AECOM
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Conshohocken, Pennsylvania 19428
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July 8, 2025

PA Department of Environmental Protection
Attn: Rebecca M. Albert, P.G., Environmental Group Manager
400 Market Street
Harrisburg, PA 17101

Subject: **Incompleteness Notification**
E&S Permit Application No. ESP830025001-00
APS No. 1139477; AUTH ID No. 1530808
Transcontinental Gas Pipe Line Company, LLC
Northeast Supply Enhancement Project - Quarryville Loop & CS 200
Drumore, East Drumore, Eden & Bart Townships, Lancaster County
East Whiteland Township, Chester County

Dear Ms. Albert,

On behalf of Transcontinental Gas Pipe Line Company, LLC (Transco), AECOM is responding to the initial application review letter received from the PA Department of Environmental Protection (PADEP) dated June 26, 2025, regarding the filed application for construction activities at existing Compressor Station 200 and the proposed Quarryville Loop a new natural gas pipeline. The aforementioned application is specific to that portion of the Project within Drumore, East Drumore, Eden, and Bart Townships, in Lancaster County, as well as East Whiteland Township within Chester County.

On behalf of Transco, AECOM is hereby providing a response to those comments put forward by PADEP. This letter contains each comment (in bold text) along with Transco's response; in some cases, additional supporting information is required, which is enclosed with this letter.

<u>Comments regarding the Quarryville Loop portion of the project:</u>

1. **Erosion and Sediment Control Permit Application Form**

   a. **Within the application form or separate narrative, in addition to the total proposed earth disturbance listed on page 2, identify the proposed earth disturbance acreages each in Lancaster and Chester counties [25 Pa Code § 102.6(a)(1)]**

      The total proposed earth disturbance listed on Page 2 of the IP E&S application form has been revised to list the proposed earth disturbances each in Chester and Lancaster Counties.

   b. **On page 2, the acreages of the post-construction land uses do not total to 100 percent. Revise accordingly. [25 Pa Code § 102.6(a)(1)]**

      The acreages of the post-construction land uses on Page 2 of the IP E&S application form have been revised to indicate the correct values that total to 100-percent.

   c. **Provide documentation indicating the individual who signed the application form is authorized to do so on behalf of the company. Submission of legal documentation identifying members, owners, partners, etc. of the LLC is suggested. [25 Pa Code § 102.6(a)(1)]**

      Power of Attorney forms granting legal authorization to Mr. Joseph Dean and Mr. Tim Powell are enclosed.

2. **Provide proof of delivery of the municipal notification forms to Drumore Township and Eden Township. The Lancaster County Conservation District acknowledges FedEX tracking printouts have been provided, but these printouts do not confirm delivery to Eden and Drumore Townships. Alternatively, signed copies of the county and municipal notification forms from Eden, East Drumore, and Drumore Townships and Lancaster County may be provided. [25 Pa Code § 102.6(a)(1)]**

   Proof of delivery of municipal notification forms are enclosed that show that for Eden Township the FedEx delivery was received on June 18,2025 and signed for by Z. Troutman and for Drumore Township FedEx delivery was received on June 13,2025 and signed for by A. Glass. To date signed copies of the notifications form have not been received.

   Lancaster County has provided their Act 14 response, and a copy of that executed form is provided herein.

3. **Provide proof of coordination and clearance from the Pennsylvania Historical and Museum Commission (PHMC). Per the E&S Permit instructions, "Applicants must request that the PHMC complete a review of cultural resources, and a copy of PHMC's clearance letter(s) must be submitted as an attachment to the application. PHMC requires the completion and submission of the Project Review Form to initiate a review by the State Historic and Preservation Office (SHPO), Environmental Review Division. [25 Pa Code § 102.6(a)(1)]**

   Two letters dated June 12, 2025 and June 16, 2025 are provided herein which are proof of clearance by the PHMC for the Northeast Supply Enhancement Project - Quarryville Loop & CS 200.

   While the subject line of these letters state Chester County, to clarify they are specific to the entire project and provide clearance for both Quarryville Loop & CS 200. The ER project reference number in the subject line correlates to the entirety of the original project. The subject line also notes "Multi-Municips". While there are multiple municipalities in Lancaster County, there is only one in Chester County so it seems that the omission of Lancaster County from the header was an oversight by PHMC. The 2025 recoordination effort by Transco was for the entirety of the project in PA (CS200 and Quarryville Loop).

4. **Provide supporting calculations demonstrating how the values of Q and Q_r listed in Standard E&S Worksheet #11 for Channel 1 were calculated. [25 Pa Code § 102.4(b)(5)(viii)]**

   Channel 1 calculations are included in the E&S Module 1 package as Appendix C. Calculations include E&S Worksheet #9, #10 and #11. A supporting drainage area map has been provided in support of this calculation. The attached E&S Module 1 package is identical to what was provided in the original submission with the exception of modified Appendices C and D.

5. **Diversion berms are shown on the E&S plans. For each diversion berm, provide completed E&S Worksheet #11 with supporting calculations for Q and Qr, or clarify where additional information is provided on the plans indicating how the potential for accelerated erosion along these berms is minimized. [25 Pa Code § 102.4(b)(5)(viii)]**

   E&S Worksheet #11 for the proposed diversion berm is included in the E&S Module 1 package as Appendix C with supporting calculations. Drainage Area Maps have been updated to clearly label the diversion berms to be consistent with the E&S Worksheets. The attached E&S Module 1 package is identical to what was provided in the original submission with the exception of modified Appendices C and D.

6. **Provide drainage area maps for the sediment traps on the E&S plan drawings or separate exhibit. The drainage areas to the traps shown on the exhibit should be consistent with the sediment trap supporting calculations. [25 Pa Code § 102.4(b)(5)(viii)]**

   Drainage Area Maps for the sediment traps on the E&S plan drawings have been added to the E&S Module 1 package as Appendix E. The drainage areas to the traps shown on the exhibit are consistent with the sediment trap supporting calculations. The attached E&S Module 1 package is identical to what was provided in the original submission with the exception of modified Appendices C and D.

7. **Label the discharge points and points of analysis on the E&S and PCSM plan drawings. [25 Pa Code § 102.8(f)(9)]**

   The discharge points were provided in the E&S and PCSM plan drawings in the initial submission but have been revised to appear red on the plans for ease of identification. The points of analysis have also been added to the USGS Topographic Map on the Cover Sheet on the E&S and PCSM plan drawings.

8. **Sheets 6 and 6A of the E&S plan drawings provide callouts for "existing Atlantic Sunrise stormwater basins," but no basins are shown in the existing contours on the plans. Show the basins on the plan drawings. [25 Pa Code § 102.4(b)(5)(ix)]**

   Sheets 6, 6A, and 6C of the E&S plan drawings have been revised to remove callouts for "existing Atlantic Sunrise stormwater basins".

9. **The plan drawings depict the project site boundary in red, but a red color is not located in the legend. Revise the plan drawings to ensure consistency between the plans and the legend. [25 Pa Code § 102.4(b)(5)(ix), 10238(f)(9)]**

   The plan drawings have been revised to depict the project site boundary in black to ensure consistency between the plans and the legend.

10. **Sheet 11C of the E&S plan drawings labels a sediment basin, but no sediment basin calculations are included in the application documents. Clarify whether a sediment basin is proposed. [25 Pa Code § 102.4(b)(5)(ix)]**

    Sheet 11C of the E&S plan drawings has been revised to remove the label for a sediment basin as a sediment basin is not proposed.

11. **The E&S and PCSM plan drawings provide an entry in the legend for "ESCGP-2 Boundary." Given that this application is not for an ESCGP, revise the naming of this item in the legend. [25 Pa Code § 102.4(b)(5)(ix), 102.8(f)(9)]**

    The legend on the E&S and PCSM plan drawings has been revised to show an entry for "Limit of Disturbance/Project Site Boundary" and no longer refers to an ESCGP-2 Boundary.

12. **Complete the Stormwater Analysis – Peak Rate section of PCSM Module 2. [25 Pa Code § 102.8(f)(8), 102.8(g)(3)]**

    The Stormwater Analysis – Peak Rate section of PCSM Module 2 was provided in the previous submission and is also included in this response package. The attached PCSM Module 2 package is identical to what was provided in the original submission with the exception of a modified Appendix G to include the DEP Pre-Development Site Characterization (PDSC) Spreadsheet in response to PADEP Comment # 16 below.

13. **Provide a signature from the PCSM plan preparer on page 13 of PCSM Module 2. [25 Pa Code § 102.8(f)(9)]**

    The signature from the PCSM plan preparer was provided on page 13 of PCSM Module 2 of the previous submission and is also included in this response package. The attached PCSM Module

2 package is identical to what was provided in the original submission with the exception of a modified Appendix G to include the DEP Pre-Development Site Characterization (PDSC) Spreadsheet in response to PADEP Comment # 16 below.

14. **On the PCSM plan drawings, provide a sequence of PCSM BMP implementation or installation in relation to earth disturbance activities of the project site and a schedule of inspections for critical stages of PCSM BMP installation. [25 Pa Code § 102.8(f)(7)]**

    The Notes Sheet on PCSM plan drawings has been revised to provide a sequence of PCSM BMP implementation or installation in relation to earth disturbance activities of the project site and a schedule of inspections for critical stages of PCSM BMP installation.

15. **On the PCSM plan drawings, provide procedures for the recycling or disposal of materials associated with or from the proposed PCSM BMP's. [25 Pa Code § 102.8(f)(11)]**

    The Notes Sheet on PCSM plan drawings has been revised to provide procedures for the recycling or disposal of materials associated with or from the proposed PCSM BMP's.

16. **Complete and provide the DEP Pre-Development Site Characterization (PDSC) Spreadsheet or clarify why the completion of this spreadsheet is not applicable for this project. [25 Pa Code § 102.8(g)(1)]**

    The DEP Pre-Development Site Characterization (PDSC) Spreadsheet is included within the PCSM Module 2 in Appendix G. The attached PCSM Module 2 package is identical to what was provided in the original submission with the exception of a modified Appendix G to include the DEP Pre-Development Site Characterization (PDSC) Spreadsheet.

17. **No Erosion Potential Analysis form (DEP form 3800-FM-BCW0271h) has been submitted with this application. Submit an erosion potential analysis form for each discharge point or clarify why an Erosion Potential Analysis form is not applicable for this project. [25 Pa Code § 102.4(c)]**

    Erosion Potential Analysis forms and associated calculations have been completed for each discharge point resulting in concentrated flow and included in Appendix D of Module 1. For discharges occurring during construction, only temporary flume pipes resulted in concentrated flow which required erosion potential analysis. All other discharge points resulted in sheet flow.

    For discharges occurring following construction, POA-002 and POA-003 discharge with no concentrated flow before reaching surface water. POA-001 Erosion Potential Analysis form is included in Appendix D of Module 1. Drainage maps to the PCSM POA's are shown in Module 2, Figure 2- Discharge Location Map. The attached E&S Module 1 package is identical to what was provided in the original submission with the exception of modified Appendices C and D.

18. **The boundaries of the wetlands and watercourses shown on the E&S plan drawings are difficult to distinguish from other items shown on the plans. Additionally, the bounds of wetlands and watercourses outside of the limits of disturbance are difficult to read on the plan drawings. Provide additional readability for the boundaries of the surface waters on the E&S plan drawings. [25 Pa Code § 102.4(b)(5)(v)]**

    The boundaries of the wetlands and watercourses shown on the E&S plan drawings have been revised to show them in blue and cyan colors for ease of readability.

19. **The wetland delineation report indicates a temporary workspace is proposed east-northeast of the project along Mount Pleasant Road between Valley Road and Smoothing Iron Road. Additionally, the E&S plan drawings show a temporary workspace along Mount Pleasant Road on sheet 21A. On the plan drawings, clarify the exact location of this temporary workspace, identify the scope of work, and clarify whether earth disturbance will occur in this workspace area. If earth disturbance will occur, clarify the E&S BMP's that are proposed in this temporary workspace. Note that if earth disturbance**

is proposed in a municipality other than those currently listed in the application documents, several application documents may need to be updated to include this area and the additional municipality. [25 Pa Code § 102.4(b)(5)(iii)]

The temporary workspace proposed along Mount Pleasant Road between Valley Road and Smoothing Iron Road is located in Bart Township, Lancaster County. This workspace is labeled on the plans with its intent “Temporary Workspace for Hydrostatic Test Source” and as is only necessary for procurement of hydrostatic test water from a hydrant situated at this location. Water trucks will utilize this workspace for filling their trucks and safe ingress and egress from Mount Pleasant Road and BMPs are proposed to address this activity. A USGS site location figure has been added to Plan sheet 21A depicting the location of the workspace. The supporting IP E&S and GIF forms have been updated to include this Township, and evidence of ACT 14 notification has been provided herein.

Comments regarding the Compressor Station 200 portion of the project:

20. Please reference the location to the Project Description in the NOI. [25 Pa Code § 102.6(a)(1)]

The project description has been added to the E&S Application Form as an attached sheet. Please refer to the E&S Application Form attachment.

21. Please be sure to include Valley Creek in the Stormwater Discharge Section of the NOI. [25 Pa Code § 102.6(a)(1)]

Valley Creek has been added to the Stormwater Discharge Section of the NOI.

22. Label all Discharge points and Points of Analysis on the E&S and PCSM plans. [25 Pa Code § 102.4(b)(5)(ix), 102.8(f)(9)]

For CS 200, there is one (1) Discharge Point (CS-200 DP-001) and two (2) Points of Analysis (POA-001 and POA-002), which have been shown on the Cover Sheets of the E&S (Sheet 1 of 17) and PCSM (Sheet 1 of 12) plans, as well as the “Discharge Location Map” previously attached to Module 2.

23. Show the drainage area for the proposed swales on the E&S plan drawings. [25 Pa Code § 102.4(b)(5)(ix)]

The drainage areas for the proposed swales have been included on the E&S plans (Sheet 8 of 17). These also correspond with the drainage areas shown in the PCSM supporting calculations (Swale CH-01 = DA-02 and Swale CH-02 = DA-01).

24. Please be sure the critical stages are called out within the construction sequence. [25 Pa Code § 102.4(b)(5)(ix)]

The critical stage of construction associated with the project is the construction/installation of the bioretention basin, which is identified in Step 9 of the Sequence of Construction on the Cover Sheet of both the E&S Plans (Sheet 1 of 17) and PCSM Plans (Sheet 1 of 12), as well as a separate call out box on the same sheets, respectively. It is also further detailed in the Bioretention Basin Construction Sequence found on the E&S Plans (Sheet 15 of 17) and PCSM Plans (Sheet 9 of 12).

25. Please complete page 5 of Module 2. [25 Pa Code § 102.6(a)(1)]

Page 5 of Module 2 (Questions 4 of PCSM SCM Inventory) indicates it should be filled out for infiltration-based SCMs if indicated in Question 1 of PCSM SCM Inventory section. Since there are no infiltration SCMs proposed as part of CS 200, Page 5 is not applicable per PCSM Module 2 Instructions [3800-PM-BCW0406b]. “N/A” has been in the SCM ID textbox of Page 5 for further clarification. All relevant boring logs and infiltration testing logs can be found in 17-22_Soils & Geotechnical Results – NESE – CS200 which were previously submitted.

26. **Provide the long-term operations and maintenance notes for each SCM type. [25 Pa Code § 102.8(f)(10)]**

    A Long Term Operation and Maintenance Schedule which includes each SCM can be found on the PCSM Plans (Sheet 8 of 12).

27. **Please provide the PDSC Spreadsheet. [25 Pa Code § 102.6(a)(1)]**

    The PDSC Spreadsheet was previously provided in 17-22_Soils & Geotechnical Results – NESE – CS200, and has also been re-attached herein.

28. **Please provide an EP Analysis. [25 Pa Code § 102.6(a)(1)]**

    One discharge point (CS-200 DP-001) is associated with CS 200, located at the south eastern portion of the site in the vicinity of the property's existing driveway intersection with North Bacton Hill Road, where a point source discharge in the form of an existing culvert is currently present. In the proposed condition, the bioretention basin will be constructed just upslope of this area and discharge to this same location, with rates less than or equal to the pre-construction condition. As such, since the flow path characteristics will not change as a result of construction and calculations have been provided to demonstrate that the 10-year/24-hour storm discharge rate will not increase, an EP analysis would not be applicable in accordance with the Chapter 102 Permit Instructions [Form 3800-FM-BCW0271h] and FAQ #13 (scenario 13.b) outlined in the document entitled "Chapter 102 Erosion Potential Analysis Frequently Asked Questions (FAQ)", last Revised May 19, 2025, Version 1.3

This submittal has been provided to PADEP and the Chester County Soil Conservation District via electronic submission, while two hard copies of this response submission have been sent via FedEx overnight to the attention of the Lancaster County Soil Conservation District. Transco has endeavored to provide a complete response to all information requested in the PADEP's June 26, 2025 letter. Should the PA DEP have any additional questions regarding the proposed Project and the submitted materials, please contact the undersigned at (610) 234-0381 or at heather.brewster@aecom.com. Thank you for your assistance.

Yours sincerely,

Heather L. Brewster
Senior Project Manager
heather.brewster@aecom.com

cc: Joseph Dean – Transco
File

PADEP CHAPTER 102 INDIVIDUAL
EROSION AND SEDIMENT CONTROL PLAN

FOR
NORTHEAST SUPPLY ENHANCEMENT PROJECT

COMPRESSOR STATION 200 AND QUARRYVILLE LOOP

(Part 2 – COMPRESSOR STATION 200)

EAST WHITELAND,
DRUMORE, EAST DRUMORE,
EDEN, BART TOWNSHIPS
CHESTER AND LANCASTER COUNTY, PENNSYLVANIA

RESPONSE TO COMMENT JULY 2025

Prepared for:

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC (TRANSCO)
2800 POST OAK BOULEVARD
HOUSTON, TEXAS 77251-1396

Prepared By:

625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PENNSYLVANIA 19428

Table of Contents

Section 1

Module 2

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15_Module 2 – Northeast Supply Enhancement – CS200

Site Location Map

Discharge Location Map

Northeast Supply Enhancement – CS200
East Whiteland Township, Chester County, PA

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

DISCHARGES OF STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES POST-CONSTRUCTION STORMWATER MANAGEMENT (PCSM) MODULE 2

Applicant: **Transcontinental Gas Pipe Line Company, LLC.**   Project Site Name: **Northeast Supply Enhancement - CS200**

PRE-DEVELOPMENT SITE CHARACTERIZATION

1. Was a pre-development site characterization completed for this project? ☒ Yes ☐ No

   If Yes, describe the activities undertaken.

   The existing topography within the project area was surveyed, and the receiving surface waters were identified. Additionally, the site's karst geology, with its potential for sinkhole activity, was evaluated as part of the pre-development site assessment.

2. No. Test Pits completed: 3   No. Boreholes completed: 16

3. Number of Infiltration Tests completed: 6   Method(s): Double Ring

4. Project Site Area: 30.58 acres   Area investigated for infiltration capabilities: 0.56 acres

5. DEP's Pre-Development Site Characterization Spreadsheet has been completed and is attached. ☒ Yes ☐ No

6. The infiltration potential of the site is: ☐ Limited ☐ Marginal ☐ Feasible ☒ Not Recommended

7. If the infiltration potential of the site is limited or is otherwise not advised, explain the limitations.

   The site is on karst bedrock. To reduce risk of groundwater contamination or other groundwater impacts, a geomembrane is to be placed under the proposed bioretention basin.

8. Is the project site located in an area with known karst features? ☒ Yes ☐ No

   If Yes, was a subsurface geotechnical investigation conducted and is a report attached? ☒ Yes ☐ No

9. Are there natural stormwater features on-site that will be protected? ☒ Yes ☐ No

   If Yes, describe the features and any increase or decrease in stormwater runoff volume to the features.

   A void in the Limit of Disturbance has been left to protect Wetland W-T10-001A-1 (See PCSM Drawings Sheet 2).

POINTS OF ANALYSIS (POAs)

1. Identify all POAs used for the stormwater analysis and provide the information requested. All runoff from the site must be accounted for.

POA No.	Latitude	Longitude	DA (acres)	Surface Water Name
001	40.053957	-75.578103	16.67	Valley Creek
002	40.046610	-75.592058	13.90	UNT to Valley Creek

PCSM SCM INVENTORY

1. Identify all PCSM SCMs planned for the project site and provide the information requested.

SCM ID	SCM Name	Latitude	Longitude	DA Treated (acres)	Infiltration?	Factor of Safety	Design Infiltration Rate or Ksat (in/hr)
BASIN-01	Rain Garden/Bioretention	40.049272	-75.585203	13.51	☐	N/A	N/A
					☐		
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2. Area not treated by an SCM, Earth Disturbance Area (acres): 4.39 Area not treated by an SCM, Project Site Area (acres): 17.06

3.	☐ One or more SCMs will be located off-site.	SCM IDs:

PCSM SCM INVENTORY

4. For each infiltration-based SCM identified in Question #1, provide the information requested or attach separate sheets with this information.

SCM ID: N/A

☐ **Separate sheets attached**

Test Pit / Boring ID	Ground Surface Elevation (ft msl)	Proposed SCM Invert Elevation (ft msl)	Test Pit / Boring Bottom Elevation (ft msl)	Limiting Zone Elevation (ft msl)	Limiting Zone Type	Infiltration Test ID	Infiltration Test Elevation (ft msl)	Infiltration / Ksat Rate (in/hr)	Infiltration Test Method

PCSM SCM INVENTORY

5. List the critical stages for each SCM and identify the licensed professional and/or company that will sign SCM Construction Certification forms for the SCM.

SCM ID	Critical Stages	LP Name	Company	LP Employed by Company	Contract
BASIN-01	Refer to PCSM Plan Sheet 9	TBD	Transcontinental Gas Pipe Line Company, LLC. Contract	☒	☒
				☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐
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STORMWATER ANALYSIS – RUNOFF VOLUME

Surface Water Name: **Valley Creek** **POA(s):** **1**

1. ☐ The design standard is based on volume management requirements in an Act 167 Plan approved by DEP within the past five years.
2. ☒ The design standard is based on managing the net change for storms up to and including the 2-year/24-hour storm.
3. ☐ An alternative design standard is being used.
4. ☒ A printout of DEP's PCSM Spreadsheet – Volume Worksheet is attached.
5. 2-Year/24-Hour Storm Event: 3.23 inches Source of precipitation data: NOAA Atlas 14
6. Stormwater Runoff Volume @ 2-Year/24-Hour Storm, Pre-Construction: 40,023 CF
7. Stormwater Runoff Volume @ 2-Year/24-Hour Storm, Post-Construction: 49,314 CF
8. Net Change (Post-Construction – Pre-Construction Volumes): 9,290 CF
9. Identify all selected structural PCSM SCMs and provide the information requested. ☒ Calculations attached

SCM ID	Series	MRC	Vol. Routed to SCM (CF)	Inf. Area (SF)	Inf. Rate (in/hr)	Inf. Period (hrs)	Veg?	Media Depth (ft)	Storage Vol. (CF)	Inf. Credit (CF)	ET Credit (CF)
BASIN-01		☐	32,764	24,394	0.0		☒	1.4	11,384		9,631
		☐					☐				
		☐					☐				
		☐					☐				
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		☐					☐				

Total Infiltration & ET Credits (CF):	9,631
Other Credits (CF) (Attach Calculations):	440
Managed Release Credits (CF) (Attach MRC Spreadsheet):	
Volume Required to Manage (CF):	9,290
Total Credits (CF):	10,071

STORMWATER ANALYSIS – RUNOFF VOLUME

Surface Water Name: **UNT to Valley Creek** **POA(s):** **1**

1. ☐ The design standard is based on volume management requirements in an Act 167 Plan approved by DEP within the past five years.
2. ☒ The design standard is based on managing the net change for storms up to and including the 2-year/24-hour storm.
3. ☐ An alternative design standard is being used.
4. ☒ A printout of DEP's PCSM Spreadsheet – Volume Worksheet is attached.
5. 2-Year/24-Hour Storm Event: 3.23 inches Source of precipitation data: NOAA Atlas 14
6. Stormwater Runoff Volume @ 2-Year/24-Hour Storm, Pre-Construction: 19,093 CF
7. Stormwater Runoff Volume @ 2-Year/24-Hour Storm, Post-Construction: 19,093 CF
8. Net Change (Post-Construction – Pre-Construction Volumes): 0 CF
9. Identify all selected structural PCSM SCMs and provide the information requested. ☐ Calculations attached

SCM ID	Series	MRC	Vol. Routed to SCM (CF)	Inf. Area (SF)	Inf. Rate (in/hr)	Inf. Period (hrs)	Veg?	Media Depth (ft)	Storage Vol. (CF)	Inf. Credit (CF)	ET Credit (CF)
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Total Infiltration & ET Credits (CF):

Other Credits (CF) (Attach Calculations):

Managed Release Credits (CF) (Attach MRC Spreadsheet):

Volume Required to Manage (CF):

Total Credits (CF):

STORMWATER ANALYSIS – PEAK RATE

Surface Water Name: Valley Creek **POA(s): 1**

1. ☐ The design standard is based on rate requirements in an Act 167 Plan approved by DEP within the past five years.
2. ☒ The design standard is based on managing the net change for 2-, 10-, 50-, and 100-year/24-hour storms.
3. ☐ An alternative design standard is being used.
4. ☒ DEP's PCSM Spreadsheet – Rate Worksheet was used for peak rate calculations and is attached.
5. ☐ Alternative rate calculations are attached.
6. Identify precipitation amounts. Source of precipitation data: NOAA Atlas 14

2-Year/24-Hour Storm:	3.23	10-Year/24-Hour Storm	4.74
50-Year/24-Hour Storm:	6.54	100-Year/24-Hour Storm	7.43

7. Identify all SCMs used to mitigate peak rate differences and provide the requested information.

SCM ID	**Inflow to SCM (cfs)**				**Outflow from SCM (cfs)**			
	2-Yr	**10-Yr**	**50-Yr**	**100-Yr**	**2-Yr**	**10-Yr**	**50-Yr**	**100-Yr**
Basin-01	19.52	34.76	53.55	62.91	1.87	6.35	42.17	57.27

8. Report peak rates for pre-construction and post-construction with SCMs and identify the differences.

Design Storm	**Pre-Construction Peak Rate (cfs)**	**Post-Construction Peak Rate (with SCMs) (cfs)**	**Difference (cfs)**
2-Year/24-Hour	24.90	9.34	-15.56
10-Year/24-Hour	49.78	20.54	-29.24
50-Year/24-Hour	81.98	70.92	-11.06
100-Year/24-Hour	98.37	96.02	-2.35

STORMWATER ANALYSIS – PEAK RATE

Surface Water Name: **UNT to Valley Creek** **POA(s):** **1**

1. ☐ The design standard is based on rate requirements in an Act 167 Plan approved by DEP within the past five years.
2. ☒ The design standard is based on managing the net change for 2-, 10-, 50-, and 100-year/24-hour storms.
3. ☐ An alternative design standard is being used.
4. ☒ DEP's PCSM Spreadsheet – Rate Worksheet was used for peak rate calculations and is attached.
5. ☐ Alternative rate calculations are attached.
6. Identify precipitation amounts. Source of precipitation data: NOAA Atlas 14

2-Year/24-Hour Storm:	3.23	10-Year/24-Hour Storm	4.74
50-Year/24-Hour Storm:	6.54	100-Year/24-Hour Storm	7.43

7. Identify all SCMs used to mitigate peak rate differences and provide the requested information.

SCM ID	Inflow to SCM (cfs)				Outflow from SCM (cfs)			
	2-Yr	10-Yr	50-Yr	100-Yr	2-Yr	10-Yr	50-Yr	100-Yr

8. Report peak rates for pre-construction and post-construction with SCMs and identify the differences.

Design Storm	Pre-Construction Peak Rate (cfs)	Post-Construction Peak Rate (with SCMs) (cfs)	Difference (cfs)
2-Year/24-Hour	N/A	N/A	N/A
10-Year/24-Hour	N/A	N/A	N/A
50-Year/24-Hour	N/A	N/A	N/A
100-Year/24-Hour	N/A	N/A	N/A

STORMWATER ANALYSIS – WATER QUALITY

☒ A printout of DEP's PCSM Spreadsheet – Quality Worksheet is attached for all surface waters receiving discharges.

OTHER INFORMATION

1. ☒ A long-term operation and maintenance (O&M) plan has been prepared for each SCM.
2. ☒ A long-term O&M plan will be recorded with a legal instrument for each property containing an SCM.
3. ☒ PCSM Plan Drawings have been developed for the project and are attached to the NOI/application.
4. ☒ The PCSM Plan has been planned, designed, and will be implemented to be consistent with the E&S Plan.
5. ☒ Recycling and proper disposal of materials associated with PCSM SCMs are addressed as part of long-term operation and maintenance of the PCSM SCMs.
6. ☒ There are pre-construction stormwater discharges to wetlands from the project site.

	Pre-Construction		Post-Construction		
Wetland ID	**Drainage Area (ac)**	**Volume (CF)**	**Drainage Area (ac)**	**Volume (CF)**	**Ponding Depth Increase or Decrease (±%)**
W-T10-001A-1	**0.4**	**2,791**	**0.4**	**2,791**	**N/A**
W-T04-001A-1	**2.4**	**9,978**	**2.4**	**9,978**	**N/A**

7. Describe the sequence of PCSM SCM implementation in relation to earth disturbance activities.

   Refer to PCSM Plan Sheet 9

8. Identify naturally occurring geologic formations or soil conditions that may have the potential to cause pollution after earth disturbance activities are completed and PCSM SCMs are operational and the applicant's plan to avoid or minimize potential pollution and its impacts.

   We are not aware of geologic formations within the project area containing materials in sufficient quantities that could result in discharges which do not meet water quality standards for the receiving surface water.

   The project is within the limits of the Piedmont Lowland Section where there is a possibility of karst geology with potential risks of sinkhole activity. No infiltration SCMs are being proposed to avoid additional infiltration risk. Furthermore, an impermeable liner has been proposed for BASIN-01 to minimize the potential for sinkholes within the project area.

9. Thermal Impacts: check the appropriate box(es) if any of the following (a. – c.) are true:

   ☐ a. One or more peak rate control SCMs are proposed that will receive stormwater from a drainage area containing more than 25% impervious surface.

   i. Drainage Area of SCM: acres

   ii. Drainage Area of Surface Water at DP of SCM: acres

   iii. Ratio of SCM Drainage Area : Surface Water Drainage Area: %

		If the value reported for a.iii. exceeds 10%, attach a quantitative thermal impact analysis.
☐	b.	A Wet Basin or Engineered Stormwater Treatment Wetland is proposed that does not include shading and/or a reversed slope outlet pipe *(if true, attach a quantitative thermal impact analysis)*.
☐	c.	There will be post-construction undetained areas, within the limit of disturbance, that contain impervious surface.
		i. Undetained Impervious Area: acres
		ii. Drainage Area of Surface Water Receiving Stormwater from Undetained Impervious: acres
		iii. Ratio of Undetained Impervious : Surface Water Drainage Area: %
		If the value reported for c.iii. exceeds 10%, attach a quantitative thermal impact analysis.
☒	d.	A quantitative thermal impact analysis is not required.

IMPERVIOUS SURFACES (MULTI-LOT DEVELOPMENT ONLY)							
Tax Parcel / Lot ID No.	SCM ID(s) Used to Treat Lot Stormwater		Lot Area (SF)	Planned Impervious (SF)[1]	Maximum Allowable Impervious, As Designed (SF)[2]	Maximum Allowable Impervious, Per Ordinance (SF)[3]	Objective Met?[4]
	Rate	Volume / WQ					
							☐
							☐
							☐
							☐
							☐
							☐
							☐
							☐
							☐
							☐
							☐
							☐
							☐
							☐
							☐
							☐
							☐
							☐
							☐
							☐

1 Enter the impervious area as presented on PCSM Plan Drawings.

2 Report the maximum allowable impervious on the lot according to the stormwater analysis and SCM design.

3 List the maximum allowable impervious on the lot to meet requirements of a local ordinance, if applicable.

4 Check the box if either 1) Maximum Allowable Impervious, As Designed is at least 110% of Planned Impervious or 2) Planned Impervious is equal to Maximum Allowable Impervious, Per Ordinance. If the box is checked and the maximum impervious area for the lot is recorded, the permittee will not be responsible for identifying new impervious added to a lot on record drawings after a lot is sold during the term of permit coverage.

PCSM PLAN PREPARER

☒ I am trained and experienced in PCSM methods.   ☒ I am a licensed professional.

No. years of experience preparing PCSM Plans: 22

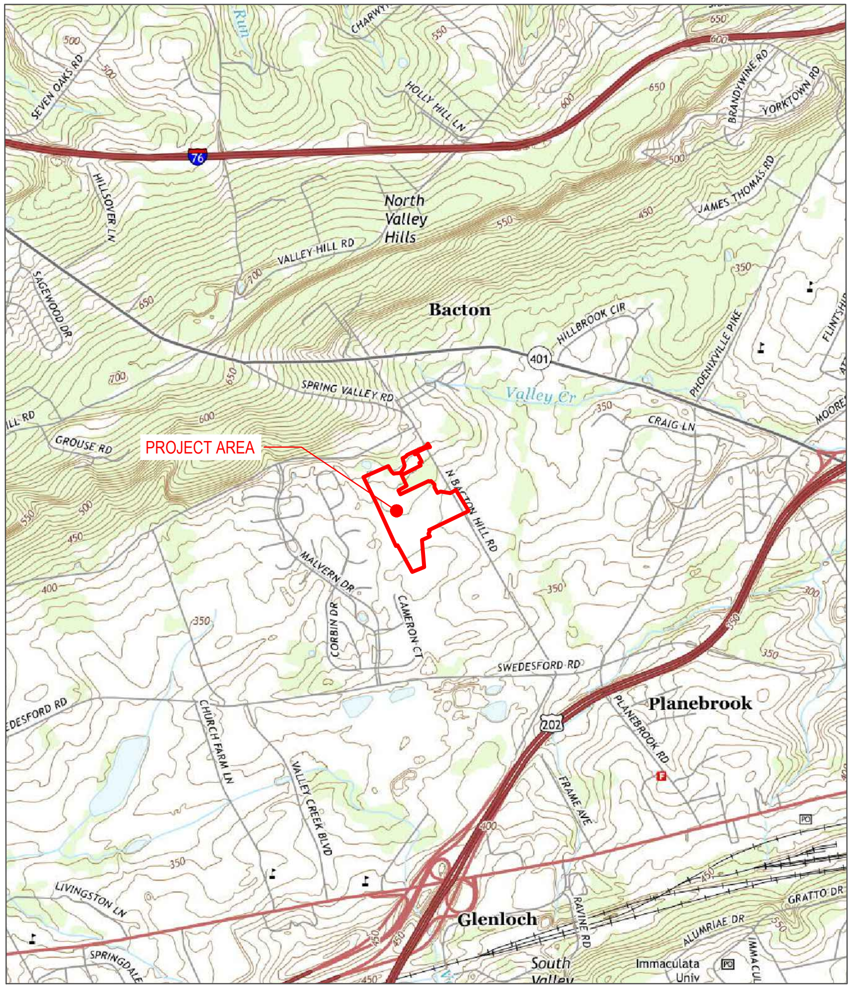
Name:	Peter P. Haas	Title:	Civil Engineer
Company:	AECOM	Phone No.:	215-667-9894
Address:	625 West Ridge Pike	Email:	peter.haas@aecom.com
City, State, ZIP:	Conshohocken, PA 19428	License No.:	PE-076971-E
License Type:	Professional Engineer	Exp. Date	September 30, 2025

Peter P. Haas
PCSM Plan Preparer Signature

6/6/2025
Date

Identify those who assisted the individual identified above in preparing the PCSM Plan:

Name	Company	Field	LP?	License Type
David J. Cooper	AECOM	Civil Engineer	☒	Professional Engineer
Sarah Warman	AECOM	CAD Specialist	☐	
Mikayla McShane	AECOM	Civil Engineer	☐	
			☐	
			☐	

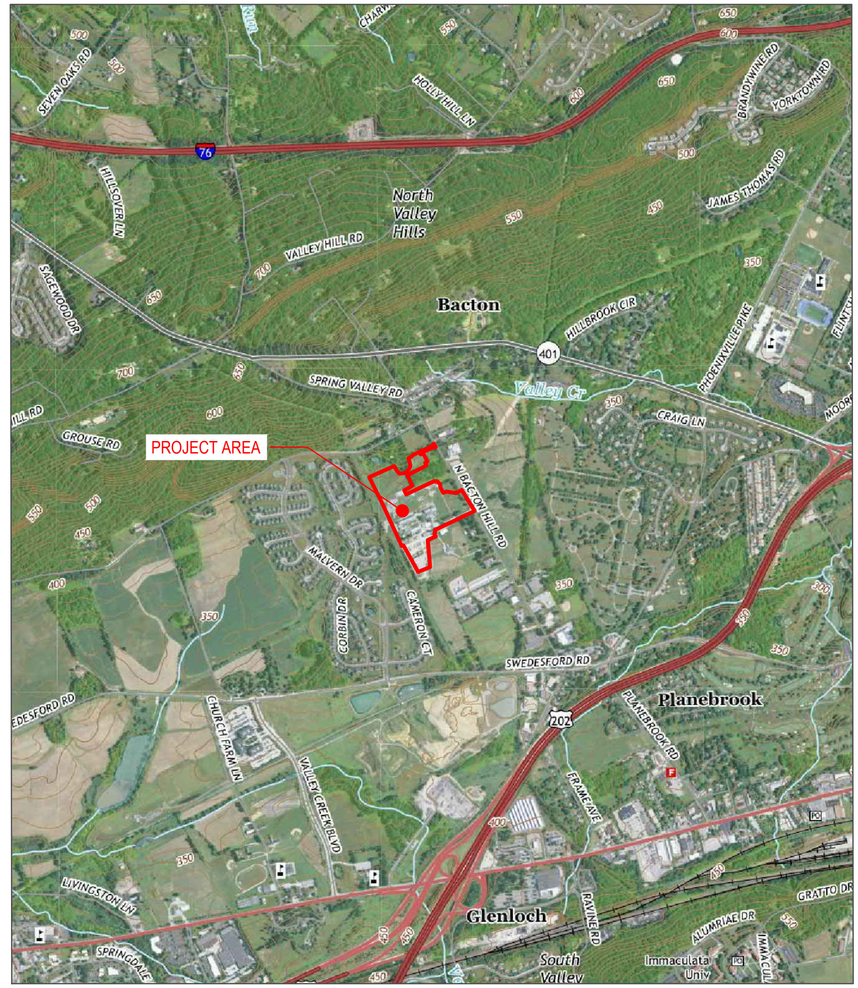


USGS TOPOGRAPHIC MAP

SCALE: 1 INCH=2000 FEET

0 2000 4000

MAP SOURCE
MALVERN, PA QUADRANGLE
U.S. GEOLOGICAL SURVEY, 2016



USGS AERIAL MAP

SCALE: 1 INCH=2000 FEET

0 2000 4000

MAP SOURCE
MALVERN, PA QUADRANGLE
U.S. GEOLOGICAL SURVEY, 2016

AECOM

FIGURE 1

SITE LOCATION MAP

NORTHEAST SUPPLY EXAPANSION - CS 200
EAST WHITELAND TOWNSHIP
CHESTER COUNTY, PA
TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
2017-06-01

Project Management Initials: Designer: TPF Checked:JAC Approved:PPH ANSI B 11" x 17"

Last saved by: GREGORY.SCHEIRER(2017-05-17) Last Plotted: 2017-05-19
Filename: S:\PROJECTS\ENV\60528336_NESE_CS200\400-TECHNICAL\400-CAD\FIGURE 1\FIGURE 1.DWG

PARCELS WITHIN FLOW PATH

PARCEL ID	OWNER
42–3–65	TRANSCONTINENTAL GAS PIPE LINE, LLC.
42–3–66	TRANSCONTINENTAL GAS PIPE LINE, LLC.
42–3–89	GREAT VALLEY SCHOOL DISTRICT
42–3–87	UNITED AMERICAN MECHANICS & UNITED DAUGHTERS AMERICAN CEMETERY ASSOCIATION
42–3–107	HOUCK ENTERPRISES TWO, INC.
42–3–107.3A	HAIRSTON ROOSEVELT JR & SAIRA Z
42–3–80	PHILA ELECTRIC CO
42–3–374 42–3–375 42–3–376	MALVERN HUNT HOMEOWNER'S ASSOCIATION

LEGEND:

- DRAINAGE PATH
- DRAINAGE DIVIDE
- SITE NPDES BOUNDARY

SCALE: 1 INCH=150 FEET

0 150 300

AECOM
625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428
(610) 832-3500

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
SOIL EROSION & SEDIMENT CONTROL PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
DISCHARGE LOCATION MAP

Williams. GAS PIPELINE

DRAWN BY: SEW	DATE: 06/06/2025	ISSUED FOR BID: TBD	SCALE: 1"=150'
CHECKED BY: DJC	DATE: 06/06/2025	ISSUED FOR CONSTRUCTION: TBD	REVISION: 0
APPROVED BY: PPH	DATE: 06/06/2025	DRAWING NUMBER:	SHEET 1 OF 1
WO:			

Drawn By & Date/Time: McShaneM Jun 04, 2025 – 11:38am
Drawing Location & Name: \\na.aecomnet.com\LFS\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\E&S_26 – Drainage Location Map CS 200 .dwg

Section 2

E&S Plan Drawings

AECOM
625 West Ridge Pike
Conshohocken, PA 19428
aecom.com

13_E&SC Plan Drawings – Northeast Supply Enhancement - CS200

Northeast Supply Enhancement – CS200
East Whiteland Township, Chester County, PA

OWNER / APPLICANT

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
(TRANSCO)
P.O. BOX 1396
2800 POST OAK BLVD.
HOUSTON, TX 77056

CONTACT: KAREN OLSON
PERMIT AGENT
(713) 215-4232

PLAN PREPARER

AECOM
625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428

CONTACT: PETER HAAS, PE
PROJECT ENGINEER
(610) 832-8832

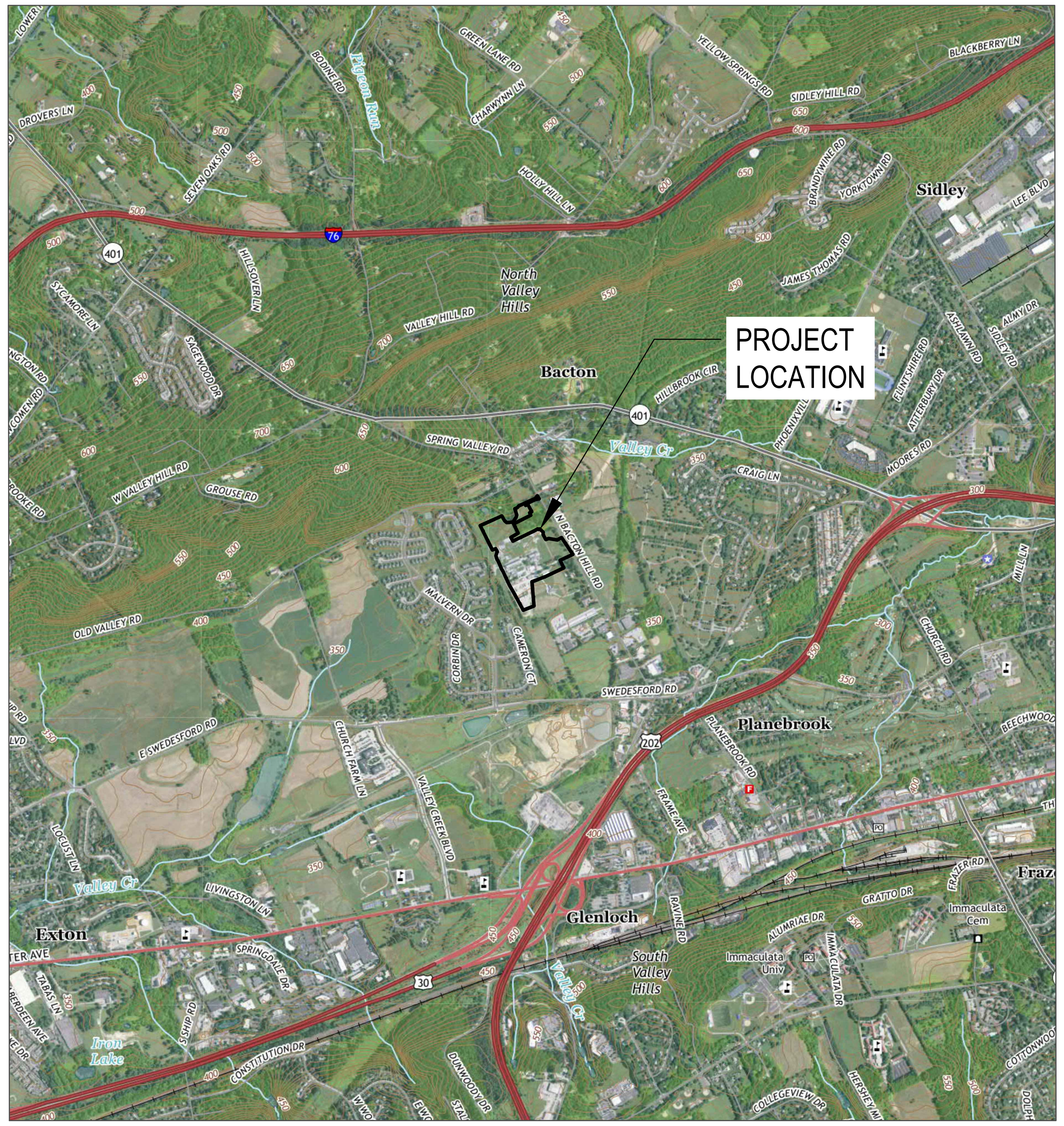
EROSION & SEDIMENT CONTROL (E&S) PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION NO. 200
EAST WHITELAND TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

