Transcontinental Gas Pipe Line Company, LLC

NORTHEAST SUPPLY ENHANCEMENT PROJECT

REQUIREMENT J - ENVIRONMENTAL ASSESSMENT FORM:
MODULE S1 – PROJECT SUMMARY
PADEP CHAPTER 105/USACE SECTION 404 JOINT PERMIT APPLICATION

JUNE 2025

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A. PROJECT DESCRIPTION

Transcontinental Gas Pipe Line Company, LLC (Transco) is submitting Joint Permit Application (JPA) for Project related impacts to Waters of the United States subject to jurisdiction under Section 404 of the Clean Water Act and subject to PA Code Title 25 Chapter 105. Transco is applying for an Individual Joint Permit with the United States Army Corps of Engineers (USACE) Baltimore District and Pennsylvania Department of Environmental Protection (PADEP) Chapter 105 Permit, respectively, for the Quarryville Loop. No Waters of the United States are to be impacted at the Compressor Station 200. Transco filed a Petition for Expedited Reissuance of Certificate Authority with the Federal Energy Regulatory Commission on May 29, 2025, requesting the reissuance of the certificate of public convenience and necessity, as amended, authorizing Transco to construct and operate the NESE Project.

The Wetland Delineation Report is provided in Enclosure A of this application.

The following describes aquatic habitat relative to the categories outlined in Module S2: Resource Identification and Characterization of the Environmental Assessment (EA) Form. All Resource Reports referenced throughout this document refer to those included in the FERC application, filed in March 2017 for the Project along with recently completed due diligence efforts performed to confirm continued consistency of the resources with past studies and reports.

B. PROJECT PURPOSE, NEED, WATER DEPENDENCY, RESOURCES PRESENT AND RESOURCE IMPACTS

B1. Project Purpose

Transco proposes to construct, install, and operate the Quarryville Loop as part of the NESE. NESE is proposed to provide 400,000 Dth/d of incremental firm transportation capacity to National Grid from Compressor Station 195 through the Rockaway Transfer Point to supply National Grid's existing service territory. Transco's existing natural gas transportation system currently supplies natural gas to the New York City metropolitan region via National Grid's existing receipt points.

The Quarryville Loop is proposed as part of the overall NESE Project and is a necessary component of the Project to meet the goals outlined above. The Quarryville Loop will help to provide additional gas supply during periods of increased peak demand resulting from increased residential and commercial usage related to population and market growth and the phase-out of fuel oil in New York City.

B2. Water Dependency

Based on the Project purpose and need presented above to increase capacity, the Quarryville Loop was sited, to the extent practicable, to avoid and minimize impacts to surrounding resources. Wetland and waterbody delineations for the Quarryville Loop Project area were conducted in 2016 with recent due diligence efforts to confirm the continued consistency of the aquatic resources in May 2025 (See Module S2: Resource Identification and Characterization). The investigation area typically extended a minimum of 200 feet on either side of the pipeline centerline and farther

where additional construction workspaces, pipeline facilities, or access roads are proposed. There are no Federal Emergency Management Agency (FEMA) Floodways located within the proposed Project area. However, a 50-foot floodway was delineated for each channel identified within the study area.

Pursuant to 25 Pa. Code § 105.18(a)(2) PADEP determines on a case-by-case basis whether a linear infrastructure project is water dependent. In addition, due to the linear nature of the 10.17-mile FERC regulated interstate pipeline project, the route determined by the Federal Energy Regulatory Commission (FERC), unavoidably crosses water resource impacts; therefore, PADEP would be justified in determining pursuant to its regulations that the Project is water dependent. In total, the project will cross thirteen streams and eleven wetlands. Dry-open cut methods will be utilized with the exception of one stream crossing where a conventional bore is proposed. Impacts associated with the Project are provided in the Aquatic Resource Impact Table provided in Requirement H – Project Description Narrative with Aquatic Resources Impact Table of this application.

B3. Resources Present

B3-1. Aquatic Habitats

B3-1.1. Food Chain Production

Food chain production occurs within the streams and wetlands located within the Project area. Onsite intermittent and perennial stream channels serve as breeding habitat for fish, insects, and amphibians which in turn serve to support food chain production. In addition, wetlands which are inundated for large periods of time provide the same function. Both resources also provide habitat for amphibians and insects that spend all or some of their lifecycle in aquatic habitats. All of these species support the local food chain and often serve as a valuable food resource to both terrestrial and aquatic species.

Wetlands within the Project area contain vegetation that also supports food chain production. Palustrine emergent (PEM) wetland plant species provide food sources for several terrestrial and aquatic species. In addition, the woody vegetation found within palustrine forested (PFO) and palustrine scrub-shrub (PSS) wetlands provide food sources for terrestrial bird species and result in detritus that aquatic species feed upon. Few of these PFO/PSS wetland types are located within the Project area.

B3-1.2. General Habitat

Wetland and waterbody delineations for the Project were conducted in June 2016 and January 2017 in accordance with the USACE Wetlands Delineation Manual (Environmental Laboratory, 1987) and the Eastern Mountain Piedmont – Version 2.0 (USACE, 2012). Wetlands and waterbodies located during the delineation were classified in accordance with the United States Fish and Wildlife Service (FWS) wetland classification system (Cowardin, et al., 1979). The delineation report can be viewed in Module S2: Resource Identification and Characterization of the EA.

The Quarryville loop component of the Project is being co-located with an existing gas pipeline, therefore the Project area is either located within a previously disturbed pipeline right-of-way (ROW) or will expand upon the existing ROW. The majority of the Project area is located within agricultural areas. Wooded tree and shrub growth is limited to sporadic, isolated pockets throughout the Project area. When wetlands were found, they were primarily emergent wetlands. Some scrub-shrub and forested wetlands are located within the Project area, however, due to land use in the area of the existing ROW and agricultural use, these types of resources are not pre-dominant within the landscape. Various intermittent and/ or perennial streams flow across the proposed ROW. A summary of the Aquatic Resources crossed by the Project are provided in the Aquatic Resource Impact Table provided in Requirement H – Project Description Narrative with Aquatic Resources Impact Table of this application.

