless the applicant demonstrates and the Department finds that the Project will not have an adverse impact upon the public natural resources:

- (1) A project located in or within 100 feet of a watercourse or body of water that has been designated as a Natural or State wild or scenic river in accordance with the Wild and Scenic Rivers Act of 1968 (16 U.S.C.A § § 1271 – 1287) or the Pennsylvania Scenic Rivers Act (32 P.S. § § 820.21 – 820.29).



- (2) A project located in or within 100 feet of a Federal wilderness area designated in accordance with the Wilderness Act (16 U.S.C.A § § 1131 – 1136) or the Federal Eastern Wilderness Act of 1975 (16 U.S.C.A § § 1132.)
- (3) A project located within an area which serves as a habitat of a threatened or endangered species protected by the Endangered Species Act of 1973 (7 U.S.C.A. § 136; 16 U.S.C.A § § 4601-9, 460k, 668dd, 715a, 1362, 1371, 1372, 1402 and 1531 – 1543) or for a species which has been designated as a threatened or endangered species under the Wild Resource Conservation Act (32 P.S. § § 5301 – 5314), 30 Pa.C.S. (relating to the Fish and Boat Code) or 34 Pa.C.S. (relating to the Game and Wildlife Code).
- (4) A project located in waters designated as exceptional value in Chapter 93 (relating to water quality standards).

The proposed Project would be constructed in compliance with applicable specifications, federal regulations and guidelines, and Project-specific permit conditions. PennEast selected the proposed pipeline route to avoid and minimize effects to environmental features to the greatest extent practicable while maintaining the economic and safety standards of the Project. Details regarding the Project's potential impacts and applicable avoidance and minimization measures are provided in JPA Section L-3 and JPA Section S, respectively.

6.3 Section 105.18a – Permitting of structures and activities in wetlands.

Section 105.18(a)(4): The project will not cause or contribute to a violation of an applicable state WQS.

Section 3.0 of this analysis details the compliance of the Project with the Chapter 93 antidegradation requirements to maintain and protect the existing and designated water use for surface waters impacted by the Project. Chapter 95 applies to wastewater treatment requirements, and as this Project does not involve the treatment or discharge of wastewater, this chapter is not applicable to the Project and is discussed in Section 4.0 of this document. Chapter 102 is related to E&S Control Requirements and ABACT BMPs for special protection waters. The Project compliance with these protection requirements are detailed above in Section 5.0. The CWA antidegradation requirements and the Project compliance with these requirements are discussed below in Section 7.0. These sections, in combination with specific Project plans demonstrate that the Project will not cause or contribute to a violation of the state WQS.

Section 105.18a(a)(6):The cumulative effect of this project and other projects will not result in the impairment of the Commonwealth's exceptional value wetland resources.

PennEast has evaluated and routed the proposed pipeline facilities and work areas to avoid and minimize effects on wetlands to the greatest extent practicable while maintaining engineering standards and safety. As part of the overall pipeline route evaluation process, PennEast conducted a thorough routing study and CIA of possible routes. Then pipeline locations were field evaluated for constructability and initial aquatic resource identification. Watercourses and wetlands were identified and surveyed to allow PennEast to shift the pipeline ROW around resources where possible. Due to the linear nature of the Project and the linear nature of aquatic resources, coupled with physical constraints such as roadways and steep terrain, not all impacts to aquatic resources could be avoided. Impacts were minimized by shifting



to cross wetlands and watercourses at their narrowest practicable point, co-locating with other ROWs and previously-disturbed areas, and reducing workspace within wetlands, floodways, and riparian areas to the extent practicable. Through the final design engineering process and environmental avoidance activities, the Proposed Route, was developed as the best (most cost effective and least environmental impact) version of the combined alternatives evaluated.

ABACT will be utilized in HQ and EV watersheds to provide environmentally sound and cost-effective ABACT BMPs to demonstrate that any change in stormwater runoff rate, volume or quality will maintain and protect the existing quality and water uses of receiving surface waters and preserve existing baseflow. The E&SCP (JPA Section M) shows the locations of all planned ABACT BMPs and details for construction of these facilities. The following is a summary of the combination of ABACT BMPs that have been incorporated into the site design and the features that make them ABACT:

Site Access: 100-foot long Rock Construction Entrance(s).

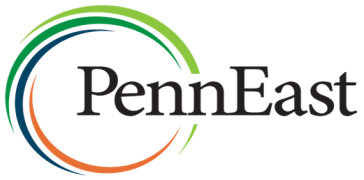
Sediment Barriers: Compost filter socks will generally be utilized for all linear perimeter controls within HQ and EV watersheds. Silt fence will generally be utilized for linear perimeter controls outside of HQ and EV watersheds except where a compost filter sock is required due to steep slope and slope length.

Stabilization: Disturbed areas immediately stabilized upon completion, or temporary cessation, of earth disturbance activity. Disturbed areas stabilized with erosion control blanket within 100 feet of special protection surface waters, within 50 feet of all other receiving surface waters, and on slopes 3H:1V or steeper.

