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August 11, 2022

Rebecca M. Albert, P.G.  
Environmental Group Manager  
PADEP Regional Permit Coordination Office  
Rachel Carson State Office Building  
400 Market Street  
Harrisburg, PA 17101

**RE: REGIONAL ENERGY ACCESS EXPANSION PROJECT  
TECHNICAL DEFICIENCY LETTER #2  
EROSION AND SEDIMENT CONTROL (E&S) PERMIT  
PADEP APPLICATION NO. ESG830021002-00; APS NO. 1036787; AUTH ID NO. 1350583**

**BUCK TOWNSHIP, BEAR CREEK TOWNSHIP, PLAINS TOWNSHIP, JENKINS  
TOWNSHIP, KINGSTON TOWNSHIP, DALLAS TOWNSHIP, WYOMING BOROUGH,  
WEST WYOMING BOROUGH, LAFLIN BOROUGH, LUZERNE COUNTY  
ROSS TOWNSHIP, CHESTNUTHILL TOWNSHIP, TUNKHANNOCK TOWNSHIP,  
MONROE COUNTY  
LOWER MOUNT BETHEL TOWNSHIP, NORTHAMPTON COUNTY  
LOWER MAKEFIELD TOWNSHIP, BUCKS COUNTY  
EAST WHITELAND TOWNSHIP, CHESTER COUNTY**

Dear Ms. Albert;

On April 8, 2021, Transcontinental Gas Pipe Line Company, LLC (Transco), a subsidiary of The Williams Companies, Inc., submitted a Chapter 105 Water Obstruction and Encroachment Application to the Pennsylvania Department of Environmental Protection (PADEP) for the proposed Regional Energy Access Expansion Project (Project). The PADEP issued a technical deficiency letter on January 7, 2022, and Transco responded on March 7, 2022. The PADEP issued a second technical deficiency letter on June 2, 2022. The response package herein responds to PADEP's technical deficiencies outlined in the June 2, 2022 deficiency letter. In respect to Technical Deficiency Comment #23, Transco is still in a concurrent review phase with the United States Fish and Wildlife Service (USFWS) with final clearance pending. Transco will submit the USFWS clearance to PADEP upon receipt.

**E&S Plan**

The following comments are within the Monroe County portion of the project:

- 1. The following comments apply to the sequence of construction for the MLV-505LD86 site:  
[25 Pa Code §102.4(b)(5)(vii)]**

- a. **Steps 11-20 (development of the site during construction) do not appear to maintain flows to the proposed sediment traps during construction. In addition, the compost socks along the access road are not placed along grade which will not treat sediment prior to discharge from the site. In addition, sediment trap 1 is treating undisturbed areas. It appears the site could be controlled in a simplified manner using diversion socks and proper sequencing of the work. Please contact the reviewer to discuss the sequence of construction.**

As requested, we contacted the reviewer to discuss the sequence of construction. Accordingly, we revised the sequence to specify installation of Culvert 3 prior to development of the access road. Compost socks along the road have been redesigned to function as a diversion sock directing stormwater to Culvert 3. Design calculations for the diversion sock are included. Lastly, much of the undisturbed acreage upgradient of sediment trap 1 will be diverted using an existing swale. The drawings have been updated to indicate that this swale will be maintained during and after construction.

- b. **Step 22 (installation of PCSM BMPs) should refer back to the BMP Installation Sequence on the MLV-505LD86 PCSM Plans, Sheet 6. Please refer to the comments below on the installation sequence regarding soil testing during the installation of the PCSM BMPs.**

Former Step 22 (now 25) has been modified to refer to the PCSM Plan Sheet 6. Additional steps have been added to the sequence regarding soil testing as discussed further below.

2. **The swale dimensions shown on the HydroCAD printouts for the channels on the MLV-505LD86 site do not match the dimensions provided on the Drawings, Sheet 45 of 52. Please revise the calculations/details for consistency. [25 Pa Code §102.4(b)(5)(viii)]**

The calculations and details have been revised for consistency, and the HydroCAD design has been updated accordingly.