No wetlands or waterbodies will be impacted at Compressor Station 200. The Quarryville loop will traverse six watersheds. The watersheds crossed by the Project and corresponding Chapter 93 Water Quality classification and Pennsylvania Fish and Boat classification of each is provided in Table C- A2.

Table C-A2

Watersheds within the Project Area

Watershed	Chapter 93 Designation		PFBC Classification		
	Designated Use[1]	Existing Use[2]	Stocked Trout[3]	Wild Trout[4]	Class A Wild Trout[5]
Muddy Run	TSF, MF		N	N	N
Wissler Run	HQ-WWF, MF	-	N	Y	N
Fishing Creek	HQ-CWF, MF	-	Y	Y	N
Conowingo Creek	HQ-CWF, MF	-	Y (>0.5 miles downstream)	Y	Y
Stewart Run	HQ-CWF, MF	-	Y (>0.5 miles downstream)	N	N
South Fork of Big Beaver Creek	TSF, MF	-	N	N	N
Bowery Run	HQ-CWF, MF	-	Y (>0.5 miles downstream)	N	N

1 – PA Code Title 25 Chapter 93, 2017
CWF – Cold Water Fishery
HQ – High Quality
MF - Migratory Fishes

WWF – Warm Water Fishery
TSF – Trout Stocked Fishery
2 – PADEP, 2017
3 – PFBC, 2017b
4 – PFBC, 2017c
5 – PFBC, 2017a

In total, 11 wetlands will be crossed by the Project; seven classified as PEM wetlands, 3 classified as PSS/PEM wetlands, and one classified as a PFO/PSS/PEM wetland. Some of these wetlands are considered exceptional value (EV), as defined by the PA Code Title 25, Chapter 105.17. A total of five wetlands crossed by the Quarryville Loop are classified as EV, as they are located along or within the floodplain of Wild Trout waters. In addition, a vernal pool will be crossed by the Quarryville Loop.

B3-1.3. Nesting, Spawning, Rearing, Resting, Migration, Feeding, Escape Cover, and Other Habitat

Forested and scrub-shrub wetlands within the Project area provide habitat for a variety of avian, mammal, and reptile species. The vegetation structure found within these wetlands provides nesting, rearing, resting, escape cover, feeding, and migratory habitat. The intermittent water table within these wetlands provides diverse spawning and feeding habitats for amphibians. These opportunities are minimal due to the few number of these wetland types located within the Project area.

Several perennial waterbodies flow throughout the Project area that may provide spawning habitat for trout and/or small fish species and contribute to the water quality of downstream waters for the spawning of larger fish. The substrate within each of the waterbodies crossed by the Project is variable and includes, but is not limited to cobble, gravel, sand, silt, and clay. All waterbodies in the Project area are considered migratory fish watershed (MF) according to PA Code Title 25 Chapter 93. These are considered MF for the passage, maintenance, and propagation of fishes which move to, or from, flowing waters to complete their life cycle in other waters. The Pennsylvania Fish and Boat Commission (PFBC) classifies Conowingo Creek, Fishing Creek, and Wissler Run as containing Wild Trout, with Conowingo Creek as being a Class A Wild Trout Stream, as summarized in Table C-A2.

Waterbodies within the Project area contain cobble and woody debris that may provide resting habitat for aquatic organisms. Vegetation within wetlands provides shade and limited resting opportunities for wildlife species such as small mammals, amphibians, and insects. Larger PEM, PSS, and PFO wetlands with a greater degree of vegetative heterogeneity may provide additional resting habitat and escape cover for wildlife species. Some of the wetlands in the Project area have agricultural use associated with them, therefore, see impacts from activities of this nature (i.e. grazing, plowing).

Riffle-pool complexes in streams provide minimal escape cover for aquatic species. Woody debris and undercut banks may also serve as cover for escape. Some wetlands in the Project area have sufficient vegetation to provide escape cover for small vertebrates and white-tailed deer.

B3-1.4. Habitat for Threatened and Endangered Species

Coordination has been initiated with the Pennsylvania Department of Conservation and Natural Resources (PADCNR), PFBC, Pennsylvania Game Commission (PAGC), and the United States Fish and Wildlife Service (FWS). Agency coordination resulted in the identification of several species that may occur within the Project area and are provided in Table C-A3.

Table C-A3

Threatened or Endangered Species that may occur within the Project Area

Species Group	Species Name	Scientific Name	Agency	Federal Status	State Status
Fish	Chesapeake logperch	*Percina bimaculata*	PFBC	N/A	Threatened
Reptiles/ Amphibians	Bog turtle	*Glyptemis muhlenbergii*	PFBC/ FWS	Threatened	Endangered
Mammals	Northern Long-Eared Bat	*Myotis septentrionalis*	FWS	Endangered	Candidate
	Indiana Bat	*Myotis sodalis*	FWS	Endangered	Endangered

The PFBC indicated the Chesapeake logperch is located within the Project area; however, no surveys were requested by the PFBC in a response letter dated July 6, 2016 (See Exhibit 7). Transco is actively coordinating with PFBC to re-confirm their determination that the Project will not have a significant impact on the species.

The FWS and PFBC indicated that bog turtles may be present within the Project area. Bog Turtle Phase 1 Habitat Assessment Surveys were completed and it was determined that habitat exists at several of the wetlands associated with the Quarryville loop. This survey report along with the Phase II Presence/Absence surveys and Phase III Trapping surveys report are included within Exhibit 8. The Phase II and III surveys were completed in the spring of 2017, with no bog turtles found. No potential bog turtle habitat is present at Station 200, per previous surveys. Associated USFWS correspondence is included in Exhibit 8. Transco is actively coordinating with FWS to re-confirm their no effect determination for the Project. In addition, Transco is currently performing proactive due diligence field work by a qualified bog turtle surveyor to re-confirm habitat presence details.

