

**ATTACHMENT A-2**  
**EFFORT LOOP**

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC  
REGIONAL ENERGY ACCESS EXPANSION PROJECT

LUZERNE, MONROE, BUCKS, CHESTER, AND NORTHHAMPTON COUNTIES, PENNSYLVANIA

WETLAND DELINEATION REPORT

**1.0 INTRODUCTION**

Transcontinental Gas Pipe Line Company, LLC (Transco) is proposing the Regional Energy Access Expansion Project (Project) which is an expansion of Transco's existing natural gas transmission system. This report summarizes the results of the wetlands and watercourse delineations (delineations) completed for the Project in Luzerne, Monroe, Bucks, Chester, and Northampton counties, Pennsylvania by WHM Consulting, LLC. (WHM). Appendix A to this report shows the overall Project location map showing each of the Project components.

Wetland delineations were completed on the Project between March of 2020 and February of 2022. Resumes of the staff present during the delineations can be found in Appendix B. In 2020, site visits to review the wetland boundaries at various locations was completed with the United States Army Corps of Engineers (USACE) as part of the preliminary jurisdictional determination (pre-JD) associated with the Project. The Philadelphia district reviewed the Effort Loop, and the eastern portion of the Regional Energy Lateral within the Philadelphia USACE district on August 11<sup>th</sup>, 2020 and August 12<sup>th</sup>, 2020. The Baltimore district reviewed western portion of the Regional Energy Lateral within the Baltimore USACE district on August 25<sup>th</sup>, 2020 and August 26<sup>th</sup>, 2020. The section of the Regional Energy Lateral from Bald Mountain Access Road to Hildebrandt Road is the only pipeline portion of the project within the Baltimore USACE district. Compressor Station 195 is also within the Baltimore USACE District. The Effort Loop, Compressor Station 200, Delaware Regulator, Main Line A Regulator, and the eastern portion of the Regional Energy Lateral from Compressor Station 515 to Bald Mountain Access Road are within the Philadelphia USACE district.

This overall narrative summarizes the methodology for the desktop analysis and wetland and watercourse delineation completed from the Project. As appendices to this report, several Project component specific reports are included. In these reports, an introduction to each Project component is provided, as well as the results of the desktop analysis and field surveys. Mapping, photographs, and wetland, upland and watercourse data forms are also provided. The following is a list of the appendices by Project component:

- Appendix C: Effort Loop Wetland and Watercourse Delineation Report;
- Appendix D: Regional Energy Lateral Wetland and Watercourse Delineation Report (Includes Compressor Station 515) (Omitted);
- Appendix E: Compressor Station 200 Wetland and Watercourse Delineation Report (Omitted);
- Appendix F: Delaware Regulator Wetland and Watercourse Delineation Report (Omitted);
- Appendix G: Main Line A Regulator Wetland and Watercourse Delineation Report (Omitted);

## **2.0 DESKTOP ANALYSIS**

Prior to conducting field investigations, a review of natural resource data associated with the Project site was completed to help establish probable areas where wetlands and watercourses could be located before conducting the onsite field investigation. Specifically, the following information was reviewed:

- U.S. Geologic Survey (USGS) 7.5-minute topographical maps;
- Department of Conservation and Natural Resources (DCNR) PAMAP Program – Topographical Contours (2 ft Intervals);
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI);
- USGS National Hydrography Dataset (NHD);
- Natural Resources Conservation Service (NRCS) web soil survey; and,
- Current and historical aerial imagery.

## **3.0 WETLAND AND WATERCOURSE DELINEATION METHODOLOGY**

WHM conducted investigations on the subject Project areas according to the procedures and technical guidelines outlined in the 1987 *USACE Wetland Delineation Manual* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (April 2012, Version 2.0)* and *Northcentral and Northeast Region (January 2012, Version 2.0)* depending on location. The USACE protocol establishes a three-parameter approach for identification and delineation of wetlands, which includes confirmation of the following:

I. Hydrophytic Vegetation: This condition exists when greater than 50% of the plant species contain obligate (OBL), facultative-wet (FACW), or facultative (FAC) indicator status.

II. Hydric Soils: Hydric soils are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil (Federal Register, July 13, 1994).

III. Wetland Hydrology: Wetland hydrology is recognized through evidence of inundation and/or saturation to the soil surface for at least 5% of the growing season during most years.

In undisturbed conditions, the three parameters must be confirmed to be present to characterize an area as a wetland. In highly disturbed or problematic wetland situations, USACE guidance details procedures to be used for evaluating these areas and determining which areas are most likely considered wetlands upon review by a USACE representative. Upon completing our investigations, areas exhibiting three of the USACE criteria presented above and which also have surface water connection to other waters of the United States are identified as resources that are likely to be regulated by the USACE as Jurisdictional Wetlands. Areas exhibiting three parameters but without surface water connection to other waters were identified as wetlands or waters, but they may or may not be regulated by the USACE. In many cases, wetland areas not regulated by the USACE are still likely to be regulated by the PADEP.

A Cowardin Classification (or multiple Cowardin Classifications) was assigned to each wetland based on the vegetation, sediment type, and hydrological regime. Wetlands were

flagged with pink wetland delineation flagging and labeled according to the team number, unique wetland ID, survey point number, and Cowardin classification. Wetlands with multiple Cowardin classifications will be delineated as one wetland and include a delineation of the boundaries of each Cowardin type within the wetland complex. Wetland and upland data points were surveyed at each wetland with data being recorded.