3. **Drawing 42, Culvert Inlet Protection Stone (Rock Filter) Detail: Please specify that the “D” dimension in the detail should match the height of the adjacent compost socks. [25 Pa Code §102.4(b)(5)(ix)]**

This detail has been updated to specify the “D” dimension in the detail matches the height of the adjacent compost socks.

4. **The swale depths for swales DC-EL-1 and DC-EL6 should be 2.0 feet and 1.75 feet, respectfully, to match the calculations. Please revise. [25 Pa Code §102.4(b)(5)(ix)]**

The swale depths have been corrected to match the calculations.

5. **The values for the Pipe Size and “Aiw” dimension for Apron 6 do not match the calculations. Please revise for consistency. [25 Pa Code §102.4(b)(5)(ix)]**

The previously designed Apron 6 has been removed from the design. The basin outfall now ties directly into Culvert 7. Aprons have been renumbered appropriately.

6. **Please provide the installation thickness values for R-4 and R-5 rock on the CWC-OB detail on Sheet 45 of 52. [25 P Code §102.4(b)(5)(ix)]**

Installation thickness values for the R-4 and R-5 riprap have been added.

7. **The culvert sizing calculations for Culvert #3 appear to indicate that this cross pipe will be in a surcharge condition for the larger storms (25 year and above). This culvert is critical to convey flows to Infiltration Basin 1 for Rate control management. Please size this culvert and Rock Apron 4 so that the 100 year flow will not bypass this culvert. [25 Pa Code §102.8(f)(8)]**

The design has been modified to utilize two 12” culverts to convey the 100 year flow without bypassing the culvert. The slope of the pipes was revised to minimize the discharge velocity of the stormwater.

8. **The discharge pipes for infiltration beds 1 and 2 should be connected together and extended to the outlet rock apron for Culvert 7. [25 Pa Code §102.8(f)(9)]**

The discharge pipes for infiltration beds have been extended to tap into Culvert 7.

9. **Culvert 6 should be extended to the Apron 7 location. [25 Pa Code §102.8(f)(9)]**

Culvert 6 has been extended to tap into Culvert 7.

10. **Please add the following information to the details for Infiltration Beds 1 and 2 (Sheet 7) [25 Pa Code §102.8(f)(9)]:**

- a. **Please specify the required length of the storage pipes and spacing of the storage pipes.**

The length and minimum spacing requirements of the storage pipes has been added to the details.

- b. **Please label the minimum top of stone elevation.**

The top of stone elevations have been added to the details.

- c. **Please specify the minimum bed area required for each system.**

The minimum bed areas have been added to the details.

- d. **Please add a note that infiltration testing should be performed prior to and after the installation of the soil amendments. Infiltration testing results shall be submitted to MCCD.**

A note has been added to the details specifying that infiltration testing will be required prior to and following installation of the soil amendments, and that these results will be submitted to MCCD.

11. **Infiltration Berm Detail, Sheet 7: Please add a note that infiltration testing should be performed prior to and after installation of the soil amendments. Infiltration testing results shall be submitted to MCCD. [25 Pa Code §102.8(f)(9)]**

This note has been added to the Infiltration Berm Detail, and a note has also been incorporated into the sequence of construction and PCSM Critical Stage section.

12. **Infiltration Basin Detail, Sheet 8: Please add a note that infiltration testing should be performed prior to and after the installation of the soil amendments. Infiltration testing results shall be submitted to MCCD. [25 Pa Code §102.8(f)(9)]**

This note has been added to the Infiltration Basin Detail, and a note has also been incorporated into the sequence of construction and PCSM Critical Stage section.

**13. Infiltration Basin Emergency Spillway Detail, Sheet 8: Please specify the staple pattern for the SC250BN matting. [25 Pa Code §102.8(f)(9)]**

A staple pattern has been added to the Emergency Spillway Detail. The matting has also been modified to SC150BN to be consistent with other matting used onsite.

**14. Stabilized Overflow Spillway Detail, Sheet 8: Please specify the number of spillways, lining requirements, and the associated staple patterns for the Infiltration Berms. [25 Pa Code §102.8(f)(9)]**

The number of spillways has been added to the schedule included with the Stabilized Overflow Spillway.