The FWS indicated that the Project area is within the known range of the Indiana bat and the northern long-eared bat. However, there are no known hibernating, swarming, or maternity colonies near the project area (Shellenberger 2016, FWS, 2016). In 2016, the FWS indicated that no surveys would be required for the project because the tree clearing proposed is less than 40

acres. Transco is currently performing proactive due diligence coordination with the FWS to re-confirm their previous guidance.

Additionally, Table 3B-1, provided in Resource Report 3, Appendix 3B, outlines the birds of conservation concern from Region 29 that may occur in the Project area (See Exhibit 9).

The PGC indicated that no impacts were anticipated as a result of the Project in a response letter dated June 26, 2016 (See Exhibit 10).

B3-2. Environmental Study Areas

B3-2.1. Sanctuaries

This Project is not located within an area dedicated for use as sanctuaries by the state or federal agencies or non-profit organizations.

B3-2.2. Refuges

This Project will not affect areas dedicated for use as refuges.

B3-2.3. Stream Relocation, Enclosure, or Dredging

No stream relocation, enclosures, or dredging was identified within the survey corridor.

B3-3. Water Quality and Streamflow

B3-3.1. Natural Drainage Patterns

The Project area is located either within a previously disturbed pipeline ROW or will expand upon the existing ROW that is located primarily within agricultural areas. At Compressor Station 200, the Project area is primarily located within areas previously disturbed by station activities, again with no wetland or waterbody resources located in the Project area. Most of the water resources within the Project area of the Quarryville Loop were previously disturbed when the existing pipelines were installed or a result of ongoing and continuous agricultural activities. All the drainage areas within the Project area drain into high-quality, cold water streams except for the drainage area associated with Wissler Run which is a high-quality, warm water stream. Natural drainage patterns were evident during field surveys and prior disturbances related to past pipeline installation (if any) were restored the natural drainage of the resources. Some drainage patterns showed signs of impact as a result of agricultural or other activities.

B3-3.2. Flushing Characteristics

Stormwater on-site generally sheet flows into existing water resources through upland areas.

B3-3.3. Current Patterns

Wissler Run, Fishing Creek, Conowingo Creek, Stewart Run, South Fork of Big Beaver Creek and Bowers Run receive stream flow and stormwater runoff from the proposed Project area. Natural current patterns exist throughout the Project area.

B3-3.4. Groundwater Discharge for Baseflow

Groundwater discharge occurs in several of the wetlands that are located within or near the Project area. Likewise, wetlands within the Project area may provide groundwater or surface water recharge, depending on soil permeability. A summary of the groundwater resources within the Project Area is provided in Section 2.2 of RR 2 (See Exhibit 11).

A summary of the potable wells and springs within or near the Project area is provided in Section 2.2.3.1 of RR 2 (See Exhibit 12). Transco consulted with the PADEP Safe Water Drinking Program regarding public water supplies and a response letter was received on November 16, 2016 (See Exhibit 13). Data from each of these sources is summarized below.

In summary, for the Quarryville Loop, two permitted public water supply (PWS) wells or springs are located within 150 ft. of the route, while no permitted public water supply intakes are within 150 ft. There are ten PWS's that are within ¼ mile of the pipeline route but no permitted public water supply intakes within a ¼ mile. There are six public water supply sources Zone II Wellhead Protection areas within both the ¼ mile and 150 ft. buffer of the pipeline route. There are two public water suppliers Zone A Source Water Protection Areas within both the ¼ mile and within 150 ft. of the pipeline route. Additionally, forty-eight private water supply wells and three private springs with potential to provide water supply or located within or less than 10 ft. from the Project area.

For Compressor Station 200, one permitted PWS well is located within 150 ft. of the workspace. Three private water supply wells, two owned by Transco and one unknown well type, are within 150 ft. of the workspace as well. Three Transco wells are located within 10 ft. of the Project workspaces.

Transco obtained federal and state search reports from Environmental Data Resources, Inc. (EDER), to determine the presence and location of groundwater contamination near the proposed Project workspace. The search area for the EDER reports was based on a two-mile radius extending from the centerline of the proposed pipeline route. The results of this analysis are summarized in Sections 2.2.5 and 2.2.5.1.1 of RR 2 (See Exhibit 14). No active sites with confirmed contamination were identified within 0.25 miles of the Quarryville Loop or Compressor Station 200.

B3-3.5. Natural Recharge Area for Ground and Surface Water

The Project area is located within an existing pipeline ROW or will expand upon the existing ROW. Therefore, most of the wetlands and streams located within the Project area were previously disturbed when the existing pipelines were installed. Natural recharge for ground and surface waters are able to occur as most of the Project area is pervious area, either agricultural or forested (in general), therefore allowing recharge to occur. Impervious areas occur at Compressor Station 200, with stormwater management facilities in place, promoting natural recharge.

B3-3.6. Storm and Floodwater Storage and Control

Streams and wetlands in the Project area may function to attenuate flood waters and provide flood storage and/or control. Wetlands within the Project area provide some flood flow storage potential and can serve to reduce the severity of flood peaks from their upstream watersheds.

B3-4. Water Quality

B3-4.1. Preventing Pollution

Onsite wetland and waterbodies and their riparian areas provide natural pollutant prevention within the Project area. The Project area is well vegetated throughout the length of the pipeline. Much of the Project area is agricultural land, and some runoff from the farm fields likely enter water resources, which could include fertilizers and animal waste. However, since most areas are well vegetated, it is expected the existing vegetation acts as a filter to some capacity, filtering and trapping pollutions such as sediment and excess nutrients. This would primarily occur in wetlands. Flowing waterbodies in the Project area are generally stable, with some areas showing impact from livestock along the banks. However, in general, sediment inputs from sources, such as eroding banks, are expected to be minimal from within the Project area.

B3-4.2. Sedimentation Control and Patterns

Wetlands onsite serve to stabilize soils and trap sediments. The onsite wetlands that are more densely vegetated also aid in filtering water. Streams and wetlands onsite have been previously disturbed during prior pipe installation and during agricultural activities in the Project area. Because the site is well vegetated, sedimentation control and patterns function naturally within the Project area, and currently function well controlling sediments, except in areas where livestock are present.