As described in Section 2.0, Project impacts to HQ and EV watersheds are temporary short-term impacts during construction to wetlands crossed by the pipeline or located within the Project workspace. Through the development and implementation of avoidance and minimization, E&SCP (JPA Section M) with integration of ABACT, and other Project Plans including the PPC Plan (JPA Section L3-B), the Project will maintain and protect water quality of HQ watersheds.

PennEast prepared a Cumulative Impacts Analysis (CIA) for the Project, which is provided in JPA Section L-3F. The CIA evaluates the cumulative impact of the Project and other potential or existing projects, and if impacts may result in a major impairment of the wetland resources, in consideration of interrelated wetland areas (inclusive of adjacent watercourses), affected by the Project. The CIA also has been prepared to comply with the requirements of §105.18a(a)(6) and 105.18a(b)(6) to evaluate if the effect of the Project when considered in combination with the impacts of other potential or existing projects, including consideration of interrelated wetland areas (inclusive of adjacent watercourses), may result in the impairment of the Commonwealth's EV wetland resources or a major impairment of the Commonwealth's other wetland resources, respectively.

The CIA concludes that the implementation of the Project and other potential or existing projects evaluated within the cumulative impacts assessment area (CIAA) will result in the aggregate cumulative areal extent of permanent wetland impact of approximately 7.184 acres, and the cumulative permanent watercourse impact of approximately 193 linear feet. These impacts will result in only a minor loss of wetlands or waters including 0.036 acres of palustrine emergent (PEM) wetlands and 0.024 acres of



palustrine forested (PFO) wetland mosaic to construct and operate the Kidder Compressor Station, and 31 linear feet of watercourses that would be affected by the installation or in-kind replacement of permanent culverts. Additionally, within the CIAA, these permanent impacts will include approximately 7.097 acres of permanent conversion of PFO and palustrine scrub shrub (PSS) wetland cover types to PEM and PSS cover types within a 30-foot wide maintained ROW; however, there will be no loss of wetland acreage within the maintained ROW. With the implementation of each potential or existing project in compliance with BMPs and permit conditions, the disturbances to wetlands and watercourses are or are anticipated to be minor and temporary and will result in no more than minimal individual and cumulative adverse environmental effects.

Based on these aggregate (i.e., cumulative) impacts of the Project and other potential or existing projects evaluated within the CIA, the wetland impacts associated with all the Chapter 105 applications related to this Project, in consideration of interrelated wetland areas (inclusive of adjacent watercourses), will not result in the impairment of the Commonwealth's EV wetland resources.

Section 105.18a(b)(6): The cumulative effect of the project and other projects will not result in the major impairment of this Commonwealth's wetland resources.

There will be no permanent wetland loss from construction of the pipeline in Carbon County, as wetland disturbances will only include temporary disturbances or permanent conversion from PFO and/or PSS wetland to PEM. However, construction and operation of the Kidder Compressor Station will result in filing approximately 0.036 acres of PEM wetlands and 0.024 acres of PFO wetland mosaic. As detailed in the Mitigation Plan in JPA Section L-4, PFO and PSS wetlands along the pipeline ROW will be seeded with a wetland conservation seed mix and replanted with trees and/or shrubs, with the exception of a 30-foot wide ROW that will be free of trees, maintained as such to protect the integrity of the pipeline coating.

PennEast proposes offsite compensatory mitigation to compensate for the permanent impacts to wetland cover types and the permanent wetland fill, which is further detailed in JPA Section L-4B.

As stated above, PennEast prepared a CIA for the Project, which is provided in JPA Section L-3F. Based on the aggregate (i.e., cumulative) impacts of the Project and other potential or existing projects evaluated within the CIA, the wetland impacts associated with all the Chapter 105 JPAs related to this Project, in consideration of interrelated wetland areas (inclusive of adjacent watercourses), will not result in the major impairment of the Commonwealth's wetland resources.

7.0 Clean Water Act Compliance

The Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.) was reorganized and expanded in 1972. With this revision, the Act is referred to as the CWA. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical and biological integrity of the nation's waters so that they can support the protection and propagation of fish, shellfish and wildlife, as well as recreation in and on the water (33 U.S.C. § 1251 et seq.).



7.1 Section 301 – Effluent Limitations

Section 301 of the CWA sets standards and enforcement for effluent limitations related to point source discharges and outlines state involvement in setting state standards and requirements for effluent of pollutants in point source discharges. As stated above, the construction activities in Carbon County are associated with the PennEast Mainline Pipeline and five aboveground facilities with proposed stormwater infiltration basins and berms, and as such do not generate any point source discharges. Non-point discharges are related to precipitation induced sources such as rainfall and snow melt runoff that contact the earth disturbance areas of the Project during the construction stage.