**15. Soil Amendment Detail, Sheet 8: The compost mixture specifies a 2:1 Soil/compost mixture. Our experience indicates that mixtures with a high compost percentage may inhibit or block infiltration from occurring. The designer should consider a lower compost percentage in the mix and/or specify the placement and testing of a test area to determine the infiltration ability of the amendment mix. [25 Pa Code §102.8(f)(9)]**

The soil amendment detail has been modified to reference a mixture of 50% sand, 10%-20% compost, and 30%-40% onsite material. This is based on conversations with the Monroe County Conservation District.

**16. Please revise the BMP Installation sequence (MLV Plans, Sheet 6) for the Infiltration Berms, Infiltration Basin, and Subsurface Infiltration Beds to require infiltration testing prior to and after the installation of soil amendments. Test results should be submitted to MCCD. [25 Pa Code §102.8(f)(7)]**

The sequence has been updated to indicate infiltration testing to be completed prior to and following installation of the soil amendment. The test results will be provided to the Monroe County Conservation District.

**17. The following comments apply to the PCSM Spreadsheet [25 Pa Code §102.8(g)(2)]:**

- a. General Tab: The amount of existing impervious area on the project should be 0.09 acres in order to match the Rate Control analysis.**

The acreage of impervious area on the General tab has been changed to 0.09 acres. The total impervious acreage is 0.11 acres, but 20% of this area has been assumed as meadow. A note has been added to the General Tab to communicate this.

- b. Volume Tab: In the preconstruction condition, the “Impervious area” should be 0.07 acres, in order to match the predevelopment impervious cover and the 20% considered meadow in good condition.**

The total impervious acreage is 0.11 acres, but 20% of this area has been assumed as meadow. Therefore, 0.09 acres of impervious are assumed on this tab. A note has been added to the Volume Tab to communicate this.

- c. Volume Tab: There are numerous revisions needed to the Infiltration period, vegetated column, media depth, and storage volumes on the Structural BMP Volume Credits table. Please contact the reviewer for a detailed discussion of the changes.**

Revisions to the Volume Tab have been made based on discussions with the Monroe County Conservation District.

- 18. The fee for service for the next submittal is \$5,883.00, payable to “Monroe County Conservation District”. [25 Pa Code §102.6(b)(3)]**

A check made payable to the Monroe County Conservation District for \$5,883.00 has been mailed to the MCCD office.

The following comment is from the Luzerne County Conservation District:

- 19. The plan map(s) show OP1 discharging to an area that is not identified as a surface water. If this is a non-surface water discharge, provide a discharge analysis according to Ch. 102 Off-Site Discharges of SW to Non-Surface Waters FAQ. [25 Pa Code §102.4(b)(5)(iv)]**

The offsite discharge report for MLVRA20 has been updated based on discussion with the Luzerne County Conservation District to address this comment. The riprap apron OP1 has been revised to an earthen level spreader to promote sheet flow from the diversion channel to the nearby surface water. The HydroCAD analysis has been updated to model flows from the level spreader to confirm a non-erosive discharge velocity.

Further, a structural level spreader has been added to the discharge from the infiltration berm to promote sheet flow. The level spreader in conjunction with the riprap apron will promote sheet flow from the BMP to the nearby surface water.

#### **Geological Hazard Assessment and Mitigation Plan**

- 20. Original Comment #84a: The Geological Hazard Assessment and Mitigation Plan did not include any geologic field investigation, drilling, or test pitting, to confirm the findings of the desktop review. Following the desktop reference review, the field geohazard assessment consisted of walking the ROW and immediately adjacent areas to observe the existing ground surface conditions and to document evidence of past landslide events. The Geological Hazard Assessment should, at a minimum, include the geotechnical investigations that were conducted at resource crossings. [25 Pa Code §102.4(b)(5)(xiii)]**

*The response indicated that geotechnical information was included within Attachments B-9 through B-13 of the revised Geological Hazard Assessment and Mitigation Plan. No Attachment B-13 was provided. Please clarify if a geotechnical report is missing or if the provided response was a typo.*

There is no attachment B-13. This was noted in error in the previous response letter, and should have read Attachments B-9 through B-12.