B3-4.3. Salinity Distribution

Salinity distribution is not applicable to this portion of the Project.

B3-4.4. Natural Water Filtration

Wetlands located within and around the Project area provide natural water filtration as they retain water and naturally filter nutrients and pollutants. Minimal impermeable surfaces are located within the Project area, allowing for the vegetated areas to filter water with the existing vegetation present. Wetland resources are generally well vegetated and perform natural water filtration as part of their wetland function.

B3-5. Recreation

B3-5.1. Game and Non-Game Species

A variety of mammals, reptiles, amphibians, insect pollinators and birds are likely to occur around the Quarryville Loop. Species preferring forest edges, agricultural areas and some residential components are most likely to occur here. Some game species here would include deer, wild

turkey, raccoon, and coyotes. Non-game species would include amphibians, reptiles, insect pollinators and most birds.

At Compressor Station 200, it is likely that fewer game and non-game species would be located here because this is an active, fenced in site located in an urban setting. Therefore, only those species tolerant of human activities would be found here.

A summary of the wildlife that may occur within the Project area is provided in Section 3.4.3.1.1 of RR 3 (See Exhibit 15). A list of the bird species that can be found within the Project area is provided in Table 3B-1 of Appendix 3B of RR 3 (See Exhibit 9).

B-3-5.2. Fishing

A small portion of the Project area will cross the Fishing Creek Nature Preserve North, Muddy Run Recreation Park, and State Game Land 423 (SGL 423) (which the Muddy Run recreation park is located in). Recreational fishing is permitted here. The remainder of the Project area is located on private property that is predominantly used for agricultural purposes.

Streams within the Project area are considered wild trout streams or Class A wild trout streams by the PFBC, which include Wissler Run, Fishing Creek and Conowingo Creek. Portions of Fishing Creek and Conowingo Creek are also trout stocked streams. Areas open to the public on these streams would provide ample opportunities for fishing in these streams.

Information regarding fishery resources and fishes that are likely located in the streams within the Project area is provided in Section 3.2.2.1.1 of RR 3 (See Exhibit 16). Information regarding stream classification related to suitable trout habitat is provided in Aquatic Resource Impact Table provided in Requirement H – Project Description Narrative with Aquatic Resources Impact Table of this application.

B3-5.3. Hiking

There are several locations throughout the Project area where recreational hiking opportunities are available. Muddy Run Recreation Area (SGL 423), Wissler Run Nature Preserve, and Fishing Creek Nature Preserve North are all located within or near the Project area. More information regarding these areas is provided in Section 8.5.1.2.1 and Table 8B-2 of Appendix 8B of RR 8 (See Exhibit 17). Additionally, the Enola Low Grade Trail is located near the Project area, but the Project will not cross the trail. More information on this trail is provided in Section 8.5.1.3.1 of RR 8 (See Exhibit 18). Lands that are privately managed but also have hiking opportunities, such as the Wissler Run Nature Preserve and Fishing Creek Nature Preserve North, are discussed in Section 8.5.1.4.1 of RR 8 (See Exhibit 19). The Project area in relation to the recreation areas mentioned above is provided in Figure 8A-6 of Appendix 8A of RR 8 (See Exhibit 20).

B3-5.4. Observation (Plant/Wildlife)

Publicly available opportunities to view plants and wildlife would likely be at the Fishing Creek Nature Preserve North, Wissler Run Nature Preserve, Muddy Run Recreation Park, and State Game Land 423. Exhibits 17-20 identified above provide more information on each of these areas.

B3-5.5. Other

Silver Top Stables, Camp Andrews, and the Tanglewood Manor Gold Club are all located near the Project area. Recreation such as golfing and horseback riding take place on these properties. Additionally, near Compressor Station 200, North Becton Hill Road field located near the compressor station provides some recreational opportunities. More information regarding these areas is provided in the FERC application in Section 8.5.1.4.1 of RR 8 (See Exhibit 19). The Project area in relation to the recreation areas mentioned above is provided in Figure 8A-6 of Appendix 8A of Resource Report 8 (See Exhibit 20).

B3-5.6. Upstream and Downstream Property

A list of adjoining property owners is provided in Section H of the application. Properties upstream and downstream of the Project are generally rural agricultural properties with some mixed residential land uses. The land use on these properties is primarily fields, with grasses or crops, forests, or maintained lawns. The topography of the area includes generally flat areas with rolling hills and minor slopes at some valley locations.

B3-5.7. Other Environmental Factors Determined by Site Investigation

Most of the Project will take place within agricultural lands with residential areas sporadically located throughout. Most of the Project area is located within a previously disturbed pipeline ROW that is currently maintained. Surveys were completed by various environmental and engineering teams and have not identified issues that need further addressing.

B4. Resource Impacts

B4-1. Aquatic Habitats

B4-1.1. Food Chain Production

The impacts to food chain production should be minimal at waterbody and wetland crossings. The waterbodies crossed by the Project are minor and intermediate streams, which require 24-48 hour crossing windows for instream construction as outlined in the Project-Specific Wetland and Waterbody Construction and Mitigation Procedures provided as Attachment 2 to Appendix 1B of RR 1 (See Exhibit 30). Crossing construction shall be completed as dry-open cut, with a clean water bypass which may include dam and pump or a flume pipe. Either option passes water around the crossing location, minimizing construction impacts downstream. One crossing is proposed as a conventional bore, however its construction method shall have no impact on food chain production. Additionally, consultation with the PFBC was completed to determine the best crossing time period of each waterbody and approval of the crossing windows was provided (Lech, G. 2016), further minimizing stream impacts. Due to the short instream construction duration and coordinated crossing window timing with the PFBC, impacts have been minimized at each crossing.

Many of the wetland and waterbody crossings are in agricultural areas and all crossings are adjacent to existing pipelines because the Project is being co-located. Cover types for these

resources are primarily herbaceous, with some instances of forested cover types. Those forested areas along water body crossings shall become herbaceous communities after restoration efforts are implemented. Only one area of wetland shall be changed from forested to emergent habitat with replanting proposed in the temporary workspace, while the other wetlands will remain as emergent herbaceous. Cover type changes are likely to have no impact on aquatic habitat and the associated food chain production, as cover type changes expected to result from the Project are minimal.

