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TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC

LEIDY SOUTH PROJECT

WETLAND AND WATERCOURSE DELINEATION REPORT

CLINTON, LUZERNE, LYCOMING, COLUMBIA AND SCHUYLKILL COUNTIES, PENNSYLVANIA

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WETLAND DELINEATION REPORT

1.0 INTRODUCTION

Transcontinental Gas Pipe Line Company, LLC (Transco) is proposing the Leidy South Project (Project) which is an expansion of Transco's existing natural gas transmission system and an extension of Transco's system through a capacity lease with National Fuel Gas Supply Corporation that will enable Transco to provide 582,400 dekatherms per day (Dth/d) of incremental firm transportation capacity for abundant supplies of natural gas from northern and western Pennsylvania to existing and growing markets in Transco's Zone 6 (See Attachment A – Project Location Map). Transco's Zone 6 includes the portion of the Transco system in Pennsylvania, New York, New Jersey, and Maryland. The Project consists of the following components:

- 6.3 miles of 36-inch pipeline loop along Transco's Leidy Line in Clinton County, Pennsylvania (Hensel Replacement) and the related abandonment of 5.8 miles of existing 23.375-inch pipeline on Leidy Line A;
- 2.4 miles of 36-inch pipeline loop along Transco's Leidy Line in Clinton County, Pennsylvania (Hilltop Loop);
- 3.5 miles of 42-inch pipeline loop along Transco's Leidy Line in Lycoming County, Pennsylvania (Benton Loop);
- Existing Compressor Station 605 (Wyoming County, Pennsylvania);
    - Increase the total certificated horsepower of the two electric motor-driven units from 30,000 horsepower (HP) to 42,000 HP and modifications to existing coolers;
- New Compressor Station 607 (Luzerne County, Pennsylvania);
    - Install two gas turbine-driven compressor units (23,465 nominal HP at International Organization for Standardization (ISO) conditions each, 46,930 HP total) and gas coolers;
- Existing Compressor Station 610 (Columbia County, Pennsylvania);
    - Add one gas turbine-driven compressor unit (31,871 nominal HP at ISO conditions) and gas cooling;
    - Increase the total certificated horsepower of the two electric motor-driven units from 40,000 HP to 42,000 HP and re-wheel the existing compressors;
- New Compressor Station 620 (Schuylkill County, Pennsylvania);
    - Install one gas turbine-driven compressor unit (31,871 nominal HP at ISO conditions);
- Ancillary facilities, such as mainline valves (MLVs), communication facilities, and pig launchers and receivers in Pennsylvania.

Subject to FERC approval of the Project and receipt of the necessary permits and authorizations, Transco anticipates that construction of the Project will commence in winter 2020/2021 to meet a target in-service date of December 1, 2021.

This report summarizes the results of the wetlands and watercourse delineations (delineations) completed for the Project in Clinton, Luzerne, Lycoming, Columbia, and Schuylkill counties, Pennsylvania by WHM Consulting, Inc. (WHM). Project components occur in Wyoming and however, they did not require delineations due to the nature of the activity proposed at these existing facilities. Appendix A to this report shows the overall Project location map showing each of the previously mentioned Project components.

Wetland delineations were completed on the Project between October of 2018 and June of 2019. Resumes of the staff present during the delineations can be found in Appendix B. In May of 2019, site visits to review the wetland boundaries at various locations was completed with the Pennsylvania Department of Environmental Protection (PADEP) and the United States Army Corps of Engineers (USACE) as part of the preliminary jurisdictional determination (pre-JD) associated with the Project.

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: Benton Loop Wetland and Watercourse Delineation Report;
Appendix D: Hilltop Loop Wetland and Watercourse Delineation Report;
Appendix E: Hensel Replacement Wetland and Watercourse Delineation Report;
Appendix F: Compressor Station 607A Wetland and Watercourse Delineation Report;
Appendix G: Compressor Station 620A Wetland and Watercourse Delineation Report;
Appendix H: Compressor Station 620C Wetland and Watercourse Delineation Report;
Appendix I: Compressor Station 610 Wetland and Watercourse Delineation Report.

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.

In addition to wetlands, waters likely to be regulated as Waters of the United States, including ephemeral, intermittent and perennial waterways, 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 Commonwealth of Pennsylvania defines a watercourse or stream as any channel or conveyance of surface water having a defined bed and banks, whether natural or artificial, with perennial or intermittent flow. The Commonwealth does not regulate

ephemeral watercourses which carry water only during storm water runoff events; however, these features were delineated due to the potential USACE jurisdiction.

The waterway type (perennial, intermittent or ephemeral) is noted on the stream data form completed for each delineated water resource. Water resources 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) or centerline (for waterways under 5 feet in width) were 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. In streams under 5 feet in width, the proper channel width is included in the area tabulations based on the delineators field notes. In addition, mapping illustrates the appropriate offset of the centerline.

For delineations performed in the Commonwealth of Pennsylvania, wetlands and waters 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.

Wetlands and waterways were initially surveyed by WHM with a hand-held GeoXH 6000 GPS. 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 data was then provided back to WHM for final review and incorporation into overall project mapping and the wetland delineation report.

4.0 FUNCTIONAL ASSESSMENT METHODOLOGY

A Functional Assessment was conducted in accordance with the procedures and technical guidelines outlined in the PADEP Level 2 Rapid Assessment Protocols. A desktop analysis was conducted to determine assessment areas (AA) and zones of influence (ZOI) prior to performing the Functional Assessment within the field. Data was collected during the wetland delineation using the field data sheets provided in the protocols. The data sheets were also used to determine the overall condition index score. In general, the closer the score is to 1, the better the condition of the resource being assessed. The results of the functional assessment will be included for the PADEP permitting.

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