- 21. Original Comment #84b: The Geological Hazard Assessment and Mitigation Plan indicates that Acid Producing Rock (APR) will likely be encountered. According to the Plan, the Marcellus Shale is expected to be encountered from MP 45.55-46.7, previously strip-mined areas are present from MP 16.6-16.32, and soils pertaining to strip mining and mine spoils are shown between MPs: 9.61 - 9.75, 9.84 - 9.89, 11.06 - 11.34, 11.47 - 11.60, 11.70 - 11.77, 11.96 -12.38, 12.50 - 12.80, 12.90 - 13.14, 13.32 -13.47, 15.30 - 15.70, 15.83 - 15.93, and 16.16 - 16.32. Section 3.4 of the plan states "If coal or other acid producing rock is encountered in sufficient concentrations it can be mitigated in accordance with PADEP guidelines". APR is not mentioned on the E&S Plans. Please indicate what concentration of APR will trigger mitigation actions and what qualified professional will be onsite to determine that APR is present. [25 Pa Code § 102.4(b)(5)(xii)]**

*The DEP appreciates the clarification within the revised Geological Hazard Assessment and Mitigation Plan. Please include, in addition, that “the representative of the professional geotechnical engineer” will receive training in order to “visually identify soil or rock that is suspected to be APR”.*

Sections 3.0 and 3.4 of the Letter Report in Attachment B-1 has been updated with the requested training requirement.

### **Preparedness, Prevention, and Contingency (PPC) Plan**

- 22. Original Comment #85e: Section 7.6 of the Inadvertent Return Response and Contingency Plan states no wells or public water supplies were located within 1,000 ft of the proposed DP crossing. Please confirm that this includes all water supplies. The definition of water supply can be found in 25 Pa. Code § 78a.1. The section of regulations dealing with the "Protection of Water Supplies" can be found in 25 Pa. Code § 78a.51 and 25 Pa. Code §§ 91.31 - 91.34. Project proponents utilizing trenchless technology need to incorporate a plan for locating private water supplies, in addition to public water supplies and should evaluate all information sources to locate and identify all private water supplies. DEP recommends using the following guidelines to locate and identify private water supplies: Locate all private wells within a minimum of 450-feet of the centerline of the pipeline in non-karst terrain, and a minimum of 1000-feet in karst terrain or areas that include limestone and dolomite bedrock. The project proponent should compile mailing lists for all properties at a minimum of 450-feet (1,000-feet in karst) from the pipeline, or utility line, centerline to inquire as to whether a private well or other water supply (e.g. spring) is present on the property. [25 Pa Code §102.5(1)]**

*The DEP understands that no private or public water supplies were identified by Transco within 1,000 of the proposed DP crossing. Please update Section 7.3 of the Direct Pipe Plan to detail the process undertaken to identify private water supplies. That is, Section 2 of the Public Water Supply Report, included within the Chapter 105 application package, details the methodology for identifying public water supplies, please provide a similar summary for private water supplies.*

Section 7.3 of the DP Plan was updated to provide the methodology and results of Transco’s efforts to identify potable water supplies in proximity to the proposed DP crossing of the Susquehanna River. Attachment E was added to the DP plan, which outlines the Publicly Available Water Supply Information, and includes documentation from eMapPA, PAGWIS and SRBC WAAV. Attachment F includes a template of the letter sent to landowners within 450’ of the proposed DP. Attachment G includes the list of landowners contacted within 450’ of the DP crossing, notes regarding their consultation and the associated delivery confirmations of the letters. Transco requests that the tax parcel mailing list and delivery confirmations included as Attachment G be treated as confidential information.