B4-1.2. General Habitat (Including Nesting, Spawning, Rearing, Resting, Migration, Feeding, Escape Cover and Other)

General temporary construction related impacts on wildlife species will result from habitat disturbance and human activities. Indirect impacts on wildlife will include those associated with increased human activity. Construction of the Project is likely to result in the temporary displacement of, or stress on, animals in areas adjacent to construction and cause movement of some wildlife away from the Project area. Stress on wildlife could affect general health, reproduction, and viability of young animals, depending on the sensitivity of a particular species, season of the year, and other factors. Other temporary impacts on wildlife species could include those from pipeline trenching activities and associated spoil piles, which could result in a short-term barrier to movement to some species. During clearing and grading activities, more mobile wildlife species (e.g., larger mammals, birds, and reptiles) will be able to avoid the construction area, and many are expected to leave the area during construction. Construction activity will be temporary and will occur in a given area for only a few weeks, in general. Habitat recovery will occur, aided by the use of the impact minimization and restoration measures outlined in the Project-Specific Wetland and Waterbody Construction and Mitigation Procedures (Attachment 2, Appendix 1B, RR 1) and the Project-Specific Upland Erosion Control, Revegetation, and Maintenance Plan (Attachment 1, Appendix 1B, RR 1) (See Exhibits 30 and 31, respectively). These are also referred to as the Transco Plan (Uplands) and Procedures (Wetlands).

Because the pipeline is co-located and most areas are either in an existing pipeline ROW or on agricultural properties, minimal changes to existing habitat types will occur. Habitat fragmentation has been minimized through the use of pipeline co-location. Wildlife populations that utilize the Project area are not expected to be permanently adversely affected by the proposed Project. While temporary impacts on food, cover, and water sources may occur, none of the species located within the Project area are specialized in such a way that construction of the Project will inhibit the overall fitness or reproductive output of the populations as a whole. Some of the stream crossings associated with the Project cross wild trout streams. At some of these crossings, wetlands are located adjacent to the wild trout streams. As a result, these wetlands are considered exceptional value under PACode Chapter 105.17. Impacts to these wetlands have been minimized through workspace reductions at the crossing location.

Temporary habitat alteration at the waterbody crossing locations may degrade fish spawning and nursery areas due to the excavation in the channel, resulting in temporary impacts. Because crossings will be completed in 24-48 hours, these effects are expected to be temporary in nature and aquatic communities will subsequently recolonize the affected area once construction activity

is complete. Permanent impacts to spawning are not anticipated as a result of this Project. Impacts to spawning should be mitigated for by timing construction to occur outside of the restricted period, as consultation with the PFBC has been completed for the waterbody crossings (Lech, 2016).

B4-1.3. Habitat for Threatened and Endangered Species

Indiana Bat and Northern Long-eared Bat

The project is not anticipated to result in impacts to the Indiana bat (*Myotis sodalis*) or the northern long-eared bat (*Myotis septentrionalis*) (NLEB). No known hibernacula, roosts, or swarming areas for these species occur in or near the Project areas (Shellenberger 2016). The FWS did not recommend timing restrictions on forest clearing for the Quarryville Loop (Shellenberger 2016). The lack of known roosts and hibernacula, the limited amount of forested lands to be cleared, and the implementation of Transco's avoidance and minimization measures suggest that the Project's impacts on Indiana bats and NLEBs would not be adverse or result in a take. Transco is currently performing proactive due diligence coordination with the FWS to re-confirm their previous guidance.

Bog Turtle

Phase 1 bog turtle habitat surveys revealed seven suitable wetlands within 300 feet of the Quarryville Loop centerline; five of the seven wetlands are within the Quarryville Loop workspace. Phase 2 surveys for the wetlands associated with the Quarryville Loop Project area were completed in the spring of 2017, with no bog turtles found in any of the seven surveyed wetlands. Based on no bog turtles being found, no wetlands were considered exceptional value due to the presence of bog turtles. Transco is actively coordinating with FWS to re-confirm their no effect determination for the Project. In addition, Transco is currently performing proactive due diligence field work by a qualified bog turtle surveyor to re-confirm habitat presence details.

Chesapeake Logperch

Transco consulted with the PFBC regarding stream crossing techniques and mitigation measures that will reduce potential impacts on the Chesapeake logperch. Based on the best management practices and the use of the approved erosion and sediment control (E&S) plans, the proposed Project will not have a significant impact on the species as indicated in a PFBC clearance dated March 7, 2017 (Smiles, H, 2017) (See Exhibit 32). Transco is actively coordinating with PFBC to re-confirm their determination for the Project.

Migratory Birds

The migratory birds that may be found within the Project area is provided in Table 3B-1 of Appendix 3B of RR 3 (See Exhibit 9). Consultation regarding Project impacts and minimization and avoidance measures regarding migratory birds is ongoing with the FWS.

B4-1.4. Environmental Study Area Including Sanctuaries or Refuges

The Project is not located within an environmental study area or a wildlife sanctuary or refuge. Therefore, no impacts are anticipated.

B4-1.5. Water Quality and Streamflow

Natural Drainage Patterns

The proposed Project will have minimal impacts during construction to natural drainage patterns, with no long term impacts anticipated. The Project will take place within or adjacent to a previously disturbed pipeline ROW or agricultural areas. As outlined in the Plans and Procedures (Exhibits 30 and 31), relative to site restoration, stormwater controls will be installed during construction that have been designed to maintain natural or current drainage characteristics. The Project area will be restored to preconstruction grade and contours upon completion of construction. Temporary control measures will be in place, such as compost filter sock, which will be removed once the site is stabilized with vegetation. The installation of this control measure will assist in natural drainage patterns being maintained.

Flushing Characteristics

The pre and post construction contours will be the same once construction is completed, therefore impacts to flushing characteristics are not anticipated.