SHEET INDEX

DESCRIPTION	SHEET NUMBER
COVER SHEET	1
EXISTING CONDITIONS AND SOILS MAP	2-4
PHASE 1 - EROSION & SEDIMENT CONTROL PLAN	5-7
PHASE 2 - EROSION & SEDIMENT CONTROL PLAN	8-10
NOTES	11
DETAILS	12-14
BIORETENTION BASIN PLAN	15
BIORETENTION BASIN DETAILS	16-17

BMP INDEX

DESCRIPTION	SHEET NUMBER
TRENCH DEWATERING	12
TYPICAL SOIL / TOPSOIL STOCKPILE	12
FILTER BAG	12
CONCRETE WASHOUT	12
COMPOST FILTER SOCK	12
EROSION CONTROL BLANKET	12
CONSTRUCTION ENTRANCE	13
SAFETY FENCE	13
ROCK FILTER	13
ROCK FILTER OUTLET	13
STONE BASE FOR LAYDOWN AREA	13
PIPE BEDDING	13
ACCESS ROAD CULVERT CROSSING	13
'L' SHAPED HEADWALL	14
RIPRAP APRON	14
VEGETATED CHANNEL WITH GCL UNDERLAIN	14
TYPICAL DW ENDWALL	14
STANDARD TYPE 'M' INLET	14
SOIL AMENDMENT	14
LOW-PERMEABILITY LINER SYSTEM	16
CONCRETE OUTLET STRUCTURE	17
CONCRETE ANTI-SEEP COLLAR	17
TRASH RACK	17
BIORETENTION BASIN EMERGENCY SPILLWAY WITH RIPRAP LINING	17
UNDERDRAIN	17
UNDERDRAIN CLEANOUT	17

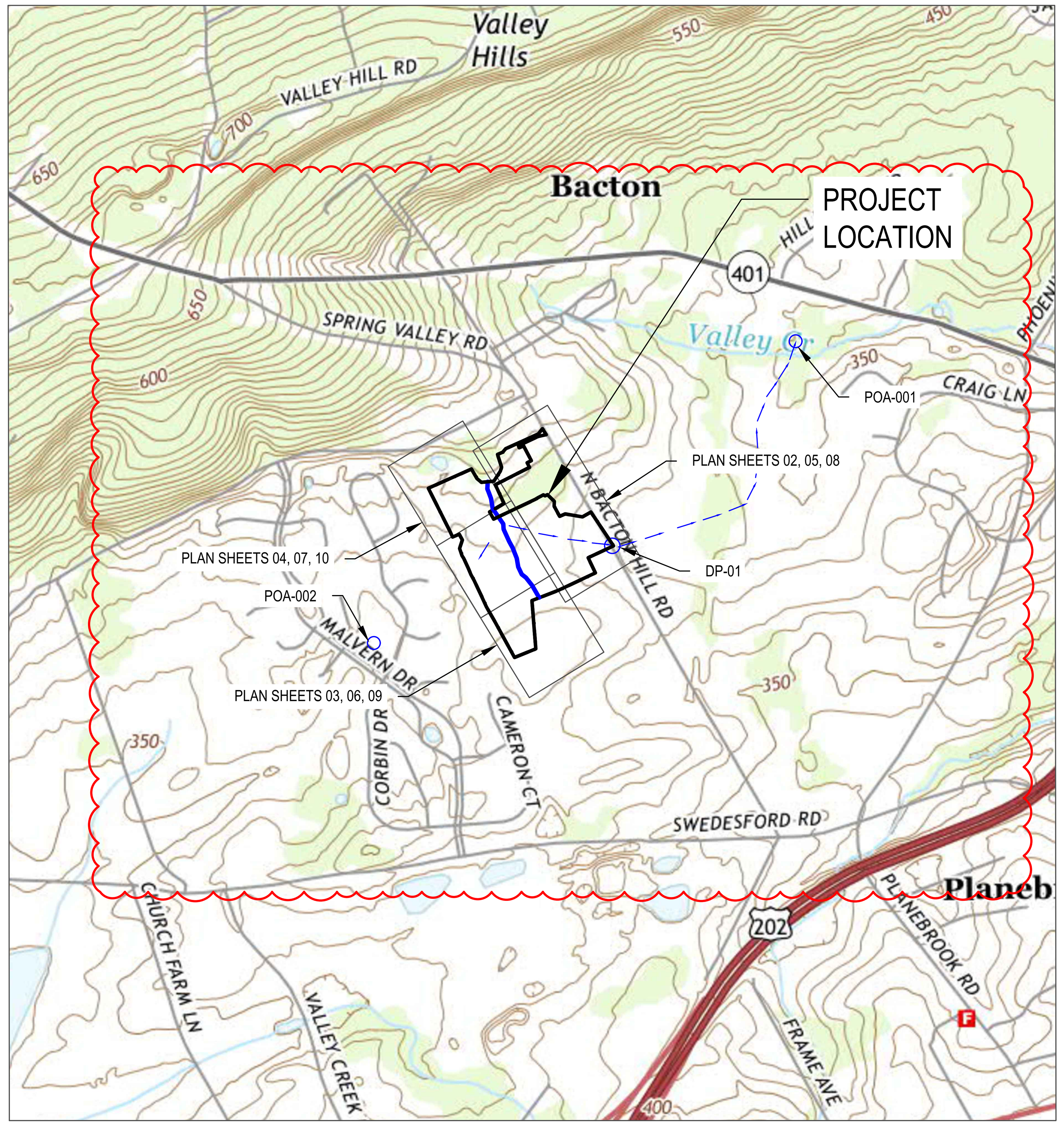


USGS AERIAL MAP

SCALE: 1 INCH=2000 FEET

0 2000 4000

MAP SOURCE
MALVERN, PA QUADRANGLE
U.S. GEOLOGICAL SURVEY, 2016



USGS TOPOGRAPHIC MAP

SCALE: 1 INCH=1000 FEET

1000 0 2000

MAP SOURCE
MALVERN, PA QUADRANGLE
U.S. GEOLOGICAL SURVEY, 2016

LEGEND:
DRAINAGE PATH
DRAINAGE DIVIDE
SITE NPDES BOUNDARY

STATE OF PENNSYLVANIA

SEQUENCE OF CONSTRUCTION

1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
2. AT LEAST SEVEN (7) DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING.
3. MAKE NOTIFICATIONS ACCORDING TO PERMIT REQUIREMENTS.
4. HOLD PRE-CONSTRUCTION MEETING WITH ENVIRONMENTAL INSPECTOR.
5. REMOVE TOPSOIL FROM VEGETATED AREAS TO BE DISTURBED DURING EXCAVATION AND STOCKPILE IN STOCKPILE AREA.
6. INSTALL ROCK CONSTRUCTION ENTRANCES AND OTHER TEMPORARY EROSION CONTROL MEASURES INDICATED ON THE E&S PHASE 1 PLANS AND DETAILS PRIOR TO EARTH DISTURBING ACTIVITIES ASSOCIATED WITH PHASE 1 WORK.
7. COMPLETE WORK ACTIVITIES ASSOCIATED WITH PHASE 1 (E.G. COMPRESSOR STATION MODIFICATIONS).
8. INSTALL ROCK CONSTRUCTION ENTRANCES AND OTHER TEMPORARY EROSION CONTROL MEASURES INDICATED ON THE E&S PHASE 2 PLANS AND DETAILS PRIOR TO EARTH DISTURBING ACTIVITIES ASSOCIATED WITH PHASE 2 WORK.
9. COMPLETE WORK ACTIVITIES ASSOCIATED WITH PHASE 2 (E.G. POST-CONSTRUCTION STORMWATER MANAGEMENT BMPs - SEE BIORETENTION BASIN SPECIFIC SEQUENCE OF CONSTRUCTION ON SHEET 15).
10. RETURN TOPSOIL TO DESIGNATED AREAS.
11. COMPLETE FINAL STABILIZATION INCLUDING SOIL AMENDMENT AND RESTORATION, SOIL TREATMENT, SEEDBED PREPARATION, SEED APPLICATION AND MULCHING.
12. AFTER FINAL STABILIZATION IS COMPLETED BY REVEGETATION AND OTHER PERMANENT STABILIZATION MEASURES, AS APPLICABLE. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENT CONTROLS AND CLEAN UP PROJECT SITE.
13. PERFORM A FINAL CRITICAL STAGE INSPECTION OF THE PCSM BMP'S (REFER TO THE 'CRITICAL STAGES OF CONSTRUCTION' TO IDENTIFY CRITICAL BMPS) BY A LICENSED PROFESSIONAL OR DESIGNEE TO ENSURE THEY ARE PROPERLY CONSTRUCTED AND IN WORKING ORDER.
14. SUBMIT A COMPLETED NOTICE OF TERMINATION TO THE CONSERVATION DISTRICT.

CRITICAL STAGES OF CONSTRUCTION

CONSTRUCTION / INSTALLATION OF THE BIORETENTION BASIN (INCLUDING EXCAVATION, UNDERDRAIN/LINER INSTALLATION, FILL PLACEMENT, TOPSOIL PLACEMENT, PERMEABILITY CONFIRMATION, SEEDING) AND VEGETATED SWALES ARE DETERMINED TO BE CRITICAL STAGES OF CONSTRUCTION (TOO OCCUR DURING STEP 9). A LICENSED PROFESSIONAL OR DESIGNEE IS REQUIRED TO BE ON SITE FOR CONSTRUCTION / INSTALLATION OF THESE FEATURES. NOTIFY PLAN PREPARER PRIOR TO START OF CONSTRUCTION TO COORDINATE CONSTRUCTION MONITORING SCHEDULE.

DISTURBED AREA

AREA DESCRIPTION	ACREAGE
TOTAL LOD PHASE 1 - COMPRESSOR STATION MODIFICATIONS	378,658 SQ. FT. = 8.58 ACRES
TOTAL LOD PHASE 2 - BIORETENTION BASIN	478,101 SQ. FT. = 10.98 ACRES
ESCGP-2 BOUNDARY	1,332,149 SQ. FT. = 30.58 ACRES

'TOTAL LOD PHASE 1 - COMPRESSOR STATION MODIFICATIONS'
EXPANDS 1.99 ACRES TO CREATE 'TOTAL LOD PHASE 2 - BIORETENTION BASIN (I.E. THE LODs OVERLAP)

PROJECT DESCRIPTION

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC (TRANSCO) IS PROPOSING TO MODIFY ITS COMPRESSOR STATION (CS 200) IN EAST WHITELAND TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA. THE PROJECT WILL INVOLVE THE CONSTRUCTION OF NEW COMPRESSION FACILITIES, VALVES & PIPELINES, SMALL BUILDINGS, ASPHALT ACCESS ROAD AND PARKING AREAS, AND GRAVEL EQUIPMENT PADS. CONSTRUCTION IS SCHEDULED TO BEGIN IN Q1 2019 AND BE COMPLETED IN Q2 2020.

THESE DRAWINGS SHOW THE TEMPORARY EROSION & SEDIMENT CONTROL MEASURES AND PERMANENT STORMWATER MANAGEMENT MEASURES PLANNED IN CONJUNCTION WITH CS 200, IN ACCORDANCE WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (PADEP) EROSION AND SEDIMENT POLLUTION CONTROL MANUAL, DATED MARCH 2012 AND THE PENNSYLVANIA STORMWATER BEST MANAGEMENT PRACTICES MANUAL, DATED MARCH 2006.

THIS EXPANSION PROJECT IS REGULATED BY THE U.S. DEPARTMENT OF ENERGY, FEDERAL ENERGY REGULATORY COMMISSION (FERC). IN ADDITION TO STATE AND LOCAL REQUIREMENTS, THIS EROSION AND SEDIMENT CONTROL PLAN INCLUDES MITIGATION MEASURES FOR PIPELINE CONSTRUCTION SPECIFIED BY FERC IN ITS PLAN AND PROCEDURES DOCUMENTS, UPLAND EROSION CONTROL REVEGETATION AND MAINTENANCE PLAN, MAY 2013 AND WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES, MAY 2013.

AECOM
625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428
(610) 832-3500

PETER P. HAAS, P.E.

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
PETER P. HAAS
PE076971

06/13/2025
DATE

PENNSYLVANIA
PROFESSIONAL ENGINEER NO. PE076971

REVISIONS

NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	06/06/2025	SEW	REDUCED LOD TO AVOID EXISTING PCSM FEATURES		DJC	PPH
1	06/06/2025	SEW	UPDATED BIORETENTION DESIGN PER 2025 GUIDANCE		DJC	PPH
2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
SOIL EROSION & SEDIMENT CONTROL PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
COVER SHEET

Williams.
GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID:	TBD	SCALE:	N.T.S.
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION:	TBD	REVISION:	5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:		SHEET 1 OF 17	
WO:					

Drawn By & Date/Time: WormanS Jul 07, 2025 - 1:35pm
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\E&S\01 - Cover CS 200.dwg

EXISTING FEATURES

- 150 — MAJOR CONTOUR (5' INTERVAL)
- MINOR CONTOUR (1' INTERVAL)
- UNREGULATED DITCH CENTERLINE & TOP OF BANK
- WETLAND
- TREE / BRUSH LINE
- ACCESS ROAD
- S — STORM / SANITARY SEWER
- X — FENCE
- E — UNDERGROUND POWER LINE
- P — OVERHEAD POWER LINE
- GAS — GAS LINE
- C — COMMUNICATION FIBER
- SOIL TYPE BOUNDARY
- CIB — SOIL TYPE
- TEST PIT #3 — SOIL TEST PIT & INFILTRATION TEST LOCATION (TYP.)
- PERMANENT GRAVEL

PROPOSED FEATURES

- ESCGP-2 BOUNDARY
- LOD — LIMIT OF DISTURBANCE

NOTES:

1. THIS BASE MAP WAS PREPARED ON AERIAL TOPOGRAPHY AND ACTUAL FIELD SURVEY PROVIDED BY WILLIAMS AND ARE REFERENCED TO THE PENNSYLVANIA SOUTH STATE PLANE DATUM.
2. PROPERTY LINE INFORMATION PROVIDED BY WILLIAMS.
3. WETLAND JURISDICTIONAL DATA COLLECTED ON 6/12/2017 DURING THE USACE, PHILADELPHIA DISTRICT AND PADEP SE REGION FIELD REVIEW OF WILLIAMS - TRANSCO'S NESE PROJECT CS 200 PROPOSED EXPANSION LOCATION. AN AJD (CENAP-OP-R-2016-1068) FOR THE PROPOSED CS 200 EXPANSION SITE WAS PROVIDED TO WILLIAMS - TRANSCO BY THE USACE AND DATED OCTOBER 4TH, 2017. AS IS DISCUSSED IN THE USACE'S AJD ENCLOSURE 1, THE CORPS IS NOT CHOOSING TO ASSERT JURISDICTION AT THIS TIME OVER THE SMALL WETLAND FEATURE (W-T10-001A) THAT IS LOCATED ON THE EXPANSION SITE, AND THAT IS DEPICTED IN THE DRAFT WETLAND PLAN THAT WAS SUBMITTED ALONG WITH THE AJD REQUEST, DUE TO ITS ISOLATED STATUS FROM TRADITIONAL NAVIGABLE WATERS (TNW) THAT ARE UNDER JURISDICTION OF THE CLEAN WATER ACT. WETLAND W-T10-001A IS CONSIDERED JURISDICTIONAL FOR PADEP PER COMMENTS RECEIVED FROM PADEP ON OCTOBER 26, 2017, HOWEVER THIS FEATURE IS LOCATED OUTSIDE OF THE PROPOSED PROJECT WORKSPACES AND AVOIDANCE AND MINIMIZATION MEASURES (I.E. EROSION AND SEDIMENT CONTROL DEVICES) WILL BE IMPLEMENTED TO ELIMINATE POTENTIAL IMPACTS TO THIS FEATURE.
4. PROPOSED SITE LAYOUT PROVIDED BY RSH ENGINEERING ON 09/16/2017.
5. CONSTRUCTION AND RESTORATION SHALL CONFORM TO THE UPLAND EROSION CONTROL, REVEGETATION AND MITIGATION PLAN.
6. PROPOSED COMPRESSOR STATION MODIFICATIONS WILL BE STABILIZED WITH IMPERVIOUS AND GRAVEL COVER.
7. PROPOSED PIPING ALIGNMENTS AND UNDERGROUND DUCT BANKS SHALL BE TRENCHED, INSTALLED, BACKFILLED, AND STABILIZED WITHIN THE SAME DAY. THE CONTRACTOR SHALL NOT DIG MORE TRENCH THAN CAN BE BACKFILLED AND STABILIZED WITHIN THE SAME DAY. WORK SHALL BE PLANNED FOR DRY WEATHER PERIODS. IF UNEXPECTED WET WEATHER SHOULD OCCUR, MEASURES SHOULD BE TAKEN TO STABILIZE DISTURBED AREAS AND PREVENT EROSION AND SEDIMENTATION (I.E. COMPOST FILTER SOCK).
8. EXISTING BALLAST PIT WAS INSTALLED AS PART OF A PREVIOUS PROJECT AND SHALL BE ABANDONED AS PART OF THIS PROJECT. IT PREVIOUSLY FUNCTIONED AS A STORMWATER INFILTRATION BMP, AND ITS ABANDONMENT SHALL BE COMPENSATED FOR WITH THE NEW PROPOSED STORMWATER BMP (E.G. BIORETENTION BASIN).
9. POA-001, POA-002, AND FLOW PATH FROM CS-200 DP-001 CAN BE FOUND ON COVER SHEET OF PCSM AND E&S PLANS AND IN DISCHARGE LOCATION MAP ATTACHED TO PSCM MODULE 2 IN *15_MODULE 2 - NESE - CS200.*

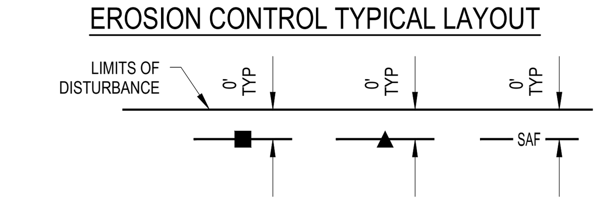
SCALE: 1 INCH=50 FEET

0 50 100

SOIL LEGEND:

CIB	CLARKSBURG SILT LOAM, 3 TO 8 PERCENT SLOPES
CtA	CONESTOGA SILT LOAM, 0 TO 3 PERCENT SLOPES
CtB	CONESTOGA SILT LOAM, 3 TO 8 PERCENT SLOPES
UrgB	URBAN LAND-CONESTOGA COMPLEX, 0 TO 8 PERCENT SLOPES

EROSION CONTROL TYPICAL LAYOUT



1. UNLESS NOTED OTHERWISE, ALL SAFETY FENCES AND SEDIMENT BARRIERS SHALL BE LOCATED ON THE LIMITS OF DISTURBANCE

AECOM
625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428
(610) 832-3500

PETER P. HAAS, P.E.
06/13/2025
DATE
PENNSYLVANIA PROFESSIONAL ENGINEER NO. PE076971

REVISIONS

NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	06/06/2025	SEW	REDUCED LOD TO AVOID EXISTING PCSM FEATURES		DJC	PPH
1	06/06/2025	SEW	UPDATED BIORETENTION DESIGN PER 2025 GUIDANCE		DJC	PPH
2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
SOIL EROSION & SEDIMENT CONTROL PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
EXISTING CONDITIONS PLAN (1 OF 3)

Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE: 1"=50'
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:	SHEET 2 OF 17
WO:			

Drawn By & Date/Time: WormanS Jul 07, 2025 – 1:10pm
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\E&S\02-04 – Existing Plan CS 200.dwg

EXISTING FEATURES

150	MAJOR CONTOUR (5' INTERVAL)
	MINOR CONTOUR (1' INTERVAL)
	UNREGULATED DITCH CENTERLINE & TOP OF BANK
	WETLAND
	TREE / BRUSH LINE
	ACCESS ROAD
S	STORM / SANITARY SEWER
X	FENCE
E	UNDERGROUND POWER LINE
P	OVERHEAD POWER LINE
GAS	GAS LINE
C	COMMUNICATION FIBER
	SOIL TYPE BOUNDARY
CIB	SOIL TYPE
TEST PIT #3	SOIL TEST PIT & INFILTRATION TEST LOCATION (TYP.)

PROPOSED FEATURES

	ESCGP-2 BOUNDARY
LOD	LIMIT OF DISTURBANCE

NOTES:

1. THIS BASE MAP WAS PREPARED ON AERIAL TOPOGRAPHY AND ACTUAL FIELD SURVEY PROVIDED BY WILLIAMS AND ARE REFERENCED TO THE PENNSYLVANIA SOUTH STATE PLANE DATUM.
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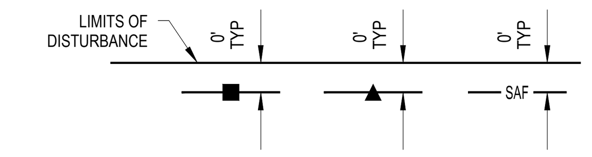
SOIL LEGEND:

CIB	CLARKSBURG SILT LOAM, 3 TO 8 PERCENT SLOPES
CtA	CONESTOGA SILT LOAM, 0 TO 3 PERCENT SLOPES
CtB	CONESTOGA SILT LOAM, 3 TO 8 PERCENT SLOPES
UrgB	URBAN LAND-CONESTOGA COMPLEX, 0 TO 8 PERCENT SLOPES

EROSION CONTROL TYPICAL LAYOUT



1. UNLESS NOTED OTHERWISE, ALL SAFETY FENCES AND SEDIMENT BARRIERS SHALL BE LOCATED ON THE LIMITS OF DISTURBANCE

SCALE: 1 INCH=50 FEET

0 50 100

PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 STOP-CALL BEFORE YOU DIG!

AECOM
625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428
(610) 832-3500

PETER P. HAAS, P.E.
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER PETER P. HAAS PE076971
06/13/2025
DATE
PENNSYLVANIA
PROFESSIONAL ENGINEER NO. PE076971

REVISIONS

NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	06/06/2025	SEW	REDUCED LOD TO AVOID EXISTING PCSM FEATURES		DJC	PPH
1	06/06/2025	SEW	UPDATED BIORETENTION DESIGN PER 2025 GUIDANCE		DJC	PPH
2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
SOIL EROSION & SEDIMENT CONTROL PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
EXISTING CONDITIONS PLAN (2 OF 3)

Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE: 1"=50'
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:	SHEET 3 OF 17
WO:			

Drawn By & Date/Time: WarmanS Jul 07, 2025 - 1:04pm
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\E&S\02-04 - Existing Plan CS 200.dwg

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- X FENCE
- E UNDERGROUND POWER LINE
- P OVERHEAD POWER LINE
- GAS GAS LINE
- C COMMUNICATION FIBER
- SOIL TYPE BOUNDARY
- CIB SOIL TYPE
- TEST PIT #3 SOIL TEST PIT & INFILTRATION TEST LOCATION (TYP.)
- PERMANENT GRAVEL

PROPOSED FEATURES

- ESCGP-2 BOUNDARY
- LOD LIMIT OF DISTURBANCE

NOTES:

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PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 STOP-CALL BEFORE YOU DIG!

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CtB	CONESTOGA SILT LOAM, 3 TO 8 PERCENT SLOPES
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EROSION CONTROL TYPICAL LAYOUT

LIMITS OF DISTURBANCE 0' TYP 0' TYP 0' TYP SAF

1. UNLESS NOTED OTHERWISE, ALL SAFETY FENCES AND SEDIMENT BARRIERS SHALL BE LOCATED ON THE LIMITS OF DISTURBANCE

AECOM
625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428
(610) 832-3500

PETER P. HAAS, P.E.

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL PETER P. HAAS ENGINEER PE076971

06/13/2025
DATE

PENNSYLVANIA PROFESSIONAL ENGINEER NO. PE076971

REVISIONS

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TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
SOIL EROSION & SEDIMENT CONTROL PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
EXISTING CONDITIONS PLAN (3 OF 3)

Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE: 1"=50'
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:	SHEET 4 OF 17
WO:			

Drawn By & Date/Time: WarmanS Jul 07, 2025 – 1:02pm
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\E&S\02-04 – Existing Plan CS 200.dwg

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TEST PIT #3	SOIL TEST PIT & INFILTRATION TEST LOCATION (TYP.)
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PROPOSED FEATURES

	ESCGP-2 BOUNDARY
LOD	LIMIT OF DISTURBANCE
	CONTOUR MAJOR (5' INTERVAL)
	CONTOUR MINOR (1' INTERVAL)
P	UNDERGROUND DUCT BANK
	PIPE CENTERLINE
	COMPOST FILTER SOCK
X	PROPOSED FENCE
	CULVERT, RIPRAP APRON & ENDWALL
SAF	SAFETY FENCE
	INLET BOX / OUTLET STRUCTURE
	TEMPORARY ROCK FILTER
	ROCK CONSTRUCTION ENTRANCE
	GRAVEL AREA
	ASPHALT AREA
	CONCRETE AREA
	TEMPORARY STONE AREA RESTORATION
	CONCRETE WASHOUT

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EROSION CONTROL TYPICAL LAYOUT

LIMITS OF DISTURBANCE

0' TYP. 0' TYP. 0' TYP.

SAF

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PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 STOP-CALL BEFORE YOU DIG!

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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL PETER P. HAAS ENGINEER PE076971

06/13/2025
DATE

PENNSYLVANIA
PROFESSIONAL ENGINEER NO. PE076971

REVISIONS

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TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
SOIL EROSION & SEDIMENT CONTROL PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
PHASE 1 - EROSION & SEDIMENT CONTROL PLAN (1 OF 3)

Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE: 1"=50'
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:	SHEET 05 OF 17
WO:			

Drawn By & Date/Time: WormanS Jul 07, 2025 - 12:51pm
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\E&S\05-07 - E&S Plan - Phase 1 CS 200.dwg

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- LIMIT OF DISTURBANCE
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- CONTOUR MINOR (1' INTERVAL)
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- PIPE CENTERLINE
- COMPOST FILTER SOCK
- PROPOSED FENCE
- CULVERT, RIPRAP APRON & ENDWALL
- SAFETY FENCE
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- ROCK CONSTRUCTION ENTRANCE
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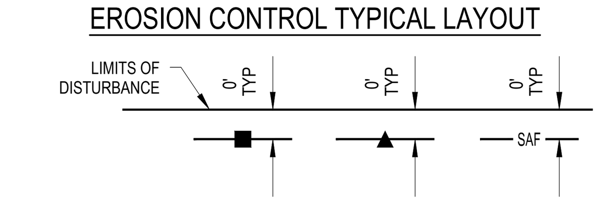
EROSION CONTROL TYPICAL LAYOUT



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COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
PHASE 1 - EROSION & SEDIMENT CONTROL PLAN (2 OF 3)

Williams. GAS PIPELINE

DRAWN BY:	GMS	DATE:	12/01/2017	ISSUED FOR BID:	TBD	SCALE:	1"=50'
CHECKED BY:	JAC	DATE:	12/01/2017	ISSUED FOR CONSTRUCTION:	TBD	REVISION:	5
APPROVED BY:	PPH	DATE:	12/01/2017	DRAWING NUMBER:		SHEET 6	OF 17
WO:							

Drawn By & Date/Time: WarmanS Jul 07, 2025 – 12:36pm
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\E&S\05-07 – E&S Plan – Phase 1 CS 200.dwg

EXISTING FEATURES

- MAJOR CONTOUR (5' INTERVAL)
- MINOR CONTOUR (1' INTERVAL)
- UNREGULATED DITCH CENTERLINE & TOP OF BANK
- WETLAND
- TREE / BRUSH LINE
- ACCESS ROAD
- STORM / SANITARY SEWER
- FENCE
- UNDERGROUND POWER LINE
- OVERHEAD POWER LINE
- GAS LINE
- COMMUNICATION FIBER
- SOIL TYPE BOUNDARY
- CIB SOIL TYPE
- TEST PIT #3 SOIL TEST PIT & INFILTRATION TEST LOCATION (TYP.)
- PERMANENT GRAVEL

PROPOSED FEATURES

- ESCGP-2 BOUNDARY
- LIMIT OF DISTURBANCE
- CONTOUR MAJOR (5' INTERVAL)
- CONTOUR MINOR (1' INTERVAL)
- UNDERGROUND DUCT BANK
- PIPE CENTERLINE
- COMPOST FILTER SOCK
- PROPOSED FENCE
- CULVERT, RIPRAP APRON & ENDWALL
- SAFETY FENCE
- INLET BOX / OUTLET STRUCTURE
- TEMPORARY ROCK FILTER
- ROCK CONSTRUCTION ENTRANCE
- GRAVEL AREA
- ASPHALT AREA
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- TEMPORARY STONE AREA RESTORATION
- CONCRETE WASHOUT

NOTES:

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SCALE: 1 INCH=50 FEET

0 50 100

SOIL LEGEND:

ClB	CLARKSBURG SILT LOAM, 3 TO 8 PERCENT SLOPES
CtA	CONESTOGA SILT LOAM, 0 TO 3 PERCENT SLOPES
CtB	CONESTOGA SILT LOAM, 3 TO 8 PERCENT SLOPES
UrgB	URBAN LAND-CONESTOGA COMPLEX, 0 TO 8 PERCENT SLOPES

EROSION CONTROL TYPICAL LAYOUT

LIMITS OF DISTURBANCE

SAF

1. UNLESS NOTED OTHERWISE, ALL SAFETY FENCES AND SEDIMENT BARRIERS SHALL BE LOCATED ON THE LIMITS OF DISTURBANCE

PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 STOP-CALL BEFORE YOU DIG!

AECOM
625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428
(610) 832-3500

PETER P. HAAS, P.E.

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL PETER P. HAAS ENGINEER PE076971

06/13/2025
DATE

PENNSYLVANIA
PROFESSIONAL ENGINEER NO. PE076971

REVISIONS

NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	06/06/2025	SEW	REDUCED LOD TO AVOID EXISTING PCSM FEATURES		DJC	PPH
1	06/06/2025	SEW	UPDATED BIORETENTION DESIGN PER 2025 GUIDANCE		DJC	PPH
2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
SOIL EROSION & SEDIMENT CONTROL PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
PHASE 1 - EROSION & SEDIMENT CONTROL PLAN (3 OF 3)

Williams.
GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE: 1"=50'
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:	SHEET 7 OF 17
WO:			

Drawn By & Date/Time: WarmanS Jul 07, 2025 – 12:31pm
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EXISTING FEATURES

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- COMMUNICATION FIBER
- SOIL TYPE BOUNDARY
- CIB SOIL TYPE
- TEST PIT #3 SOIL TEST PIT & INFILTRATION TEST LOCATION (TYP.)
- PERMANENT GRAVEL

PROPOSED FEATURES

- ESCGP-2 BOUNDARY
- LIMIT OF DISTURBANCE
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* DA-01 IS CHANNEL CH-02'S DRAINAGE AREA.
DA-02 IS CHANNEL CH-01'S DRAINAGE AREA.

SCALE: 1 INCH=50 FEET

0 50 100

SOIL LEGEND:

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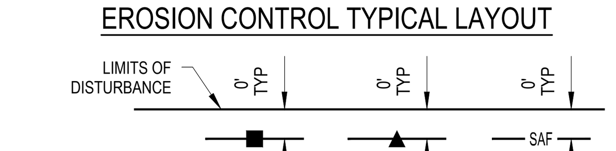
CtB	CONESTOGA SILT LOAM, 3 TO 8 PERCENT SLOPES
UrgB	URBAN LAND-CONESTOGA COMPLEX, 0 TO 8 PERCENT SLOPES

EROSION CONTROL TYPICAL LAYOUT



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AECOM
625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428
(610) 832-3500

PETER P. HAAS, P.E.
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL PETER P. HAAS ENGINEER PE076971
06/13/2025
DATE
PENNSYLVANIA PROFESSIONAL ENGINEER NO. PE076971

REVISIONS

NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	06/06/2025	SEW	REDUCED LOD TO AVOID EXISTING PCSM FEATURES		DJC	PPH
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2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
SOIL EROSION & SEDIMENT CONTROL PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
PHASE 2 - EROSION & SEDIMENT CONTROL PLAN (1 OF 3)

Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE: 1"=50'
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:	SHEET 08 OF 17
WO:			

Drawn By & Date/Time: WarmanS Jul 07, 2025 – 2:21pm
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\E&S\08-10 – E&S Plan – Phase 2 CS 200.dwg

EXISTING FEATURES

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	MINOR CONTOUR (1' INTERVAL)
	UNREGULATED DITCH CENTERLINE & TOP OF BANK
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	TREE / BRUSH LINE
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S	STORM / SANITARY SEWER
X	FENCE
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GAS	GAS LINE
C	COMMUNICATION FIBER
	SOIL TYPE BOUNDARY
CIB	SOIL TYPE
TEST PIT #3	SOIL TEST PIT & INFILTRATION TEST LOCATION (TYP.)

PROPOSED FEATURES

	ESCGP-2 BOUNDARY
LOD	LIMIT OF DISTURBANCE
	CONTOUR MAJOR (5' INTERVAL)
	CONTOUR MINOR (1' INTERVAL)
P	UNDERGROUND DUCT BANK
	PIPE CENTERLINE
	COMPOST FILTER SOCK
X	PROPOSED FENCE
	CULVERT, RIPRAP APRON & ENDWALL
SAF	SAFETY FENCE
	INLET BOX / OUTLET STRUCTURE
	TEMPORARY ROCK FILTER
	ROCK CONSTRUCTION ENTRANCE
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	ASPHALT AREA
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	TEMPORARY STONE AREA RESTORATION
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SCALE: 1 INCH=50 FEET
0 50 100

SOIL LEGEND:

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EROSION CONTROL TYPICAL LAYOUT

LIMITS OF DISTURBANCE
SAF

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PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800

AECOM
625 WEST RIDGE PIKE, SUITE E-100
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(610) 832-3500

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REVISIONS

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TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
SOIL EROSION & SEDIMENT CONTROL PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
PHASE 2 - EROSION & SEDIMENT CONTROL PLAN (2 OF 3)

Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE: 1"=50'
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5
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Drawn By & Date/Time: WormanS Jul 07, 2025 - 2:30pm
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\E&S\08-10 - E&S Plan - Phase 2 CS 200.dwg

Drawn By & Date/Time: WarmanS Jul 07, 2025 – 2:37pm
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\E&S\08-10 – E&S Plan – Phase 2 CS 200.dwg

EXISTING FEATURES

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- S — STORM / SANITARY SEWER
- X — FENCE
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- SOIL TYPE BOUNDARY
- CIB — SOIL TYPE
- TEST PIT #3 — SOIL TEST PIT & INFILTRATION TEST LOCATION (TYP.)
- PERMANENT GRAVEL

PROPOSED FEATURES

- ESCGP-2 BOUNDARY
- LOD — LIMIT OF DISTURBANCE
- CONTOUR MAJOR (5' INTERVAL)
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- P — UNDERGROUND DUCT BANK
- PIPE CENTERLINE
- COMPOST FILTER SOCK
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- CULVERT, RIPRAP APRON & ENDWALL
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PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 STOP-CALL BEFORE YOU DIG!

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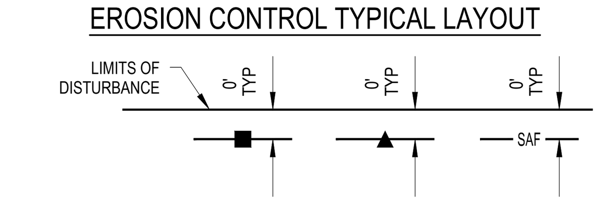
UrgB	URBAN LAND-CONESTOGA COMPLEX, 0 TO 8 PERCENT SLOPES

EROSION CONTROL TYPICAL LAYOUT



1. UNLESS NOTED OTHERWISE, ALL SAFETY FENCES AND SEDIMENT BARRIERS SHALL BE LOCATED ON THE LIMITS OF DISTURBANCE

AECOM
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PETER P. HAAS, P.E.
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL PETER P. HAAS ENGINEER PE076971
06/13/2025
DATE
PENNSYLVANIA
PROFESSIONAL ENGINEER NO. PE076971

REVISIONS

NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	06/06/2025	SEW	REDUCED LOD TO AVOID EXISTING PCSM FEATURES		DJC	PPH
1	06/06/2025	SEW	UPDATED BIORETENTION DESIGN PER 2025 GUIDANCE		DJC	PPH
2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
SOIL EROSION & SEDIMENT CONTROL PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
PHASE 2 - EROSION & SEDIMENT CONTROL PLAN (3 OF 3)

Williams.
GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE: 1"=50'
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:	SHEET 10 OF 17
WO:			

STANDARD E&S NOTES:

1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
2. AT LEAST SEVEN (7) DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING.
3. AT LEAST THREE (3) DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY PADEP PRIOR TO IMPLEMENTATION.
5. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
6. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPs SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.
7. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND/OR FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
8. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAPS(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
9. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BMPs TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF PADEP.
10. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH PADEP'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ. 271.1 AND 287.1 ET SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
11. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR PADEP FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
12. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
13. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS.
14. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPs AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
15. A LOG SHOWING DATES THAT E&S BMPs WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.
16. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE AT THE END OF EACH WORK DAY AND AS NEEDED THROUGHOUT THE DAY OR AS DIRECTED BY THE CCCD OR MUNICIPALITY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
17. ALL SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.
18. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES - 6 TO 12 INCHES ON COMPACTED SOILS- PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.
19. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE, OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
20. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
21. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
22. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
23. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
24. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSTANCE DRAIN OR OTHER APPROVED METHOD.
25. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.
26. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BY STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.
27. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
28. E&S BMPs SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR PADEP.
29. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPs.
30. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPs MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPs. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPs SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID RE-VEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.
31. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.
32. FAILURE TO CORRECTLY INSTALL E&S BMPs, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPs MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY PADEP AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO $10,000 PER DAY IN CIVIL PENALTIES, UP TO $10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO $25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.
33. CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATERS OR GROUNDWATER SYSTEMS.
34. ALL CHANNELS SHALL BE KEPT FREE OF OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO FILL, ROCKS, LEAVES, WOODY DEBRIS, ACCUMULATED SEDIMENT, EXCESS VEGETATION, AND CONSTRUCTION MATERIAL/WASTE.
35. EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER AND ON ALL DISTURBED AREAS WITHIN 50 FEET OF A SURFACE WATER AND ON ALL OTHER DISTURBED AREAS SPECIFIED ON THE PLAN MAPS AND/OR DETAIL SHEETS.

CHESTER COUNTY CONSERVATION DISTRICT REQUIRED E&S NOTES

1. BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E & S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE CHESTER COUNTY CONSERVATION DISTRICT. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
2. ALL PUMPING OF SEDIMENT LADEN WATER OR POTENTIALLY SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS. (PLEASE SHOW A DETAIL OF THIS FACILITY ON THE DETAIL SHEET).
3. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
4. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.
5. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. ADDITIONALLY, THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, AND HAS BEEN APPROVED BY THE CHESTER COUNTY CONSERVATION DISTRICT AND/OR LOCAL MUNICIPALITY IN COMPLIANCE WITH CHAPTER 102 RULES & REGULATIONS, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL OFF SITE SOIL AND/OR ROCK SPOIL AND/OR BORROW AREAS.
6. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
7. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY THAT WILL EXCEED 4 DAYS, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. PLAN NOTES AND THE CONSTRUCTION SEQUENCE SHOULD REFLECT THIS REQUIREMENT. THE CONSTRUCTION SEQUENCE SHOULD INCORPORATE THE IMMEDIATE STABILIZATION REQUIREMENT INTO ANY APPLICABLE AREAS. (PLEASE NOTE THAT HYDROSEED IS NOT CONSIDERED STABILIZATION UNTIL IT GERMINATES). HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.
8. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
9. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY THAT WILL EXCEED 4 DAYS, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.

GENERAL MAINTENANCE NOTES FOR ALL BMPs:

ROUTINE MAINTENANCE INSPECTIONS WILL BE REQUIRED TO ENSURE THE PERFORMANCE OF ALL THE SEDIMENT CONTROL BMP DEVICES. AT A MINIMUM, ALL STRUCTURES AND DEVICES SHALL BE INSPECTED ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT. THIS INSPECTION SHALL BE FOLLOWED WITH A REPAIR SCHEDULE OF ALL NOTED DEFICIENCIES. VEGETATION PROGRESS SHALL ALSO BE INCLUDED IN THIS INSPECTION. VOID AREAS SHALL PROMPTLY BE RESEEDED AND MULCHED TO ESTABLISH PROTECTION.

UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMPs AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND RENETTING, MUST BE DONE IMMEDIATELY. IF EROSION AND SEDIMENT CONTROL BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs, OR MODIFICATIONS TO THOSE INSTALLED, WILL BE REQUIRED.

SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF WITHIN THE LIMIT OF DISTURBANCE IN LANDSCAPE AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN STOCKPILES AREAS.

ALL CHANNELS MUST BE KEPT FREE OF OBSTRUCTIONS SUCH AS FILL, FALLEN LEAVES & WOODY DEBRIS, ACCUMULATED SEDIMENT, AND CONSTRUCTION MATERIALS/WASTES WITH EXCEPTION TO OTHER REQUIRED BMPs (I.E., CHECK DAMS). CHANNELS SHOULD BE KEPT MOWED AND/OR FREE OF ALL WEEDY, BRUSHY OR WOODY GROWTH. ANY UNDERGROUND UTILITIES RUNNING ACROSS/ THROUGH THE CHANNEL(S) SHALL BE IMMEDIATELY BACKFILLED AND THE CHANNEL(S) REPAIRED AND STABILIZED PER THE CHANNEL SECTION DETAIL.

SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.

ALL NECESSARY REPAIRS WILL BE MADE IMMEDIATELY.