Wetlands were classified as either Exceptional Value (EV) wetlands or Other wetlands in accordance with PA Code chapter 105.17. Other wetlands include wetlands not categorized as exceptional value wetlands. EV wetlands exhibit one of the following characteristics:

- Wetlands which serve as habitat for fauna or flora listed as “threatened” or “endangered” under the Endangered Species Act of 1973, the Wild Resource Conservation Act, 30 Pa.C.S (relating to the Fish and Boat Code) or 34 Pa.C.S. (relating to the Game and Wildlife Code).
- Wetland that are hydrologically connected to or located within ½ mile of wetlands identified under the above paragraph and maintain the habitat of the threatened or endangered species within the wetland.
- Wetlands that are located in or along the floodplain of the reach of a wild trout streams or waters listed as exceptional value under Chapter 93 (relating to water quality standards) and the floodplain of streams 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 the Wild and Scenic rivers Act of 1968 or designated as wild or scenic under the Pennsylvania Scenic Rivers Act.
- 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.
- Wetlands located in areas designated by the Department as “natural” or “wild” areas within State forests or park lands, wetland located in areas designated as Federal wilderness areas under the Wilderness Act or the Federal Eastern Wilderness Act of 1975 or wetlands located in areas designated as National natural landmarks by the Secretary of the Interior under the Historic Sites Act of 1935.

In addition to wetlands, watercourses likely to be regulated as Waters of the United States, including ephemeral, intermittent and perennial watercourses, were identified in the investigation areas. The term “Jurisdictional Waters of the United States” as used by Section 404 of the CWA and defined under 33 Code of Federal Register (CFR) Section 328.1, includes adjacent wetlands and tributaries to traditionally navigable waters (TNW) and other waters with a hydrological connection to a TNW.

The waterway type (perennial, intermittent or ephemeral) is noted on the stream data form completed for each delineated water resource. Watercourses were flagged with blue delineation flagging and labeled according to the team number, unique stream ID and survey point number. The ordinary high-water mark on each bank (OHWM) was surveyed. The OHWM is defined in Title 33 of the Federal Code as “by observations of water fluctuation, physical characteristics, such as a clear natural line impressed on the bank, shelving, changes in the soil character, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

For delineations performed in the Commonwealth of Pennsylvania, wetlands and watercourses identified during the wetland delineation are deemed probable "Jurisdictional Waters of the United States" until otherwise reviewed and accepted by the USACE and/or PADEP. If upon agency review the wetland or watercourse is determined to be isolated by the reviewers (i.e. has no significant nexus to "Jurisdictional Waters of the United States"), the regulatory body for such waters then becomes the jurisdiction of the PADEP.

Our determinations are based on our collective "best professional judgment" exercised with the guidance of the USACE's manual and supplements. However, the final determination of the Jurisdictional status of the resources identified lies entirely within the review of the reviewing regulatory agencies. In other words, we identify a technically defensible boundary that must either be accepted or adjusted by the reviewing regulatory agencies in situations where encroachments may occur. As wetland consultants / biologists, we do not have the authority to assign regulatory jurisdiction. For this project a preliminary jurisdictional determination was completed by the USACE.

Wetlands and waterways were surveyed by WHM with a hand-held Spectra SP20 GPS, which is capable of delivering sub-meter accuracy. WHM then provided the GPS data and sketch mapping to Transco surveyors. Transco then re-surveyed the boundaries with a Trimble GNSS R10 Base and Rover and a Nikon D003451 Total Station. The Transco surveyors then provided the surveyed data back to WHM for incorporation into the project mapping and the wetland delineation report.

#### **4.0 REFERENCES**

- Cowardin, L. M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands deepwater habitats of the United States. U.S. Department of the Interior and the Fish and Wildlife Service, Washington, D.C.
- Environmental Laboratory.1987. Corps of Engineers Wetlands Delineation Manual. Tech. Rep. Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, M.S.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 016-30: 1-17. Published 28 April 2016. ISSN 2153 733. [http://wetland-plants.usace.army.mil/nwpl\\_static/v33/home/home.html](http://wetland-plants.usace.army.mil/nwpl_static/v33/home/home.html)
- Munsell Color (Firm). Munsell Soil Color Charts: with Genuine Munsell Color Chips. Grand Rapids, MI: Munsell Color, 2010. Print.
- Pennsylvania Code. 2020. Pennsylvania Code Title 25, Chapter 105 <http://www.pacode.com/secure/data/025/025toc.html>. Accessed October, 2020.
- U.S. Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountain and Piedmont Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, C. V. Noble, and J. F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- U.S. Army Corps of Engineers. 2011. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, C. V. Noble, and J. F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Official Soil Series Descriptions [https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/geo/?cid=nrcs142p2\\_053587](https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/geo/?cid=nrcs142p2_053587). Accessed 3/2020 thru 10/2020.
- United States Fish and Wildlife Service. National Wetland Inventory Map, 7.5 Minute Series, Pennsylvania.
- United States Geological Survey. Topographic Quadrangle 7.5-minute Series Quadrangles, Pennsylvania.
- U.S. Geological Survey. 2018. Hydrography: National Hydrography Dataset and Watershed Boundary Dataset. <http://nhd.usgs.gov/>. Accessed 3/2020 through 10/2020.