Current Patterns

Current patterns may be temporarily impacted during construction, as construction workspaces will be altered during these activities. The site will be protected with erosion and sediment control Best Management Practices (BMPs). The E&S Plan will be designed in conjunction with PA Code Chapter 102. These patterns will be altered temporarily until the site is stabilized with vegetation and construction is completed. Current patterns will be restored once construction and restoration is complete, with BMPs removed from the site and the site is stabilized with vegetation.

Groundwater Discharge for Baseflow and Natural Recharge Area for Ground and Surface Water

Impacts to ground and surface water resources will be minimized or avoided based on the Transco Plan and Procedures (Exhibits 30 and 31). Potential impacts will also be minimized through the use of the Spill Plan for Oil and Hazardous Materials (Spill Plan) provided in Attachment 9 to Appendix 1B of RR 1(See Exhibit 34) if incidents occur.

As outlined in Sections 2.2.6 and 2.2.6.1 of RR 2 (See Exhibit 35), effects to groundwater discharge and recharge to ground and surface waters shall be minimized through the use of the BMPs outlined below. In general, Transco and its contractors will adhere to the aforementioned plans with respect to groundwater and surface water protection, including the following:

- Installing/maintaining temporary and/or permanent erosion-control structures to stabilize soil;
- Monitoring dewatering operations and discharging trench water to appropriate receiving areas or containers;

- Using secondary containment for pumps when working in/near sensitive resource areas;
- Enforcing restrictions on refueling areas and areas designated for storage of hazardous substances;
- Revegetating disturbed workspace locations following the installation of Project pipelines and facilities;
- Installing permanent trench plugs, when necessary, to limit groundwater flow along the ditch line;
- Prohibiting the use of herbicides in or within 100 feet of wetlands or waterbodies, except as allowed by the appropriate management agency; and
- Installing protection around water supply wells, springs, and seeps located within and in the immediate vicinity of Project workspaces (ex: safety fence).

Clearing, grading, trench excavation and dewatering impacts should have little to no impact on ground and surface water resources, including natural recharge areas, through the use of approved construction BMPs as part of the Plan and Procedures, which will be approved through the Erosion and Sediment Control permitting (PA Code Chapter 102). Geotechnical investigations completed to date suggest that shallow bedrock is not present onsite, therefore blasting is not proposed. A summary of this data is provided Sections 2.2.6 and 2.2.6.1 of RR 2 (See Exhibit 35). As part of standard Transco practice, Transco will perform well testing for all wells within 150' of the Project. Section 2.2.6.7 of RR 2 provides more information relative to well testing for the Project (See Exhibit 36).

Storm and Floodwater Storage and Control

Once construction is completed, the pipeline route will be restored to pre-existing contours. Transco will be completing a site restoration plan and/or a post construction stormwater management plan for the Project, as part of the Chapter 102 requirements for each Pennsylvania component. These plans are designed to control stormwater discharges. The Project does not cross any Federal Emergency Management Agency (FEMA) 100 year floodways. Therefore a 50-foot floodway was delineated at each waterbody crossing for the Project. The Project was necked down in each of these floodway areas to further minimize potential impacts.

B4-2. Water Quality

B4-2.1. Preventing Pollution

Transco will utilize its Plans and Procedures and Spill plan (when needed) as outlined in Exhibits 30, 31 and 34. Additionally, it will develop and obtain approval for an erosion and sediment control plan (E&S Plan) prior to Project construction. The PADEP Erosion and Sediment Pollution Control Program Manual, was used as a primary reference for design and selection of erosion and sediment control BMPs to be implemented during the Project. These will be consistent with the requirements of the PA Code Title 25 Chapter 105 requirements, as it relates to wetland and waterbody crossings. A summary of impaired waters associated with the Project is included within Exhibit 41.

The following techniques will be employed during construction to minimize the potential for soil erosion and sediment migration:

- Erosion and sediment control BMP measures will be installed prior to commencement of earthwork and will not be removed until after the up-gradient areas are stabilized.
- Rock construction entrances will be installed along points of access to the pipeline alignment to mitigate the potential for construction vehicles to transport sediment onto public roadways.
- Compost filter sock will be installed along the down-gradient perimeter of the work areas.
- At areas of concentrated flow in natural drainage ways, diversion berms will be installed to intercept and convey upslope stormwater runoff around the work corridor without contacting disturbed surfaces.
- Diversion terraces will be installed to mitigate the potential for stormwater to erode soils on steep slopes by diverting water away from the pipeline alignment. Diversion terraces will discharge to a well vegetated area, or an outlet structure to limit the potential for sediment-laden water to flow downgradient from the terrace.
- Trench plugs will be installed intermittently within the pipeline trench to control and allow for managing the flow of sediment-laden stormwater within the trench. Stormwater pooling within the excavation behind a trench plug will be removed and discharged through a pumped water filter bag over stable, undisturbed earth.
- Timber mats will be installed within wetland crossings to minimize the impacts and compaction of the wetland crossings.
- Timber bridges will be installed to cross streams to prevent onsite site sediments from entering the waterbodies.
- Removal of the erosion and sediment control BMP measures will occur only after the disturbed areas have been stabilized by uniform perennial vegetative coverage (density) of seventy percent (70%) or greater, or by other permanent non-vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding and other movements.
- Diligent maintenance of the erosion and sediment control BMP measures will be conducted throughout the duration of the project.

Based on the use of the various controls outlined above, impacts to water quality are not anticipated.

B4-2.2. Sedimentation Control and Patterns

Transco will utilize its Plans and Procedures as outlined in Exhibits 30 and 31 to control erosion and sedimentation. Additionally, the E&S Plan will be developed and approved by the appropriate regulatory authorities prior to Project construction. The PADEP Erosion and Sediment Pollution Control Program Manual, was used as a primary reference for design and selection of erosion and sediment control BMPs to be implemented during the Project.

Sediment controls will be designed to stay on-site, with controls and plans in place to minimize potential impacts. Post construction stormwater measures will be designed to manage stormwater

runoff. With the implementation of the E&S Plan and the post construction storm water management plan, impacts to water quality are not anticipated.