MAINTENANCE SCHEDULE

CONTROL MEASURE	INSPECT	PROBLEMS TO LOOK FOR	POSSIBLE REMEDIES
COMPOST FILTER SOCK	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	BARRIER HAS BEEN UNDERMINED OR TOPPED SEDIMENT AT 1/2 HEIGHT OF BARRIER TORN OR DAMAGED FABRIC SOCK IS OLDER THAN PERMITTED RUNOFF ESCAPING AROUND BARRIER	REPLACE WITH A ROCK FILTER OUTLET. INCREASE NUMBER OF STAKES AT AFFECTED AREA. REMOVE SEDIMENT, PLACE ACROSS SITE AS FILL. REPAIR ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACE. EXTEND BARRIER.
EROSION CONTROL BLANKET	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	TORN OR LOOSE STAPLED AREAS VEGETATION GROWTH BLANKET DESTROYED OR DAMAGED	REMOVE AND REPLACE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. REGRADE AND REPAIR ANY UNDERMINED OR WASHED OUT AREAS.. RE-SEED
PUMPED WATER FILTER BAG	BEFORE AND AFTER EACH USE	TORN FABRIC, TEARS OR BREACHES SEDIMENT ESCAPING WITH PURGE WATER MORE THAN 50% FILLED WITH SEDIMENT	REPLACE FILTER BAG. REMOVE SEDIMENT, SPREAD OVER SITE.
ROCK CONSTRUCTION ENTRANCE	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	STONE THICKNESS NOT CONSTANTLY MAINTAINED SEDIMENT ON PUBLIC ROADWAY	ADD ROCK TO BRING TO SPECIFIED DIMENSIONS. SWEEP MATERIAL BACK TO PROJECT SITE. DO NOT WASH ROADWAY WITH WATER.
ROCK FILTER OUTLET	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	LINING WASHED AWAY SEDIMENT AT 1/3 HEIGHT OF BARRIER RUNOFF ESCAPING AROUND BARRIER CLOGGING	RESHAPE AS NECESSARY AND REPLACE TOP LAYER WITH CLEAN STONE. REPLACE RIPRAP WITH LARGER SIZE RIPRAP. REBUILD/EXTEND BARRIER. WASH OR REPLACE SEDIMENT LADEN STONE.
VEGETATION	ONCE A WEEK AND AFTER EVERY RUNOFF EVENT	SEDIMENT AT TOE-OF-SLOPE RILLS & GULLIES FORMING BARE SOIL PATCHES	CHECK FOR TOE-OF-SLOPE DIVERSION & INSTALL IF NEEDED FILL RILLS AND RE-GRADE GULLIED SLOPES RE-SEED, FERTILIZE, LIME AND RE-MULCH

* REFER TO BMP DETAIL FOR ADDITIONAL MAINTENANCE REQUIREMENTS AND REMEDIES.

SOIL LIMITATIONS

THE SOILS PRESENT WITHIN THE PROJECT BOUNDARY ARE:

SOIL NAME	SOIL LIMITATIONS															
	CUTBANKS CAVE	CORROSIVE TO CONCRETE / STEEL	DROUGHTY	EASILY ERODIBLE	FLOODING	DEPTH TO SATURATED ZONE ZONE / SEASONAL HIGH WATER TABLE	HYDRIC / HYDRIC INCLUSIONS	LOW STRENGTH / LANDSLIDE PRONE	SLOW PERCOLATION	PIPING	POOR SOURCE OF TOPSOIL	FROST ACTION	SHRINK - SWELL	POTENTIAL SINKHOLES	PONDING	WETNESS
CLARKSBURG	X	C/S		X		X	X	X	X	X	X	X	X	X		X
CONESTOGA	X	C/S	X					X	X	X		X		X		

CUT BANKS CAVE - CUT BANKS WILL BE LAID BACK NO STEEPER THAN 2 ' HORIZONTAL AND 1' VERTICAL TO PRODUCE STABLE SLOPES THAT WILL BE FURTHER STABILIZED WITH EROSION CONTROL BLANKETS;

CORROSIVE TO CONCRETE / STEEL - CONCRETE MIXES WILL BE DESIGNED TO BE RESISTANT TO CORROSION. STEEL CASINGS WILL BE PROTECTED WITH COATINGS TO RESIST CORROSION, WHERE APPROPRIATE;

DROUGHTY - SEEDING AND MULCHING WILL BE ACCOMPANIED BY SUFFICIENT WATERING TO PROMOTE DEVELOPMENT OF VEGETATION;

HYDRIC / HYDRIC INCLUSIONS - A WETLANDS INVESTIGATION WAS CONDUCTED THROUGHOUT THE PROJECT AREA TO VERIFY THAT WETLANDS WILL NOT BE DISTURBED BY CONSTRUCTION;

SLOW PERCOLATION - INFILTRATION PRACTICES ARE NOT PROPOSED. SLOW PERCOLATION IS NOT ANTICIPATED TO IMPACT THE PROJECT;

POOR SOURCE OF TOPSOIL - ADDITIONAL FERTILIZER, LIME, AND MULCH WILL BE APPLIED AS NEEDED TO ESTABLISH THE REQUIRED 70% UNIFORM VEGETATIVE GROWTH TO STABILIZE THE DISTURBED AREAS. TOPSOIL WILL BE TESTED TO CONFIRM RATES OF APPLICATION AS NECESSARY;

FROST ACTION - THE PROPOSED WORK ELEMENTS WILL BEAR OR BE BURIED AT DEPTHS SUFFICIENT TO LIMIT THE POTENTIAL FOR FROST ACTION;

SEEDING PROCEDURES:

SEEDING PREPARATION SHALL BE ACCOMPLISHED BY TRACKING THE AREAS TO BE SEEDED WITH A SMALL BULLDOZER OR OTHER COMPARABLE DEVICE IN AN UP AND DOWN PATTERN TO CREATE SMALL CONTOURS ALONG THE SLOPE. THESE SMALL DEPRESSIONS HELP REDUCE EROSION AND PROVIDE A POCKET FOR PROPER GERMINATION OF THE SEEDS. SOIL SUPPLEMENTS, AS SHOWN BELOW, WILL BE REQUIRED TO PREPARE THE AREA TO BE SEEDED.

MULCHING AS LISTED BELOW SHALL BE PERFORMED IMMEDIATELY AFTER THE APPLICATION OF LIME, FERTILIZER AND SEEDING MATERIALS. MULCH SHALL BE APPLIED IN CONJUNCTION WITH A TACKIFIER.

THE MOST EFFECTIVE PERIODS FOR VEGETATION ESTABLISHMENT ARE EARLY SPRING TO EARLY SUMMER AND LATE SUMMER TO MID FALL. SEEDING AND MULCHING CAN BE PERFORMED DURING OTHER PERIODS AS WEATHER CONDITIONS PERMIT. MAJOR ACTIVITIES OF DEVELOPMENT SHALL BE PLANNED TO COINCIDE WITH THESE PRIME GROWING SEASONS.

IF OUT-OF-SEASON TEMPORARY STABILIZATION IS NECESSARY, APPLY THE FULL-SPECIFIED QUANTITIES FOR SUPPLEMENTS, SEED AND MULCH. FULL MULCH RATE APPLICATIONS WILL BE REQUIRED FOR EACH SEEDING APPLICATION TO PREVENT SOIL EROSION UNTIL SEED GERMINATES. PERMANENT STABILIZATION SHALL BE APPLIED DURING THE NEXT GROWING SEASON.

TEMPORARY VEGETATIVE STABILIZATION:

ANNUAL RYE (SPRING OR FALL) SHALL BE USED AT A RATE OF 50 LBS PER ACRE; SPRING OATS (SPRING) SHALL BE USED AT A RATE OF 100 LBS PER ACRE; AND WINTER RYE (FALL) SHALL BE USED AT A RATE OF 120 LBS PER ACRE. MEET PURE LIVE SEED REQUIREMENTS OF PENNDOT SPECIFICATION SECTION 804.2.

SOIL SUPPLEMENT RATES:

SUPPLEMENTS	APPLICATION RATE*
AGRICULTURAL LIME	1 TON PER ACRE
10-10-10 FERTILIZER	500 LBS PER ACRE

MULCHING:

MULCH TYPE	APPLICATION RATE
CLEAN STRAW	3 TONS PER ACRE
EITHER WHEAT OR OAT STRAW, FREE OF WEEDS, NOT CHOPPED OR FINELY BROKEN.	

PERMANENT VEGETATIVE STABILIZATION:

GENERAL PERMANENT SEEDING SPECIFICATIONS ERNMX-177 (EXCEPT BIORETENTION BASIN BOTTOM)		
GERMINATION PERIODS: MARCH 16TH - JUNE 1ST AND AUGUST 1ST - OCTOBER 15TH		
COMMON NAME	PERCENTAGE OF MIXTURE	APPLICATION RATE
BIG BLUESTEM	60	30 LBS / ACRE
SWITCHGRASS	20	
VIRGINIA WILD RYE	16	
AUTUMN BENTGRASS	4	

SOIL SUPPLEMENT RATES:

SUPPLEMENTS	APPLICATION RATE*
AGRICULTURAL LIME	6 TONS PER ACRE
10-20-20 FERTILIZER	1,000 LBS PER ACRE

MULCHING:

MULCH TYPE	APPLICATION RATE
CLEAN STRAW	3 TONS PER ACRE
EITHER WHEAT OR OAT STRAW, FREE OF WEEDS, NOT CHOPPED OR FINELY BROKEN.	

BIORETENTION BASIN BOTTOM SEEDING SPECIFICATIONS ERNMX-154		
GERMINATION PERIODS: MARCH 16TH - JUNE 1ST AND AUGUST 1ST - OCTOBER 15TH		
COMMON NAME	PERCENTAGE OF MIXTURE	APPLICATION RATE
DEERTONGUE	30	30 LBS / ACRE
VIRGINIA WILD RYE	16	
BIG BLUESTEM	14	
FOX SEDGE	14	
SWITCHGRASS	5	
BLUE VERVAIN	4	
BONESET	3	
GREAT BLUE LOBELIA	2	
FRINGED SEDGE	2	
OXEYE SUNFLOWER	2	
SHOWY TICKTREFOIL	2	
JOE PYE WEED	2	
SWAMP MILWEED	2	
PURPLESTEM ASTER	1	
WILD BERGAMOT	1	

PROCEDURES WHICH ENSURE PROPER MEASURES FOR RECYCLING OR DISPOSAL OF MATERIALS WITHIN THE PROJECT:

INDIVIDUALS RESPONSIBLE FOR EARTH DISTURBANCE ACTIVITIES MUST ENSURE THAT PROPER MECHANISMS ARE IN PLACE TO CONTROL WASTE MATERIALS. CONSTRUCTION WASTE S INCLUDE THINGS SUCH AS, BUT ARE NOT LIMITED TO, EXCESS SOIL MATERIALS, DAMAGED NETTING OR MATTING, SANITARY WASTES, GENERAL TRASH, ETC. THAT COULD ADVERSELY AFFECT OR IMPACT WATER QUALITY. MEASURES SHOULD BE PLANNED AND IMPLEMENTED FOR HOUSEKEEPING OF THE SITE, MATERIALS MANAGEMENT, AND LITTER CONTROL. WHEREVER POSSIBLE, RECYCLING OF EXCESS MATERIALS IS PREFERRED RATHER THAN DISPOSAL.

THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.

SEDIMENT REMOVED FROM EROSION CONTROL MEASURES OR FACILITIES AND OTHER SOILS DEEMED UNSUITABLE FOR USE AS FILL SHALL BE STABILIZED AND DISPOSED OF OFFSITE AN AN APPROVED FACILITY. OFFSITE DISPOSAL MUST COMPLY WITH ALL LOCAL, COUNTY, STATE AND FEDERAL RULES, REGULATIONS AND LAWS.

PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242

AECOM
625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428
(610) 832-3500

PETER P. HAAS, P.E.
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL PETER P. HAAS ENGINEER PE076971
06/13/2025
DATE
PENNSYLVANIA
PROFESSIONAL ENGINEER NO. PE076971

REVISIONS

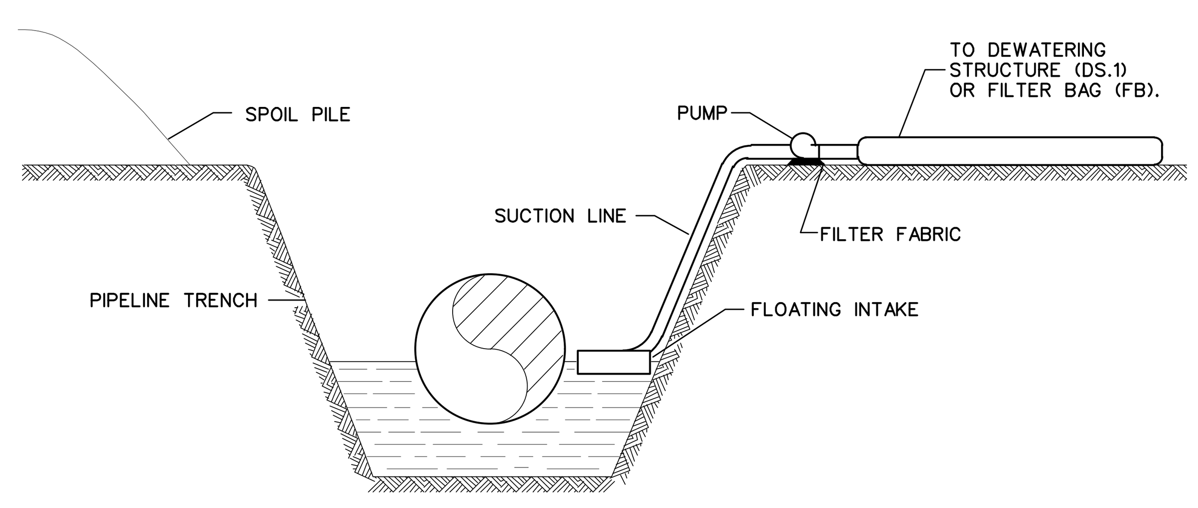
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	06/06/2025	SEW	REDUCED LOD TO AVOID EXISTING PCSM FEATURES		DJC	PPH
1	06/06/2025	SEW	UPDATED BIORETENTION DESIGN PER 2025 GUIDANCE		DJC	PPH
2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
SOIL EROSION & SEDIMENT CONTROL PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
NOTES

Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE: N.T.S.
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:	SHEET 11 OF 17
WO:			

Drawn By & Date/Time: WarmanS Jul 07, 2025 - 9:38am
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\E&S\11-14 & 16-17 - Notes & Details CS 200.dwg



NOTES:

1. WATER PUMPED OUT OF TRENCH SHALL NOT BE DISCHARGED INTO WATERWAYS. ALL TRENCH WATER SHALL BE DISCHARGED INTO A FILTER BAG OR DEWATERING STRUCTURE.
2. PUMP SHALL BE CONTROLLED SO THAT DISCHARGE DOES NOT OVERFLOW DEWATERING STRUCTURE.
3. PUMP SUCTION HOSE MUST NOT BE ALLOWED TO COME IN CONTACT WITH TRENCH BOTTOM. PROVISIONS MUST BE MADE TO ELEVATE THE SUCTION HOSE TO AT LEAST ONE FOOT ABOVE THE BOTTOM OF THE PIPE TRENCH UNTIL BOTTOM DEWATERING IS NECESSARY.
4. DEWATERING SHALL NOT OCCUR DURING TIMES OF HEAVY RAINFALL EXCEPT AS REQUIRED TO PREVENT FLOODING OF CONSTRUCTION EQUIPMENT LOCATED IN BORE PITS AND TRENCHES.
5. PUMPS UTILIZED DURING DEWATERING SHALL BE PLACED WITHIN SECONDARY CONTAINMENT IF POSITIONED WITHIN 100 FEET OF A WETLAND OR WATERBODY.

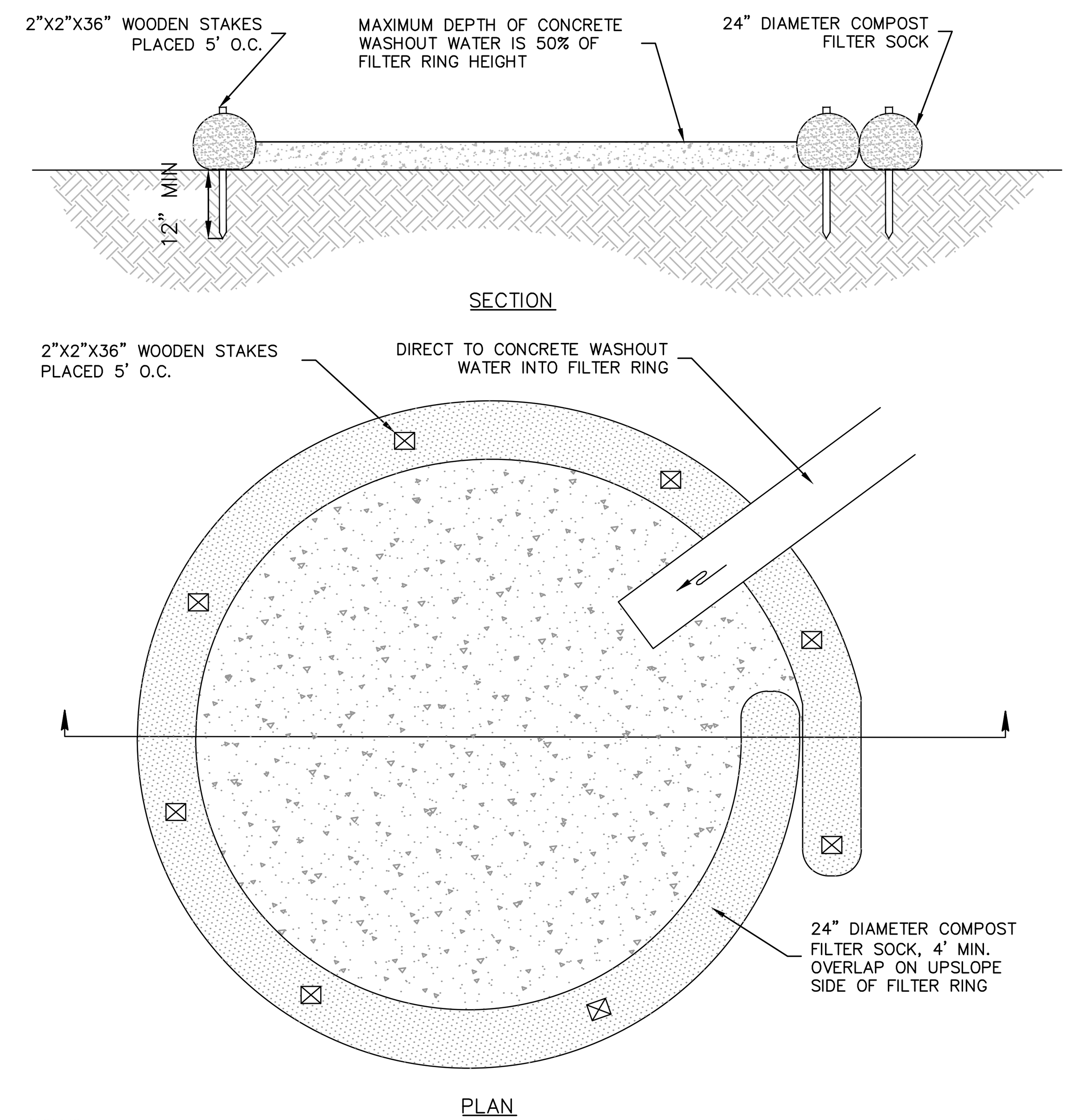
TRENCH DEWATERING (TD)

TEMPORARY EROSION CONTROL MEASURE

PENNSYLVANIA

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
1	01/13/12	TPF	REVISED NOTES			

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
STANDARD ENVIRONMENTAL DETAIL
TD TRENCH DEWATERING



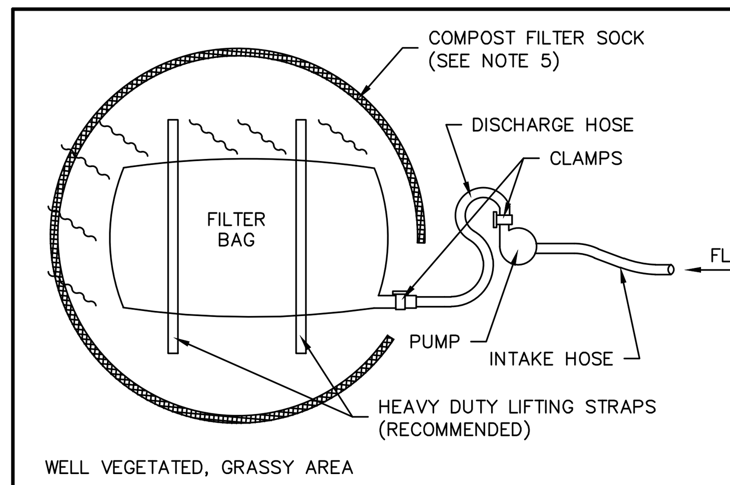
NOTES:

1) INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
2) 18" DIAMETER FILTER SOCKS MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.
3) A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS.

PENNSYLVANIA

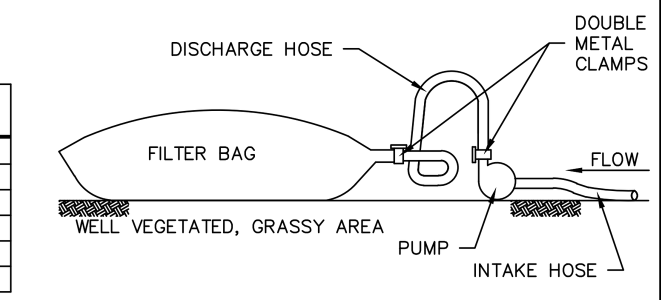
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
STANDARD ENVIRONMENTAL DETAIL
CW CONCRETE WASHOUT



PLAN VIEW

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 lb/in
GRAB TENSILE	ASTM D-4632	205 lb
PUNCTURE	ASTM D-4883	110 lb
MULLEN BURST	ASTM D-3786	350 psi
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE



ELEVATION VIEW

NOTES:

1. LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
2. HIGH VOLUME FILTER BAGS SHALL NOT BE USED UNLESS APPROVED BY DESIGN ENGINEER.
3. A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.
4. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.
5. COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.
6. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.
7. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.
8. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.
9. THE MAXIMUM PUMPING RATE FOR ANY BAG IN USE OR PROPOSED FOR USE ON A SITE SHALL BE AVAILABLE AT THE SITE AT ALL TIMES DURING PUMPING OPERATIONS.

FILTER BAG (FB)

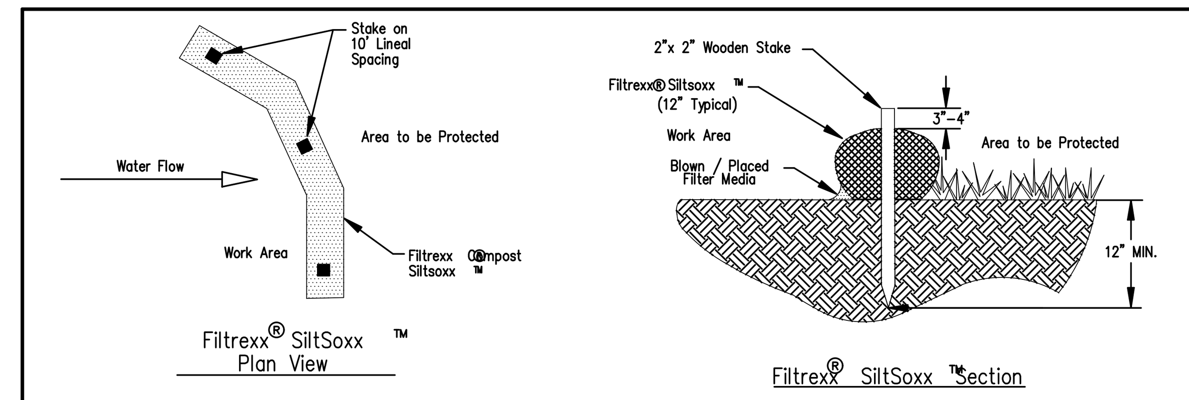
TEMPORARY EROSION CONTROL MEASURE

PENNSYLVANIA

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
STANDARD ENVIRONMENTAL DETAIL
FB FILTER BAG

Williams. GAS PIPELINE



NOTES:

1. ALL MATERIAL TO MEET MANUFACTURER SPECIFICATIONS.
2. COMPOST FILTER SOCK FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY CONSTRUCTION CONTRACTOR.
4. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT.
5. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
6. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
7. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION WITH ADDITIONAL SOCK OR ROCK FILTER.
8. BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
9. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

ORGANIC MATTER CONTENT	80% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 - 8.0
MOISTURE CONTENT	35% - 55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 dS/m (mmhos/cm) MAXIMUM

MATERIAL TYPE	3 mil HDPE	5 mil HDPE	5 mil HDPE	MULTI-FILAMENT POLYPROPYLENE (MFPP)	HEAVY-DUTY MULTI-FILAMENT POLYPROPYLENE (HDMFPP)
MATERIAL CHARACTERISTICS	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE	BIO-DEGRADABLE	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE
SOCK DIAMETERS	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
MESH OPENING	3/8"	3/8"	3/8"	3/8"	1/8"
TENSILE STRENGTH		26 psi	26 psi	44 psi	202 psi
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS
TWO-PLY SYSTEMS					
INNER CONTAINMENT NETTING			HDPE BIAXIAL NET CONTINUOUSLY WOUND FUSION-WELDED JUNCTURES 3/4" x 3/4" MAX. APERTURE SIZE		
OUTER FILTRATION MESH			COMPOSITE POLYPROPYLENE FABRIC (WOVEN LAYER AND NON-WOVEN FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH) 3/16" MAX. APERTURE SIZE		
SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS LASTING 6 MONTHS OR LESS.					

COMPOST FILTER SOCK (CFS)

TEMPORARY EROSION CONTROL MEASURE

PENNSYLVANIA

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
STANDARD ENVIRONMENTAL DETAIL
CFS COMPOST FILTER SOCK

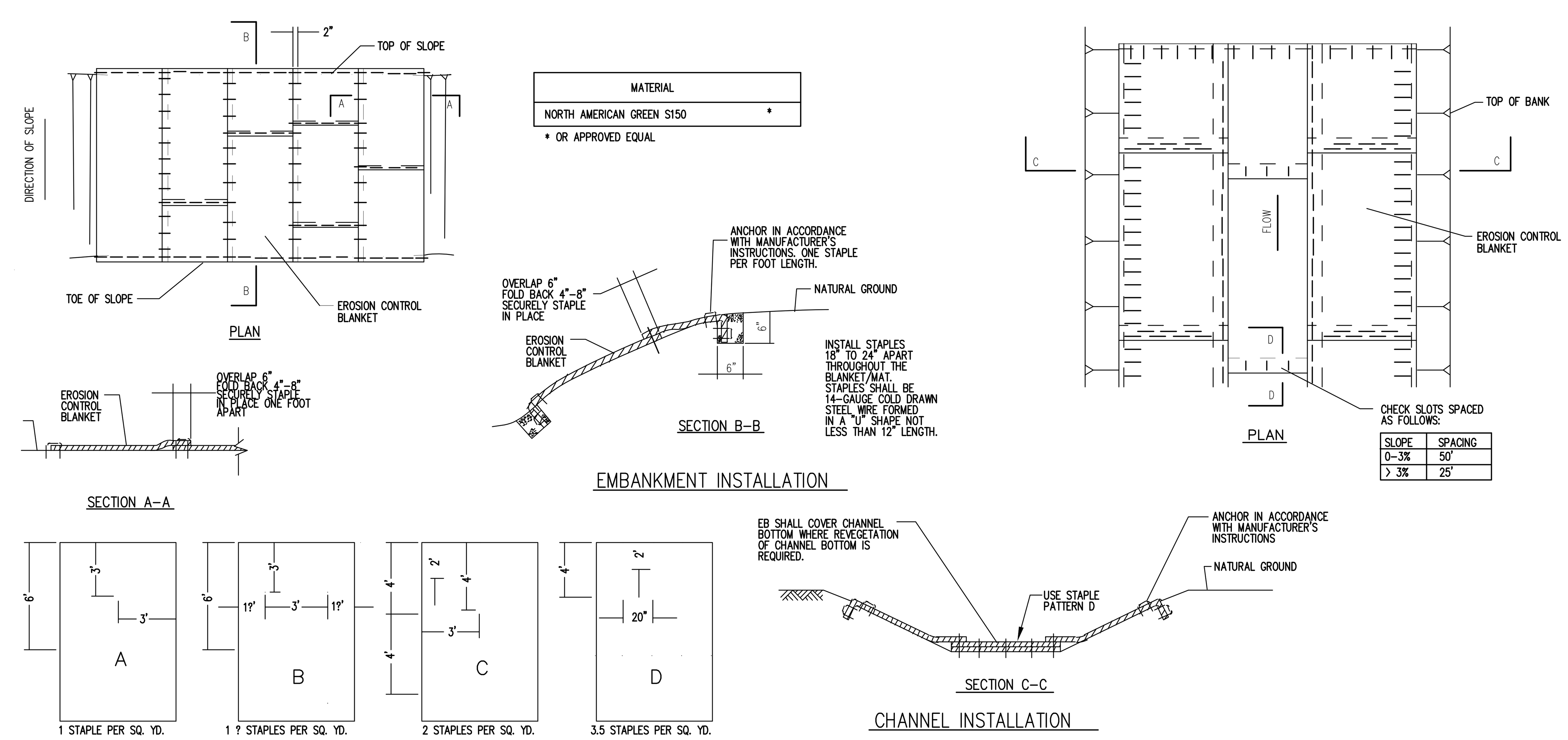
Williams. GAS PIPELINE

COMPOST FILTER SOCK SIZING TABLE

Sock No.	Min. Sock Size (IN.)
01	18
02	18
03	18
04	18
05	18
06	18
07	24
08	24
09	24
10	24
11	24
12	24
13	18
14	18
15	18
16	18
17	18

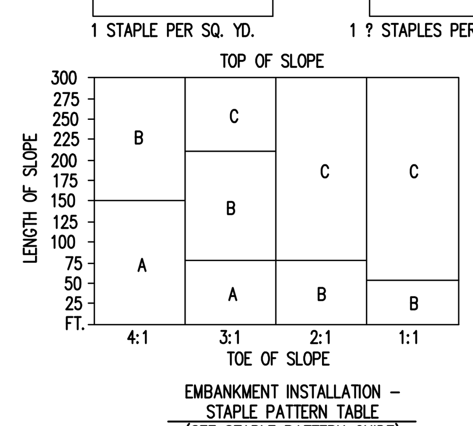
COMPOST FILTER SOCK SIZING TABLE

Sock No.	Min. Sock Size (IN.)
18	18
19	18
20	18
21	18
22	18
23	18
24	18
25	18
26	18
27	18
28	18
29	18
30	18
31	18
32	18



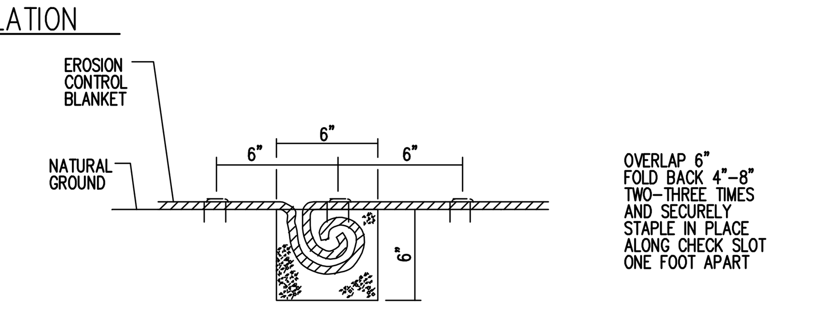
MATERIAL
NORTH AMERICAN GREEN S150 *

* OR APPROVED EQUAL



EMBANKMENT INSTALLATION - STAPLE PATTERN TABLE (SEE STAPLE PATTERN GUIDE)

STAPLE PATTERN GUIDE



NOTES:

1. EROSION CONTROL BLANKETS SHALL EXTEND COMPLETELY ACROSS DISTURBED AREA TO PROTECT ERODIBLE SURFACES. THE SOIL SHALL BE PROPERLY PREPARED, SEEDED AND MULCHED PRIOR TO INSTALLATION.
2. INSTALL EROSION CONTROL BLANKETS ON FRESHLY GRADED EMBANKMENTS ON SLOPES OF 3:1 (H:V) OR STEEPER TO SUPPORT VEGETATION.
3. INSTALL BLANKETS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
4. BLANKET SHALL BE LOOSELY INSTALLED AND TAMPED OR ROLLED IN PLACE AFTER INSTALLATION. STAPLES SHALL BE DRIVEN FLUSH WITH THE GROUND.

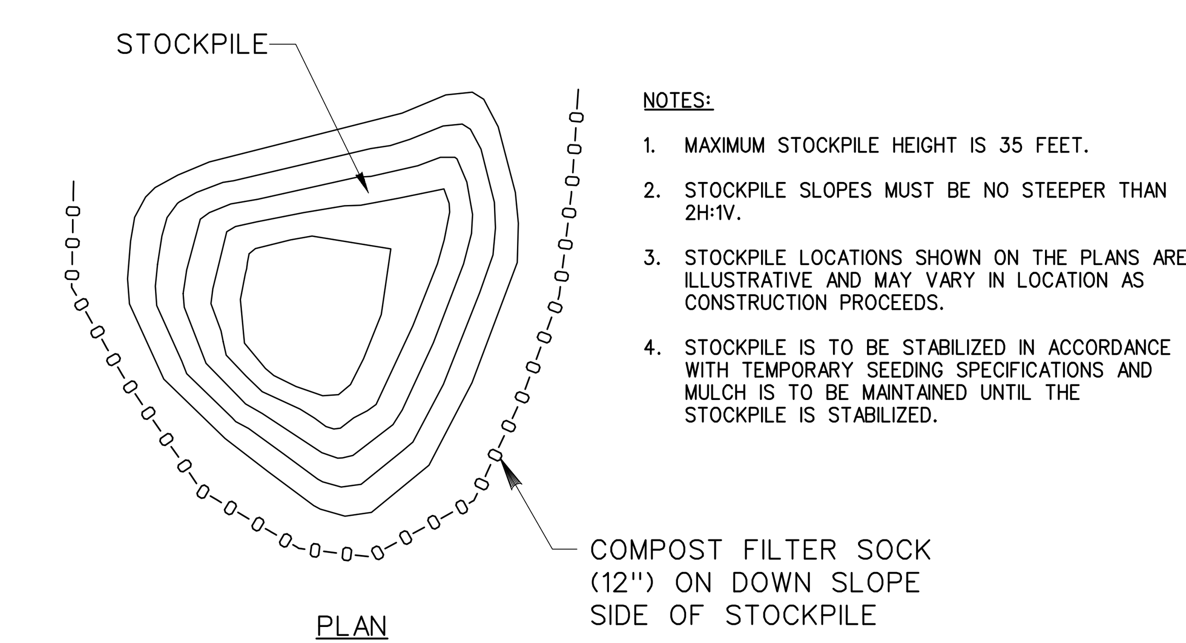
EROSION CONTROL BLANKET (ECB)

PERMANENT EROSION CONTROL MEASURE

PENNSYLVANIA

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
1	01/13/12	TPF	REVISED NOTE			

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
STANDARD ENVIRONMENTAL DETAIL
ECB EROSION CONTROL BLANKET



NOTES:

1. MAXIMUM STOCKPILE HEIGHT IS 35 FEET.
2. STOCKPILE SLOPES MUST BE NO STEEPER THAN 2H:1V.
3. STOCKPILE LOCATIONS SHOWN ON THE PLANS ARE ILLUSTRATIVE AND MAY VARY IN LOCATION AS CONSTRUCTION PROCEEDS.
4. STOCKPILE IS TO BE STABILIZED IN ACCORDANCE WITH TEMPORARY SEEDING SPECIFICATIONS AND MULCH IS TO BE MAINTAINED UNTIL THE STOCKPILE IS STABILIZED.

TYPICAL SOIL/TOPSOIL STOCKPILE

TEMPORARY EROSION CONTROL MEASURE

PENNSYLVANIA

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
1	01/13/12	TPF	REVISED NOTES			

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
STANDARD ENVIRONMENTAL DETAIL
SOIL/TOPSOIL STOCKPILE

PENNSYLVANIA ONE CALL SYSTEM — STOP! CALL BEFORE YOU DIG

AECOM
625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428
(610) 832-3500

PETER P. HAAS, P.E.
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL PETER P. HAAS ENGINEER PE076971
06/13/2025
DATE
PENNSYLVANIA PROFESSIONAL ENGINEER NO. PE076971

REVISIONS

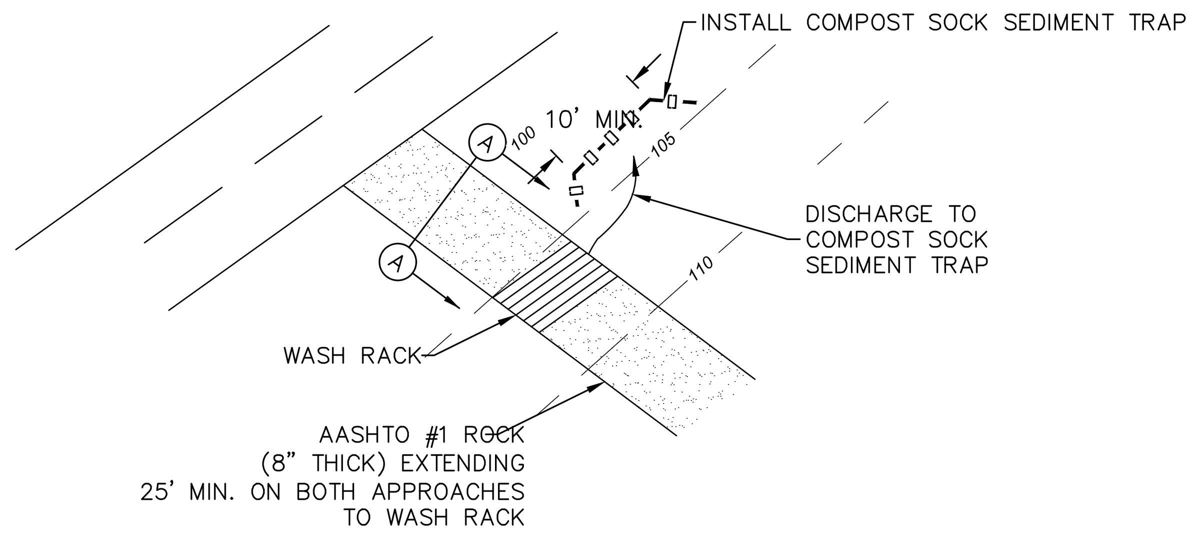
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	06/06/2025	SEW	REDUCED LOD TO AVOID EXISTING PCSM FEATURES		DJC	PPH
1	06/06/2025	SEW	UPDATED BIORETENTION DESIGN PER 2025 GUIDANCE		DJC	PPH
2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
SOIL EROSION & SEDIMENT CONTROL PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
DETAILS (1 OF 3)

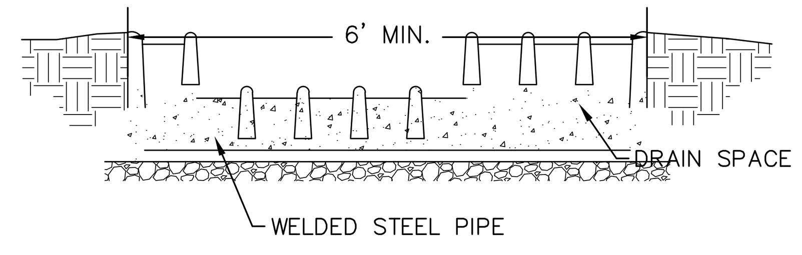
Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE: N.T.S.
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:	SHEET 12 OF 17
WO:			

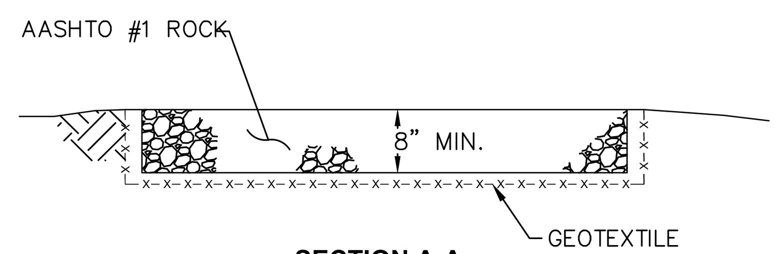
Drawn By & Date/Time: WarrenS Jul 07, 2025 - 9:37am
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\E&S\11-14 & 16-17 - Notes & Details CS 200.dwg



PLAN VIEW



WASH RACK

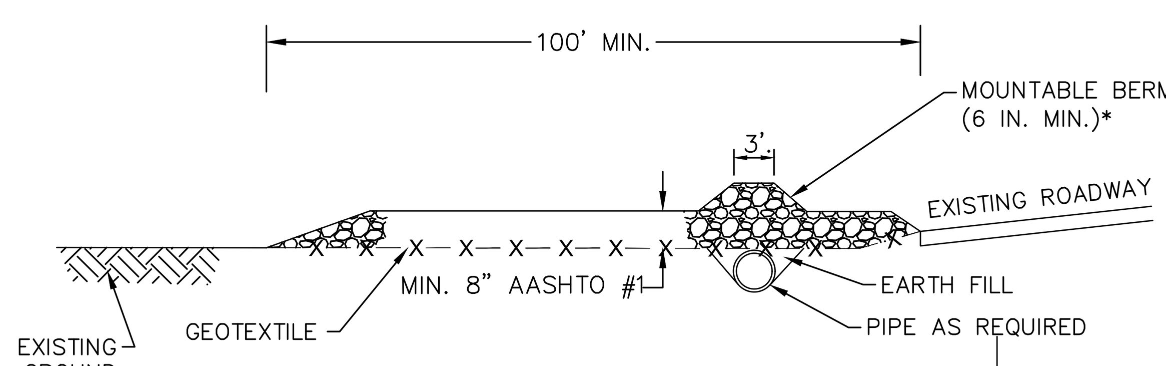


SECTION A-A

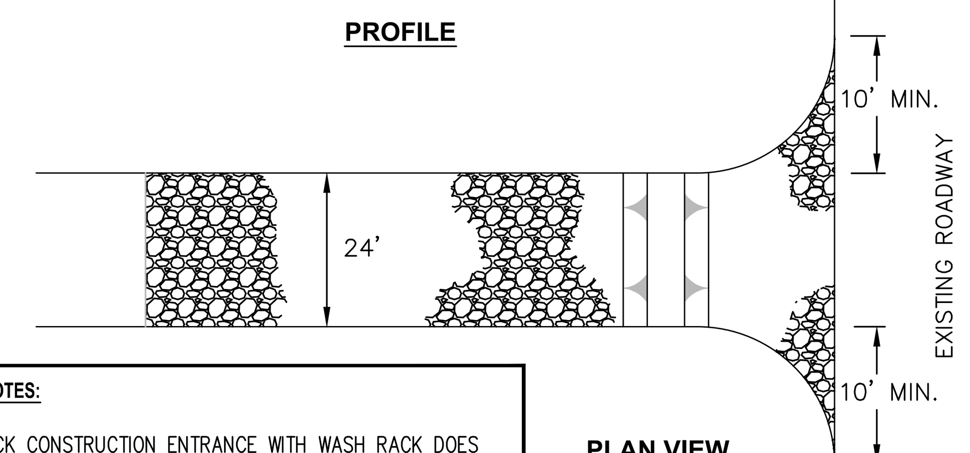
NOTE:
1) WASH RACK SHALL BE 20 FEET (MIN.) WIDE OR TOTAL WIDTH OF ACCESS, WHICHEVER IS GREATER.
2) WASH RACK SHALL BE CONSTRUCTED TO ACCOMMODATE ANTICIPATED CONSTRUCTION VEHICULAR TRAFFIC.
3) A WATER SUPPLY SHALL BE MADE AVAILABLE TO WASH THE WHEELS OF ALL VEHICLES EXITING THE SITE.
4) MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE OF ROCK MATERIAL SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE DRAIN SPACE UNDER WASH RACK SHALL BE KEPT OPEN AT ALL TIMES. DAMAGE TO THE WASH RACK SHALL BE REPAIRED PRIOR TO FURTHER USE OF THE RACK. ALL SEDIMENT DEPOSITED ON ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. WASHING THE ROADWAYS OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

CONSTRUCTION ENTRANCE (CE)

TEMPORARY EROSION CONTROL MEASURE



PROFILE



PLAN VIEW

ALTERNATIVE NOTES:

1) IF A ROCK CONSTRUCTION ENTRANCE WITH WASH RACK DOES NOT PROVIDE ADEQUATE PERFORMANCE, THE ROCK CONSTRUCTION ENTRANCE ALTERNATIVE CAN BE USED.
2) CONTRACTOR SHALL DOCUMENT THE REASON THE SPECIFIC ROCK CONSTRUCTION ENTRANCE WITH WASH RACK DOES NOT PROVIDE ADEQUATE PERFORMANCE (E.G. STEEP GRADES, NO ROOM FOR COMPOST SOCK TRAP TO BE CONSTRUCTED, ETC.).

* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

NOTES:

1) REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
2) MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.
3) MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.
4) STREET SWEEPING ON PAVED ROADS
   a. USE A VACUUM TRUCK SWEEPER OR SWEEPER WITH A CATCH BIN ATTACHMENT.
   b. AT A MINIMUM – ANY DAY IN WHICH CONSTRUCTION TRAFFIC IS EXITING THE ROCK CONSTRUCTION ENTRANCE, THE VACUUM TRUCK SWEEPER OR SWEEPER WITH A CATCH BIN ATTACHMENT SHALL CLEAN THE ROAD WAY AT THE END OF THE WORK DAY AND PRIOR TO ANY FORECASTED RAIN EVENT.
5) STREET SWEEPING ON DIRT OR GRAVEL SURFACE PUBLIC ROADS
   a. RIGOROUS MANUAL REMOVAL OF MUD/DIRT FROM VEHICLE/EQUIPMENT TIRES PRIOR TO EXITING CONSTRUCTION SITE, SUPPLEMENTED BY IMMEDIATE RECOVERY, BY MANUAL OR MECHANICAL MEANS, OF SOIL WHICH MAY BECOME DISCHARGED ONTO PUBLIC ROADWAYS. DUST CONTROL AND/OR COMPACTION VIA ROLLING OF THE DIRT PUBLIC ROAD SURFACE WILL BE IMPLEMENTED AS NEEDED.

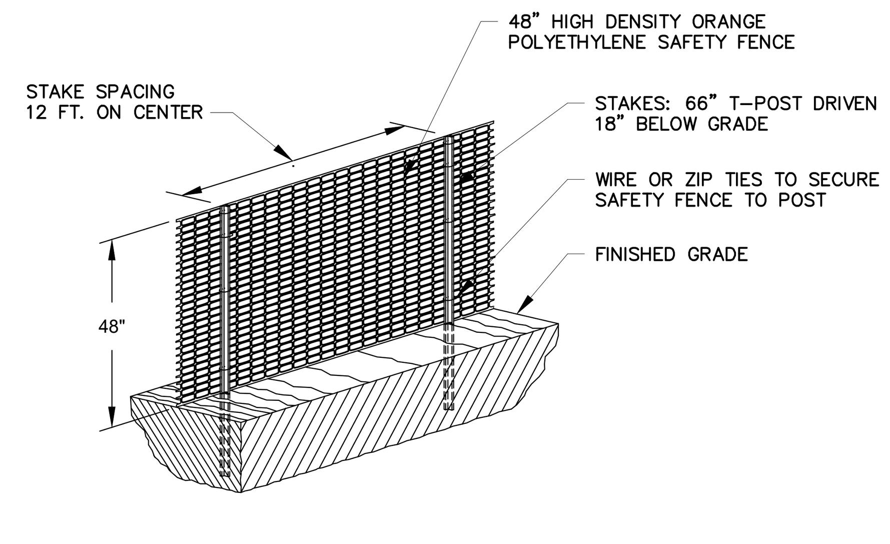
CONSTRUCTION ENTRANCE (ALTERNATIVE) (CE)

TEMPORARY EROSION CONTROL MEASURE

PENNSYLVANIA

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
1	10/21/14	GMS	REVISED TO MEET HQ/EV REQUIR.			

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
STANDARD ENVIRONMENTAL DETAIL
CE CONSTRUCTION ENTRANCE
Williams. GAS PIPELINE



ISOMETRIC VIEW
SCALE: N.T.S.

NOTES:

1. ALL SENSITIVE AREAS SHALL BE PROTECTED AS PER PLAN.
2. ALL TREES IN THE CONSTRUCTION AREA NOT SPECIFICALLY DESIGNED FOR REMOVAL SHALL BE PRESERVED AND PROTECTED WITH HIGH VISIBILITY FENCE AS PER PLAN.
3. WHEN PRACTICABLE, INSTALL HIGH VISIBILITY 3 FEET OUTSIDE OF THE DRIP LINE OF THE TREE.
4. SAFETY FENCE SHOULD BE FASTENED SECURELY TO THE POST.
5. THE FENCE MUST REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION; ANY CHANGE OF THE PROTECTIVE FENCING MUST BE APPROVED.

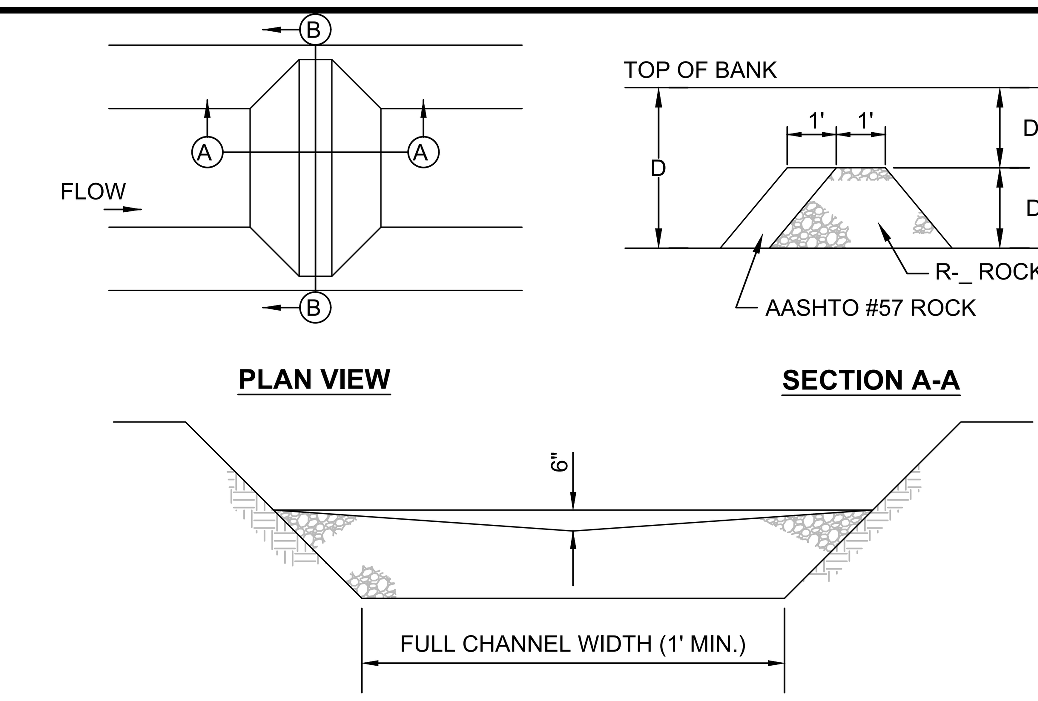
SAFETY FENCE (SAF)

PERMANENT EROSION CONTROL MEASURE

PENNSYLVANIA

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
STANDARD ENVIRONMENTAL DETAIL
SAF SAFETY FENCE
Williams. GAS PIPELINE



PLAN VIEW

SECTION A-A

SECTION B-B

FOR 3' ≤ D USE R-4
FOR 2' ≤ D < 3' USE R-3

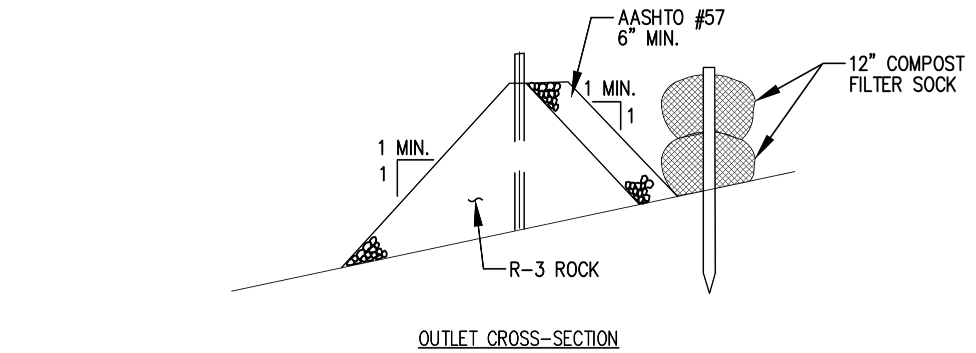
ROCK FILTER NO.	LOCATION	D (FT)	RIPRAP SIZE
RF-01	E&S PHASE 1	2	R-3
RF-02	E&S PHASE 2	2	R-3
RF-03	E&S PHASE 2	2	R-3
RF-04	E&S PHASE 2	2	R-3

NOTES:

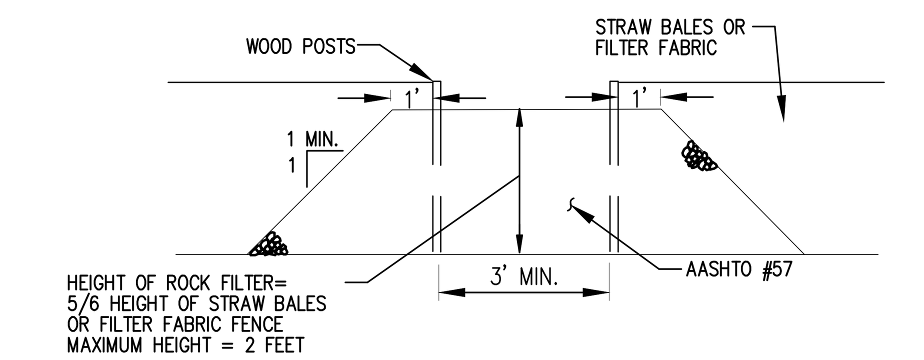
1. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE HEIGHT OF THE FILTERS. SPREAD SEDIMENT ONSITE AS FILL, WHERE APPROPRIATE OR DISPOSE IN ACCORDANCE WITH "PROCEDURES WHICH ENSURE PROPER MEASURES FOR RECYCLING OR DISPOSAL OF MATERIALS WITH THE PROJECT SITE."
2. IMMEDIATELY UPON STABILIZATION OF EACH CHANNEL, REMOVE ACCUMULATED SEDIMENT, REMOVE ROCK FILTER, AND STABILIZE DISTURBED AREAS.

ROCK FILTER

N.T.S.



OUTLET CROSS-SECTION



UP-SLOPE FACE

NOTES:

1. ROCK FILTER OUTLETS SHALL BE PLACED ALONG SEDIMENT BARRIERS AS SHOWN ON THE PLAN. THE ROCK FILTER OUTLET IS NOT INTENDED TO BE PLACED IN STEAMS, RIVERS, CREEKS OR DITCHES WHICH NORMALLY HAVE FLOWING WATER.
2. ONCE THE DISTURBED AREA IS STABILIZED, THE ROCK FILTER OUTLET SHALL BE REMOVED AND ANY DISTURBED AREAS CAUSED BY REMOVAL SHALL BE RETURNED TO ORIGINAL CONDITION AND REVEGETATED.
3. SEDIMENT MUST BE REMOVED FROM THE ROCK FILTER OUTLET WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.
4. INSTALL NSA-R3 ROCK AT THE OUTLET SIDE OF THE SEDIMENT BARRIER AS SHOWN IN THE DETAIL. AFTER INSTALLING NSA-R3 ROCK, INSTALL AASHTO #57 ROCK AT THE INLET SIDE OF THE SEDIMENT BARRIER TO CREATE AN ADEQUATE FILTER STONE FACE FOR THE OUTLET STRUCTURE.

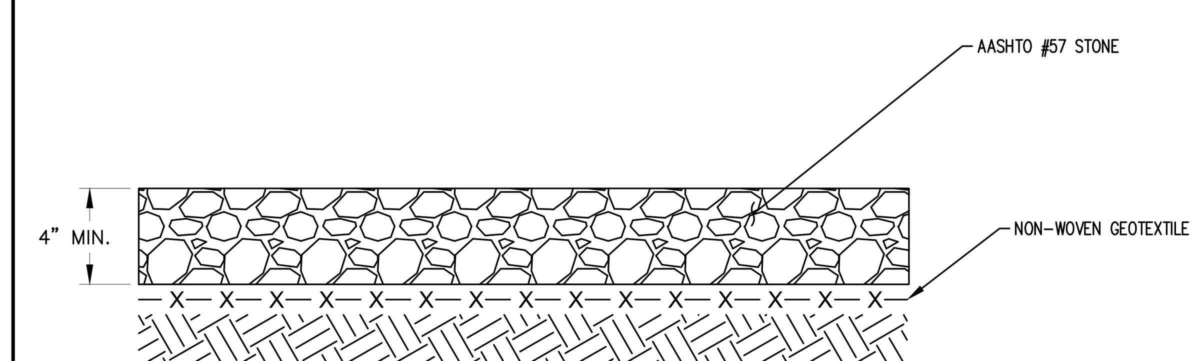
ROCK FILTER OUTLET (RFO)

TEMPORARY EROSION CONTROL MEASURE

PENNSYLVANIA

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

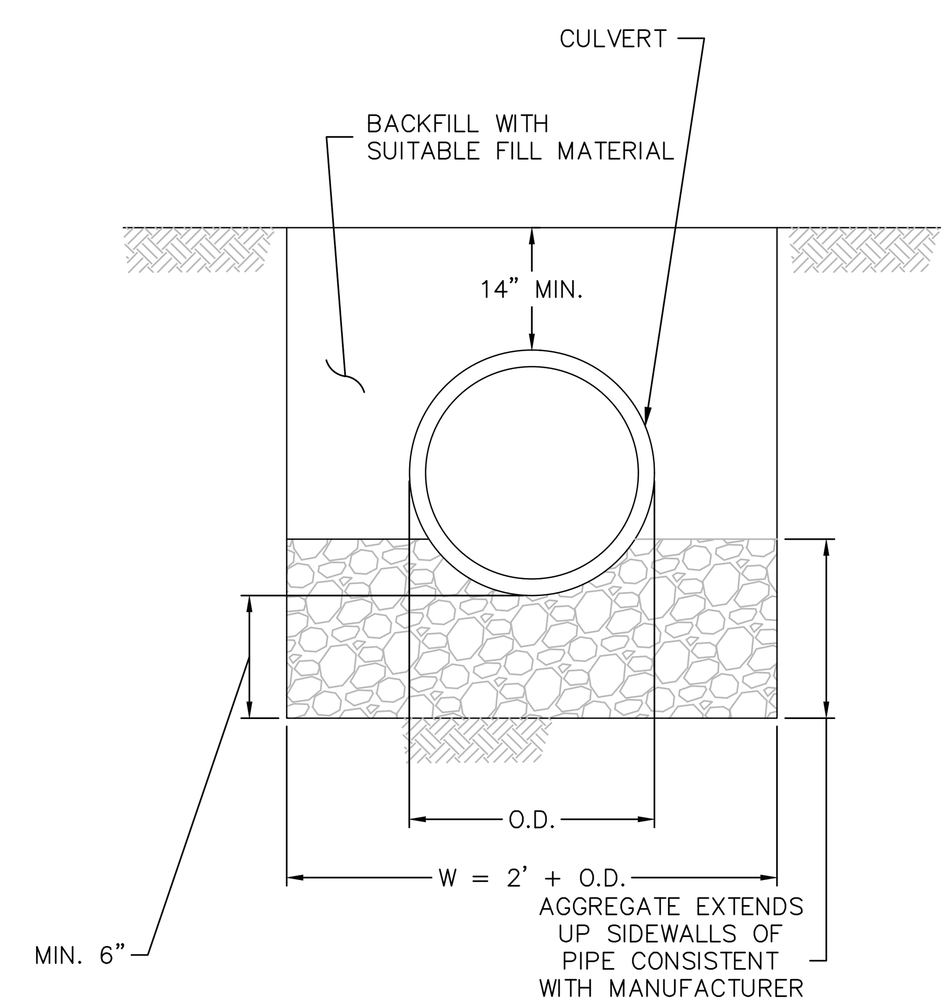
TRANSCONTINENTAL GAS PIPE LINE CORPORATION
STANDARD ENVIRONMENTAL DETAIL
RFO ROCK FILTER OUTLET
Williams. GAS PIPELINE



PENNSYLVANIA

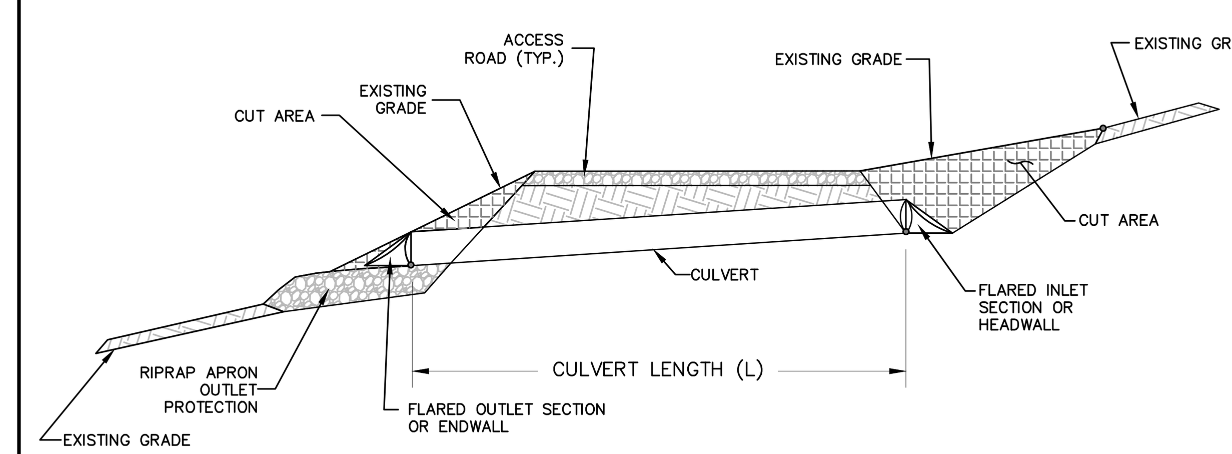
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
STANDARD ENVIRONMENTAL DETAIL
STONE BASE FOR LAYDOWN AREA
Williams. GAS PIPELINE



PIPE BEDDING DETAIL

N.T.S.



CROSS SECTION

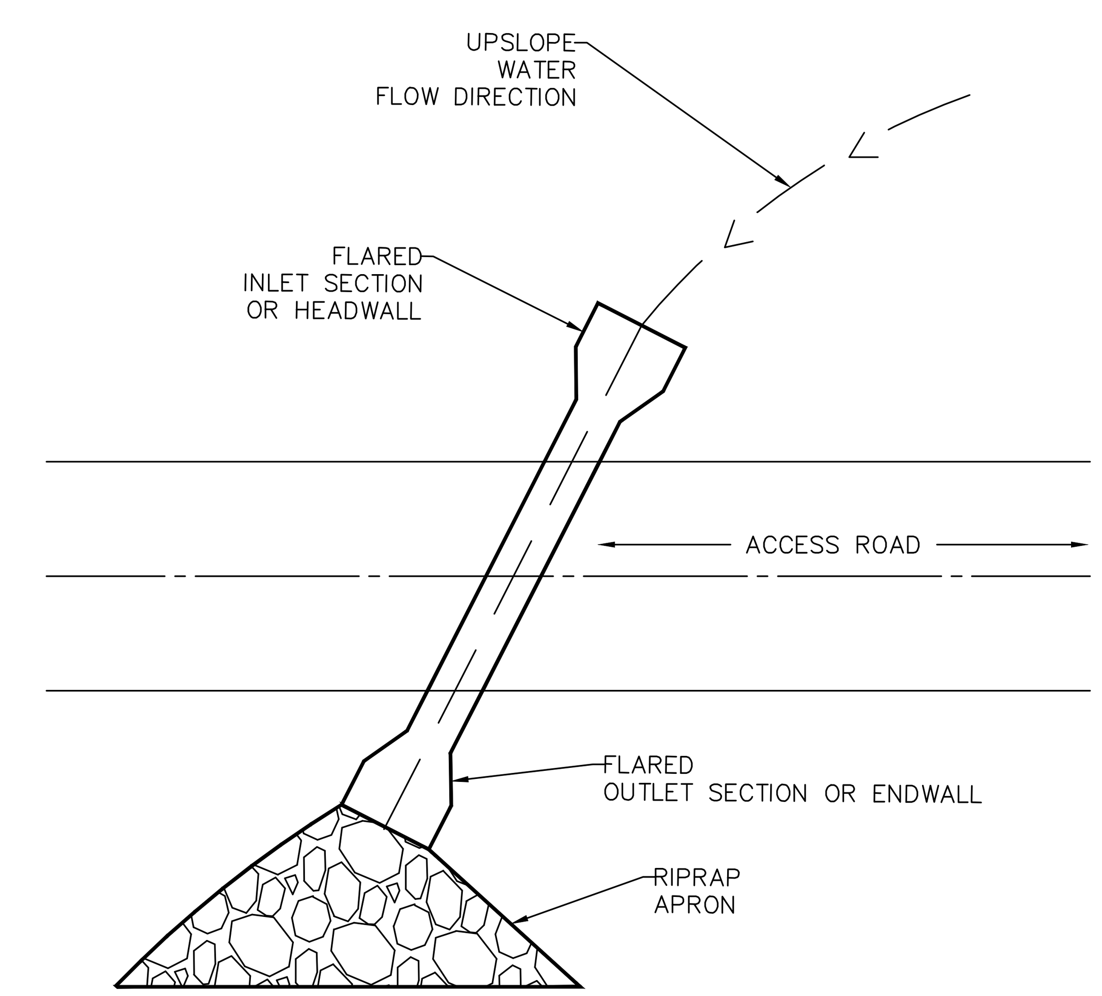
NOTES:

1. CUT AND FILL SLOPES SHALL BE STABILIZED IMMEDIATELY UPON COMPLETION OF ROADWAY GRADING. THESE AREAS SHALL BE BLANKETED WHEREVER THEY ARE LOCATED WITHIN 50 FEET OF A SURFACE WATER OR WITHIN 100 FEET OF A SURFACE WATER WHERE A SUITABLE VEGETATIVE FILTER STRIP DOES NOT EXIST. STEEP SLOPES AT 3H:1V OR STEEPER SHALL BE PROTECTED AGAINST EROSION WITH EROSION CONTROL BLANKET SUITABLE FOR THE ESTABLISHMENT OF VEGETATION.
2. A DURABLE TOP DRESSING SHALL BE PROVIDED FOR SOILS HAVING LOW STRENGTH.
3. UPSLOPE CUT AREA SHALL BE LINED WITH EROSION CONTROL BLANKET.
4. ROADWAY SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED ROADWAYS, DITCHES, OR CROSS DRAINS SHALL BE REPAIRED IMMEDIATELY.
5. CONTRACTOR SHALL ENSURE WATER-TIGHT SEALS AT ALL CULVERT JUNCTIONS AND ALONG THE CULVERT ALIGNMENT. ANY CRACKED OR BROKEN PIPE SECTIONS SHOULD BE REJECTED. ALL JOINTS AT CATCH BASINS SHOULD BE CAREFULLY SEALED.

CULVERT	DIAMETER (IN.)	MATERIAL	INVERT IN (FT.)	INVERT OUT (FT.)	LENGTH (FT.)	SLOPE (%)
C-01	24	RCP	377.0	376.0	68	1.5
C-02	18	RCP	377.0	376.0	112	0.9
C-03	18	RCP	374.5	374.0	40	1.3
C-04	18	RCP	374.5	374.0	40	1.3

ACCESS ROAD CULVERT CROSSING

PERMANENT STORMWATER CONTROL MEASURE



PLAN VIEW

NOTES:

1. TEMPORARY STORMWATER BYPASS BENEATH ACCESS ROAD WILL BE INSTALLED PRIOR TO EARTH DISTURBANCE AT ASSOCIATED GRAVEL WORK AREA, AS APPLICABLE.
2. STORMWATER RUNOFF FROM UPSLOPE BYPASS AREAS WILL BE DIRECTED BENEATH ACCESS ROAD AND WILL DISCHARGE OVER A RIPRAP APRON.

PENNSYLVANIA

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
PROJECT SPECIFIC DETAIL
ACCESS ROAD CULVERT CROSSING
Williams. GAS PIPELINE

AECOM
625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428
(610) 832-3500

PETER P. HAAS, P.E.
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER PETER P. HAAS PE076971
06/13/2025
DATE
PENNSYLVANIA PROFESSIONAL ENGINEER NO. PE076971

REVISIONS

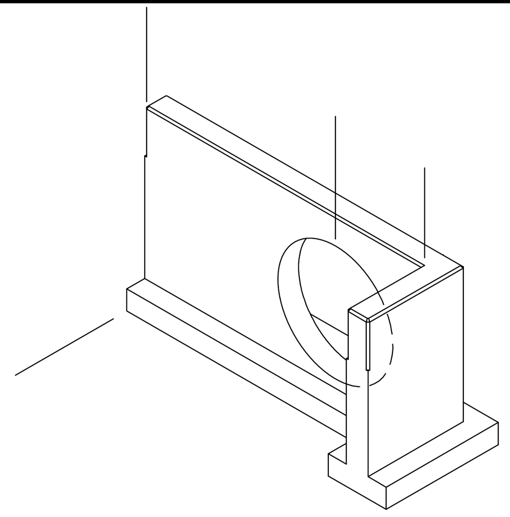
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	06/06/2025	SEW	REDUCED LOD TO AVOID EXISTING PCSM FEATURES		DJC	PPH
1	06/06/2025	SEW	UPDATED BIORETENTION DESIGN PER 2025 GUIDANCE		DJC	PPH
2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
SOIL EROSION & SEDIMENT CONTROL PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
DETAILS (2 OF 3)

Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE: N.T.S.	
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5	
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:		SHEET 13 OF 17
WO:				

Drawn By & Date/Time: WarmanS Jul 07, 2025 – 9:37am
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\E&S\11-14 & 16-17 - Notes & Details CS 200.dwg



RIGHT HAND HEADWALL

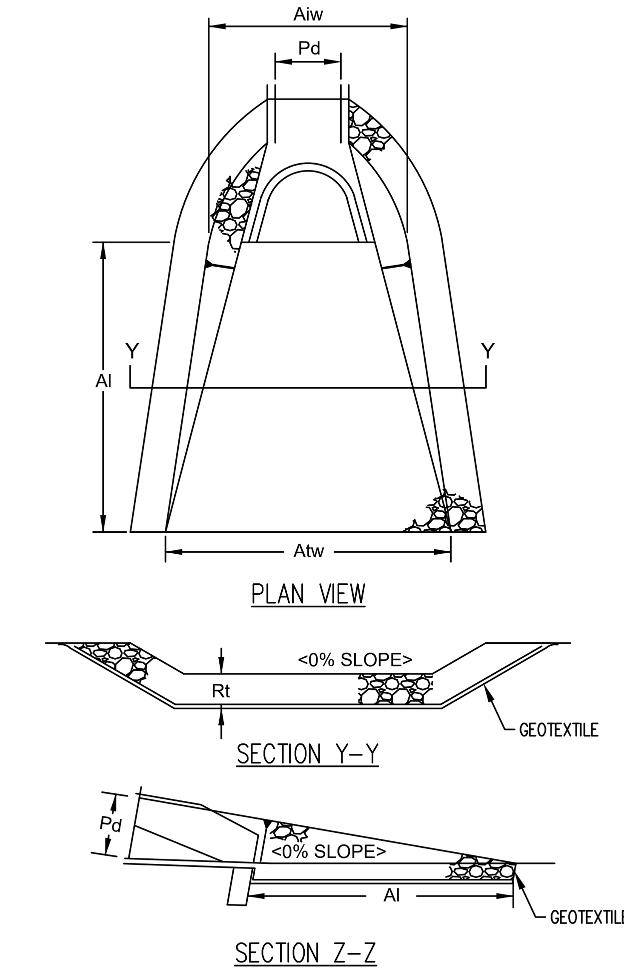
			LENGTH OF W														
			3'-4"			4'-10"			6'-4"			7'-10"			9'-4"		
D	H	L/2	STEEL LBS.	CONC. CYD.	WEIGHT LBS.	STEEL LBS.	CONC. CYD.	WEIGHT LBS.	STEEL LBS.	CONC. CYD.	WEIGHT LBS.	STEEL LBS.	CONC. CYD.	WEIGHT LBS.	STEEL LBS.	CONC. CYD.	WEIGHT LBS.
12"	2'-8"	2'-6"	50	0.79	3,200	60	0.98	3,970									
15"	2'-11"	3'-0"	55	0.91	3,685	65	1.11	4,495									
18"	3'-2"	3'-6"	65	1.04	4,215	75	1.25	5,065									
21"	3'-5"	3'-9"	75	1.15	4,660	90	1.36	5,510									
24"	3'-8"	4'-3"	85	1.29	5,225	100	1.51	6,115	110	1.74	7,045						
27"	3'-11"	4'-9"	90	1.44	5,835	105	1.67	6,765	115	1.91	7,735						
30"	4'-2"	5'-0"	95	1.55	6,275	110	1.80	7,290	120	2.05	8,300	135	2.29	9,275			
33"	4'-5"	5'-6"	105	1.71	6,925	120	1.97	7,980	135	2.23	9,030	150	2.48	10,045			
36"	4'-8"	6'-0"	110	1.88	7,615	125	2.15	8,710	140	2.41	9,760	155	2.68	10,855	170	2.95	11,950
39"	4'-11"	6'-3"				150	2.28	9,235	170	2.56	10,370	185	2.84	11,500	200	3.12	12,635
42"	5'-2"	6'-9"				155	2.42	9,075	175	2.76	11,260	190	3.05	12,350	210	3.34	13,525
45"	5'-5"	7'-3"							180	2.97	12,030	200	3.27	13,245	215	3.57	11,460
48"	5'-8"	7'-6"							190	3.13	12,680	215	3.44	13,930	230	3.75	15,185
51"	5'-11"	8'-0"										220	3.67	14,865	235	3.99	16,160
54"	6'-2"	8'-6"										235	3.91	15,835	250	4.24	17,175

NOTES:

1. DETAIL SHOWN IS SOURCED FROM OLDCASTLEPRECAST.COM.
2. GEOSYNTHETIC CLAY LINER (GCL) SYSTEM THAT WILL BE INSTALLED WITHIN VEGETATED CHANNELS SHOULD BE APPROPRIATELY SECURED AND ATTACHED TO 'L' SHAPED HEADWALL TO ENSURE A WATER-TIGHT SEAL. COMMON MEANS OF SECURING GCL IS BY ANCHORING THE LINER TO THE STRUCTURE THROUGH USE OF STEEL-BATTON SYSTEM (SEE 'CONCRETE OUTLET STRUCTURE' AND 'LOW-PERMEABILITY LINER SYSTEM' DETAILS FOR FURTHER INFORMATION). IF THE CONTRACTOR PROPOSES A DIFFERENT APPROACH, IT MUST BE SUBMITTED IN WRITING AND APPROVED BY WILLIAMS.

'L' SHAPED HEADWALL

N.T.S.



OUTLET NO.	PIPE DIA. Pd (IN)	RIPRAP		APRON		
		SIZE (R-_)	THICK. Rt (IN)	LENGTH Al (FT)	INITIAL WIDTH Aiw (FT)	TERMINAL WIDTH Atw (FT)
RA-01	24	R-5	27	14	6	20
RA-02	18	R-4	18	8	5	13
RA-03 & RA-04	18	R-5	27	12	5	17

RIPRAP GRADATION TABLE

NATIONAL STONE ASSOCIATION NUMBER	SIZE OF ROCKS (INCHES)			MIN. THICKNESS OF RIPRAP LAYER (IN.) "T"	TOE (FEET)
	MAXIMUM	d50 AVERAGE *	MINIMUM **		
R-1	1?	?	NO. 8	2	1
R-2	3	1?	1	4	1.25
R-3	6	3	2	9	1.5
R-4	12	6	3	18	2.5
R-5	18	9	4	27	4
R-6	24	12	6	36	4
R-7	30	18	12	45	5
R-8	42	24	15	63	6

* THE "AVERAGE SIZE", OR d50, IS DEFINED AS A SIZE THAT IS EXCEEDED BY AT LEAST 50% OF THE TOTAL WEIGHT SHIPPED. (I.E. 50% OF THE TONNAGE SHIPPED CONSISTS OF PIECES LARGER THAN THE "AVERAGE SIZE" SHOWN IN CHART.)

** PIECES SMALLER THAN THE "MINIMUM SIZE" SHOWN SHALL NOT EXCEED 15% OF THE TONNAGE SHIPPED.

MATERIAL NOTES:

1. ROCK UTILIZED FOR RIPRAP SHALL CONSIST OF SOUND, DURABLE ROCK, INSOLUBLE IN WATER, AND RESISTANT TO WEATHERING.
2. ALL MATERIAL SHALL BE FREE OF STRUCTURAL DEFECTS, SHALE SEAMS AND ORGANIC MATTER.
3. INDIVIDUAL PIECES SHOULD BE SHARPLY ANGULAR, BLOCK SHAPED AND HAVE A MINIMUM SPECIFIC GRAVITY OF 2.5.
4. NO PIECE SHALL HAVE A LENGTH EXCEEDING THREE (3) TIMES ITS WIDTH OR DEPTH.
5. EACH LOAD OF ROCK SHALL BE OF WELL-GRADED MIXTURE. A WELL-GRADED MIXTURE, AS USED HEREIN, IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF LARGER STONE, BUT WITH A SUFFICIENT MIXTURE OF SMALLER SIZES TO FILL THE VOIDS.
6. MATERIAL SHALL MEET NSA SPECIFICATIONS – SEE TABLE.
7. IF STREAM WIDTH IS EQUAL TO OR LESS THAN 2 TIMES THE TOE WIDTH, RIPRAP SHALL BE PLACED ACROSS THE ENTIRE STREAM WIDTH.

CONSTRUCTION:
RIPRAP SHALL BE PLACED TO THE FULL COURSE THICKNESS IN ONE CONTINUOUS OPERATION. OPERATIONS WHICH CAUSE SEGREGATION OF THE MATERIALS SHALL NOT BE PERMITTED. INDIVIDUAL ROCKS MAY BE REARRANGED, AND THE VOIDS FILLED WITH HAND PLACED SMALLER ROCK IN ORDER TO ACHIEVE THE DESIRED UNIFORM ARMOR.

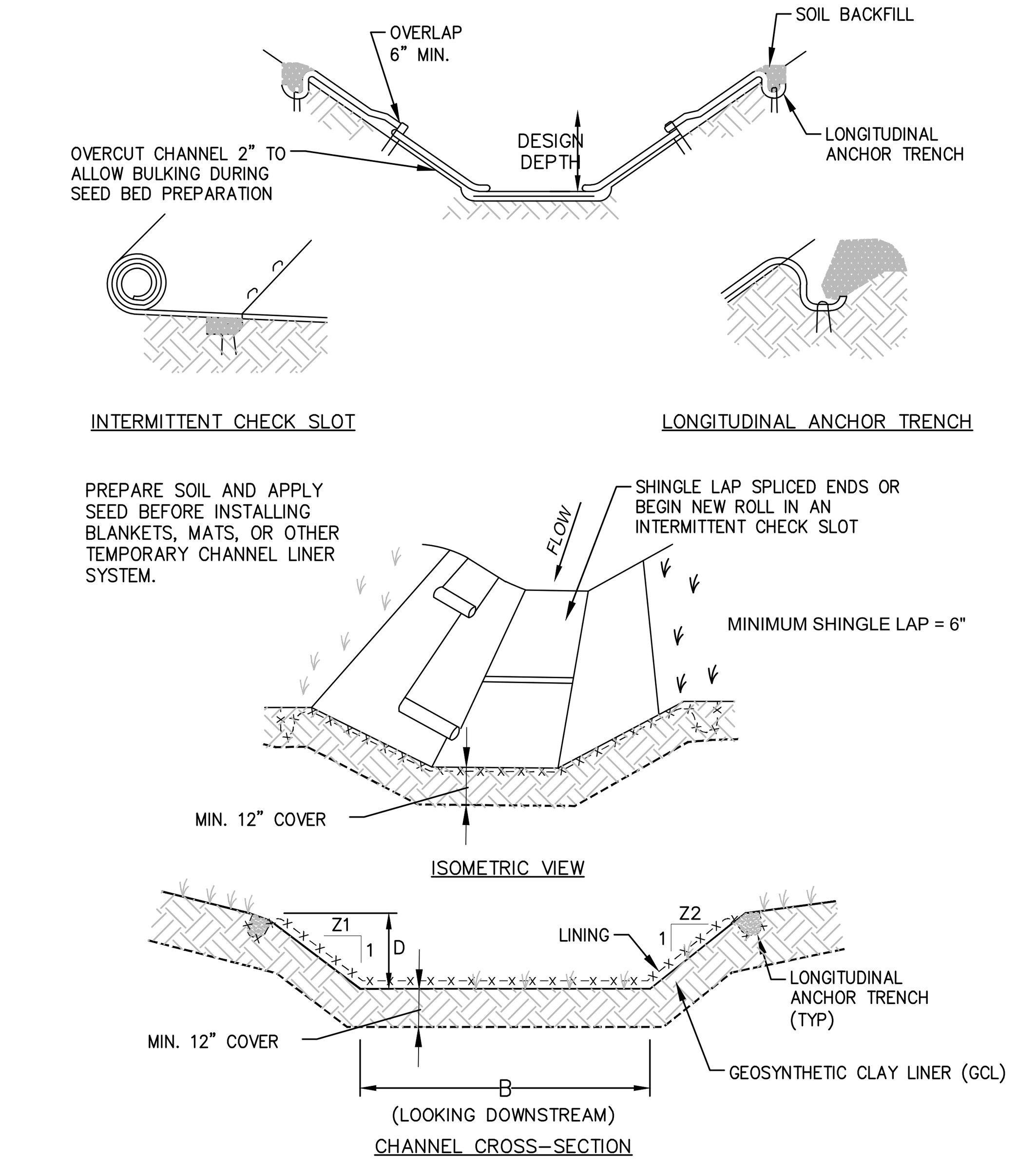
RIPRAP APRON

TEMPORARY EROSION CONTROL MEASURE RPA

PENNSYLVANIA

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
STANDARD ENVIRONMENTAL DETAIL
RPA RIPRAP APRON
Williams. GAS PIPELINE



CHANNEL	BOTTOM WIDTH B (FT)	DEPTH D (FT)	TOP WIDTH W (FT)	Z1 (FT)	Z2 (FT)	LINING
CH-01	4	1.5	22	2	10	SC150 / VEGETATION & UNDERLAIN BY GCL
CH-02	4	1.5	22	2	10	SC150 / VEGETATION & UNDERLAIN BY GCL

NOTES:

1. SEE MANUFACTURER'S INSTALLATION DETAIL FOR STAPLE PATTERNS, AND VEGETATION STABILIZATION SPECIFICATIONS FOR SOIL AMENDMENTS, SEED MIXTURES, AND MULCHING INFORMATION.
2. ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.
3. CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.
4. NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.