### **Application Form**

- 23. Provide final reports and final PNDI clearances from applicable agencies and revise the application accordingly. [25 Pa. Code §§ 102.6(a)(2)]**

Section 1-8 of the application has been updated to reflect the results outlined in the PNDI clearances for the Project. Clearance letters from the Pennsylvania Fish and Boat Commission, Pennsylvania

Department of Conservation and Natural Resources, and the Pennsylvania Game Commission are included in this section. Transco is still in a concurrent review phase with the United States Fish and Wildlife Service (USFWS) and a final clearance is pending. Transco will submit the final USFWS clearance to PADEP upon receipt.

**24. Provide final reports and clearances from the Pennsylvania Historical and Museum Commission (PHMC) and update the application accordingly. [25 Pa. Code §§ 102.6(a)(2)]**

Transco has completed all cultural studies for the PHMC and clearance has been provided. Letters issued on January 5, 2021, July 9, 2021, September 24, 2021, and November 15, 2021 provide clearance for the initial and Addendum 1 architectural surveys. Letters issued on January 5, 2021 and July 8, 2021 provide clearance for the initial and Addendum 1 archaeological surveys. The February 11, 2022 email from the PHMC clarifies that all project counties/components submitted to that date are included in their clearance statements (some previous response letters did not list all counties). The Addendum 2 studies were the final studies completed for the Project as proposed, and the PHMC issued clearance responses on March 29, 2022 (architecture) and April 21, 2022 (archaeology) for these studies. Updated correspondences are included within Section 1-9 of the Permit Application. Reports are included within the Joint Permit Application submissions for each county.

**PCSM Report**

**25. Original Comment #95: Please provide the maximum loading ratio of 5:1 (impervious area to infiltration area), and the maximum loading ratio of 8:1 (total area to infiltration area) for the infiltration berms. [25 Pa Code §102.8(f)(8)]**

*The calculations for the maximum impervious loading ratio and the maximum loading ratio could not be found for the infiltration berms. Please provide the loading ratio calculations.*

A calculation for these loading ratios has been added to the submission following the PCSM Spreadsheet.

**26. Original Comment #102: Please provide the maximum impervious loading ratio of 5:1 (impervious area to infiltration bed area) and the maximum total loading ratio of 8:1 for the Carverton Tie-In infiltration bed. [25 Pa Code §102.8(f)(8)]**

*The calculations for the maximum impervious loading ratio and the maximum loading ratio could not be found for the infiltration berms at the Carverton Tie-In. Please provide the loading ratio calculations.*

A calculation for these loading ratios has been added to the submission following the PCSM Spreadsheet.

**27. Original Comment #105: Please provide the maximum impervious loading ratio of 5:1 (impervious area to infiltration bed area) and the maximum loading ratio of 8:1 for MLV-505LD86 infiltration berms. [25 Pa Code §102.8(f)(8)]**

*The calculations for the maximum impervious loading ratio and the maximum loading ratio could not be found for the infiltration berms at MLV-505LD86. Please provide the loading ratio calculations.*

A calculation for these loading ratios has been added to the submission following the PCSM Spreadsheet. Please note that it was not feasible to meet a maximum loading ratio of 8:1 for MLV-

505LD86 without significantly increasing the size of the BMP. Based on discussions with Monroe County Conservation District and PaDEP, it was determined that increasing the BMP footprints, leading to an increase in disturbed area, was not recommended.

- 28. Original Comment #106: Compressor Station 200 is located in an area that has several surface depressions located near the project site, the maximum impervious loading ratio of 3:1 (impervious area to infiltration bed area) is recommended for the infiltration berm, which is being proposed as the only infiltrating PCSM BMP. Should the loading ratio not be met, please include additional PCSM BMPs within the project area to accommodate the volume mitigation requirement. [25 Pa Code §102.8(f)(8)]**

*The calculations for the maximum impervious loading ratio of 3:1 could not be found for the infiltration berm at Compressor Station 200. Please provide the loading ratio calculations.*

A calculation for these loading ratios has been added to the submission following the PCSM Spreadsheet.