Post-construction stormwater management measures will also be implemented for water quality in areas where it is required. The Post Construction Stormwater Management Plan (PCSM) is designed to manage stormwater runoff associated with new impervious areas (gravel) for the proposed aboveground facilities. The design will promote retention and infiltration into the ground, controlling sediments by keeping them onsite. With the implementation of the E&S Plan and the stormwater management measures, water quality impacts are not anticipated.

B4-2.3. Salinity Distribution

Salinity distribution is not applicable to this Project.

B4-2.4. Natural Water Filtration

Wetlands and waterbodies located within and around the pipeline ROW provide natural water filtration. Wetlands will continue to provide this function post-construction, as impacts will be temporary in nature and natural water filtration capabilities will be restored. The construction of the Quarryville Loop will restore the pre-existing contours and the ROW will be revegetated, therefore natural water filtration is expected to be un-impacted as a result of the Project.

Minimal areas will have additional impervious surfaces (addition of gravel). These surfaces will be designed to minimize runoff and promote natural water filtration. This gravel will occur at three locations along the Quarryville Loop. All designs for the Quarryville Loop and Station 200 will promote natural water filtration and have minimal impact on water quality.

B4-3. Recreation

B4-3.1. Game and Non-Game Species

A variety of mammals, reptiles, amphibians, insect pollinators and birds are likely to occur around the Quarryville Loop. Species preferring forest edges, agricultural areas and some residential components are most likely to occur here. Typical game species in the Project area may include deer, wild turkey, raccoon, and coyotes. Non-game species may include amphibians, reptiles, insect pollinators and most birds.

In general, impacts will be minimized because the Project will be largely constructed within an existing ROW and will traverse a previously disturbed area covered by actively managed agricultural lands or developed lands. Construction of the pipeline facilities will temporarily affect wildlife and wildlife habitat within the immediate vicinity of open land along the pipeline route. Effects will include disturbance due to clearing and trench excavation. This will affect less mobile species, including those that hide within burrows along the route, to a greater degree than those that can quickly flee the Project area. Following construction activities, the existing ROWs will be restored to preconstruction conditions to the extent practicable, and it is expected that all native wildlife will quickly return to the vicinity of the ROWs, using them as they do now as corridors for travel, refuge, foraging, and nesting. Following construction, these ROWs will be maintained in a

manner similar to current conditions. Exhibit 15 of this application provides further discussion on this portion of the Project.

The Project is primarily located in agricultural or previously disturbed areas; however, small areas of forest will be removed along the existing gas pipeline as a result of the Project. Some wildlife species that rely on forested habitat may be negatively affected by the loss of forest, while other species that prefer open land and scrub-shrub habitat will benefit from the habitat conversion. However, since the Project is being co-located with an existing gas pipeline, this impact is expected to be minimal.

Transco will manage invasive and noxious species according to the Noxious and Invasive Management Plan included as Attachment 10 of Appendix 1 of Resource Report 1 in the FERC application (Exhibit 38).

At Compressor Station 200, it is likely that fewer game and non-game species would be found here due to the site being active, fenced in, and a rather urban setting. For this reason, only those species tolerant of human activities would likely be found here. Due to this being an already active urban area with the compressor station in place, little to no impacts to game and non-game species are anticipated. Exhibit 15 provides further information on this location.

Following construction, the temporary workspaces will be maintained in a manner similar to preconstruction conditions. Therefore, effects on wildlife in agricultural lands and open lands that are within temporary workspaces will be temporary, and these habitats are expected to recover within weeks to months following construction.

B4-3.2. Fishing

A small portion of the Project area will cross Fishing Creek Nature Preserve North, Muddy Run Recreation Park, and State Game Land 423 (located within Muddy Run Recreation Park), where recreational fishing is permitted. The remainder of the Project area is located on private property that is predominantly used for agricultural purposes.

Wissler Run, Fishing Creek and Conowingo Creek within the Project area are considered wild trout streams or Class A wild trout streams by the PFBC. Portions of Fishing Creek and Conowingo Creek are also trout stocked streams, however only Fishing Creek is actually stocked in the location where the Quarryville Loop is proposed. Areas open to the public on these streams would provide ample opportunities for fishing. The summary table included in Requirement H shows the crossing windows that have been adopted by the Project and approved by the PFBC (Lech, G, 2016). These restrictions have been adopted to not only minimize potential impacts to spawning trout at the instream crossings, but also to the stocked trout fisheries, as the spring stocking windows are generally at a peak use period for trout fishing. Due to the adoption of the trout restrictions, and use of approved Project BMPs, it is expected that minimal impacts will occur as a result of the Project.

B4-3.3. Hiking and Observation (Plant/Wildlife)

The Project will cross the State Game Lands #423, which is also part of Muddy Run Recreation Park and the Fishing Creek Nature Preserve North, where hiking and plant/wildlife observation opportunities are available. Transco will coordinate with the PGC and Lancaster County Conservancy (whom manage the Fishing Creek Nature Preserve) to identify suitable measures to minimize disturbance to each of these areas, as well as to visitors, including notifying users of the recreational areas about the construction activities. Typical notification measures include posting signs during construction and posting a notification regarding the timing and location of planned construction activities at centrally located or designated facilities within each recreation area. Impacts on users of these areas may include temporary increases in noise and dust during construction, as well as temporary delays for traffic in the area when equipment is being moved. Permanent impacts on hiking or observation of plants/wildlife is not expected as a result of the proposed Project.

B4-3.4. Other

Silver Top Stables is a 105-acre horse farm which offers day camps during the summer and fall. The Project crosses this property, affecting +/-8.95 acres between MP 1681.85 and 1682.53. Section 8.5.1.4.1 of Resource Report 8 (Exhibit 19) provides further detail. Mapping showing the location of this property can be found in Figure 8A-6 Sheet 1 of Exhibit 20.