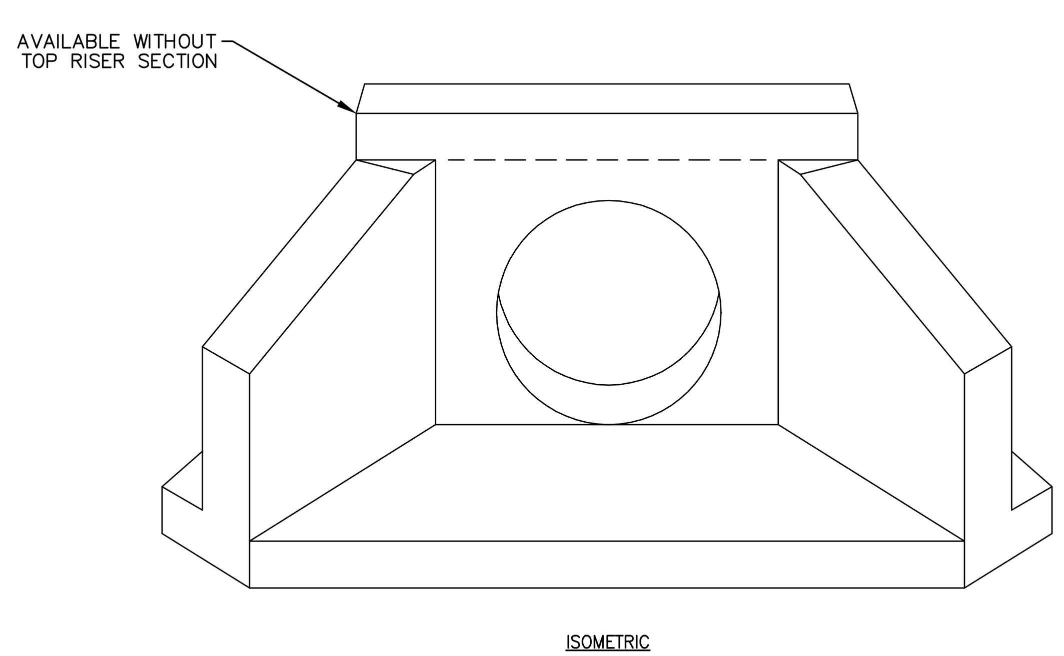
VEGETATED CHANNEL WITH GCL UNDERLAIN

PERMANENT STORMWATER MEASURE VC

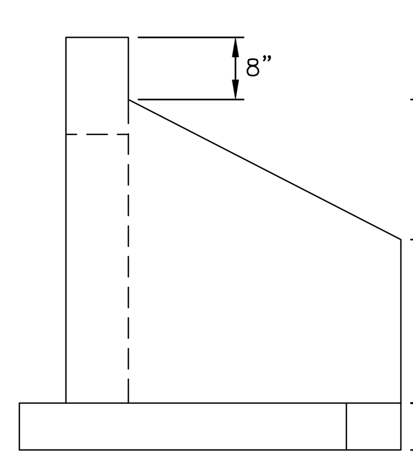
PENNSYLVANIA

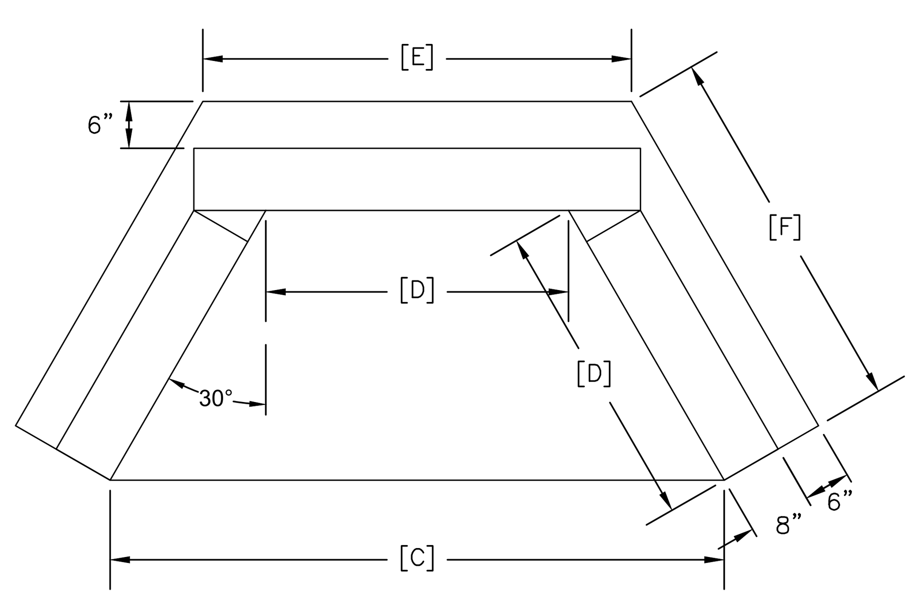
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
STANDARD ENVIRONMENTAL DETAIL
VC VEGETATED CHANNEL
Williams. GAS PIPELINE



MAXIMUM CULVERT DIA (IN)	[A] (IN)	[B] (IN)	[C] (IN)	[D] (IN)	[E] (IN)	[F] (IN)
15	11	21	48	24	38	34
18	12	26	52	26	43	33
21	12	26	52	26	43	33
24	21	39	80	40	55	55
36	21	39	80	40	55	55
48	23	52	104	52	73	60





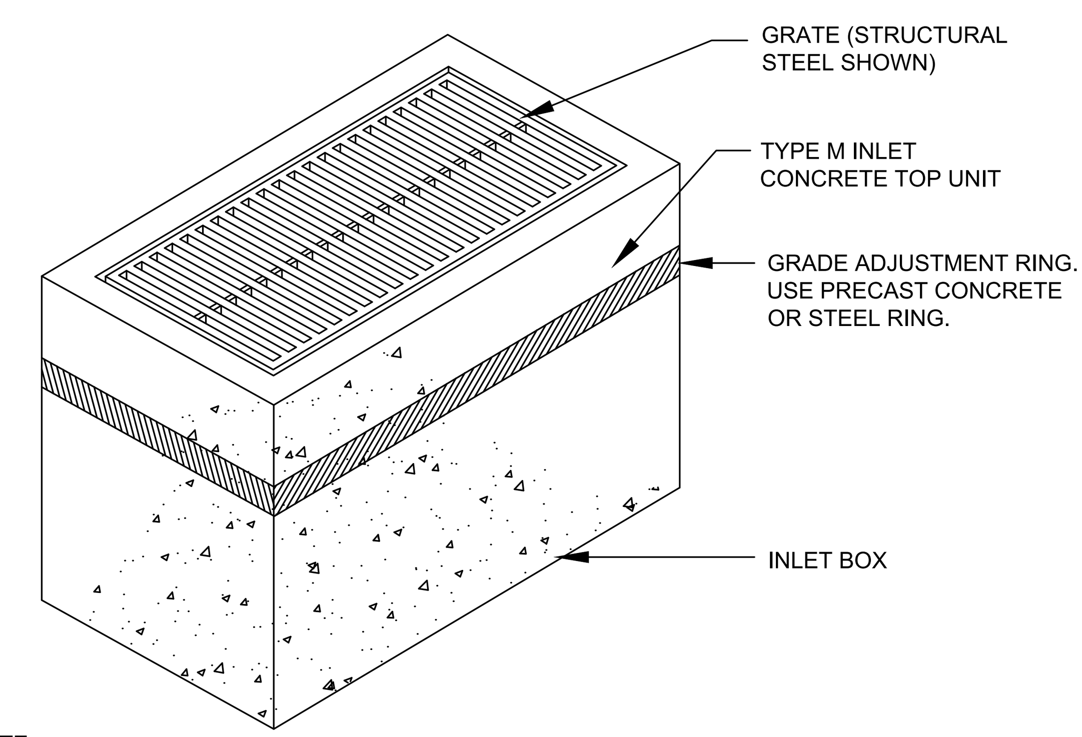
TYPICAL DW ENDWALL

PERMANENT STORMWATER CONTROL MEASURE EW

PENNSYLVANIA

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
PROJECT SPECIFIC DETAIL
EW TYPICAL DW ENDWALL
Williams. GAS PIPELINE



NOTE:

1. REFER TO PADOT RC34 DETAIL FOR ADDITIONAL INFORMATION
2. GEOSYNTHETIC CLAY LINER (GCL) SYSTEM THAT WILL BE INSTALLED WITHIN VEGETATED CHANNELS SHOULD BE APPROPRIATELY SECURED AND ATTACHED TO STANDARD PADOT TYPE M INLET TO ENSURE A WATER-TIGHT SEAL. COMMON MEANS OF SECURING GCL IS BY ANCHORING THE LINER TO THE STRUCTURE THROUGH USE OF STEEL-BATTON SYSTEM (SEE 'CONCRETE OUTLET STRUCTURE' AND 'LOW-PERMEABILITY LINER SYSTEM' DETAILS FOR FURTHER INFORMATION). IF THE CONTRACTOR PROPOSES A DIFFERENT APPROACH, IT MUST BE SUBMITTED IN WRITING AND APPROVED BY WILLIAMS.

STANDARD PADOT TYPE M INLET

N.T.S.

PENNSYLVANIA ONE CALL SYSTEM, INC. STOP CALL BEFORE YOU DIG

AECOM
625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428
(610) 832-3500

PETER P. HAAS, P.E.
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL PETER P. HAAS ENGINEER PE076971
06/13/2025
DATE
PENNSYLVANIA
PROFESSIONAL ENGINEER NO. PE076971

REVISIONS

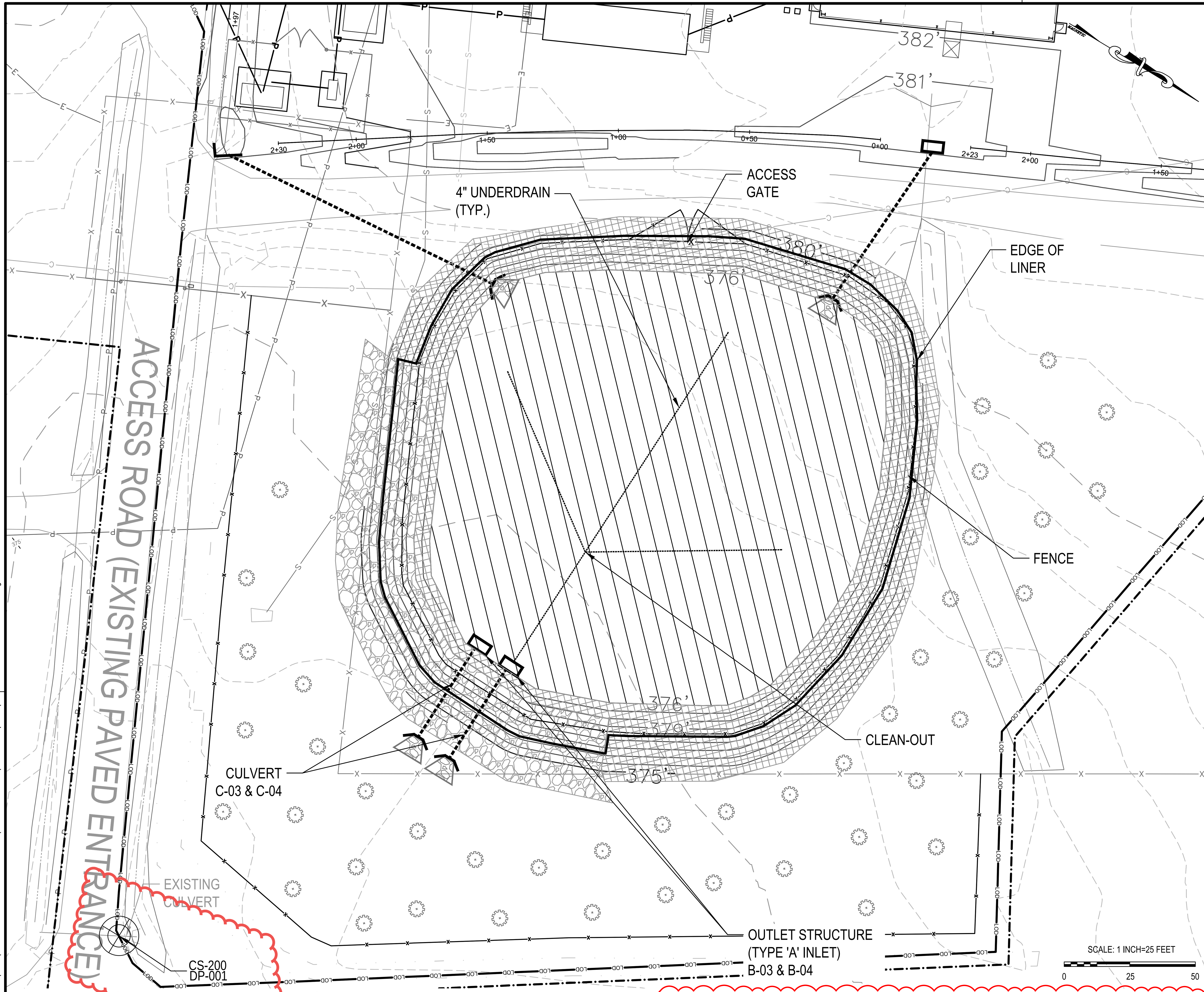
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	06/06/2025	SEW	REDUCED LOD TO AVOID EXISTING PCSM FEATURES		DJC	PPH
1	06/06/2025	SEW	UPDATED BIORETENTION DESIGN PER 2025 GUIDANCE		DJC	PPH
2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
SOIL EROSION & SEDIMENT CONTROL PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
DETAILS (3 OF 3)

Williams. GAS PIPELINE

DRAWN BY:	GMS	DATE:	12/01/2017	ISSUED FOR BID:	TBD	SCALE:	N.T.S.
CHECKED BY:	JAC	DATE:	12/01/2017	ISSUED FOR CONSTRUCTION:	TBD	REVISION:	5
APPROVED BY:	PPH	DATE:	12/01/2017	DRAWING NUMBER:		SHEET 14	OF 17
WO:							

Drawn By & Date/Time: WarmanS Jul 07, 2025 – 9:35am
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\E&S\11-14 & 16-17 – Notes & Details CS 200.dwg



LEGEND

COVER SOILS AND BIORETENTION BASIN BOTTOM SEEDING SPECIFICATIONS

NORTH AMERICAN GREEN (NAG) S150 EROSION CONTROL BLANKET

PROPOSED EVERGREEN TREE (44 TOTAL)

HERBACEOUS CONTAINER PLANTS TABLE

COMMON NAME	SCIENTIFIC NAME	PLANT MATERIAL	OC SPACING (FT)	PERCENTAGE OF BOTTOM AREA
BONESET	EUPATORIUM PERFOLIATUM	#1 CONTAINER	2	20
SWITCH-GRASS	PANICUM VIRGATUM	#1 CONTAINER	2	30
SPOTTED JOE-PYE	EUPATORIADEPHUS MACLATUM	#1 CONTAINER	3	30
NEW ENGLAND ASTER	SYMPHYOTRICHUM NOVAE-ANGLIAE	#1 CONTAINER	1.5	20

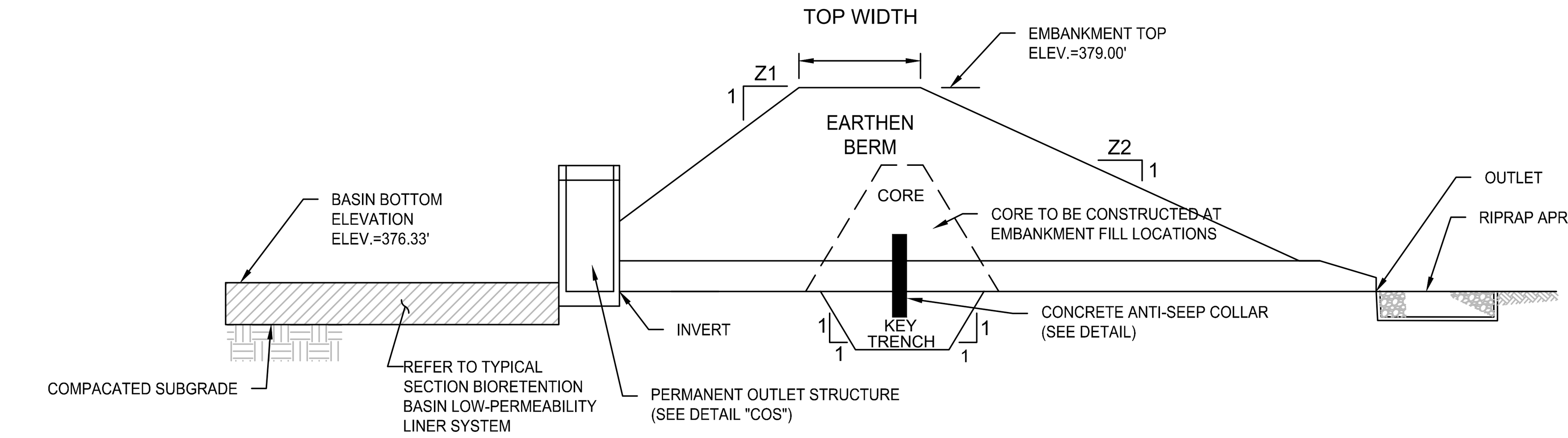
SHRUB TABLE

COMMON NAME	SCIENTIFIC NAME	PLANT MATERIAL	MIN. HEIGHT (FT)	SPACING
SWEETSPIRE	ITEA VIRGINICA	B&B	3	1 OF EACH SHRUB PER 300 SF OF SCM BOTTOM AREA INFORMALLY ARRANGED
NORTHERN BAYBERRY	MYRICA PENNSYLVANIA	B&B	3	
BLACK CHOKEBERRY	ARONIA MELANOCARPA	B&B	3	

BIORETENTION BASIN CONSTRUCTION SEQUENCE:

CONSTRUCTION / INSTALLATION OF THE BIORETENTION BASIN (INCLUDING EXCAVATION, UNDERDRAIN/LINER INSTALLATION, FILL PLACEMENT, SEEDING) IS DETERMINED TO BE A CRITICAL STAGE OF CONSTRUCTION. A LICENSED PROFESSIONAL OR DESIGNEE IS REQUIRED TO BE ON SITE FOR CONSTRUCTION / INSTALLATION OF THESE FEATURES. NOTIFY PLAN PREPARER PRIOR TO START OF CONSTRUCTION TO COORDINATE CONSTRUCTION MONITORING SCHEDULE.
CONSTRUCTION SEQUENCE FOR THE BIORETENTION BASIN SHALL BE AS FOLLOWS:

1. PERMANENTLY STABILIZE ALL DISTURBED UP GRADIENT AREAS OF THE BIORETENTION BASIN.
2. ENSURE ALL DOWN GRADIENT E&S CONTROL ARE INSTALLED. REFER TO PHASE 2 - EROSION AND SEDIMENT CONTROL PLAN AND THE PCSM PLAN.
3.
4. PERFORM CLEARING AND GRUBBING OF THOSE AREAS NEEDED TO CONSTRUCT THE BIORETENTION BASIN.
5. EXCAVATE AND GRADE BIORETENTION BASIN TO PROPOSED DEPTH BELOW INVERT.
6. PLACE GEOTEXTILE CLASS 4, TYPE A, LOW-PERMEABILITY LINER, AND GEOTEXTILE CLASS 4, TYPE A.
7. INSTALL OUTLET STRUCTURES, UNDER DRAINS, CLEAN-OUTS, CULVERTS, RIPRAP APRONS, AND EMERGENCY SPILLWAY
8. INSTALL 28" OF SCM AMENDED SOILS WITHIN THE BASIN BOTTOM. INSTALL 12" LAYER OF PROTECTIVE COVER SOIL AND COMPLETE THE FINAL GRADING TO ACHIEVE PROPOSED DESIGN ELEVATIONS, ALLOWING SPACE FOR UPPER LAYER OF 4" TOPSOIL ON BASIN SIDES. USE LOW GROUND PRESSURE EQUIPMENT AND EXERCISE CAUTION AS TO NOT COMPACT SOILS DURING PLACEMENT. COMPLETE INFILTRATION TESTING ON SOIL AFTER PLACEMENT. IF INFILTRATION RATES ARE LESS THAN THE THOSE SPECIFIED, AERATE/AMEND MATERIAL AS NEEDED TO ADJUST INFILTRATION RATE, AND RE-PERFORM TESTING.
9. PERMANENTLY STABILIZE ANY DISTURBED AREAS PER THE SEEDING SPECIFICATIONS. REFERENCE HERBACEOUS CONTAINER PLANTS AND SHRUB TABLES FOR SCM BOTTOM SPECIFICATIONS. PLACE EROSION CONTROL BLANKET ON ALL AREA AS SHOWN ON THE DRAWINGS.
10. PREPARE DETAILED SURVEY OF AS-BUILT CONDITIONS OF THE CONSTRUCTED BIORETENTION BASIN AND SUBMIT FOR ENGINEER REVIEW AND APPROVAL.

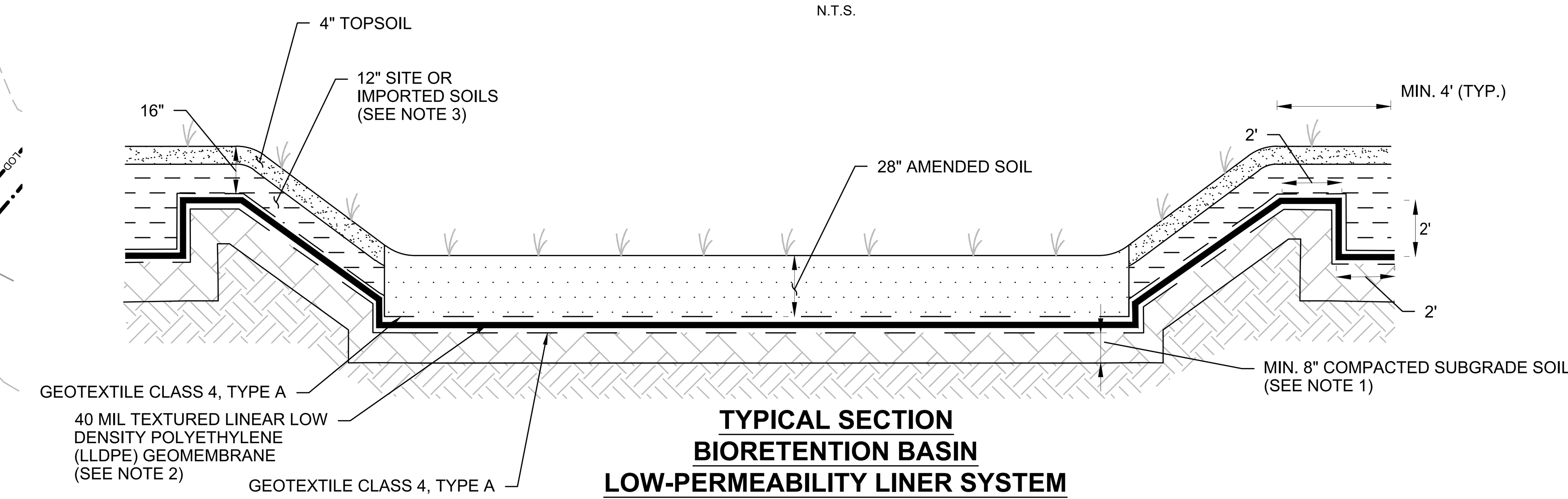


EMBANKMENT				BARREL*			
Z1	Z2	TOP ELEV. (FEET)	TOP WIDTH (FEET)	INVERT ELEV. (FEET)	OUTLET ELEV. (FEET)	DIA (INCH)	MATERIAL
3	3	379.00	5	374.50	374.00	18" x 2	RCP

***THE PROPOSED BASIN SHALL HAVE TWO IDENTICAL OUTLET STRUCTURES, CULVERTS, RIPRAP APRONS, ANTI-SEEP COLLARS, ETC.**

BIORETENTION BASIN #01 DETAIL

N.T.S.



TYPICAL SECTION BIORETENTION BASIN LOW-PERMEABILITY LINER SYSTEM

N.T.S.

NOTES:

1. THE UPPER 8 INCHES OF SUBGRADE SOILS SUPPORTING THE GEOMEMBRANE SHALL BE CLAY MATERIAL AND POSSESS A MAXIMUM PARTICLE SIZE OF ¾-INCH. THE SUBGRADE CLAY MATERIAL SHALL BE COMPACTED IN 6-INCH LIFTS USING A RUBBER-TIRED DUMP TRUCK, PADSFOOT ROLLER OR SMOOTH-DRUM ROLLER, AS APPROPRIATE FOR THE SOIL TYPE, UNTIL VISIBLY STABLE AS DETERMINED BY THE ONSITE WILLIAMS CONSTRUCTION MANAGER. THE CLAY MATERIAL SHOULD BE PLACED AT A MOISTURE CONTENT IN THE RANGE OF 0 TO 5 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT.
   1.1. PRIOR TO THE SUBGRADE CLAY MATERIAL INSTALLATION, AREAS OF SUBGRADE WHERE ROCK IS EXPOSED SHOULD BE UNDERCUT 12 INCHES AND SLUSH GROUTED TO SEAL THE SURFACE OF THE ROCK AND ANY FRACTURES; THE ROCK AREAS SHOULD THEN BE COVERED WITH 12 INCHES OF COMPACTED STRATUM 1 MATERIAL.
2. THE GEOMEMBRANE SHALL BE A TEXTURED (BOTH SIDES) 40-MIL LINEAR LOW-DENSITY POLYETHYLENE (LLDPE) SHEET PLACED BY AN EXPERIENCED GEOSYNTHETICS INSTALLATION CONTRACTOR APPROVED BY THE GEOMEMBRANE MANUFACTURER.
3. OVER THE TEXTURED GEOMEMBRANE LINER ON SIDE SLOPES, 12 INCHES OF PROTECTIVE COVER SOILS SHALL BE INSTALLED, MEETING THE FOLLOWING CRITERIA:
   3.1. SHALL CONSIST OF ONSITE OR IMPORTED SOILS WITH 10 TO 35 PERCENT PASSING THE NO. 200 SIEVE
   3.2. MAXIMUM PARTICLE SIZE OF ¾-INCH
   3.3. MAXIMUM PLASTICITY INDEX OF 6 FOR THE MATERIAL PASSING THE NO. 200 SEIVE.
   3.4. MINIMUM PERMEABILITY RATE OF 0.4 IN/HR AND NOT LESS THEN TWICE THAT OF THE TOPSOIL
   3.5. PROVIDE INDEPENDENT TESTING TO CONFIRM THAT THE PROTECTIVE COVER SOIL MEETS THE ABOVE REQUIREMENTS. TESTING MUST BE LESS THAN 12 MONTHS OLD AT THE TIME PROTECTIVE COVER SOIL IS FURNISHED TO THE PROJECT.
   3.6. SHALL BE FREE OF STICKS, STUMPS, ROOT WADS, AND OTHER OBJECTS THAT COULD DAMAGE THE GEOMEMBRANE AND CAPABLE OF BEING READILY SPREAD SO AS TO AVOID PUNCTURE, TENSIONING OR TEARING OF THE UNDERLYING GEOMEMBRANE.
   3.7. PREDOMINANTLY SANDY SOILS ARE RECOMMENDED; PREDOMINANTLY CLAYEY SOILS THAT POSSESS RELATIVELY HIGH PLASTICITY/COHESION ARE NOT RECOMMENDED.
   3.8. THE PROTECTIVE COVER SOIL SHALL BE PLACED IN A SINGLE LOOSE LIFT AND COMPACTED VIA TRACKING BY THE LOW GROUND PRESSURE SPREADING EQUIPMENT (BULLDOZER).
4. OVER THE PROTECTIVE COVER SOIL ON SIDE SLOPES, A MINIMUM OF 4 INCHES OF TOPSOIL SHALL BE INSTALLED. TOPSOIL SHALL BE SILTY SAND MATERIAL MEETING THE FOLLOWING CRITERIA:
   4.1. ORGANIC CONTENT BETWEEN 4% AND 10%
   4.2. GRADING ANALYSIS MEETING:

SIEVE	MIN. % PASSING
2 IN.	100
NO. 4	75
NO. 10	60

   4.3. MINIMUM PERMEABILITY RATE OF 0.2 IN/HR
   4.4. PROVIDE INDEPENDENT TESTING TO CONFIRM THAT THE TOPSOIL MEETS THE ABOVE REQUIREMENTS. TESTING MUST BE LESS THAN 12 MONTHS OLD AT THE TIME TOPSOIL IS FURNISHED TO THE PROJECT.
5. AMENDED SOIL, AS INDICATED IN THE BIORETENTION BASIN BOTTOM, SHALL CONSIST OF 50% WASHED SAND, 35% TOPSOIL (MODIFIED TO LIMIT CLAY CONTENT TO 15-22%), AND 15% AGED LEAF COMPOST BY VOLUME. TOPSOIL IS TO COMPLY WITH PENNDOT STANDARD SPECIFICATION SECTION 802.2 AND AS INDICATED IN SECTION 3 AND 4 ABOVE. COMPOST IS TO COMPLY WITH PENNDOT STANDARD SPECIFICATION SECTION 808.2.f.4 AND AS INDICATED IN SECTION 3.2 AND 3.6 ABOVE.

PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 STOP-CALL BEFORE YOU DIG!

AECOM
625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428
(610) 832-3500

PETER P. HAAS, P.E.
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER PETER P. HAAS PE076971
06/13/2025
DATE
PENNSYLVANIA PROFESSIONAL ENGINEER NO. PE076971

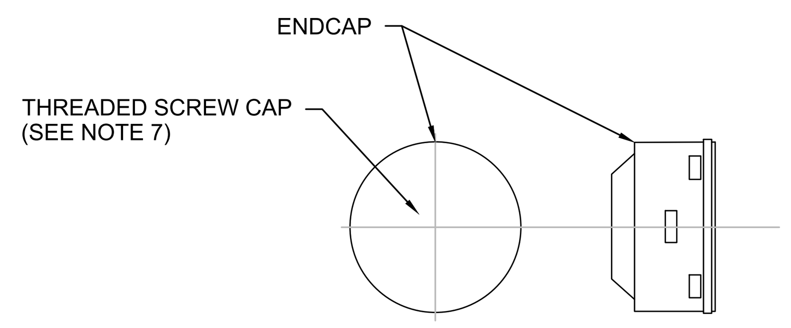
REVISIONS

NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	06/06/2025	SEW	REDUCED LOD TO AVOID EXISTING PCSM FEATURES		DJC	PPH
1	06/06/2025	SEW	UPDATED BIORETENTION DESIGN PER 2025 GUIDANCE		DJC	PPH
2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

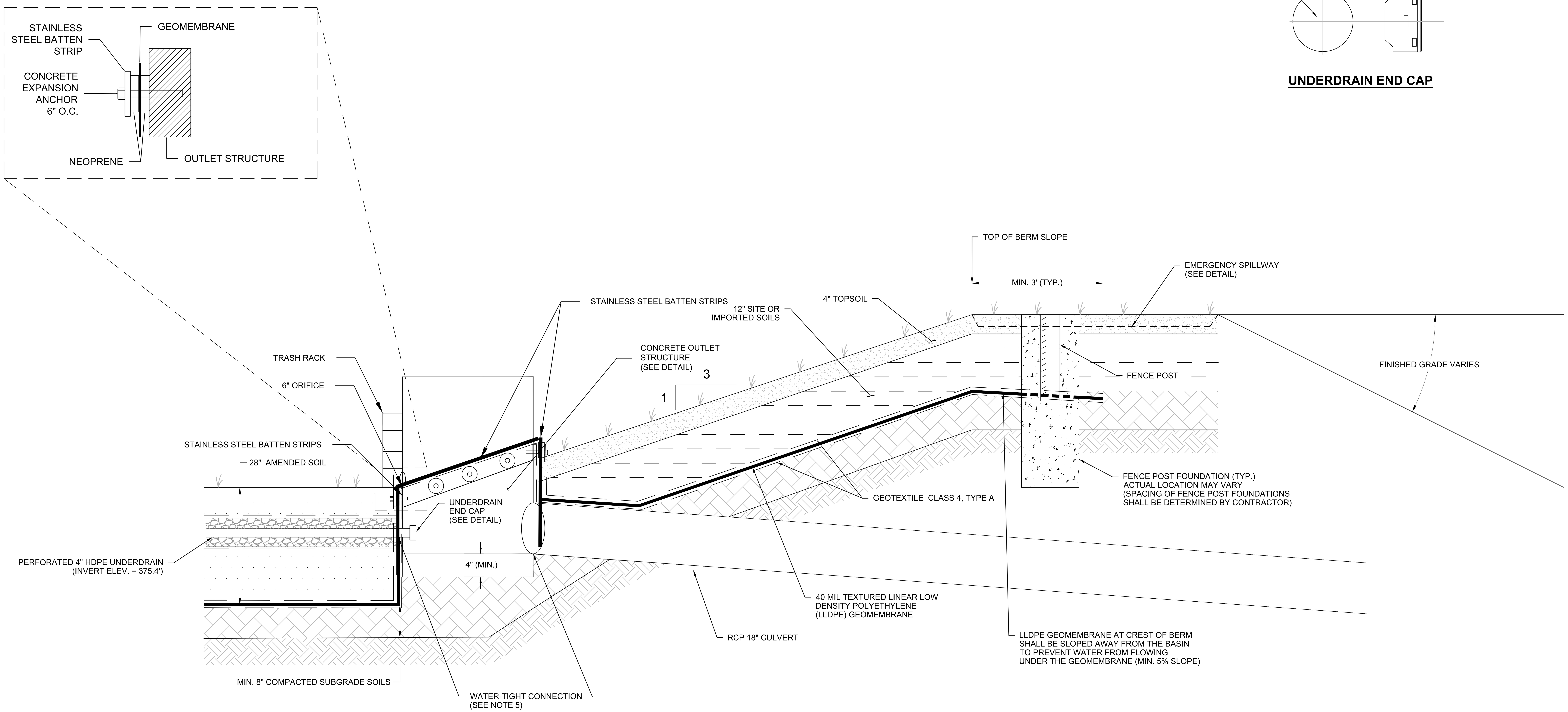
TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
SOIL EROSION & SEDIMENT CONTROL PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
BIORETENTION BASIN PLAN

Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE: 1"=50'
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:	SHEET 15 OF 17
WO:			



UNDERDRAIN END CAP



TYPICAL SECTION
LOW-PERMEABILITY LINER SYSTEM
BIORETENTION BASIN SIDE SLOPES

NOTES:

1. LLDPE GEOMEMRANE LINER SYSTEM SHALL BE CONTINUOUS. CONTRACTOR SHALL BE RESPONSIBLE TO CONNECT SPANS BETWEEN VARYING CROSS-SECTIONAL CONDITIONS.
2. FENCE POST FOUNDATION MAY PIERCE THE LLDPE GEOMEMBRANE AT LOCATIONS SHOWN. NO 'BOOT' IS REQUIRED.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING WATER FROM FLOWING UNDER THE GEOMEMBRANE DURING INSTALLATION.
4. ALL SEAMS SHALL BE IN A DOWN-SLOPE DIRECTION. DUE TO LIMITED SLOPE LENGTH, IT IS EXPECTED THAT THE SLOPE MAY FALL WITHIN A LONGITUDINAL PANEL WIDTH. LONGITUDINAL PANELS SHALL BE ORIENTED SUCH THAT A SEAM IS NOT ON THE SLOPE.
5. LOCATIONS WHERE THE LINER IS PIERCED BY UNDERDRAIN AND/OR CULVERTS, THE CONTRACTOR SHALL ENSURE A WATER-TIGHT SEAL IS ACHIEVED THROUGH USE OF SEALANT. SEALANT SHALL BE GENERAL ELECTRIC SILICONE, RTV 103, OR EQUIVALENT.
6. CONTRACTOR SHALL ENSURE WATER-TIGHT SEALS AT ALL CULVERT JUNCTIONS AND ALONG THE CULVERT ALIGNMENT. ANY JOINTS AT CATCH BASINS SHOULD BE CAREFULLY SEALED.
7. MINIMUM REQUIRED AMENDED SOIL DEPTH FOR VOLUME MANAGEMENT VIA EVAPOTRANSPIRATION CREDIT = 1.4'. CAP MAY BE LEFT OFF TO ESTABLISH VEGETATION WITHIN BASIN AND DURING MAINTENANCE. OTHERWISE, THE CAP SHOULD GENERALLY BE LEFT ON.

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06/13/2025
DATE
PENNSYLVANIA
PROFESSIONAL ENGINEER NO. PE076971

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1	06/06/2025	SEW	UPDATED BIORETENTION DESIGN PER 2025 GUIDANCE		DJC	PPH
2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
SOIL EROSION & SEDIMENT CONTROL PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
BIORETENTION BASIN DETAILS (1 OF 2)

Williams. GAS PIPELINE

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APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:	SHEET 16 OF 17
WO:			

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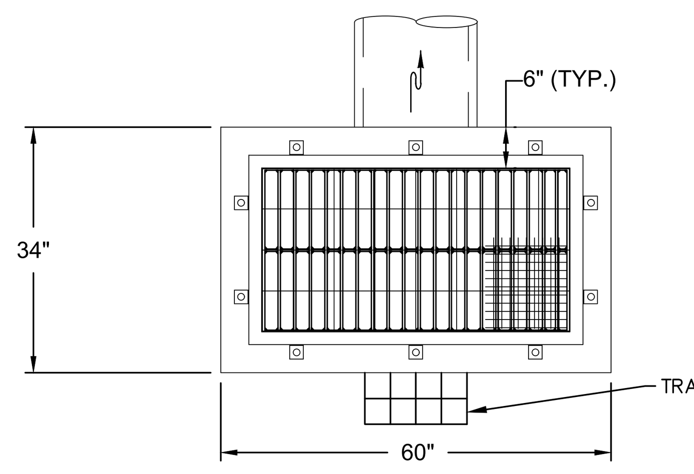
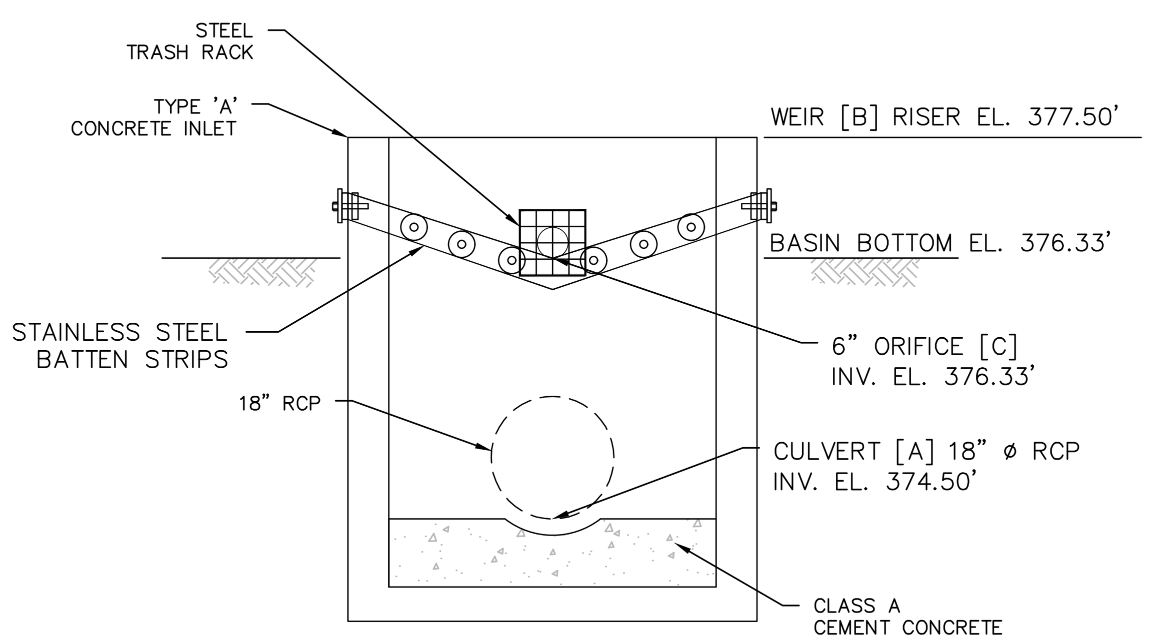


PLAN VIEW



BASIN NO.	BASIN BOTTOM ELEVATION	CULVERT [A] OUTFALL INV. ELEV.	WEIR [B] RISER ELEVATION	ORIFICE [C] ELEVATION
01	376.33	374.50	377.50	376.33

NOTES:

1. BIORETENTION BASIN 01 SHALL HAVE TWO (2) IDENTICAL OUTLET CONFIGURATIONS, INCLUDING CONCRETE OUTLET STRUCTURES, CULVERTS, CONCRETE ANTI-SEEP COLLARS, AND RIPRAP APRONS.

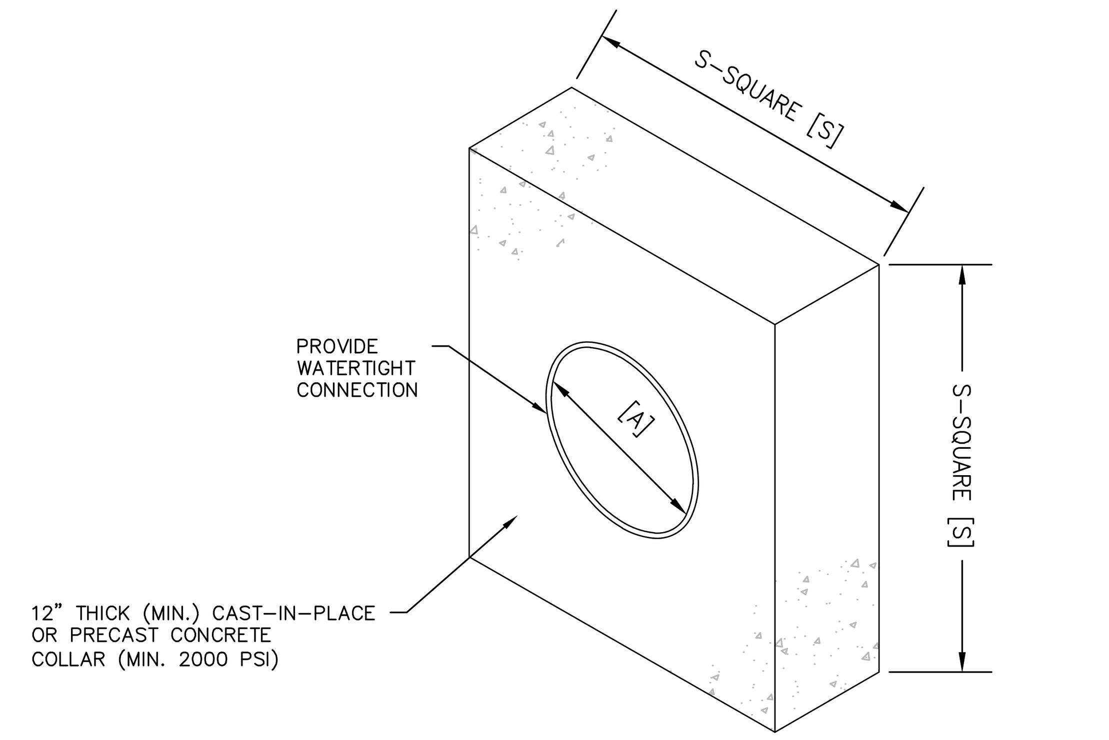
CONCRETE OUTLET STRUCTURE (COS)

PERMANENT STORMWATER CONTROL MEASURE

PENNSYLVANIA

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
PROJECT SPECIFIC DETAIL
COS CONCRETE OUTLET STRUCTURE
Williams. GAS PIPELINE



BASIN NO.	PIPE DIAMETER (IN) [A]	S (IN) [S]	NO. OF COLLARS	DISTANCE RISER TO 1ST COLLAR (FT)	COLLAR SPACING (FT)
01	18	60	1	10	–

NOTES:

1. ALL COLLARS SHALL BE INSTALLED SO AS TO BE WATERTIGHT.
2. COLLARS SHALL NOT BE INSTALLED CLOSER THAN 2 FEET TO A PIPE JOINT.
3. CULVERT C-03 & C-04 SHALL HAVE IDENTICAL CONCRETE ANTI-SEEP COLLARS INSTALLED PER SPECIFICATIONS SHOWN ABOVE.