PennEast will also discharge hydrostatic test water associated with the pressure testing of the pipelines prior to commissioning. The discharge locations will be located outside of HQ and EV watershed per PADEP's PAG-10 General Permit requirements, and will be sited in well-vegetated upland locations away from floodways and wetlands in other watersheds. The hydrostatic test water will be discharged into a haybale structure as shown in the E&SCP (JPA Section M) and will be allowed to infiltrate into the ground. Therefore, the hydrostatic test discharges would also not be point source discharges. PennEast will monitor hydrostatic test discharges and will test for the parameters outlined in the PAG-10 General Permit.

7.2 Section 302 – Water Quality Related Effluent Limitations

Section 302 of the CWA is related to discharges of pollutants from a point source or group of point sources where effluent limitations would still not attain the water quality for a specific portion of the navigable water and includes alternative effluent control strategies and outline permit requirements. The Project does not include any discharge of toxic pollutants or point source discharges; therefore, this section is not applicable to this Project.

7.3 Section 311 – Oil and Hazardous Substance Liability

This portion of the CWA is related to the policy against the discharge of oil or hazardous substances, implementation of a higher standard of care and outlines penalties including civil penalties. PennEast has prepared an PPC Plan (JPA Section L-3B) for the Project. The purpose of this plan is to reduce the probability and risk of a potential spill or release of oil or hazardous materials by PennEast and/or contractor(s) during construction-related activities by providing instruction and expediting spill response and clean-up. An Unanticipated Discovery of Contamination Plan that provides work, investigation and reporting procedures for responding to the unanticipated discovery of contamination in soil, groundwater or sediment during excavation, construction or maintenance activity associated with construction has also been prepared for the Project. PennEast has developed an HDD Inadvertent Returns and Contingency Plan (JPA Section L-3C) for the Project to address preconstruction preparation and establish operational procedures and responsibilities for the prevention, containment and clean-up of inadvertent returns associated with any direction drilling. The development and integration of these plans further protect and maintain water quality through preventative protection and proactive containment and control of any potential releases to compile with the CWA requirements.



7.4 Section 316 – Thermal Discharges

Effluent limitation for the control of thermal components of any discharge for point sources is covered in Section 316 of the CWA which outlines that effluent limitations need to be “*more stringent than necessary to ensure the protection and propagation of the balance, indigenous population of shellfish, fish and wildlife in and on the body of water into which the discharge is to be made.*” There are no proposed increases in stormwater runoff associated with the pipeline ROW. All earth disturbances associated with the pipeline ROW will be stabilized with native meadow vegetation to promote infiltration to assist in mitigating temperature rises. At above-ground facilities where new impervious surface is proposed, infiltration of runoff collected in basins or berms will mitigate thermal impacts from post-construction stormwater. Therefore, the Project’s post-construction impact on thermal components will not alter aquatic resources. There are no long-term point source discharges associated with the Project, thereby eliminating any possible discharge that would impact thermal components of watercourses.

7.5 Section 401 – Permits and Licenses

Section 401 of the CWA is related to certifications required for compliance with applicable requirements, application, and procedures, and license suspension for any applicant for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the state in which the discharge originates. This Project received a Section 401 Water Quality Certification from the PADEP on February 7, 2017 in compliance with this requirement.

7.6 Section 402 – National Pollutant Discharge Elimination System

NPDES requirements are contained in Section 402 of the CWA for obtaining permits to discharge any pollutants. This section provides provisions for each state to administer its own permit program for discharges into navigable waters. Pennsylvania has an approved state program regulated under PA Chapter 92a. PennEast will prepare the necessary Notice of Intent for the discharge of hydrostatic discharge water for coverage under PADEP PAG-10 NPDES General Permit for Discharge from Hydrostatic Testing of Tanks and Pipelines in compliance with this Section and Chapter 92a.

7.7 Section 404 – Permits for Dredged or Fill Material

Section 404 of the CWA regulates the permits for dredged or fill material discharged into navigable waters. The US Army Corps of Engineers (USACE) and the PADEP administer the Section 404 Certification process in Pennsylvania through the JPA Process. The requirements of this section and related USACE and PADEP program have been included in Chapter 105 Dam Safety and Waterway Management JPA for the Project. The Project will obtain all necessary permits under this section from USACE and PADEP of area under the jurisdiction of the agencies prior to commencement of construction. Hence, the Project is in compliance with the requirements of this section of the CWA.



8.0 References

PADEP 2003. Water Quality Antidegradation Implementation Guidance. Document Number 391-0300-002. PADEP, Bureau of Water Supply and Wastewater Management. Available online at: <http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-47704/391-0300-002.pdf>

PADEP 2012. Erosion and Sediment Pollution Control Program Manual. Technical Guidance Number 363-2134-008. PADEP, Bureau of Water Supply and Wastewater Management. Available online at: <http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-88925/363-2134-008.pdf>

25 Pa. Code § 93. Water Quality Standards.

25 Pa. Code § 95. Wastewater Treatment Requirements.

25 Pa. Code § 102. Erosion and Sediment Control.

33 U.S.C. § 1251 et seq. Federal Water Pollution Control Act.