B4-3.5. Upstream and Downstream Property

The Project is not expected to result in impacts to upstream and downstream properties. The implementation of the Plan and Procedures (Exhibits 30 and 31) and the approved E&S Plan will minimize impacts to properties upstream and downstream of the Project. All disturbed areas will be restored to original grade and contours upon completion.

Additionally, Transco has conducted coordination with the public water intake operators. In July 2017, Transco provided Spill Notification Plans to all public water operators with surface water intakes located downstream from the Project facilities, with two operators being downstream of the Quarryville Loop. These plans contained avoidance and minimization measures matching those provided to PADEP. In January 2018, Transco contacted both operators and confirmed they had received the plans and requested their comments. Both operators in Pennsylvania provided comments on the Spill Notification Plans but did not note any concerns with the avoidance and minimization measures. Transco has revised the respective plans accordingly. One operator, PA American Water Company, requested that an additional Schuylkill River water intake location be added to their plan. Transco has determined that this water intake is located more than 10 miles upstream from the project facilities, and therefore is not relevant to the Project. Transco has provided this information to PA American Water Company.

Prior to construction, Transco will provide the final Spill Notifications Plans to the public water operators that include all relevant contact information for the Transco staff. Coordination with the public water suppliers and the Spill Notification Plans are provided. The current Spill Notifications Plans for both PA American Water Company and the Chester Water Authority are included with this submission.

B4-3.6. Other Environmental Factors Determined

Transco's selection of the proposed pipeline route considered numerous factors, including Project design alternatives and the avoidance and minimization of environmental impacts to resources such as waterbodies and wetlands. The selected design minimizes, to the extent practicable, impacts to these features and still fulfills the purpose and needs of the Project. The alternatives analysis in Exhibit 22 provides more information regarding factors taken into account during Project planning.

B4-3.7. Other Environmental Factors on Other Adjacent Lands and Water Resources

Similar to impacts on upstream and downstream properties, impacts to other adjacent lands and water resources are not expected. The implementation of the Plan and Procedures (Exhibits 30 and 31) and the approved E&S Plan will minimize impacts to adjacent lands and water resources. All disturbed areas will be restored to original grade and contours upon completion. The Project will conform with applicable regulations to minimize impacts to other adjacent lands and water resources.

B4-3.8. Other Impacts to Water Resources Required to Fulfill the Purposes of the Project

As described in Resource Report 1 of the FERC application, the Project is located within Pennsylvania, New York, and New Jersey. Table 1.7-1 of Resource Report 1 of the FERC application outlines additional Permits, Licenses, Approvals, and Consultations, anticipated for the Project (Exhibit 40). A discussion regarding the Project and Transco meeting the state antidegradation requirements is below.

Transco is meeting the state antidegradation requirements contained in Chapters 93, 95, 102 and 105 through various measures proposed during Project design, such as proposed construction measures and requests for permit approvals for activities associated with the Project. The Quarryville Loop is almost entirely located within high quality watersheds, as defined by Chapter 93. Transco will install Antidegradation Best Available Combination of Technologies (ABACT) BMP throughout the Project, protecting the existing uses of the designated high quality streams and "Other" and "EV" wetlands impacted by the Project. BMPs outlined in the erosion and sediment control and site restoration plans will be installed, monitored and maintained until the Project area meets the vegetative cover requirements required by the approved permits for earth disturbance and water obstruction and encroachment. During the Project's construction, any issues identified with the BMPs shall be repaired as described in the plans. No changes to the aquatic community or water chemistry within the streams crossed by the Project are to occur, as clean water bypass BMPs shall be utilized during construction to allow continuous flow of all streams crossed, and these streams will be restored to pre-existing conditions once construction is complete.

As part of the Project design, impacts to resources were identified as much as practical and includes the following measures: pipeline co-location within/adjacent to an existing ROW, restoration of disturbed areas to pre-construction contours, and limiting the extent and duration of earth disturbance. Transco has limited its disturbance area to 100-feet-wide in most upland areas and 75-feet-wide within most stream and wetland resources. During construction, excavated trenches will be kept to the minimum width and depth necessary to safely complete construction activities. Project access has been designed to utilize existing access roads as much as possible, thereby minimizing the need for new road construction. Upon final restoration, the Project area will be restored to pre-construction contours.

Transco has consulted with the state and federal agencies regulating threatened and endangered (T&E) species. The state agencies include the PAGC, PFBC and PADCNR. The FWS was also consulted. Transco completed surveys, as requested, for T&E species. Based on the results of those surveys and consultation, each agency has responded, indicating clearance of the Project relative to those T&E species within their purview.

During construction, the Transco Spill Plan for Oil and Hazardous Materials (Spill Plan) will be implemented to minimize the potential for spills and the effects of any spills that may occur. Details of how the site materials are managed, including the storage of equipment, hazardous materials, fuels, and lubricating oils and other construction items are identified in the Spill Plan. The plan defines the procedures for spill notification, emergency response, spill response, personal protective equipment, clean-up procedures and spill presentation practices. As part of the Project, hydrostatic discharge testing will be completed. Discharges associated with the testing will conform to permit conditions specific to the discharge, meeting the state antidegradation requirements.

The cumulative effect of the Project will not result in the impairment of the Commonwealth's exceptional value and other wetland resources. The wetlands impacts will involve temporary disturbance while the pipeline is being installed, as the wetlands will be restored and stabilized upon final restoration. The wetland impacts are isolated to their disturbance area and do not extend beyond the Project's limits of disturbance (LOD). No loss of overall wetland area is proposed. The Project has been co-located with Transco's existing gas pipeline system, to avoid fragmentation and to minimize resource impacts. Construction BMPs, including erosion control devices and timber matting, to mitigate for soil compaction within the wetlands, will be utilized to minimize impacts throughout the Project. The Quarryville Loop, associated with the Northeast Supply Enhancement Project, is a single and complete Project, with no foreseeable additional impacts to wetland resources of the Commonwealth of Pennsylvania, other than those proposed. The Project will result in no loss of wetland resources and will not result a major impairment of the Commonwealths "exceptional value" or "other" wetland resources.

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