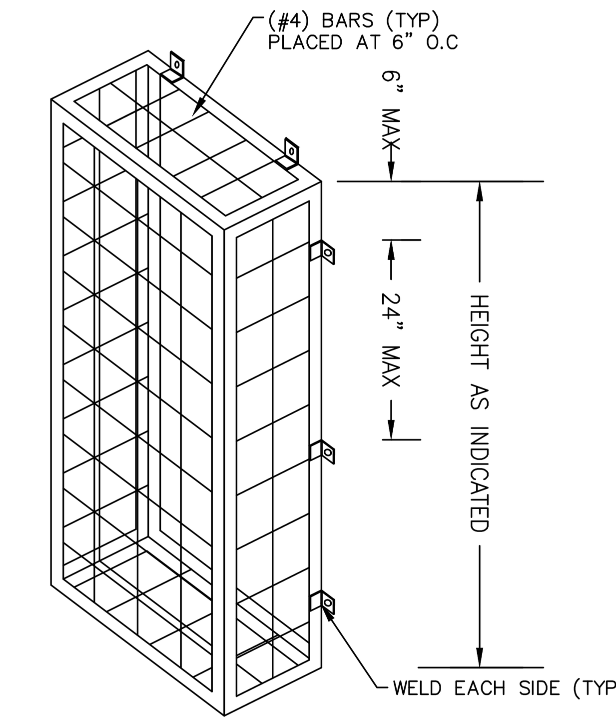
CONCRETE ANTI-SEEP COLLAR

PERMANENT STORMWATER MEASURE

PENNSYLVANIA

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
PROJECT SPECIFIC DETAIL
CONCRETE ANTI-SEEP COLLAR
Williams. GAS PIPELINE



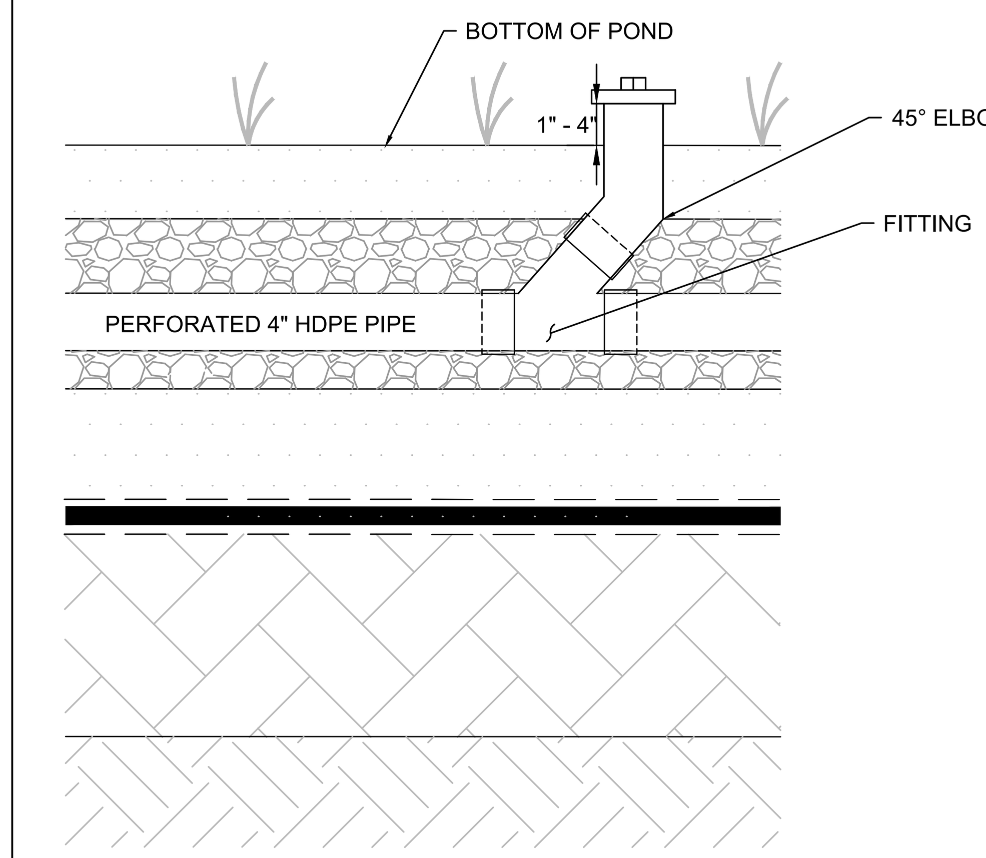
TRASH RACK (TR)

PERMANENT STORMWATER MEASURE

PENNSYLVANIA

DATE	BY	REVISION DESCRIPTION

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
PROJECT SPECIFIC DETAIL
TR TRASH RACK
Williams. GAS PIPELINE



UNDERDRAIN CLEANOUT

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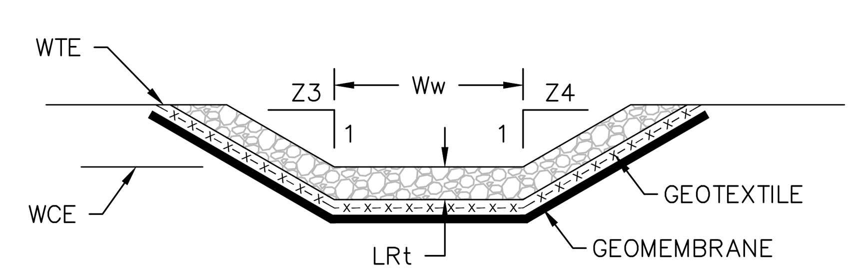
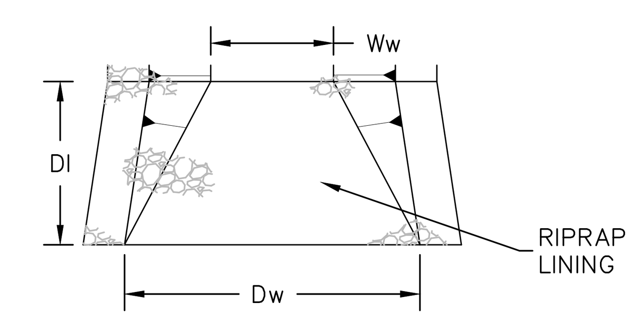
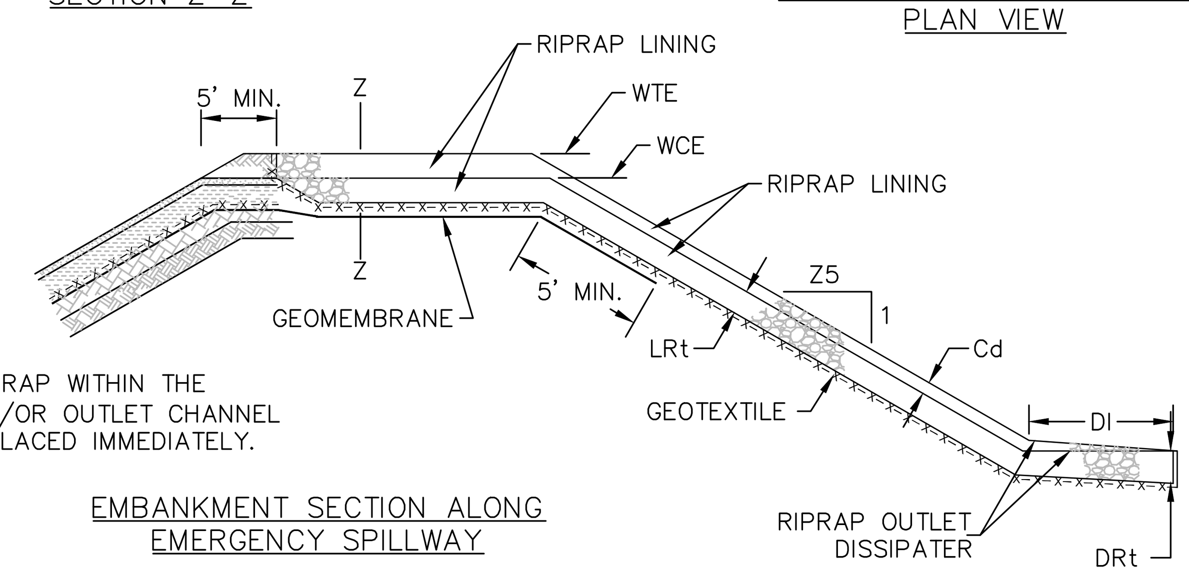


WEIR/SPILLWAY SECTION Z-Z



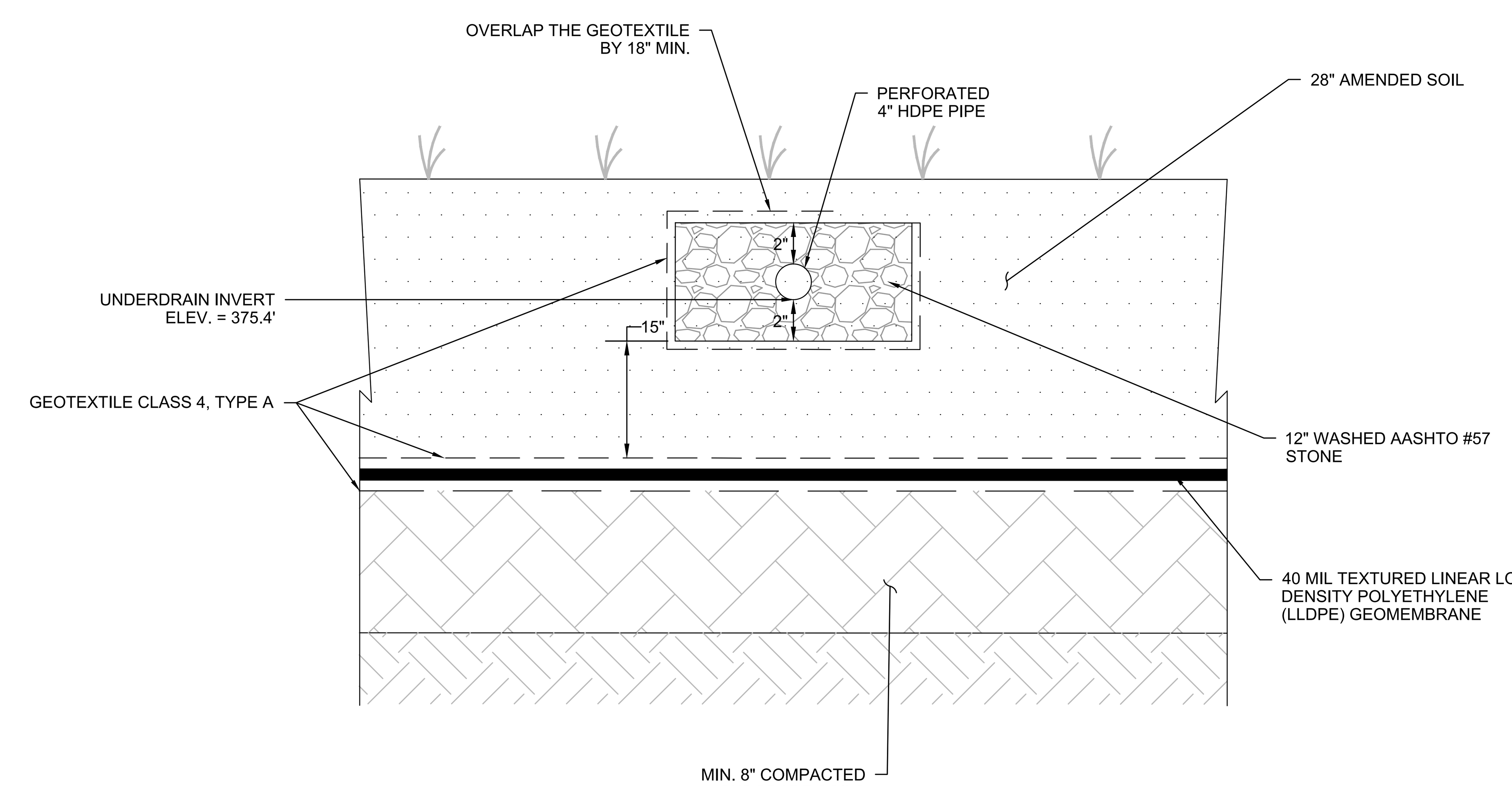
RIPRAP OUTLET DISSIPATER PLAN VIEW



NOTES:

1. DISPLACED RIPRAP WITHIN THE SPILLWAY AND/OR OUTLET CHANNEL SHALL BE REPLACED IMMEDIATELY.

EMBANKMENT SECTION ALONG EMERGENCY SPILLWAY



UNDERDRAIN

N.T.S.

BASIN NO.	WEIR					LINING		CHANNEL		DISSIPATER			
	Z3 (FT)	Z4 (FT)	TOP ELEV WTE (FT)	CREST ELEV WCE (FT)	WIDTH Ww (FT)	RIPRAP SIZE (R-_)	RIPRAP THICK. LRt (IN)	Z5 (FT)	DEPTH Cd (FT)	LENGTH DI (FT)	WIDTH Dw (FT)	RIPRAP SIZE (R-_)	RIPRAP THICK. DRt (IN)
01	3	3	379.00	377.80	140	4	18	3	0.5	10	185	4	18

BIORETENTION BASIN EMERGENCY SPILLWAY WITH RIPRAP LINING

N.T.S.

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06/13/2025
DATE
PENNSYLVANIA PROFESSIONAL ENGINEER NO. PE076971

REVISIONS						
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2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
SOIL EROSION & SEDIMENT CONTROL PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
BIORETENTION BASIN DETAILS (2 OF 2)

Williams. GAS PIPELINE

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APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:	SHEET 17 OF 17
WO:			

Drawn By & Date/Time: WormanS Jul 07, 2025 - 9:34am
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\E&S\11-14 & 16-17 - Notes & Details CS 200.dwg

Section 3

Pre-Development Site Characterization Spreadsheet

CLEAR FORM

CHAPTER 102
PRE-DEVELOPMENT SITE CHARACTERIZATION SPREADSHEET

Project Site Name: **Northeast Supply Enhancement - CS200**

Project Site Area: **30.58** acres Applicant: **Transcontinental Gas Pipe Line Company**

Will PCSM requirements for the project be satisfied entirely by stormwater capture and use or riparian forest buffer SCMs or can the entire project be considered a site restoration activity?

☐ Yes ☑ No

Is the project site located in an area of known karst terrain?

☑ Yes ☐ No ***Complete the information below***

Identify the individual(s) responsible for the geotechnical investigation. ADD ROW DELETE ROW

Name	Company	License/Certification
Chulwoo Kim	AECOM	PA-Licensed Professional Engineer

Geotechnical investigation techniques (check all that were completed):

☐ Geophysical survey ☐ Bedrock core borings
☑ Geotechnical borings ☐ Field review of adjacent properties
☐ Soil profiling ☐ Identification of sinkholes and closed depressions
☐ Downstream analysis ☐ Other:

☑ A geotechnical report has been completed and is attached to Module 2.

Predominant overburden depth across site: 10 ft

Infiltration may not be feasible (other options should be considered))

☐ **Areas Excluded for Infiltration SCMs *(attach map(s))***

☑ **Soils Investigation**

Investigation method(s): ☑ Test pits ☐ Soil borings ☐ Other:

Name(s) of professional(s) overseeing soils investigation:

Name	Company	License/Certification
R. Crispino	AECOM	Other License/Certification

☑ **Test Pit / Soil Boring Log** No. Test Locations: 4

Test Location ID	Investigation Method	Total Depth Investigated (ft)	Limiting Zone Elevation (ft)	Limiting Zone Description	Infiltration Test(s) Completed?
TP-1	Test Pit	6	2	Other	Yes
TP-2	Test Pit	7.5	2.67	Other	Yes
TP-3	Test Pit	7.5	2.5	Other	Yes

☑ **Infiltration Test Results** No. Infiltration Tests: 6

Test Location ID	Infiltration Test ID	Infiltration Test Elevation (ft)	Infiltration Test Method	Field Ksat (in/hr)	Temp (°F)	Adjusted Ksat (in/hr)
TP-1	TP-1(3')	3	Double Ring	0	36	0.000
TP-1	TP-1(4')	4	Double Ring	0.0625	36	0.099
TP-2	TP-2(3')	3	Double Ring	0	34	0.000
TP-2	TP-2(4')	4	Double Ring	0	34	0.000
TP-3	TP-3(3')	3	Double Ring	0	34	0.000
TP-3	TP-3(4')	4	Double Ring	0.125	34	0.203

Recommended infiltration test location frequency: 1 test / 40,000 square feet (4 minimum)

Actual infiltration test location frequency: ______ test(s) / 40,000 square feet

Section 4

ACT 14 Notification Responses

THE COUNTY OF CHESTER

COMMISSIONERS
Josh Maxwell
Marian D. Moskowitz
Eric M. Roe

Matthew J. Edmond, AICP
Executive Director

PLANNING COMMISSION
Government Services Center, Suite 270
601 Westtown Road
P. O. Box 2747
West Chester, PA 19380-0990
(610) 344-6285 Fax (610) 344-6515

Act 67 & 68 Notice of Permit Application - Chester County Response Letter

Date: June 30, 2025

Date Received	June 13, 2025
Applicant Name	AECOM Attn: Heather Brewster
Applicant Address	625 West Ridge Pike, Suite E-100 Conshohocken, PA 19428 heather.brewster@aecom.com
Project Name	Northeast Supply Enhancement Project - Compressor Station 200 Modifications East Whiteland Township

---

Determination of Consistency with the Chester County Comprehensive Plan, *Landscapes3* (2018) for the above referenced project:

☐ The Chester County Planning Commission declines to review the project for consistency with *Landscapes3*.

☐ The Chester County Planning Commission has previously reviewed this project and the Act 247 letter dated ____________________ indicates that the project was:
- ☐ Consistent with *Landscapes3*
- ☐ Inconsistent with *Landscapes3*

☑ The Chester County Planning Commission finds the project to be:
- ☑ Consistent with *Landscapes3*
- ☐ Inconsisistent with *Landscapes3*

Additional Comments:

The Planning Commission formally reviewed this project in a letter dated May 14, 2018 (attached), and found the proposed modifications to Compressor Station 200, in East Whiteland, to be consistent with the Suburban Landscape, with careful consideration given to the project's location within the Schuylkill River National and State Heritage Area, shallow bedrock, and potential for population changes that may impact the designation of high consequence areas.

Reviewed by:

Name	Carrie Conwell, AICP
Title	Senior Environmental Planner
Signature	Carrie J Conwell

Section 5

PCSM Plan Drawings

AECOM
625 West Ridge Pike
Conshohocken, PA 19428
aecom.com

16_PCSM Plan Drawings – Northeast Supply Enhancement – CS200

Northeast Supply Enhancement – CS200
East Whiteland Township, Chester County, PA

OWNER / APPLICANT

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
(TRANSCO)
P.O. BOX 1396
2800 POST OAK BLVD.
HOUSTON, TX 77056

CONTACT: KAREN OLSON
PERMIT AGENT
(713) 215-4232

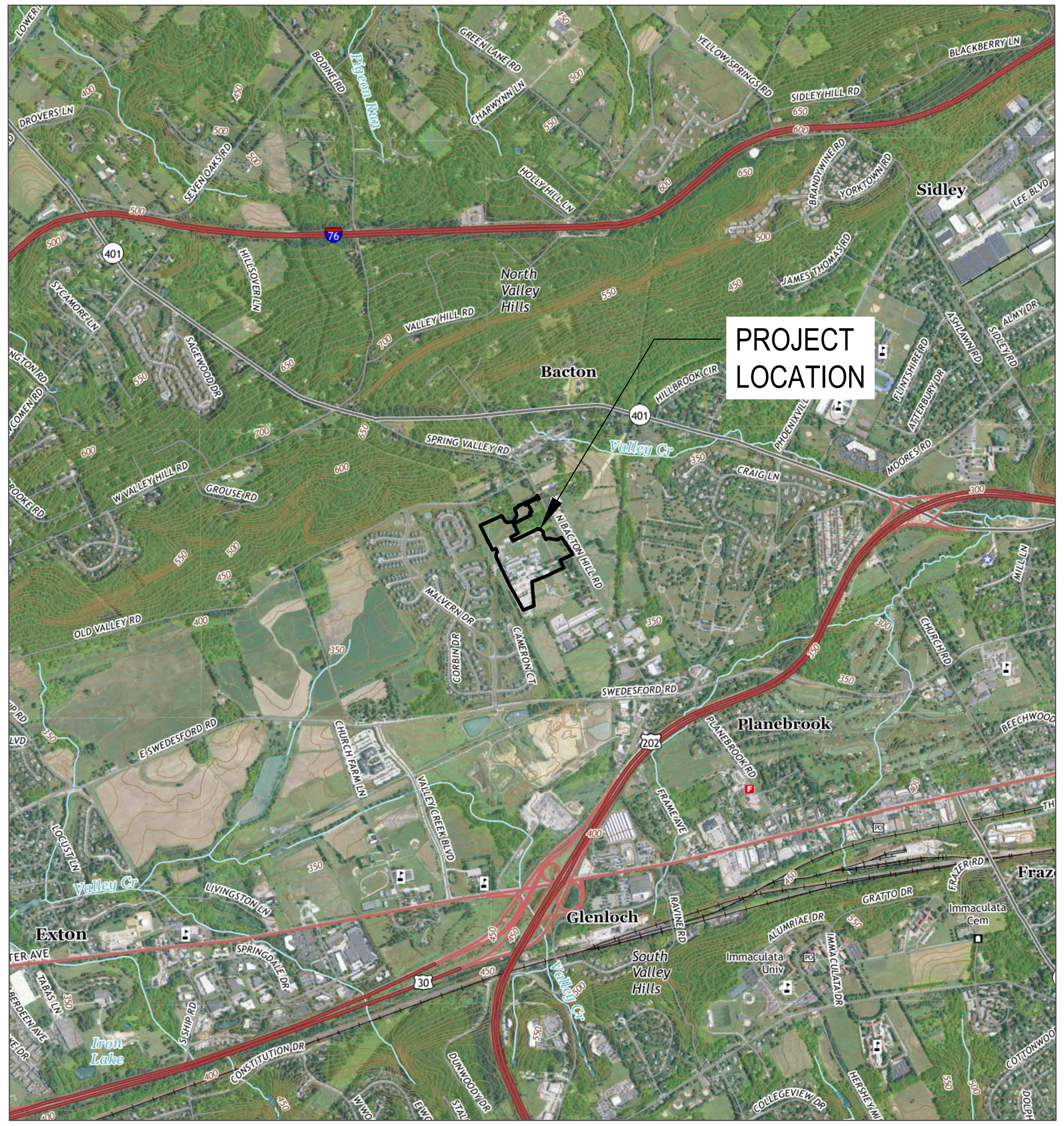
PLAN PREPARER

AECOM
625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428

CONTACT: PETER HAAS, PE
PROJECT ENGINEER
(610) 832-8832

POST-CONSTRUCTION STORMWATER MANAGEMENT (PCSM) PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION NO. 200
EAST WHITELAND TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

SHEET INDEX

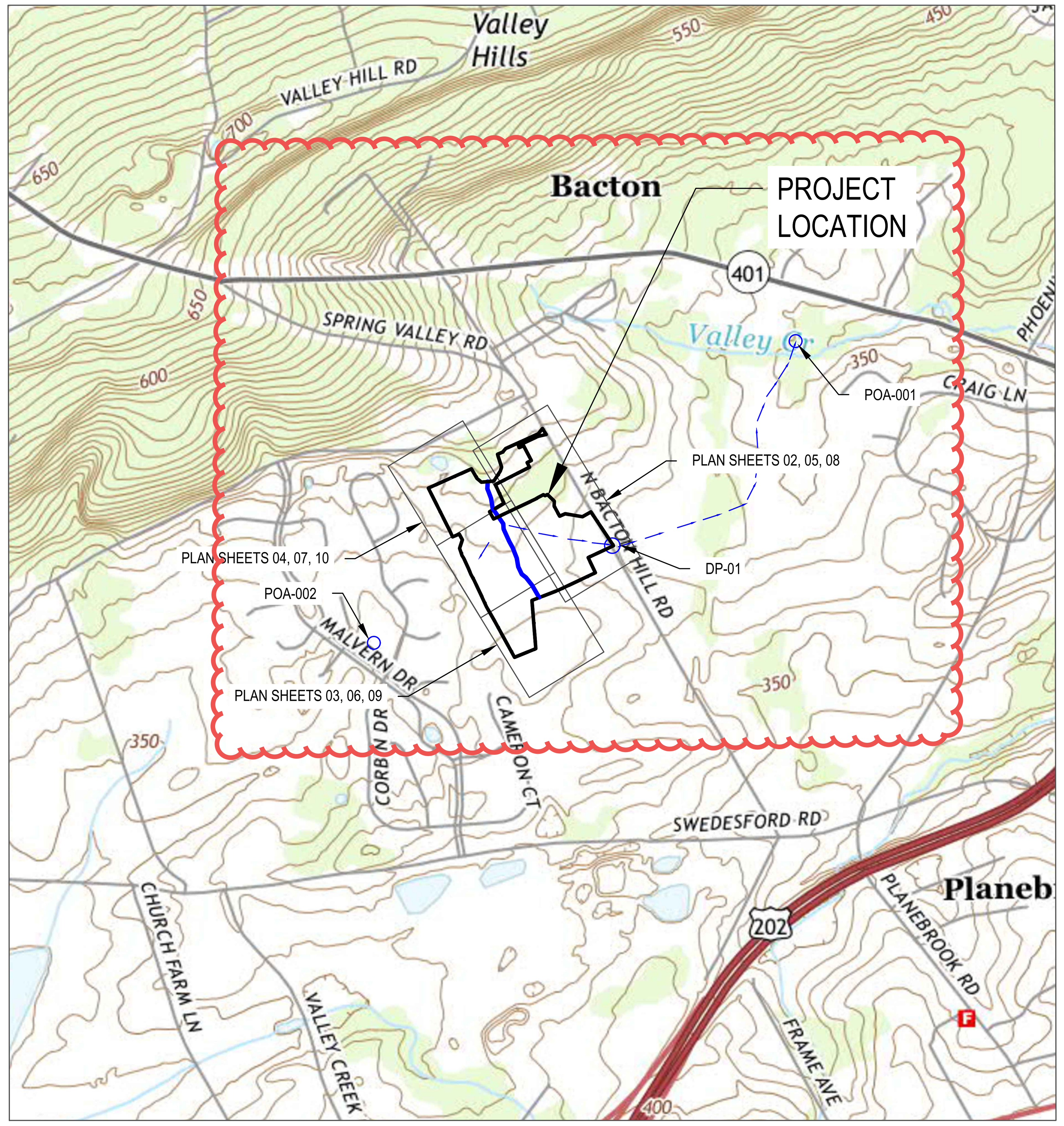


USGS AERIAL MAP

SCALE: 1 INCH=2000 FEET

0 2000 4000

MAP SOURCE
MALVERN, PA QUADRANGLE
U.S. GEOLOGICAL SURVEY, 2016



USGS TOPOGRAPHIC MAP

SCALE: 1 INCH=1000 FEET

0 1000 2000

MAP SOURCE
MALVERN, PA QUADRANGLE
U.S. GEOLOGICAL SURVEY, 2016

LEGEND:
DRAINAGE PATH
DRAINAGE DIVIDE
SITE NPDES BOUNDARY

STATE OF PENNSYLVANIA

SEQUENCE OF CONSTRUCTION

1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
2. AT LEAST SEVEN (7) DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING.
3. MAKE NOTIFICATIONS ACCORDING TO PERMIT REQUIREMENTS.
4. HOLD PRE-CONSTRUCTION MEETING WITH ENVIRONMENTAL INSPECTOR.
5. REMOVE TOPSOIL FROM VEGETATED AREAS TO BE DISTURBED DURING EXCAVATION AND STOCKPILE IN STOCKPILE AREA.
6. INSTALL ROCK CONSTRUCTION ENTRANCES AND OTHER TEMPORARY EROSION CONTROL MEASURES INDICATED ON THE E&S PHASE 1 PLANS AND DETAILS PRIOR TO EARTH DISTURBING ACTIVITIES ASSOCIATED WITH PHASE 1 WORK.
7. COMPLETE WORK ACTIVITIES ASSOCIATED WITH PHASE 1 (E.G. COMPRESSOR STATION MODIFICATIONS).
8. INSTALL ROCK CONSTRUCTION ENTRANCES AND OTHER TEMPORARY EROSION CONTROL MEASURES INDICATED ON THE E&S PHASE 2 PLANS AND DETAILS PRIOR TO EARTH DISTURBING ACTIVITIES ASSOCIATED WITH PHASE 2 WORK.
9. COMPLETE WORK ACTIVITIES ASSOCIATED WITH PHASE 2 (E.G. POST-CONSTRUCTION STORMWATER MANAGEMENT BMPs - SEE BIORETENTION BASIN SPECIFIC SEQUENCE OF CONSTRUCTION ON SHEET 9).
10. RETURN TOPSOIL TO DESIGNATED AREAS.
11. COMPLETE FINAL STABILIZATION INCLUDING SOIL AMENDMENT AND RESTORATION, SOIL TREATMENT, SEEDBED PREPARATION, SEED APPLICATION AND MULCHING.
12. AFTER FINAL STABILIZATION IS COMPLETED BY REVEGETATION AND OTHER PERMANENT STABILIZATION MEASURES, AS APPLICABLE. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENT CONTROLS AND CLEAN UP PROJECT SITE.
13. PERFORM A FINAL CRITICAL STAGE INSPECTION OF THE PCSM BMP'S (REFER TO THE 'CRITICAL STAGES OF CONSTRUCTION' TO IDENTIFY CRITICAL BMPS) BY A LICENSED PROFESSIONAL OR DESIGNEE TO ENSURE THEY ARE PROPERLY CONSTRUCTED AND IN WORKING ORDER.
14. SUBMIT A COMPLETED NOTICE OF TERMINATION TO THE CONSERVATION DISTRICT.

CRITICAL STAGES OF CONSTRUCTION

CONSTRUCTION / INSTALLATION OF THE BIORETENTION BASIN (INCLUDING EXCAVATION, UNDERDRAIN/LINER INSTALLATION, FILL PLACEMENT, TOPSOIL PLACEMENT, PERMEABILITY CONFIRMATION, SEEDING) AND VEGETATED SWALES ARE DETERMINED TO BE CRITICAL STAGES OF CONSTRUCTION (TOO OCCUR DURING STEP 9). A LICENSED PROFESSIONAL OR DESIGNEE IS REQUIRED TO BE ON SITE FOR CONSTRUCTION / INSTALLATION OF THESE FEATURES. NOTIFY PLAN PREPARER PRIOR TO START OF CONSTRUCTION TO COORDINATE CONSTRUCTION MONITORING SCHEDULE.

DISTURBED AREA

AREA DESCRIPTION	ACREAGE
TOTAL LOD PHASE 1 - COMPRESSOR STATION MODIFICATIONS	373,658 SQ. FT. = 8.58 ACRES
TOTAL LOD PHASE 2 - BIORETENTION BASIN	478,101 SQ. FT. = 10.98 ACRES
ESCGP-2 BOUNDARY	1,332,149 SQ. FT. = 30.58 ACRES

'TOTAL LOD PHASE 1 - COMPRESSOR STATION MODIFICATIONS' EXPANDS 1.99 ACRES TO CREATE 'TOTAL LOD PHASE 2 - BIORETENTION BASIN' (I.E. THE LODs OVERLAP)

PROJECT DESCRIPTION

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC (TRANSCO) IS PROPOSING TO MODIFY ITS COMPRESSOR STATION (CS 200) IN EAST WHITELAND TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA. THE PROJECT WILL INVOLVE THE CONSTRUCTION OF NEW COMPRESSION FACILITIES, VALVES & PIPELINES, SMALL BUILDINGS, ASPHALT ACCESS ROAD AND PARKING AREAS, AND GRAVEL EQUIPMENT PADS. CONSTRUCTION IS SCHEDULED TO BEGIN IN Q1 2019 AND BE COMPLETED IN Q2 2020.

THESE DRAWINGS SHOW THE TEMPORARY EROSION & SEDIMENT CONTROL MEASURES AND PERMANENT STORMWATER MANAGEMENT MEASURES PLANNED IN CONJUNCTION WITH CS 200, IN ACCORDANCE WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (PADEP) EROSION AND SEDIMENT POLLUTION CONTROL MANUAL, DATED MARCH 2012 AND THE PENNSYLVANIA STORMWATER BEST MANAGEMENT PRACTICES MANUAL, DATED MARCH 2006.

THIS EXPANSION PROJECT IS REGULATED BY THE U.S. DEPARTMENT OF ENERGY, FEDERAL ENERGY REGULATORY COMMISSION (FERC). IN ADDITION TO STATE AND LOCAL REQUIREMENTS, THIS EROSION AND SEDIMENT CONTROL PLAN INCLUDES MITIGATION MEASURES FOR PIPELINE CONSTRUCTION SPECIFIED BY FERC IN ITS PLAN AND PROCEDURES DOCUMENTS, UPLAND EROSION CONTROL REVEGETATION AND MAINTENANCE PLAN, MAY 2013 AND WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES, MAY 2013.

PENNSYLVANIA ONE CALL SYSTEM, INC. STOP - CALL BEFORE YOU DIG!

AECOM
625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428
(610) 832-3500

PETER P. HAAS, P.E.
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL PETER P. HAAS ENGINEER PE076971
06/13/2025
DATE
PENNSYLVANIA
PROFESSIONAL ENGINEER NO. PE076971

REVISIONS

NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	06/06/2025	SEW	REDUCED LOD TO AVOID EXISTING PCSM FEATURES		DJC	PPH
1	06/06/2025	SEW	UPDATED BIORETENTION DESIGN PER 2025 GUIDANCE		DJC	PPH
2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
COVER SHEET

Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID:	TBD	SCALE:	N.T.S.
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION:	TBD	REVISION:	5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:		SHEET 1 OF 12	
WO:					

Drawn By & Date/Time: WarrenS Jul 07, 2025 – 9:21am
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\PCSM\01 – Cover CS 200.dwg

EXISTING FEATURES

- 150 MAJOR CONTOUR (5' INTERVAL)
- MINOR CONTOUR (1' INTERVAL)
- UNREGULATED DITCH CENTERLINE & TOP OF BANK
- WETLAND
- TREE / BRUSH LINE
- ACCESS ROAD
- S STORM / SANITARY SEWER
- X FENCE
- E UNDERGROUND POWER LINE
- P OVERHEAD POWER LINE
- GAS GAS LINE
- C COMMUNICATION FIBER
- SOIL TYPE BOUNDARY
- CIB SOIL TYPE
- TEST PIT #3 SOIL TEST PIT & INFILTRATION TEST LOCATION (TYP.)
- PERMANENT GRAVEL

PROPOSED FEATURES

- ESCGP-2 BOUNDARY
- LOD LIMIT OF DISTURBANCE

NOTES:

1. THIS BASE MAP WAS PREPARED ON AERIAL TOPOGRAPHY AND ACTUAL FIELD SURVEY PROVIDED BY WILLIAMS AND ARE REFERENCED TO THE PENNSYLVANIA SOUTH STATE PLANE DATUM.
2. PROPERTY LINE INFORMATION PROVIDED BY WILLIAMS.
3. WETLAND JURISDICTIONAL DATA COLLECTED ON 6/12/2017 DURING THE USACE, PHILADELPHIA DISTRICT AND PADEP SE REGION FIELD REVIEW OF WILLIAMS - TRANSCO'S NESE PROJECT CS 200 PROPOSED EXPANSION LOCATION. AN AJD (CENAP-OP-R-2016-1068) FOR THE PROPOSED CS 200 EXPANSION SITE WAS PROVIDED TO WILLIAMS - TRANSCO BY THE USACE AND DATED OCTOBER 4TH, 2017. AS IS DISCUSSED IN THE USACE'S AJD ENCLOSURE 1, THE CORPS IS NOT CHOOSING TO ASSERT JURISDICTION AT THIS TIME OVER THE SMALL WETLAND FEATURE (W-T10-001A) THAT IS LOCATED ON THE EXPANSION SITE, AND THAT IS DEPICTED IN THE DRAFT WETLAND PLAN THAT WAS SUBMITTED ALONG WITH THE AJD REQUEST, DUE TO ITS ISOLATED STATUS FROM TRADITIONAL NAVIGABLE WATERS (TNW) THAT ARE UNDER JURISDICTION OF THE CLEAN WATER ACT. WETLAND W-T10-001A IS CONSIDERED JURISDICTIONAL FOR PADEP PER COMMENTS RECEIVED FROM PADEP ON OCTOBER 26, 2017, HOWEVER THIS FEATURE IS LOCATED OUTSIDE OF THE PROPOSED PROJECT WORKSPACES AND AVOIDANCE AND MINIMIZATION MEASURES (I.E. EROSION AND SEDIMENT CONTROL DEVICES) WILL BE IMPLEMENTED TO ELIMINATE POTENTIAL IMPACTS TO THIS FEATURE.
4. PROPOSED SITE LAYOUT PROVIDED BY RSH ENGINEERING ON 09/16/2017.
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SOIL LEGEND:

ClB	CLARKSBURG SILT LOAM, 3 TO 8 PERCENT SLOPES
CtA	CONESTOGA SILT LOAM, 0 TO 3 PERCENT SLOPES
CtB	CONESTOGA SILT LOAM, 3 TO 8 PERCENT SLOPES
UrgB	URBAN LAND-CONESTOGA COMPLEX, 0 TO 8 PERCENT SLOPES

SCALE: 1 INCH=50 FEET

0 50 100

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PETER P. HAAS, P.E.

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06/13/2025
DATE

PENNSYLVANIA
PROFESSIONAL ENGINEER NO. PE076971

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TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
EXISTING CONDITIONS PLAN (1 OF 3)

Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE: 1"=50'
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:	SHEET 2 OF 12
WO:			

Drawn By & Date/Time: WormanS Jul 07, 2025 - 8:17am
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\PCSM\02-04 - Existing Plan CS 200.dwg

EXISTING FEATURES

- MAJOR CONTOUR (5' INTERVAL)
- MINOR CONTOUR (1' INTERVAL)
- UNREGULATED DITCH CENTERLINE & TOP OF BANK
- WETLAND
- TREE / BRUSH LINE
- ACCESS ROAD
- STORM / SANITARY SEWER
- FENCE
- UNDERGROUND POWER LINE
- OVERHEAD POWER LINE
- GAS LINE
- COMMUNICATION FIBER
- SOIL TYPE BOUNDARY
- CIB SOIL TYPE

PROPOSED FEATURES

- ESCGP-2 BOUNDARY
- LIMIT OF DISTURBANCE
- CONTOUR MAJOR (5' INTERVAL)
- CONTOUR MINOR (1' INTERVAL)
- UNDERGROUND DUCT BANK
- PIPE CENTERLINE
- COMPOST FILTER SOCK
- PROPOSED FENCE
- CULVERT, RIPRAP APRON & ENDWALL
- SAFETY FENCE
- INLET BOX / OUTLET STRUCTURE
- TEMPORARY ROCK FILTER
- ROCK CONSTRUCTION ENTRANCE
- GRAVEL AREA
- ASPHALT AREA
- CONCRETE AREA
- TEMPORARY STONE AREA RESTORATION
- EVERGREEN TREE

NOTES:

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SCALE: 1 INCH=50 FEET

0 50 100

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SOIL LEGEND:

CIB	CLARKSBURG SILT LOAM, 3 TO 8 PERCENT SLOPES
CtA	CONESTOGA SILT LOAM, 0 TO 3 PERCENT SLOPES
CtB	CONESTOGA SILT LOAM, 3 TO 8 PERCENT SLOPES
UrgB	URBAN LAND-CONESTOGA COMPLEX, 0 TO 8 PERCENT SLOPES

PCSM BMPS

- 6.4.5 BIORETENTION BASIN
- VEGETATED SWALE
- PROTECT SENSITIVE/SPECIAL VALUE FEATURES
- REFOREST
- REVEGETATE DISTURBED AREAS *
- MINIMIZE TOTAL DISTURBED AREA

AECOM
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06/13/2025
DATE

PENNSYLVANIA
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TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
PCSM PLAN (2 OF 3)

Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID:	TBD	SCALE:	1"=50'
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION:	TBD	REVISION:	5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:		SHEET 06 OF 12	
WO:					

Drawn By & Date/Time: WarmanS Jul 03, 2025 – 5:10pm
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\PCSM\05-07 – PCSM Plan CS 200.dwg

EXISTING FEATURES

150	MAJOR CONTOUR (5' INTERVAL)
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	TREE / BRUSH LINE
	ACCESS ROAD
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GAS	GAS LINE
C	COMMUNICATION FIBER
	SOIL TYPE BOUNDARY
CIB	SOIL TYPE
TEST PIT #3	SOIL TEST PIT & INFILTRATION TEST LOCATION (TYP.)
	PERMANENT GRAVEL

PROPOSED FEATURES

	ESCGP-2 BOUNDARY
LOD	LIMIT OF DISTURBANCE

NOTES:

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UrgB	URBAN LAND-CONESTOGA COMPLEX, 0 TO 8 PERCENT SLOPES

PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 STOP-CALL BEFORE YOU DIG!

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625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428
(610) 832-3500

PETER P. HAAS, P.E.
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL PETER P. HAAS ENGINEER PE076971
06/13/2025
DATE
PENNSYLVANIA PROFESSIONAL ENGINEER NO. PE076971

REVISIONS

NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	06/06/2025	SEW	REDUCED LOD TO AVOID EXISTING PCSM FEATURES		DJC	PPH
1	06/06/2025	SEW	UPDATED BIORETENTION DESIGN PER 2025 GUIDANCE		DJC	PPH
2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
EXISTING CONDITIONS PLAN (3 OF 3)

Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE: 1"=50'
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:	SHEET 4 OF 12
WO:			

Drawn By & Date/Time: WarmanS Jul 07, 2025 – 8:00am
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\PCSM\02-04 – Existing Plan CS 200.dwg

EXISTING FEATURES

- 150 MAJOR CONTOUR (5' INTERVAL)
- MINOR CONTOUR (1' INTERVAL)
- UNREGULATED DITCH CENTERLINE & TOP OF BANK
- WETLAND
- TREE / BRUSH LINE
- ACCESS ROAD
- S STORM / SANITARY SEWER
- X FENCE
- E UNDERGROUND POWER LINE
- P OVERHEAD POWER LINE
- GAS GAS LINE
- C COMMUNICATION FIBER
- SOIL TYPE BOUNDARY
- CIB SOIL TYPE
- PERMANENT GRAVEL

PROPOSED FEATURES

- ESCGP-2 BOUNDARY
- LOD LIMIT OF DISTURBANCE
- CONTOUR MAJOR (5' INTERVAL)
- CONTOUR MINOR (1' INTERVAL)
- P UNDERGROUND DUCT BANK
- PIPE CENTERLINE
- COMPOST FILTER SOCK
- PROPOSED FENCE
- CULVERT, RIPRAP APRON & ENDWALL
- SAF SAFETY FENCE
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- TEMPORARY ROCK FILTER
- ROCK CONSTRUCTION ENTRANCE
- GRAVEL AREA
- ASPHALT AREA
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- TEMPORARY STONE AREA RESTORATION
- CONCRETE WASHOUT

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SCALE: 1 INCH=50 FEET
0 50 100

SOIL LEGEND:

CIB	CLARKSBURG SILT LOAM, 3 TO 8 PERCENT SLOPES
CtA	CONESTOGA SILT LOAM, 0 TO 3 PERCENT SLOPES
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PCSM BMPS

- 6.4.5 BIORETENTION BASIN
- VEGETATED SWALE
- PROTECT SENSITIVE/SPECIAL VALUE FEATURES
- REFOREST
- REVEGETATE DISTURBED AREAS *
- MINIMIZE TOTAL DISTURBED AREA

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TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
PCSM PLAN (1 OF 3)

Williams GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE: 1"=50'	
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5	
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:		SHEET 05 OF 12
WO:				

Drawn By & Date/Time: WarmanS Jul 03, 2025 - 5:31pm
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\PCSM\05-07 - PCSM Plan CS 200.dwg

EXISTING FEATURES

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- MINOR CONTOUR (1' INTERVAL)
- UNREGULATED DITCH CENTERLINE & TOP OF BANK
- WETLAND
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- ACCESS ROAD
- S — STORM / SANITARY SEWER
- X — FENCE
- E — UNDERGROUND POWER LINE
- P — OVERHEAD POWER LINE
- GAS — GAS LINE
- C — COMMUNICATION FIBER
- SOIL TYPE BOUNDARY
- CIB — SOIL TYPE

PROPOSED FEATURES

- ESCGP-2 BOUNDARY
- LOD — LIMIT OF DISTURBANCE
- CONTOUR MAJOR (5' INTERVAL)
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SCALE: 1 INCH=50 FEET

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PCSM BMPS

- 6.4.5 BIORETENTION BASIN
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TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
PCSM PLAN (2 OF 3)

Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE: 1"=50'
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5
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WO:			

Drawn By & Date/Time: WormanS Jul 03, 2025 - 5:10pm
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\PCSM\05-07 - PCSM Plan CS 200.dwg

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CHESTER COUNTY, PENNSYLVANIA
PCSM PLAN (3 OF 3)

Williams GAS PIPELINE

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STANDARD E&S NOTES:

1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
2. AT LEAST SEVEN (7) DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING.
3. AT LEAST THREE (3) DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY PADEP PRIOR TO IMPLEMENTATION.
5. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
6. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPs SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.
7. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND/OR FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
8. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAPS(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
9. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BMPs TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF PADEP.
10. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH PADEP'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ. 271.1 AND 287.1 ET SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
11. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR PADEP FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
12. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
13. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS.
14. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPs AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
15. A LOG SHOWING DATES THAT E&S BMPs WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.
16. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE AT THE END OF EACH WORK DAY AND AS NEEDED THROUGHOUT THE DAY OR AS DIRECTED BY THE CCCD OR MUNICIPALITY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
17. ALL SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.
18. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES - 6 TO 12 INCHES ON COMPACTED SOILS- PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.
19. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE, OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
20. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
21. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
22. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
23. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
24. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSTANCE DRAIN OR OTHER APPROVED METHOD.
25. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.
26. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BY STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.
27. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
28. E&S BMPs SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR PADEP.
29. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPs.
30. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPs MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPs. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPs SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID RE-VEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.
31. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.
32. FAILURE TO CORRECTLY INSTALL E&S BMPs, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPs MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY PADEP AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO $10,000 PER DAY IN CIVIL PENALTIES, UP TO $10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO $25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.
33. CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATERS OR GROUNDWATER SYSTEMS.
34. ALL CHANNELS SHALL BE KEPT FREE OF OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO FILL, ROCKS, LEAVES, WOODY DEBRIS, ACCUMULATED SEDIMENT, EXCESS VEGETATION, AND CONSTRUCTION MATERIAL/WASTE.
35. EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER AND ON ALL DISTURBED AREAS WITHIN 50 FEET OF A SURFACE WATER AND ON ALL OTHER DISTURBED AREAS SPECIFIED ON THE PLAN MAPS AND/OR DETAIL SHEETS.