- 29. Original Comment #129: The maximum loading ratio of 3:1 for impervious area to infiltration area in Karst areas has been exceeded for the proposed infiltration BMP. (Protocol 2 in Appendix C of the Stormwater BMP Manual). [25 Pa Code §102.11(a)(2)] Please make all necessary corrections.**

*The calculations for the maximum impervious loading ratio of 3:1 could not be found for the infiltration berm at Compressor Station 200. Please provide the loading ratio calculations.*

A calculation for these loading ratios has been added to the submission following the PCSM Spreadsheet.

- 30. Original Comment #137: Please justify the Infiltration Period for the PCSM BMPs in the PCSM Spreadsheet. Per the Spreadsheet Instructions, the actual computed dewatering time should be entered here. Please provide dewatering calculations. [25 Pa Code §102.8(f)(15)]**

*This comment was not adequately addressed, as the infiltration time was not adjusted and dewatering calculations could not be located. Please make all necessary revisions and include page numbers in the next response letter where revisions can be found.*

A calculation for the infiltration period for the PCSM BMPs has been prepared and is included with the ratio calculations discussed above.

### **Additional Project Changes**

The following additional Project changes occurred to the plans as noted below.

### **Overall Application Changes**

1. Section 1-6 has been modified with updated Act 14 Notifications, that were resubmitted in April 2022.
2. Section 1-7 has been modified with an updated Onsite Reforestation Plan. No changes to the proposed areas for planting occurred. An additional species was added to the planting list and a typo was corrected, which was noted in the Chapter 105 Technical Deficiency Response.
3. Section 1-10 has been updated with the revised PPC Plan based on the Chapter 105 Technical Deficiency Letter Comments on the Direct Pipe Plan.



**Monroe County**

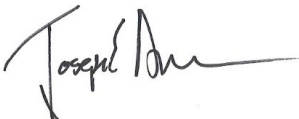
1. Chapter 105 Technical Deficiency Letter Edits
  - a. At Station 885+00, the plans were updated to reflect no disturbance within the wetland area. Associated timber mats and compost filter sock was removed from the wetland.
  - b. At Station 1126+00, the plans were updated to reflect a revised floodway boundary associated with a culvert that crosses the right-of-way and extends off the right-of-way. Notes were updated at this location.
    - i. Attached A-2 – Wetland and Watercourse Delineation Report was also updated per this comment.
2. Road Crossing Type Changes
  - a. Road crossings were changed from a Trenched Road Crossing (TRC) to a Bored Road Crossing (BRC) at the following locations. No streams, floodways or wetlands are located in the vicinity of these crossings.
    - i. 1224+00 – Marquette Drive
    - ii. 1237+00 – Marquette Drive
    - iii. 1256+00 – Allegheny Drive
3. Thermal Impacts discussion within the drawings and narrative were updated.
4. The Dam and Pump Detail was updated to remove a note regarding duration that was incorrect.

**Luzerne County**

1. Chapter 105 Technical Deficiency Letter Edits
  - a. AR-LU-029 between Mileposts 2.9 and 4.9 was updated with notes to indicate use only during site restoration activities at the noted stream and wetland crossings.
  - b. Trench plugs were added at the wetland boundary of W6-T13.
  - c. A call out was added at Station 599+00 noting the existing culvert at this location.
  - d. At station 1126+00, the plans were updated to reflect no disturbance within the wetland area. Associated timber mats and compost filter sock was removed from the wetland.
2. Thermal Impacts discussion within the drawings and narrative were updated.
3. The Dam and Pump Detail was updated to remove a note regarding duration that was incorrect.
4. The Clean Water Crossing and Diversion Channel Tables were updated in the drawings and narrative to reflect the currently proposed BMP's. No changes in design occurred since the previous submission, however the previously shown tables included a CWC and Diversion Channel that was removed as part of the March 2022 submission.
5. Waterbars near station 835+00 were removed due to conflicts with existing roads and access.

It is our hope that the information as provided will allow you to complete your review in accordance with your regulations and issue the requested Permit. If you require any additional information that will facilitate your review, please do not hesitate to contact Karen Olson at (713) 215-4232 or at Karen.Olson@williams.com, or Josh Henry at (412) 787-4277 or at Josh.Henry@williams.com.

Sincerely,



Joseph Dean  
Manager, Environmental Health and Safety