CHESTER COUNTY CONSERVATION DISTRICT REQUIRED E&S NOTES

1. BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E & S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE CHESTER COUNTY CONSERVATION DISTRICT. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
2. ALL PUMPING OF SEDIMENT LADEN WATER OR POTENTIALLY SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS. (PLEASE SHOW A DETAIL OF THIS FACILITY ON THE DETAIL SHEET).
3. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
4. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.
5. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. ADDITIONALLY, THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, AND HAS BEEN APPROVED BY THE CHESTER COUNTY CONSERVATION DISTRICT AND/OR LOCAL MUNICIPALITY IN COMPLIANCE WITH CHAPTER 102 RULES & REGULATIONS, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL OFF SITE SOIL AND/OR ROCK SPOIL AND/OR BORROW AREAS.
6. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
7. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY THAT WILL EXCEED 4 DAYS, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. PLAN NOTES AND THE CONSTRUCTION SEQUENCE SHOULD REFLECT THIS REQUIREMENT. THE CONSTRUCTION SEQUENCE SHOULD INCORPORATE THE IMMEDIATE STABILIZATION REQUIREMENT INTO ANY APPLICABLE AREAS. (PLEASE NOTE THAT HYDROSEED IS NOT CONSIDERED STABILIZATION UNTIL IT GERMINATES). HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.
8. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
9. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY THAT WILL EXCEED 4 DAYS, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.

SOIL LIMITATIONS

THE SOILS PRESENT WITHIN THE PROJECT BOUNDARY ARE:

SOIL NAME	SOIL LIMITATIONS															
	CUTBANKS CAVE	CORROSIVE TO CONCRETE / STEEL	DROUGHTY	EASILY ERODIBLE	FLOODING	DEPTH TO SATURATED ZONE ZONE / SEASONAL HIGH WATER TABLE	HYDRIC / HYDRIC INCLUSIONS	LOW STRENGTH / LANDSLIDE PRONE	SLOW PERCOLATION	PIPING	POOR SOURCE OF TOPSOIL	FROST ACTION	SHRINK - SWELL	POTENTIAL SINKHOLES	PONDING	WETNESS
CLARKSBURG	X	C/S		X		X	X	X	X	X	X	X	X	X		X
CONESTOGA	X	C/S	X					X	X	X		X		X		

CUT BANKS CAVE - CUT BANKS WILL BE LAID BACK NO STEEPER THAN 2 ' HORIZONTAL AND 1' VERTICAL TO PRODUCE STABLE SLOPES THAT WILL BE FURTHER STABILIZED WITH EROSION CONTROL BLANKETS;

CORROSIVE TO CONCRETE / STEEL - CONCRETE MIXES WILL BE DESIGNED TO BE RESISTANT TO CORROSION. STEEL CASINGS WILL BE PROTECTED WITH COATINGS TO RESIST CORROSION, WHERE APPROPRIATE;

DROUGHTY - SEEDING AND MULCHING WILL BE ACCOMPANIED BY SUFFICIENT WATERING TO PROMOTE DEVELOPMENT OF VEGETATION;

HYDRIC / HYDRIC INCLUSIONS - A WETLANDS INVESTIGATION WAS CONDUCTED THROUGHOUT THE PROJECT AREA TO VERIFY THAT WETLANDS WILL NOT BE DISTURBED BY CONSTRUCTION;

SLOW PERCOLATION - INFILTRATION PRACTICES ARE NOT PROPOSED. SLOW PERCOLATION IS NOT ANTICIPATED TO IMPACT THE PROJECT;

POOR SOURCE OF TOPSOIL - ADDITIONAL FERTILIZER, LIME, AND MULCH WILL BE APPLIED AS NEEDED TO ESTABLISH THE REQUIRED 70% UNIFORM VEGETATIVE GROWTH TO STABILIZE THE DISTURBED AREAS. TOPSOIL WILL BE TESTED TO CONFIRM RATES OF APPLICATION AS NECESSARY;

FROST ACTION - THE PROPOSED WORK ELEMENTS WILL BEAR OR BE BURIED AT DEPTHS SUFFICIENT TO LIMIT THE POTENTIAL FOR FROST ACTION;

LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPS

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC. (TRANSCO) SHALL BE RESPONSIBLE FOR THE LOONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPS. ANY BMPS, OR PORTION THEREOF, WHIHC HSA FAILED SHALL BE REPAIRED AND/OR REPLACED AS OUTLINED BELOW

CONTACT INFO:
TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
TRANSCO
P.O. BOX 1396
2800 POST OAK BLVD.
HOUSTON, TX 77056

ANNUAL CERTIFICATION OF MAINTENANCE PROCEDURES

TRANSCO SHALL ANNUALLY PREPARE A WRITTEN REPORT DOCUMENTING INSEPCTIONS, REPAIRS AND MAINTENANCE ACTIVITIES FOR ALL PCSM BMPS. THIS INSPECTION REPORT, ALONG WITH THE PCSM PLAN AND ANY OTHER MONITORING RECORDS SHALL BE MADE AVAILABLE FOR REVIEW AND INSPECTION BY THE DEPARTMENT OF CONSERVATION DISTRICT.

LONG TERM OPERATION AND MAINTENANCE SCHEDULE

BMP	GENERAL MAINTENANCE	FAILURE REQURING REPAIR/REPLACEMENT
BIORETENTION BASIN	• WHILE VEGETATION IS BEING ESTABLISHED, PRUNING AND WEEDING MAY BE REQUIRED. • DETRITUS (LOOSE MATERIAL SUCH AS ROCK FRAGMENTS, ORGANIC PARTICLES, ETC.) MAY ALSO NEED TO BE REMOVED EVERY YEAR. PERENNIAL PLANTINGS MAY BE CUT DOWN AT THE END OF THE GROWING SEASON. • BIORETENTION AREAS SHOULD BE INSPECTED AT LEAST TWO TIMES PER YEAR FOR SEDIMENT BUILDUP, EROSION, VEGETATIVE CONDITIONS, ETC. • TREES AND SHRUBS SHOULD BE INSPECTED TWICE PER YEAR TO EVALUATE HEALTH. • TOPSOIL SHOULD BE PROTECTED FROM COMPACTION. HEAVY EQUIPMENT DRIVEN ACROSS TOPSOIL AREAS SHOULD BE LOW-GROUND PRESSURE EQUIPMENT. •	• WHEN EROSION IS EVIDENT, RE-SPREAD MULCH AND REPLENISH AS NEEDED. • WHEN SEDIMENT BUILD UP IS PRESENT, ALL SEDIMENT SHALL BE REMOVED AND AND DISTURBED AREAS STABILIZED WITH SEED AND MULCH. • DURING PERIODS OF EXTENDED DROUGHT AND VEGETATION LOSS IS EVIDENT, BIORETENTION SHALL BE WATERED. • IF TREES AND SHRUBS HEALTH IS COMPRISED, THEY SHOULD BE REPLACED. • IF THE BIORETENTION BASIN IS NOT DEWATERING WITHIN 72 HOURS FOLLOWING A RAINFALL EVENT, THE UNDERDRAIN SYSTEM SHALL BE INSPECTED FOR CLOGGING AND CLEANED OUT OR REPLACED, AND TOPSOIL TILLED AND RE-SEEDED.
VEGETATED SWALES	• MOW AND TRIM VEGETATION TO ENSURE SAFETY, AESTHETICS, PROPER SWALE OPERATION, OR TO SUPRESS WEEDS AND INVASIVE VEGETATION; DISPOSE OF CUTTINGS TO LOCAL COMPOSTING FACILITY; MOW ONLY WHEN SWALE IS DRY TO AVOID RUTTING.	• WHEN EROSION IS EVIDENT (WHEN > 3 INCHES AT ANY SPOT OR COVERING VEGETATION), RE-SEED, MULCH AND STABILZE. • WHEN POOLS OF STANDING WATER ARE NOTICED, DEWATER AND DISCHARGE TO AN APPROVED LOCATION AND RESTORE TO DESIGN GRADE. • WHEN LITTER IS OBSERVED, REMOVE PRIOR TO MOWING. • WHEN SWALE INLET (CURB CUTS, PIPES, ETC.) AND OUTLET SHOWN SIGNS OF EROSION OR BLOCKAGE, STABILIZE ANY ERODED AREAS AND REMOVE ANY BLOCKAGES
RE-VEGETATE / RE-FOREST (EVERGREEN TREES)	• TREES SHALL BE ADEQUATELY PROTECTED DURING AND AFTER CONSTRUCTION. • TREES SHALL BE INSPECTED TWICE PER YEAR TO EVALUATE HEALTH. • TREES SHALL BE MAINTAINED AND PROTECTED FOR THE LIFE OF THE PROJECT OR UNTIL REDEVELOPMENT OCCURS.	• IF TREES AND SHRUBS HEALTH IS COMPRISED, THEY SHOULD BE REPLACED. DEAD TREES SHALL BE REPLACED WITHIN 6 MONTHS.

* REFER TO BMP DETAIL FOR ADDITIONAL MAINTENANCE REQUIREMENTS AND REMEDIES.

SEEDING PROCEDURES:

SEEDING PREPARATION SHALL BE ACCOMPLISHED BY TRACKING THE AREAS TO BE SEEDED WITH A SMALL BULLDOZER OR OTHER COMPARABLE DEVICE IN AN UP AND DOWN PATTERN TO CREATE SMALL CONTOURS ALONG THE SLOPE. THESE SMALL DEPRESSIONS HELP REDUCE EROSION AND PROVIDE A POCKET FOR PROPER GERMINATION OF THE SEEDS. SOIL SUPPLEMENTS, AS SHOWN BELOW, WILL BE REQUIRED TO PREPARE THE AREA TO BE SEEDED.

MULCHING AS LISTED BELOW SHALL BE PERFORMED IMMEDIATELY AFTER THE APPLICATION OF LIME, FERTILIZER AND SEEDING MATERIALS. MULCH SHALL BE APPLIED IN CONJUNCTION WITH A TACKIFIER.

THE MOST EFFECTIVE PERIODS FOR VEGETATION ESTABLISHMENT ARE EARLY SPRING TO EARLY SUMMER AND LATE SUMMER TO MID FALL. SEEDING AND MULCHING CAN BE PERFORMED DURING OTHER PERIODS AS WEATHER CONDITIONS PERMIT. MAJOR ACTIVITIES OF DEVELOPMENT SHALL BE PLANNED TO COINCIDE WITH THESE PRIME GROWING SEASONS.

IF OUT-OF-SEASON TEMPORARY STABILIZATION IS NECESSARY, APPLY THE FULL-SPECIFIED QUANTITIES FOR SUPPLEMENTS, SEED AND MULCH. FULL MULCH RATE APPLICATIONS WILL BE REQUIRED FOR EACH SEEDING APPLICATION TO PREVENT SOIL EROSION UNTIL SEED GERMINATES. PERMANENT STABILIZATION SHALL BE APPLIED DURING THE NEXT GROWING SEASON.

TEMPORARY VEGETATIVE STABILIZATION:

ANNUAL RYE (SPRING OR FALL) SHALL BE USED AT A RATE OF 50 LBS PER ACRE; SPRING OATS (SPRING) SHALL BE USED AT A RATE OF 100 LBS PER ACRE; AND WINTER RYE (FALL) SHALL BE USED AT A RATE OF 120 LBS PER ACRE.

SOIL SUPPLEMENT RATES:

SUPPLEMENTS	APPLICATION RATE*
AGRICULTURAL LIME	1 TON PER ACRE
10-10-10 FERTILIZER	500 LBS PER ACRE

MULCHING:

MULCH TYPE	APPLICATION RATE
CLEAN STRAW	3 TONS PER ACRE
EITHER WHEAT OR OAT STRAW, FREE OF WEEDS, NOT CHOPPED OR FINELY BROKEN.	

PERMANENT VEGETATIVE STABILIZATION:

GENERAL PERMANENT SEEDING SPECIFICATIONS ERNMX-177 (EXCEPT BIORETENTION BASIN BOTTOM)

GERMINATION PERIODS: MARCH 16TH - JUNE 1ST AND AUGUST 1ST - OCTOBER 15TH

COMMON NAME	PERCENTAGE OF MIXTURE	APPLICATION RATE
BIG BLUESTEM	60	30 LBS / ACRE
SWITCHGRASS	20	
VIRGINIA WILD RYE	16	
AUTUMN BENTGRASS	4	

SOIL SUPPLEMENT RATES:

SUPPLEMENTS	APPLICATION RATE*
AGRICULTURAL LIME	6 TONS PER ACRE
10-20-20 FERTILIZER	1,000 LBS PER ACRE

MULCHING:

MULCH TYPE	APPLICATION RATE
CLEAN STRAW	3 TONS PER ACRE
EITHER WHEAT OR OAT STRAW, FREE OF WEEDS, NOT CHOPPED OR FINELY BROKEN.	

BIORETENTION BASIN BOTTOM SEEDING SPECIFICATIONS ERNMX-154

GERMINATION PERIODS: MARCH 16TH - JUNE 1ST AND AUGUST 1ST - OCTOBER 15TH

COMMON NAME	PERCENTAGE OF MIXTURE	APPLICATION RATE
DEERTONGUE	30	30 LBS / ACRE
VIRGINIA WILD RYE	16	
BIG BLUESTEM	14	
FOX SEDGE	14	
SWITCHGRASS	5	
BLUE VERVAIN	4	
BONESET	3	
GREAT BLUE LOBELIA	2	
FRINGED SEDGE	2	
OXEYE SUNFLOWER	2	
SHOWY TICKTREFOIL	2	
JOE PYE WEED	2	
SWAMP MILWEED	2	
PURPLESTEM ASTER	1	
WILD BERGAMOT	1	

PROCEDURES WHICH ENSURE PROPER MEASURES FOR RECYCLING OR DISPOSAL OF MATERIALS WITHIN THE PROJECT:

INDIVIDUALS RESPONSIBLE FOR EARTH DISTURBANCE ACTIVITIES MUST ENSURE THAT PROPER MECHANISMS ARE IN PLACE TO CONTROL WASTE MATERIALS. CONSTRUCTION WASTE S INCLUDE THINGS SUCH AS, BUT ARE NOT LIMITED TO, EXCESS SOIL MATERIALS, DAMAGED NETTING OR MATTING, SANITARY WASTES, GENERAL TRASH, ETC. THAT COULD ADVERSELY AFFECT OR IMPACT WATER QUALITY. MEASURES SHOULD BE PLANNED AND IMPLEMENTED FOR HOUSEKEEPING OF THE SITE, MATERIALS MANAGEMENT, AND LITTER CONTROL. WHEREVER POSSIBLE, RECYCLING OF EXCESS MATERIALS IS PREFERRED RATHER THAN DISPOSAL.

THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.

SEDIMENT REMOVED FROM EROSION CONTROL MEASURES OR FACILITIES AND OTHER SOILS DEEMED UNSUITABLE FOR USE AS FILL SHALL BE STABILIZED AND DISPOSED OF OFFSITE AN AN APPROVED FACILITY. OFFSITE DISPOSAL MUST COMPLY WITH ALL LOCAL, COUNTY, STATE AND FEDERAL RULES, REGULATIONS AND LAWS.

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625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428
(610) 832-3500

PETER P. HAAS, P.E.
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL PETER P. HAAS ENGINEER PE076971
06/13/2025
DATE
PENNSYLVANIA PROFESSIONAL ENGINEER NO. PE076971

REVISIONS

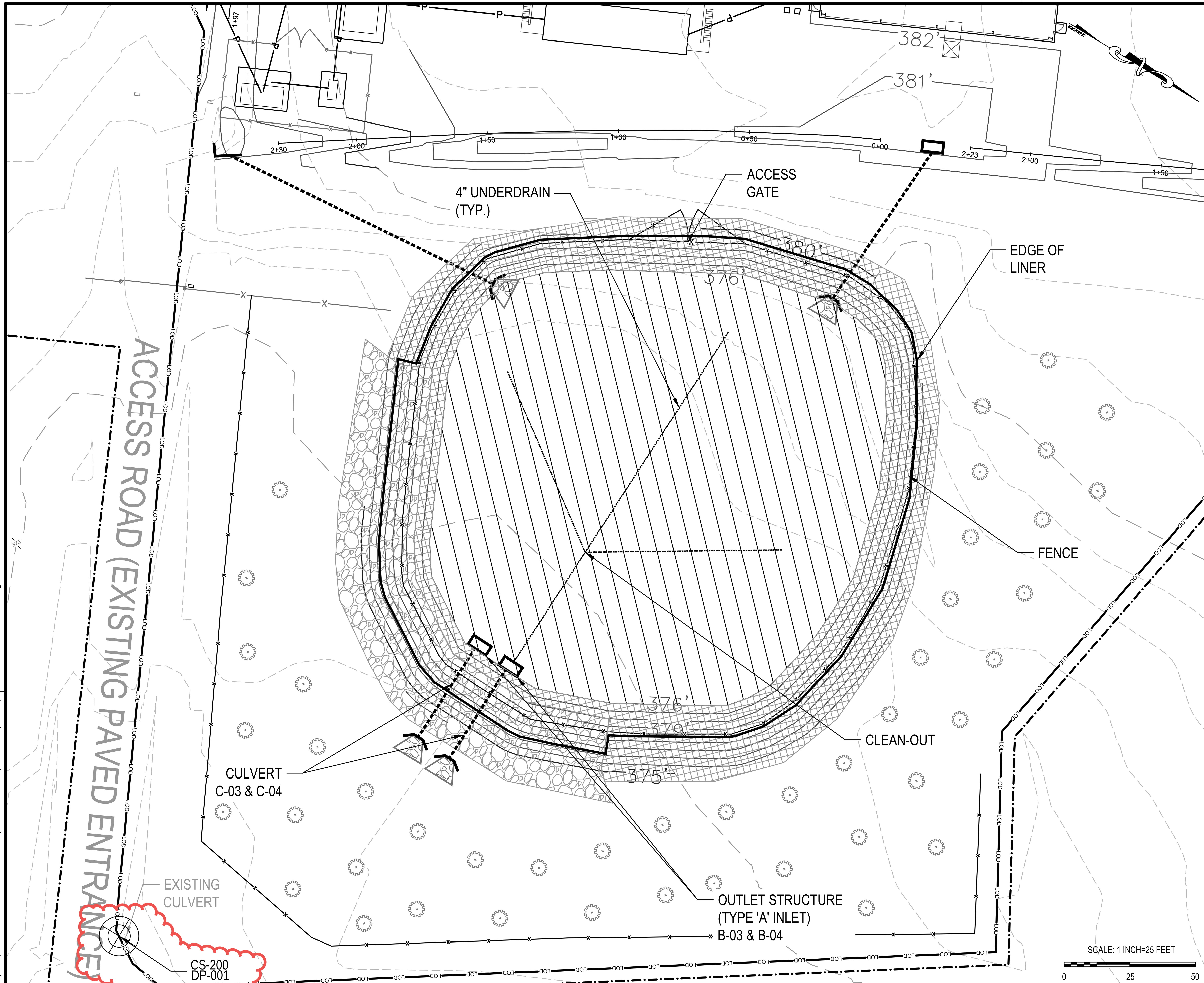
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	06/06/2025	SEW	REDUCED LOD TO AVOID EXISTING PCSM FEATURES		DJC	PPH
1	06/06/2025	SEW	UPDATED BIORETENTION DESIGN PER 2025 GUIDANCE		DJC	PPH
2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
NOTES

Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE: N.T.S.
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:	SHEET 08 OF 12
WO:			

Drawn By & Date/Time: WarmanS Jul 03, 2025 - 4:41pm
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\PCSM\08 - Notes CS 200.dwg



LEGEND

COVER SOILS AND BIORETENTION BASIN BOTTOM SEEDING SPECIFICATIONS

NORTH AMERICAN GREEN (NAG) S150 EROSION CONTROL BLANKET

PROPOSED EVERGREEN TREE (44 TOTAL)

HERBACEOUS CONTAINER PLANTS TABLE

COMMON NAME	SCIENTIFIC NAME	PLANT MATERIAL	OC SPACING (FT)	PERCENTAGE OF BOTTOM AREA
BONESET	EUPATORIUM PERFOLIATUM	#1 CONTAINER	2	20
SWITCH-GRASS	PANICUM VIRGATUM	#1 CONTAINER	2	30
SPOTTED JOE-PYE	EUPATORIADEPHUS MACLATUM	#1 CONTAINER	3	30
NEW ENGLAND ASTER	SYMPHYOTRICHUM NOVAE-ANGLIAE	#1 CONTAINER	1.5	20

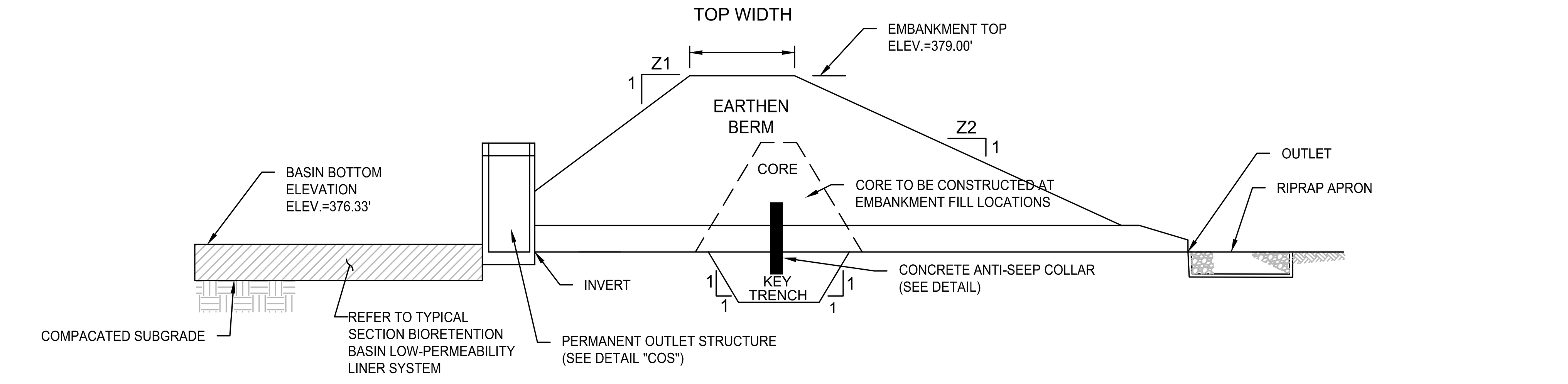
SHRUB TABLE

COMMON NAME	SCIENTIFIC NAME	PLANT MATERIAL	MIN. HEIGHT (FT)	SPACING
SWEETSPIRE	ITEA VIRGINICA	B&B	3	1 OF EACH SHRUB PER 300 SF OF SCM BOTTOM AREA INFORMALLY ARRANGED
NORTHERN BAYBERRY	MYRICA PENNSYLVANIA	B&B	3	
BLACK CHOKEBERRY	ARONIA MELANOCARPA	B&B	3	

BIORETENTION BASIN CONSTRUCTION SEQUENCE:

CONSTRUCTION / INSTALLATION OF THE BIORETENTION BASIN (INCLUDING EXCAVATION, UNDERDRAIN/LINER INSTALLATION, FILL PLACEMENT, SEEDING) IS DETERMINED TO BE A CRITICAL STAGE OF CONSTRUCTION. A LICENSED PROFESSIONAL OR DESIGNEE IS REQUIRED TO BE ON SITE FOR CONSTRUCTION / INSTALLATION OF THESE FEATURES. NOTIFY PLAN PREPARER PRIOR TO START OF CONSTRUCTION TO COORDINATE CONSTRUCTION MONITORING SCHEDULE.
CONSTRUCTION SEQUENCE FOR THE BIORETENTION BASIN SHALL BE AS FOLLOWS:

1. PERMANENTLY STABILIZE ALL DISTURBED UP GRADIENT AREAS OF THE BIORETENTION BASIN.
2. ENSURE ALL DOWN GRADIENT E&S CONTROL ARE INSTALLED. REFER TO PHASE 2 - EROSION AND SEDIMENT CONTROL PLAN AND THE PCSM PLAN.
3.
4. PERFORM CLEARING AND GRUBBING OF THOSE AREAS NEEDED TO CONSTRUCT THE BIORETENTION BASIN.
5. EXCAVATE AND GRADE BIORETENTION BASIN TO PROPOSED DEPTH BELOW INVERT.
6. PLACE GEOTEXTILE CLASS 4, TYPE A, LOW-PERMEABILITY LINER, AND GEOTEXTILE CLASS 4, TYPE A.
7. INSTALL OUTLET STRUCTURES, UNDER DRAINS, CLEAN-OUTS, CULVERTS, RIPRAP APRONS, AND EMERGENCY SPILLWAY
8. INSTALL 28" OF SCM AMENDED SOILS WITHIN THE BASIN BOTTOM. INSTALL 12" LAYER OF PROTECTIVE COVER SOIL AND COMPLETE THE FINAL GRADING TO ACHIEVE PROPOSED DESIGN ELEVATIONS, ALLOWING SPACE FOR UPPER LAYER OF 4" TOPSOIL ON BASIN SIDES. USE LOW GROUND PRESSURE EQUIPMENT AND EXERCISE CAUTION AS TO NOT COMPACT SOILS DURING PLACEMENT. COMPLETE INFILTRATION TESTING ON SOIL AFTER PLACEMENT. IF INFILTRATION RATES ARE LESS THAN THE THOSE SPECIFIED, AERATE/AMEND MATERIAL AS NEEDED TO ADJUST INFILTRATION RATE, AND RE-PERFORM TESTING.
9. PERMANENTLY STABILIZE ANY DISTURBED AREAS PER THE SEEDING SPECIFICATIONS. REFERENCE HERBACEOUS CONTAINER PLANTS AND SHRUB TABLES FOR SCM BOTTOM SPECIFICATIONS. PLACE EROSION CONTROL BLANKET ON ALL AREA AS SHOWN ON THE DRAWINGS.
10. PREPARE DETAILED SURVEY OF AS-BUILT CONDITIONS OF THE CONSTRUCTED BIORETENTION BASIN AND SUBMIT FOR ENGINEER REVIEW AND APPROVAL.

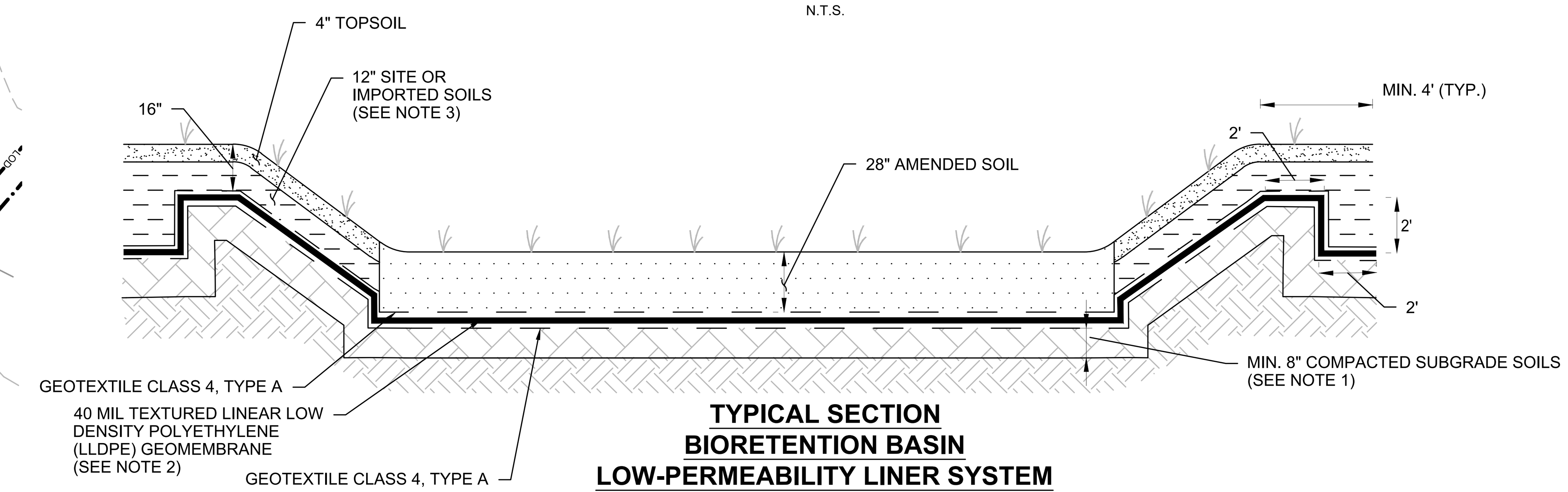


EMBANKMENT				BARREL*			
Z1	Z2	TOP ELEV. (FEET)	TOP WIDTH (FEET)	INVERT ELEV. (FEET)	OUTLET ELEV. (FEET)	DIA (INCH)	MATERIAL
3	3	379.00	5	374.50	374.00	18" x 2	RCP

***THE PROPOSED BASIN SHALL HAVE TWO IDENTICAL OUTLET STRUCTURES, CULVERTS, RIPRAP APRONS, ANTI-SEEP COLLARS, ETC.**

BIORETENTION BASIN #01 DETAIL

N.T.S.



TYPICAL SECTION BIORETENTION BASIN LOW-PERMEABILITY LINER SYSTEM

N.T.S.

NOTES:

1. THE UPPER 8 INCHES OF SUBGRADE SOILS SUPPORTING THE GEOMEMBRANE SHALL BE CLAY MATERIAL AND POSSESS A MAXIMUM PARTICLE SIZE OF ¾-INCH. THE SUBGRADE CLAY MATERIAL SHALL BE COMPACTED IN 6-INCH LIFTS USING A RUBBER-TIRED DUMP TRUCK, PADSFOOT ROLLER OR SMOOTH-DRUM ROLLER, AS APPROPRIATE FOR THE SOIL TYPE, UNTIL VISIBLY STABLE AS DETERMINED BY THE ONSITE WILLIAMS CONSTRUCTION MANAGER. THE CLAY MATERIAL SHOULD BE PLACED AT A MOISTURE CONTENT IN THE RANGE OF 0 TO 5 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT.

   1.1. PRIOR TO THE SUBGRADE CLAY MATERIAL INSTALLATION, AREAS OF SUBGRADE WHERE ROCK IS EXPOSED SHOULD BE UNDERCUT 12 INCHES AND SLUSH GROUTED TO SEAL THE SURFACE OF THE ROCK AND ANY FRACTURES; THE ROCK AREAS SHOULD THEN BE COVERED WITH 12 INCHES OF COMPACTED STRATUM 1 MATERIAL.

2. THE GEOMEMBRANE SHALL BE A TEXTURED (BOTH SIDES) 40-MIL LINEAR LOW-DENSITY POLYETHYLENE (LLDPE) SHEET PLACED BY AN EXPERIENCED GEOSYNTHETICS INSTALLATION CONTRACTOR APPROVED BY THE GEOMEMBRANE MANUFACTURER.

3. OVER THE TEXTURED GEOMEMBRANE LINER ON SIDE SLOPES, 12 INCHES OF PROTECTIVE COVER SOILS SHALL BE INSTALLED, MEETING THE FOLLOWING CRITERIA:

   3.1. SHALL CONSIST OF ONSITE OR IMPORTED SOILS WITH 10 TO 35 PERCENT PASSING THE NO. 200 SIEVE
   3.2. MAXIMUM PARTICLE SIZE OF ¾-INCH
   3.3. MAXIMUM PLASTICITY INDEX OF 6 FOR THE MATERIAL PASSING THE NO. 200 SEIVE.
   3.4. MINIMUM PERMEABILITY RATE OF 0.4 IN/HR AND NOT LESS THEN TWICE THAT OF THE TOPSOIL
   3.5. PROVIDE INDEPENDENT TESTING TO CONFIRM THAT THE PROTECTIVE COVER SOIL MEETS THE ABOVE REQUIREMENTS. TESTING MUST BE LESS THAN 12 MONTHS OLD AT THE TIME PROTECTIVE COVER SOIL IS FURNISHED TO THE PROJECT.
   3.6. SHALL BE FREE OF STICKS, STUMPS, ROOT WADS, AND OTHER OBJECTS THAT COULD DAMAGE THE GEOMEMBRANE AND CAPABLE OF BEING READILY SPREAD SO AS TO AVOID PUNCTURE, TENSIONING OR TEARING OF THE UNDERLYING GEOMEMBRANE.
   3.7. PREDOMINANTLY SANDY SOILS ARE RECOMMENDED; PREDOMINANTLY CLAYEY SOILS THAT POSSESS RELATIVELY HIGH PLASTICITY/COHESION ARE NOT RECOMMENDED.
   3.8. THE PROTECTIVE COVER SOIL SHALL BE PLACED IN A SINGLE LOOSE LIFT AND COMPACTED VIA TRACKING BY THE LOW GROUND PRESSURE SPREADING EQUIPMENT (BULLDOZER).

4. OVER THE PROTECTIVE COVER SOIL ON SIDE SLOPES, A MINIMUM OF 4 INCHES OF TOPSOIL SHALL BE INSTALLED. TOPSOIL SHALL BE SILTY SAND MATERIAL MEETING THE FOLLOWING CRITERIA:

   4.1. ORGANIC CONTENT BETWEEN 4% AND 10%
   4.2. GRADING ANALYSIS MEETING:

SIEVE	MIN. % PASSING
2 IN.	100
NO. 4	75
NO. 10	60

   4.3. MINIMUM PERMEABILITY RATE OF 0.2 IN/HR
   4.4. PROVIDE INDEPENDENT TESTING TO CONFIRM THAT THE TOPSOIL MEETS THE ABOVE REQUIREMENTS. TESTING MUST BE LESS THAN 12 MONTHS OLD AT THE TIME TOPSOIL IS FURNISHED TO THE PROJECT.

5. AMENDED SOIL, AS INDICATED IN THE BIORETENTION BASIN BOTTOM, SHALL CONSIST OF 50% WASHED SAND, 35% TOPSOIL (MODIFIED TO LIMIT CLAY CONTENT TO 15-22%), AND 15% AGED LEAF COMPOST BY VOLUME. TOPSOIL IS TO COMPLY WITH PENNDOT STANDARD SPECIFICATION SECTION 802.2 AND AS INDICATED IN SECTION 3 AND 4 ABOVE. COMPOST IS TO COMPLY WITH PENNDOT STANDARD SPECIFICATION SECTION 808.2.f.4 AND AS INDICATED IN SECTION 3.2 AND 3.6 ABOVE.

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625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428
(610) 832-3500

PETER P. HAAS, P.E.
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL PETER P. HAAS ENGINEER PE076971
06/13/2025
DATE
PENNSYLVANIA PROFESSIONAL ENGINEER NO. PE076971

REVISIONS

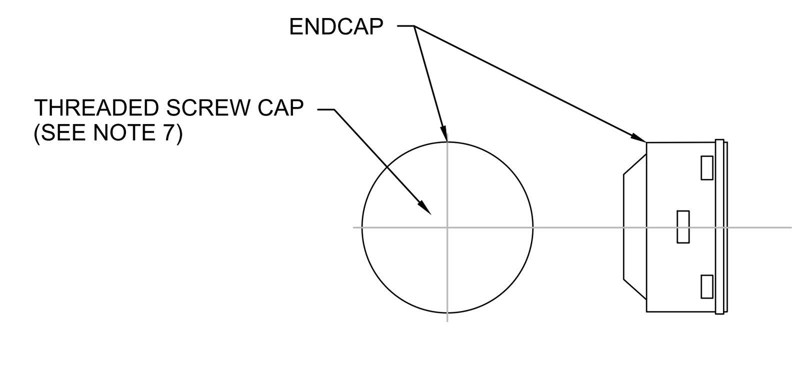
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	06/06/2025	SEW	REDUCED LOD TO AVOID EXISTING PCSM FEATURES		DJC	PPH
1	06/06/2025	SEW	UPDATED BIORETENTION DESIGN PER 2025 GUIDANCE		DJC	PPH
2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
BIORETENTION BASIN PLAN

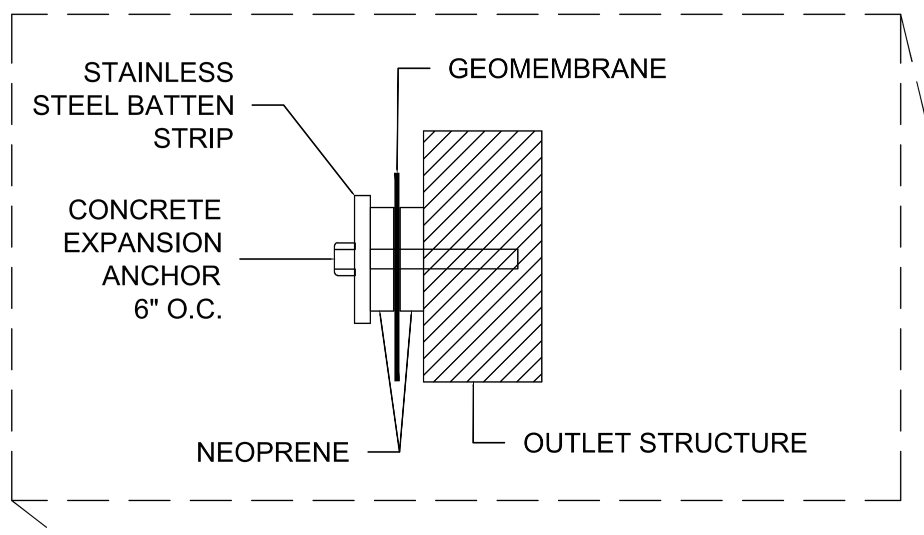
Williams. GAS PIPELINE

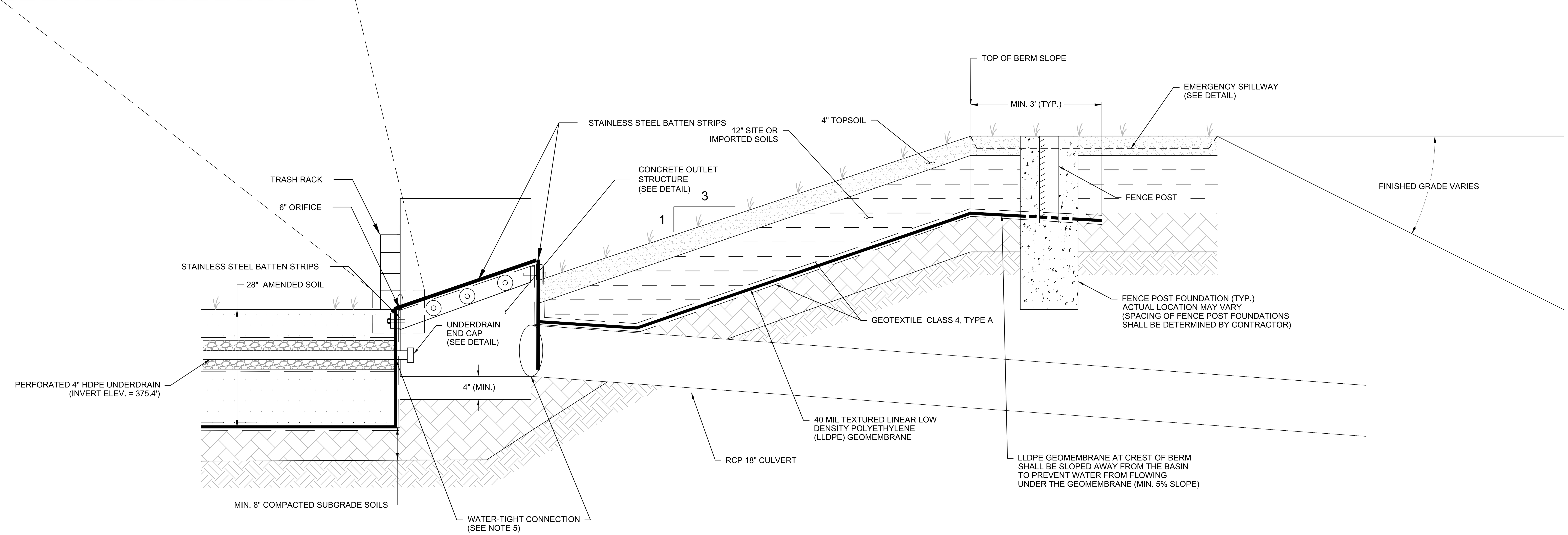
DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID:	TBD	SCALE:	1"=50'
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION:	TBD	REVISION:	5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:		SHEET 09	
WO:				OF 12	

Drawn By & Date/Time: WarmanS Jul 07, 2025 - 8:33am
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\PCSM\09-12 - PCSM Details.dwg



UNDERDRAIN END CAP





TYPICAL SECTION
LOW-PERMEABILITY LINER SYSTEM
BIORETENTION BASIN SIDE SLOPES

NOTES:

1. LLDPE GEOMEMRANE LINER SYSTEM SHALL BE CONTINUOUS. CONTRACTOR SHALL BE RESPONSIBLE TO CONNECT SPANS BETWEEN VARYING CROSS-SECTIONAL CONDITIONS.
2. FENCE POST FOUNDATION MAY PIERCE THE LLDPE GEOMEMBRANE AT LOCATIONS SHOWN. NO 'BOOT' IS REQUIRED.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING WATER FROM FLOWING UNDER THE GEOMEMBRANE DURING INSTALLATION.
4. ALL SEAMS SHALL BE IN A DOWN-SLOPE DIRECTION. DUE TO LIMITED SLOPE LENGTH, IT IS EXPECTED THAT THE SLOPE MAY FALL WITHIN A LONGITUDINAL PANEL WIDTH. LONGITUDINAL PANELS SHALL BE ORIENTED SUCH THAT A SEAM IS NOT ON THE SLOPE.
5. LOCATIONS WHERE THE LINER IS PIERCED BY UNDERDRAIN AND/OR CULVERTS, THE CONTRACTOR SHALL ENSURE A WATER-TIGHT SEAL IS ACHIEVED THROUGH USE OF SEALANT. SEALANT SHALL BE GENERAL ELECTRIC SILICONE, RTV 103, OR EQUIVALENT.
6. CONTRACTOR SHALL ENSURE WATER-TIGHT SEALS AT ALL CULVERT JUNCTIONS AND ALONG THE CULVERT ALIGNMENT. ANY JOINTS AT CATCH BASINS SHOULD BE CAREFULLY SEALED.
7. MINIMUM REQUIRED AMENDED SOIL DEPTH FOR VOLUME MANAGEMENT VIA EVAPOTRANSPIRATION CREDIT = 1.4'. CAP MAY BE LEFT OFF TO ESTABLISH VEGETATION WITHIN BASIN AND DURING MAINTENANCE. OTHERWISE, THE CAP SHOULD GENERALLY BE LEFT ON.

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PETER P. HAAS, P.E.
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER PETER P. HAAS PE076971
06/13/2025
DATE
PENNSYLVANIA
PROFESSIONAL ENGINEER NO. PE076971

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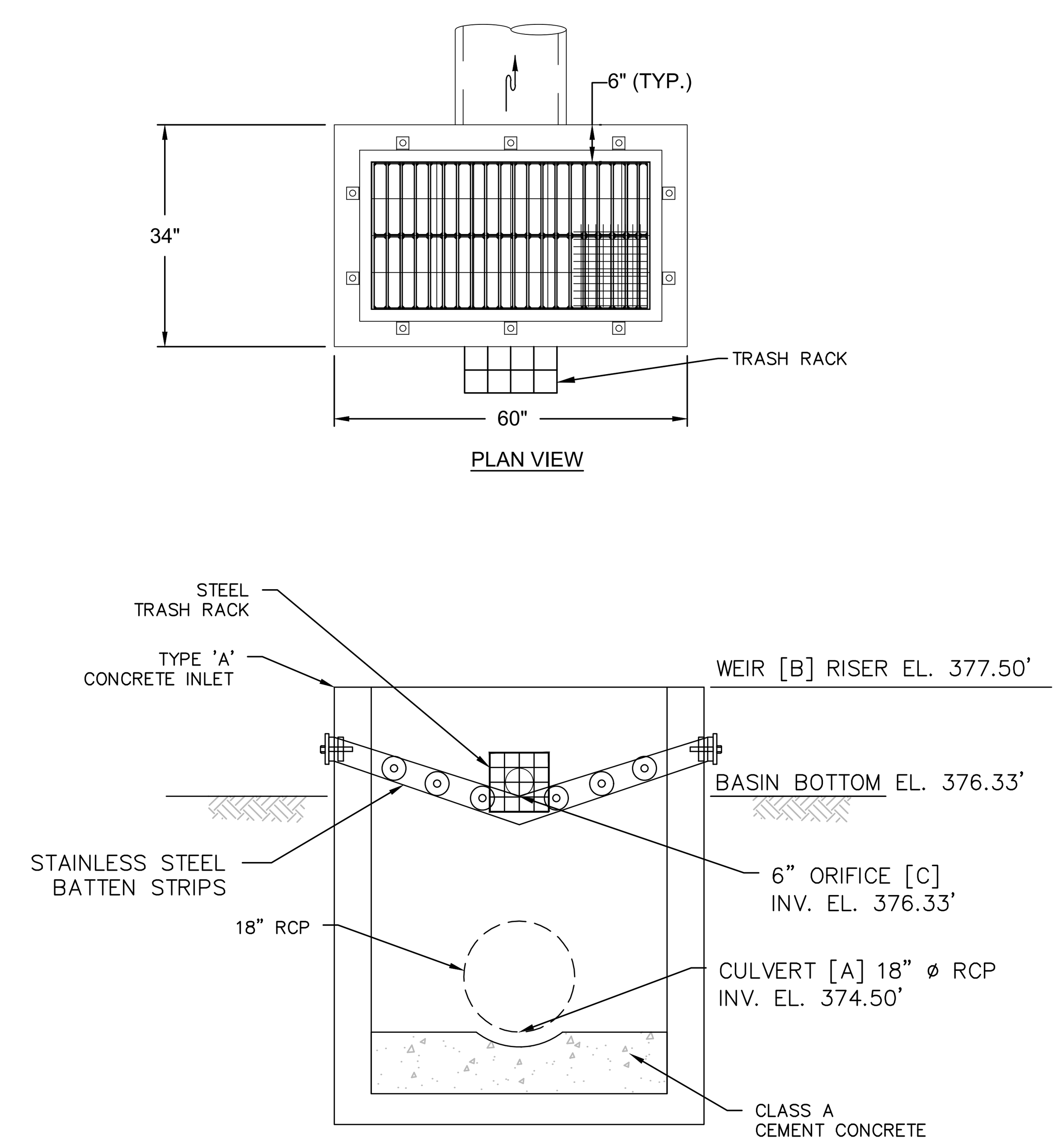
1	06/06/2025	SEW	UPDATED BIORETENTION DESIGN PER 2025 GUIDANCE		DJC	PPH
2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
DETAILS

Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID: TBD	SCALE:
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:	SHEET 10 OF 12
WO:			

Drawn By & Date/Time: WarmanS Jul 03, 2025 - 3:49pm
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\PCSM\09-12 - PCSM Details.dwg



BASIN NO.	BASIN BOTTOM ELEVATION	CULVERT [A] OUTFALL INV. ELEV.	WEIR [B] RISER ELEVATION	ORIFICE [C] ELEVATION
01	376.33	374.50	377.50	376.33

NOTES:

1. BIORETENTION BASIN 01 SHALL HAVE TWO (2) IDENTICAL OUTLET CONFIGURATIONS, INCLUDING CONCRETE OUTLET STRUCTURES, CULVERTS, CONCRETE ANTI-SEEP COLLARS, AND RIPRAP APRONS.

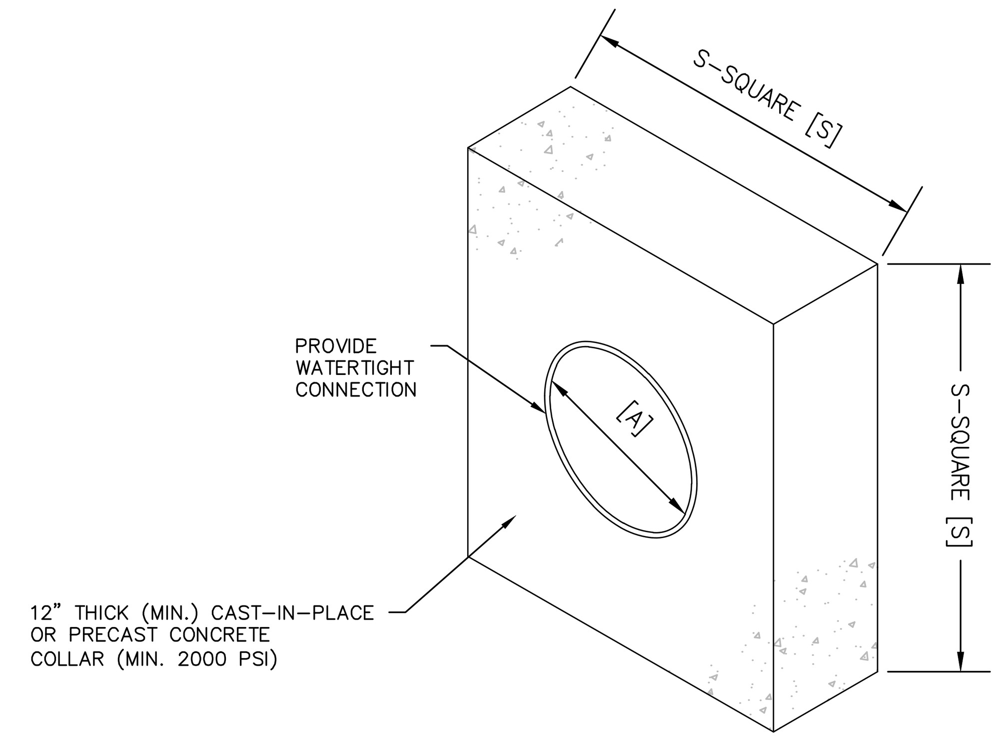
CONCRETE OUTLET STRUCTURE (COS)

PERMANENT STORMWATER CONTROL MEASURE

PENNSYLVANIA

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
PROJECT SPECIFIC DETAIL
COS CONCRETE OUTLET STRUCTURE
Williams. GAS PIPELINE



BASIN NO.	PIPE DIAMETER (IN) [A]	S (IN) [S]	NO. OF COLLARS	DISTANCE RISER TO 1ST COLLAR (FT)	COLLAR SPACING (FT)
01	18	60	1	10	–

NOTES:

1. ALL COLLARS SHALL BE INSTALLED SO AS TO BE WATERTIGHT.
2. COLLARS SHALL NOT BE INSTALLED CLOSER THAN 2 FEET TO A PIPE JOINT.
3. CULVERT C-03 & C-04 SHALL HAVE IDENTICAL CONCRETE ANTI-SEEP COLLARS INSTALLED PER SPECIFICATIONS SHOWN ABOVE.

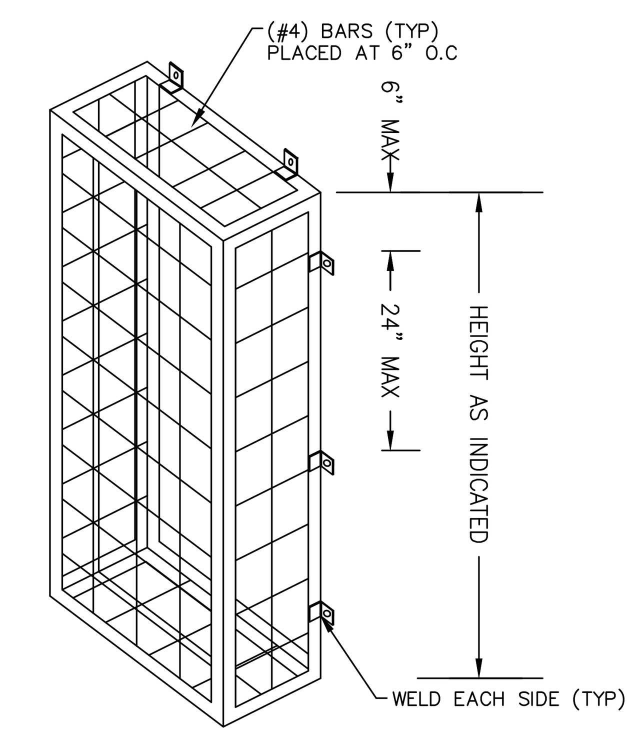
CONCRETE ANTI-SEEP COLLAR

PERMANENT STORMWATER MEASURE

PENNSYLVANIA

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
PROJECT SPECIFIC DETAIL
CONCRETE ANTI-SEEP COLLAR
Williams. GAS PIPELINE



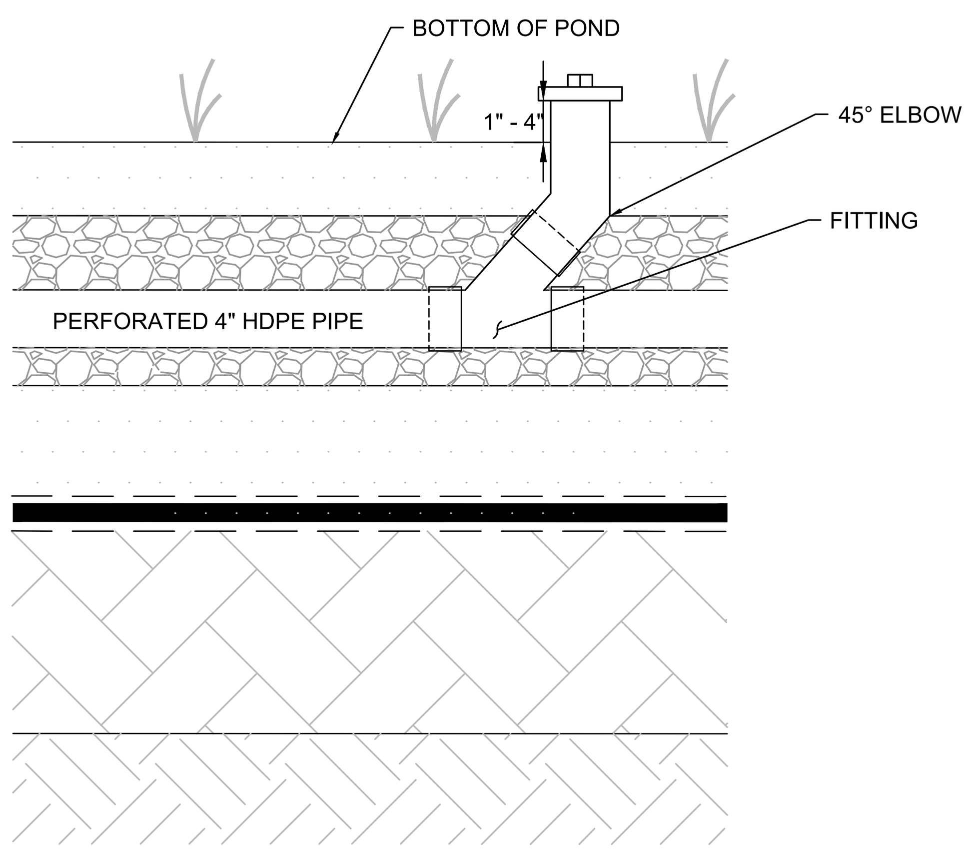
TRASH RACK (TR)

PERMANENT STORMWATER MEASURE

PENNSYLVANIA

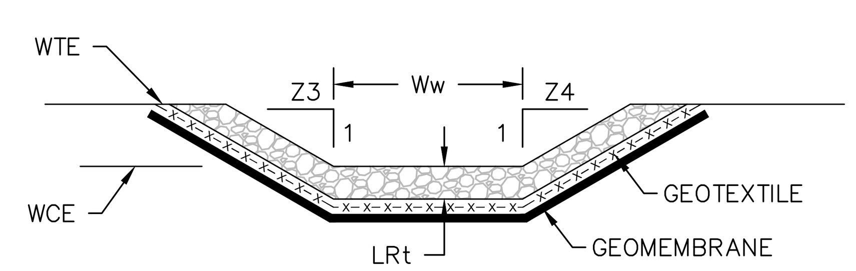
DATE	BY	REVISION DESCRIPTION

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
PROJECT SPECIFIC DETAIL
TR TRASH RACK
Williams. GAS PIPELINE

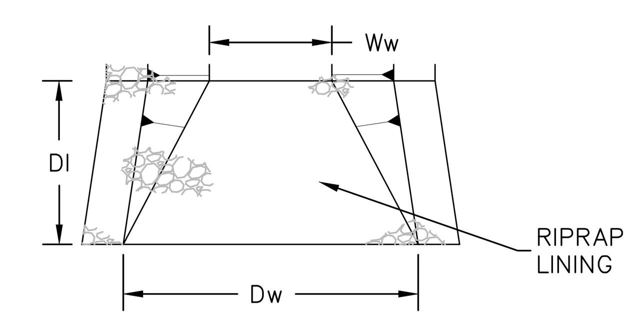


UNDERDRAIN CLEANOUT

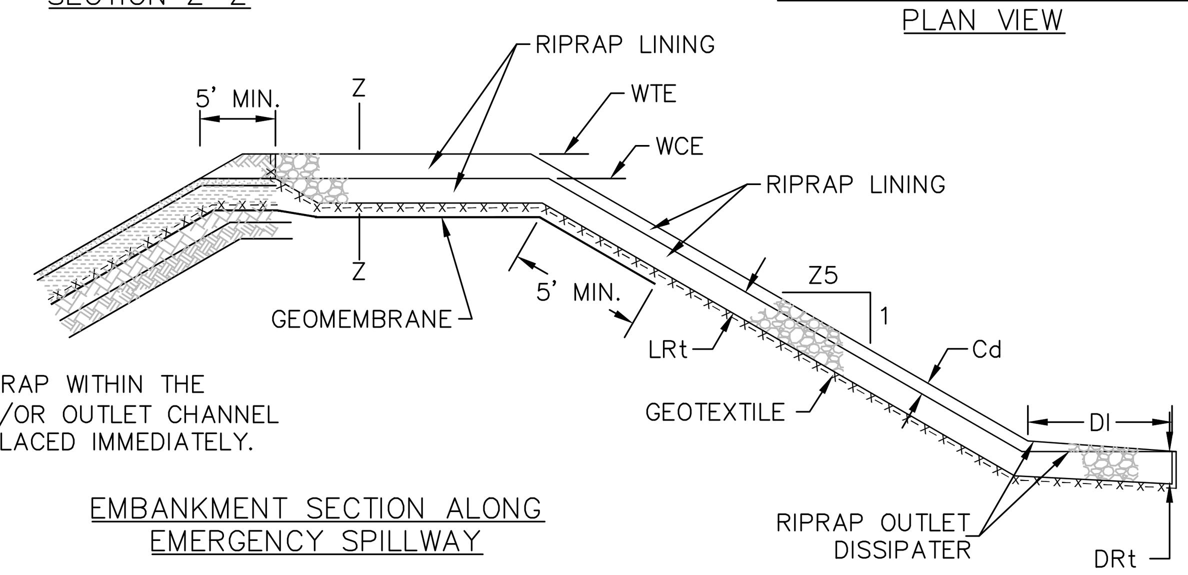
N.T.S.



WEIR/SPILLWAY SECTION Z-Z



RIPRAP OUTLET DISSIPATER PLAN VIEW



NOTES:

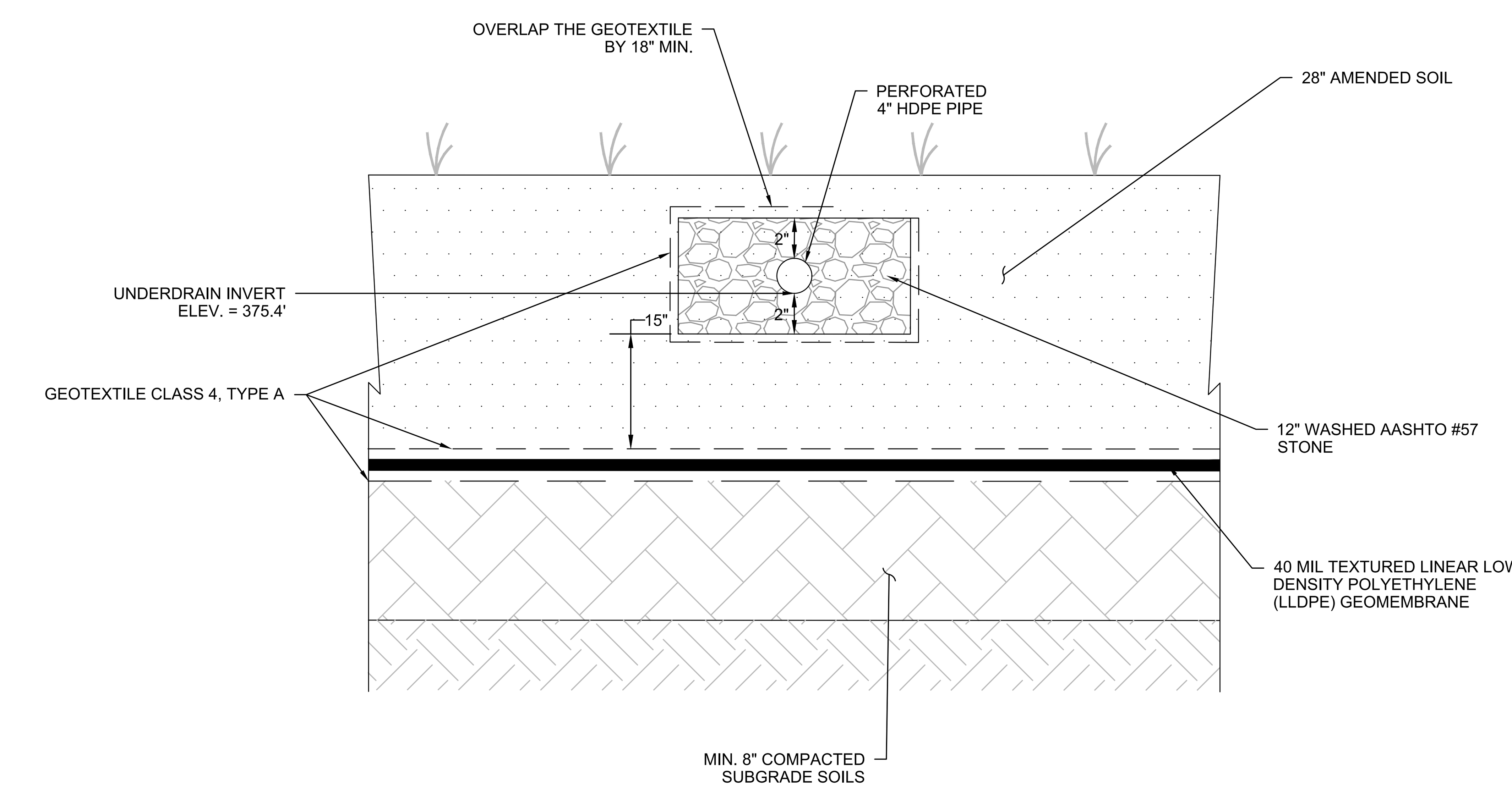
1. DISPLACED RIPRAP WITHIN THE SPILLWAY AND/OR OUTLET CHANNEL SHALL BE REPLACED IMMEDIATELY.

EMBANKMENT SECTION ALONG EMERGENCY SPILLWAY

BASIN NO.	WEIR					LINING		CHANNEL		DISSIPATER			
	Z3 (FT)	Z4 (FT)	TOP ELEV WTE (FT)	CREST ELEV WCE (FT)	WIDTH Ww (FT)	RIPRAP SIZE (R-_)	RIPRAP THICK. LRt (IN)	Z5 (FT)	DEPTH Cd (FT)	LENGTH Dl (FT)	WIDTH Dw (FT)	RIPRAP SIZE (R-_)	RIPRAP THICK. DRt (IN)
01	3	3	379.00	377.80	140	4	18	3	0.5	10	185	4	18

BIORETENTION BASIN EMERGENCY SPILLWAY WITH RIPRAP LINING

N.T.S.



UNDERDRAIN

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COMPRESSOR STATION 200 MODIFICATIONS
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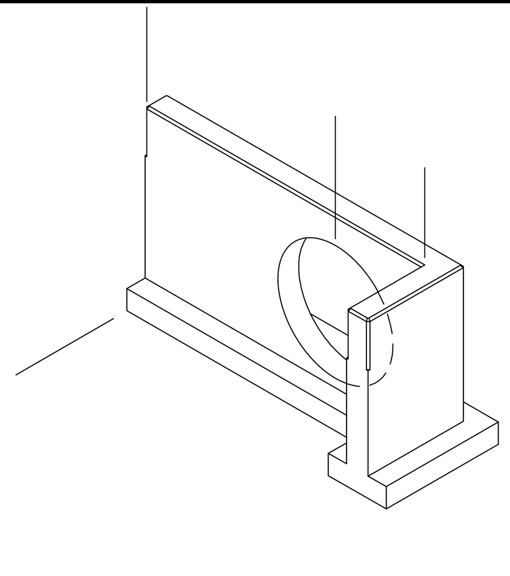
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION: TBD	REVISION: 5	
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:		SHEET 11 OF 12
WO:				

Drawn By & Date/Time: WarmanS Jul 03, 2025 - 3:46pm
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\PCSM\09-12 - PCSM Details.dwg



RIGHT HAND HEADWALL

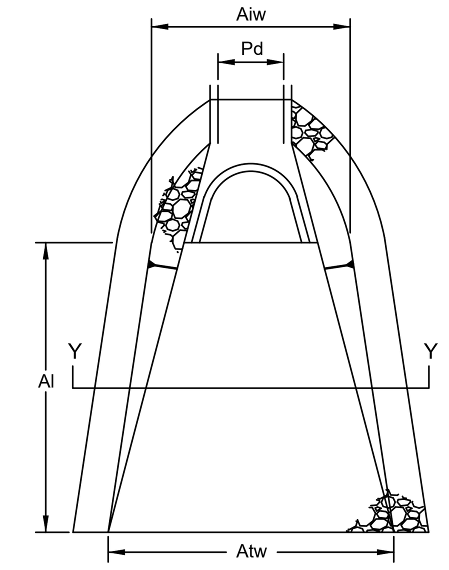
D	H	L/2	LENGTH OF W: 3'-4" STEEL LBS.	3'-4" CONC. CYD.	3'-4" WEIGHT LBS.	4'-10" STEEL LBS.	4'-10" CONC. CYD.	4'-10" WEIGHT LBS.	6'-4" STEEL LBS.	6'-4" CONC. CYD.	6'-4" WEIGHT LBS.	7'-10" STEEL LBS.	7'-10" CONC. CYD.	7'-10" WEIGHT LBS.	9'-4" STEEL LBS.	9'-4" CONC. CYD.	9'-4" WEIGHT LBS.
12"	2'-8"	2'-6"	50	0.79	3,200	60	0.98	3,970									
15"	2'-11"	3'-0"	55	0.91	3,685	65	1.11	4,495									
18"	3'-2"	3'-6"	65	1.04	4,215	75	1.25	5,065									
21"	3'-5"	3'-9"	75	1.15	4,660	90	1.36	5,510									
24"	3'-8"	4'-3"	85	1.29	5,225	100	1.51	6,115	110	1.74	7,045						
27"	3'-11"	4'-9"	90	1.44	5,835	105	1.67	6,765	115	1.91	7,735						
30"	4'-2"	5'-0"	95	1.55	6,275	110	1.80	7,290	120	2.05	8,300	135	2.29	9,275			
33"	4'-5"	5'-6"	105	1.71	6,925	120	1.97	7,980	135	2.23	9,030	150	2.48	10,045			
36"	4'-8"	6'-0"	110	1.88	7,615	125	2.15	8,710	140	2.41	9,760	155	2.68	10,855	170	2.95	11,950
39"	4'-11"	6'-3"				150	2.28	9,235	170	2.56	10,370	185	2.84	11,500	200	3.12	12,635
42"	5'-2"	6'-9"				155	2.42	9,075	175	2.76	11,260	190	3.05	12,350	210	3.34	13,525
45"	5'-5"	7'-3"							180	2.97	12,030	200	3.27	13,245	215	3.57	11,460
48"	5'-8"	7'-6"							190	3.13	12,680	215	3.44	13,930	230	3.75	15,185
51"	5'-11"	8'-0"										220	3.67	14,865	235	3.99	16,160
54"	6'-2"	8'-6"										235	3.91	15,835	250	4.24	17,175

NOTES:

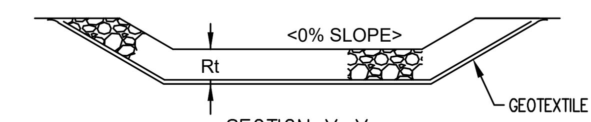
1. DETAIL SHOWN IS SOURCED FROM OLDCASTLEPRECAST.COM.
2. GEOSYNTHETIC CLAY LINER (GCL) SYSTEM THAT WILL BE INSTALLED WITHIN VEGETATED CHANNELS SHOULD BE APPROPRIATELY SECURED AND ATTACHED TO 'L' SHAPED HEADWALL TO ENSURE A WATER-TIGHT SEAL. COMMON MEANS OF SECURING GCL IS BY ANCHORING THE LINER TO THE STRUCTURE THROUGH USE OF STEEL-BATTON SYSTEM (SEE 'CONCRETE OUTLET STRUCTURE' AND 'LOW-PERMEABILITY LINER SYSTEM' DETAILS FOR FURTHER INFORMATION). IF THE CONTRACTOR PROPOSES A DIFFERENT APPROACH, IT MUST BE SUBMITTED IN WRITING AND APPROVED BY WILLIAMS.

'L' SHAPED HEADWALL

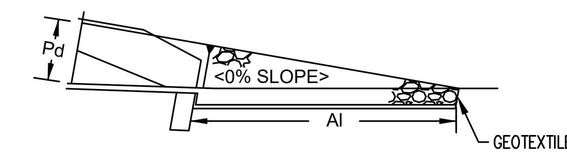
N.T.S.



PLAN VIEW



SECTION Y-Y



SECTION Z-Z

OUTLET NO.	PIPE DIA. Pd (IN)	RIPRAP: SIZE (R-_)	RIPRAP: THICK. Rt (IN)	APRON: LENGTH Al (FT)	APRON: INITIAL WIDTH Aiw (FT)	APRON: TERMINAL WIDTH Atw (FT)
RA-01	24	R-5	27	14	6	20
RA-02	18	R-4	18	8	5	13
RA-03 & RA-04	18	R-5	27	12	5	17

RIPRAP GRADATION TABLE

NATIONAL STONE ASSOCIATION NUMBER	SIZE OF ROCKS (INCHES): MAXIMUM	d50 AVERAGE *	MINIMUM **	MIN. THICKNESS OF RIPRAP LAYER (IN.) "T"	TOE (FEET)
R-1	1?	?	NO. 8	2	1
R-2	3	1?	1	4	1.25
R-3	6	3	2	9	1.5
R-4	12	6	3	18	2.5
R-5	18	9	4	27	4
R-6	24	12	6	36	4
R-7	30	18	12	45	5
R-8	42	24	15	63	6

* THE "AVERAGE SIZE", OR d50, IS DEFINED AS A SIZE THAT IS EXCEEDED BY AT LEAST 50% OF THE TOTAL WEIGHT SHIPPED. (I.E. 50% OF THE TONNAGE SHIPPED CONSISTS OF PIECES LARGER THAN THE "AVERAGE SIZE" SHOWN IN CHART.)

** PIECES SMALLER THAN THE "MINIMUM SIZE" SHOWN SHALL NOT EXCEED 15% OF THE TONNAGE SHIPPED.

MATERIAL NOTES:

1. ROCK UTILIZED FOR RIPRAP SHALL CONSIST OF SOUND, DURABLE ROCK, INSOLUBLE IN WATER, AND RESISTANT TO WEATHERING.
2. ALL MATERIAL SHALL BE FREE OF STRUCTURAL DEFECTS, SHALE SEAMS AND ORGANIC MATTER.
3. INDIVIDUAL PIECES SHOULD BE SHARPLY ANGULAR, BLOCK SHAPED AND HAVE A MINIMUM SPECIFIC GRAVITY OF 2.5.
4. NO PIECE SHALL HAVE A LENGTH EXCEEDING THREE (3) TIMES ITS WIDTH OR DEPTH.
5. EACH LOAD OF ROCK SHALL BE OF WELL-GRADED MIXTURE. A WELL-GRADED MIXTURE, AS USED HEREIN, IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF LARGER STONE, BUT WITH A SUFFICIENT MIXTURE OF SMALLER SIZES TO FILL THE VOIDS.
6. MATERIAL SHALL MEET NSA SPECIFICATIONS – SEE TABLE.
7. IF STREAM WIDTH IS EQUAL TO OR LESS THAN 2 TIMES THE TOE WIDTH, RIPRAP SHALL BE PLACED ACROSS THE ENTIRE STREAM WIDTH.

CONSTRUCTION:
RIPRAP SHALL BE PLACED TO THE FULL COURSE THICKNESS IN ONE CONTINUOUS OPERATION. OPERATIONS WHICH CAUSE SEGREGATION OF THE MATERIALS SHALL NOT BE PERMITTED. INDIVIDUAL ROCKS MAY BE REARRANGED, AND THE VOIDS FILLED WITH HAND PLACED SMALLER ROCK IN ORDER TO ACHIEVE THE DESIRED UNIFORM ARMOR.

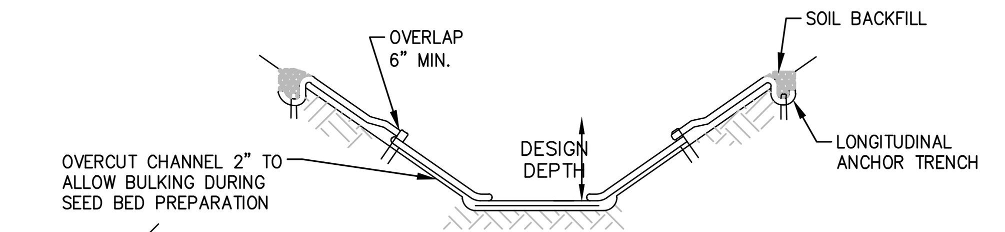
RIPRAP APRON

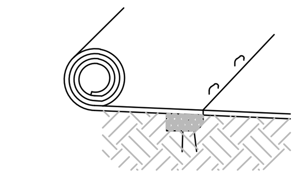
TEMPORARY EROSION CONTROL MEASURE (RPA)

PENNSYLVANIA

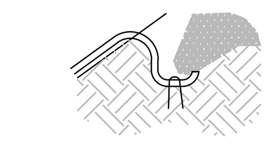
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
STANDARD ENVIRONMENTAL DETAIL
RPA RIPRAP APRON
Williams. GAS PIPELINE

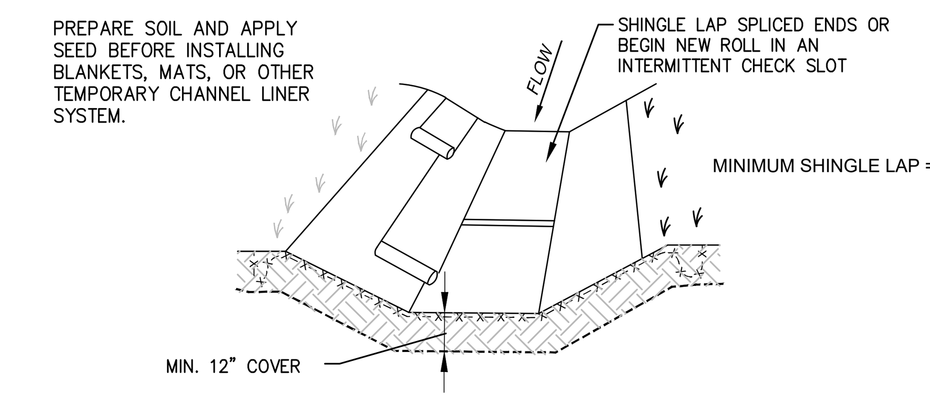




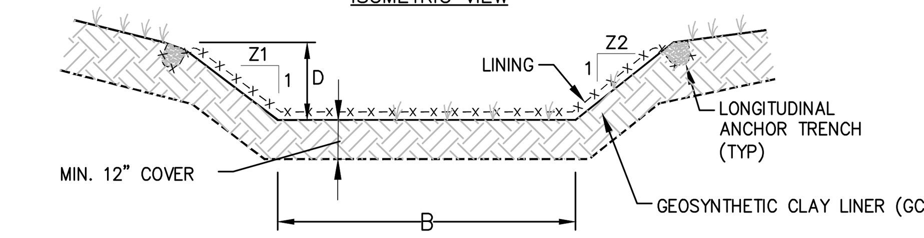
INTERMITTENT CHECK SLOT



LONGITUDINAL ANCHOR TRENCH



ISOMETRIC VIEW



CHANNEL CROSS-SECTION

CHANNEL	BOTTOM WIDTH B (FT)	DEPTH D (FT)	TOP WIDTH W (FT)	Z1 (FT)	Z2 (FT)	LINING
CH-01	4	1.5	22	2	10	SC150 / VEGETATION & UNDERLAIN BY GCL
CH-02	4	1.5	22	2	10	SC150 / VEGETATION & UNDERLAIN BY GCL

NOTES:

1. SEE MANUFACTURER'S INSTALLATION DETAIL FOR STAPLE PATTERNS, AND VEGETATION STABILIZATION SPECIFICATIONS FOR SOIL AMENDMENTS, SEED MIXTURES, AND MULCHING INFORMATION.
2. ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.
3. CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.
4. NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.

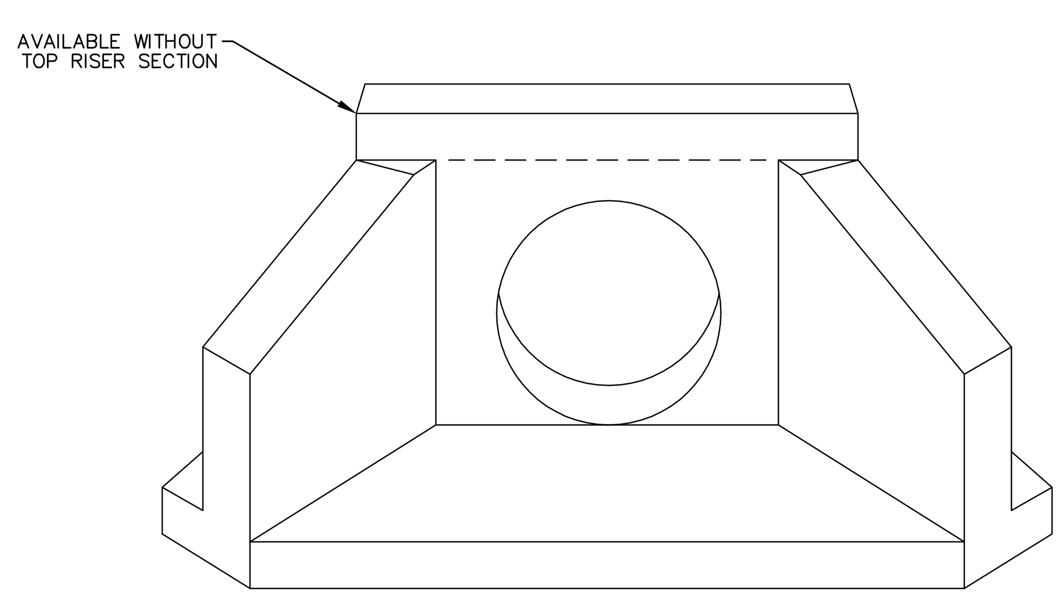
VEGETATED CHANNEL WITH GCL UNDERLAIN

PERMANENT STORMWATER MEASURE (VC)

PENNSYLVANIA

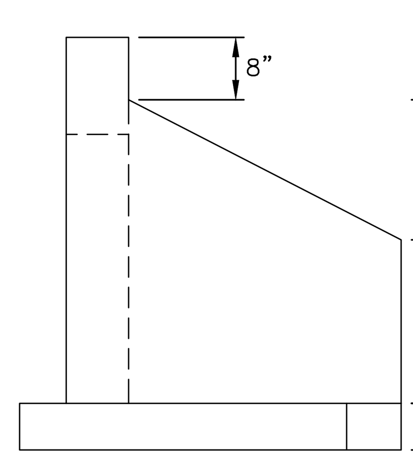
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
STANDARD ENVIRONMENTAL DETAIL
VC VEGETATED CHANNEL
Williams. GAS PIPELINE

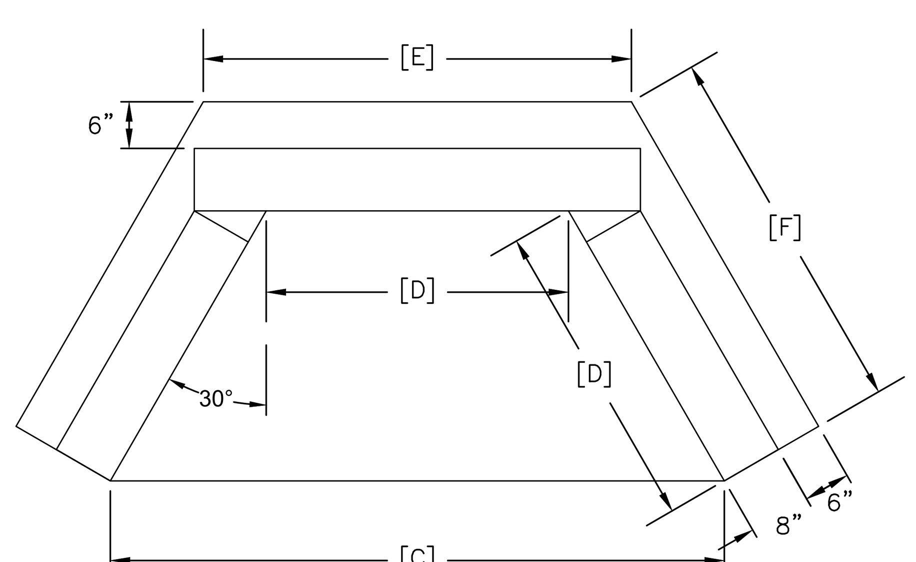


ISOMETRIC

MAXIMUM CULVERT DIA (IN)	[A] (IN)	[B] (IN)	[C] (IN)	[D] (IN)	[E] (IN)	[F] (IN)
15	11	21	48	24	38	34
18	12	26	52	26	43	33
21	12	26	52	26	43	33
24	21	39	80	40	55	55
36	21	39	80	40	55	55
48	23	52	104	52	73	60



SIDE VIEW



PLAN VIEW

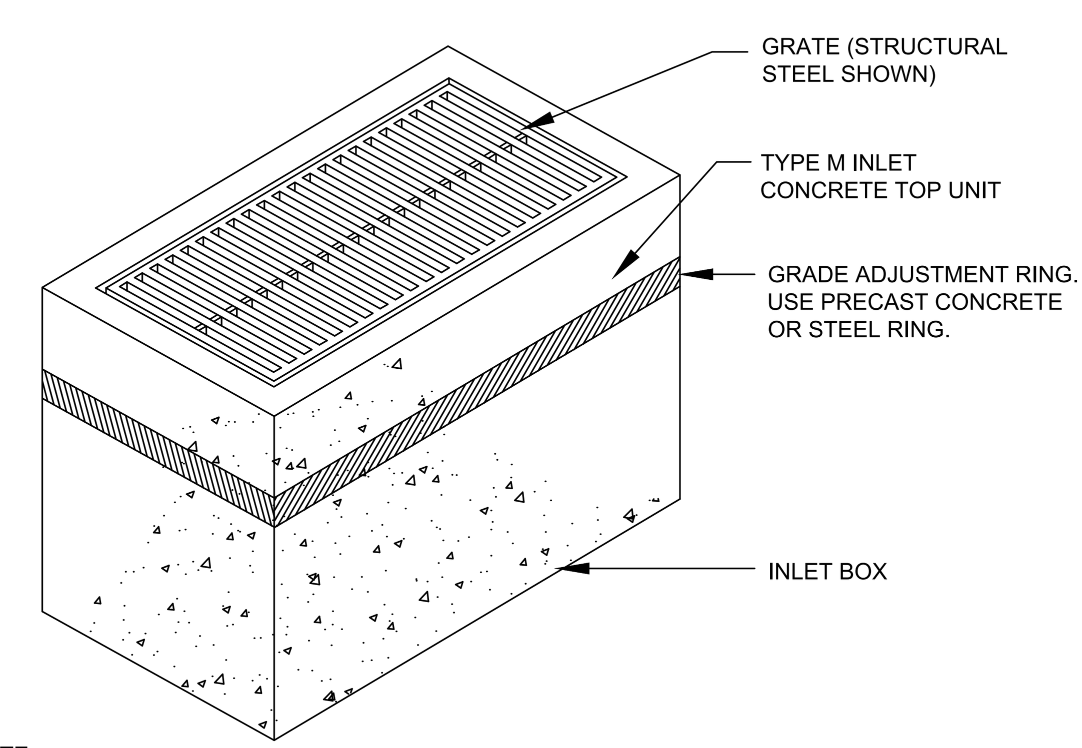
TYPICAL DW ENDWALL

PERMANENT STORMWATER CONTROL MEASURE (EW)

PENNSYLVANIA

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
PROJECT SPECIFIC DETAIL
EW TYPICAL DW ENDWALL
Williams. GAS PIPELINE



NOTE:

1. REFER TO PADOT RC34 DETAIL FOR ADDITIONAL INFORMATION
2. GEOSYNTHETIC CLAY LINER (GCL) SYSTEM THAT WILL BE INSTALLED WITHIN VEGETATED CHANNELS SHOULD BE APPROPRIATELY SECURED AND ATTACHED TO STANDARD PADOT TYPE M INLET TO ENSURE A WATER-TIGHT SEAL. COMMON MEANS OF SECURING GCL IS BY ANCHORING THE LINER TO THE STRUCTURE THROUGH USE OF STEEL-BATTON SYSTEM (SEE 'CONCRETE OUTLET STRUCTURE' AND 'LOW-PERMEABILITY LINER SYSTEM' DETAILS FOR FURTHER INFORMATION). IF THE CONTRACTOR PROPOSES A DIFFERENT APPROACH, IT MUST BE SUBMITTED IN WRITING AND APPROVED BY WILLIAMS.

STANDARD PADOT TYPE M INLET

N.T.S.

AECOM
625 WEST RIDGE PIKE, SUITE E-100
CONSHOHOCKEN, PA 19428
(610) 832-3500

PETER P. HAAS, P.E.
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER PETER P. HAAS PE076971
06/13/2025
DATE
PENNSYLVANIA
PROFESSIONAL ENGINEER NO. PE076971

REVISIONS

NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	06/06/2025	SEW	REDUCED LOD TO AVOID EXISTING PCSM FEATURES		DJC	PPH
1	06/06/2025	SEW	UPDATED BIORETENTION DESIGN PER 2025 GUIDANCE		DJC	PPH
2	07/07/2025	SEW	REVISIONS PER PADEP COMMENTS		DJC	PPH

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.
POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN
NORTHEAST SUPPLY ENHANCEMENT PROJECT
COMPRESSOR STATION 200 MODIFICATIONS
CHESTER COUNTY, PENNSYLVANIA
DETAILS

Williams. GAS PIPELINE

DRAWN BY: GMS	DATE: 12/01/2017	ISSUED FOR BID:	TBD	SCALE:	
CHECKED BY: JAC	DATE: 12/01/2017	ISSUED FOR CONSTRUCTION:	TBD	REVISION:	5
APPROVED BY: PPH	DATE: 12/01/2017	DRAWING NUMBER:		SHEET 12 OF 12	
WO:					

Drawn By & Date/Time: WarmanS Jul 03, 2025 - 3:32pm
Drawing Location & Name: \\na.aecomnet.com\lfs\AMER\Conshohocken-USCSK1\DCS\Projects\ENV\60757472_WMS_NESE_2025\400_Technical\400_CAD\PCSM\09-12 - PCSM Details.dwg