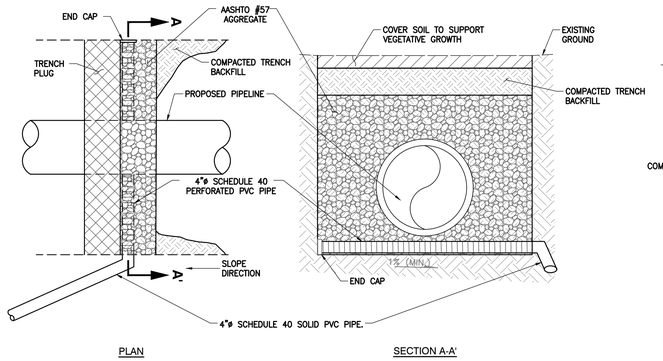
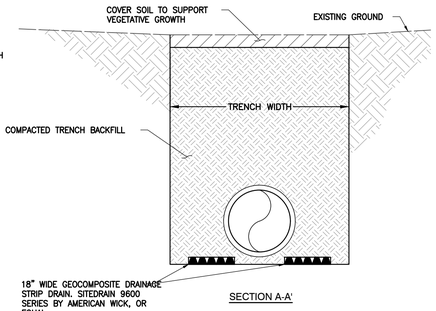


NOTE:

1. DAYLIGHT DISCHARGE PIPE TO RIPRAP EMBEDMENT TERMINUS (SEE DETAIL 9).
2. SLOPE BASE OF PIPE TRENCH, AT THE UPSLOPE SIDE OF TRENCH PLUG TOWARDS THE OUTLET PIPE AT A MINIMUM 1% GRADE.

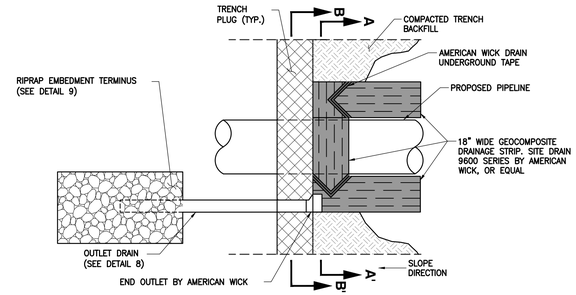
DETAIL 1
DRAINED TRENCH PLUG
NOT TO SCALE

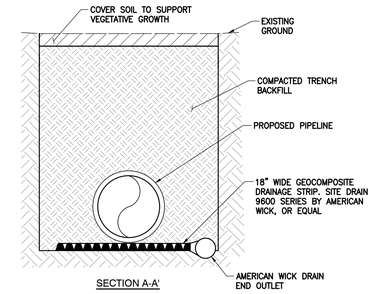


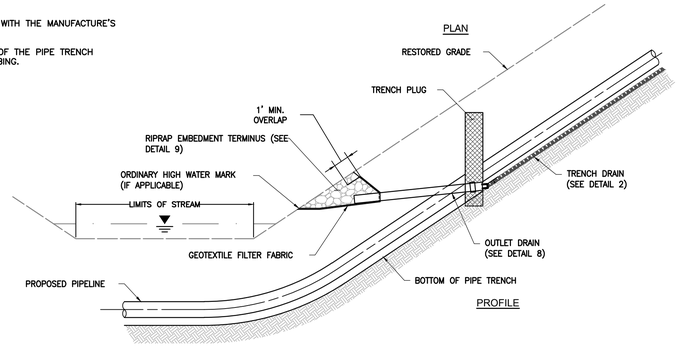
NOTES:

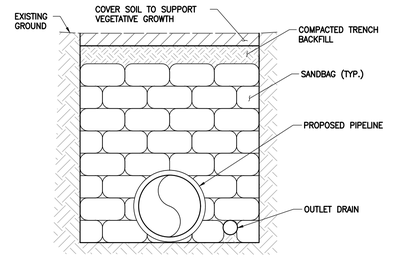
1. SPLICE GEOCOMPOSITE DRAINAGE STRIPS IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS.
2. PLACE GEOCOMPOSITE DRAINAGE STRIPS AT THE BOTTOM OF THE PIPE TRENCH PRIOR TO BACKFILLING. DO NOT CRUSH DRAIN WITH CRIBBING.

DETAIL 2
TRENCH DRAIN
NOT TO SCALE

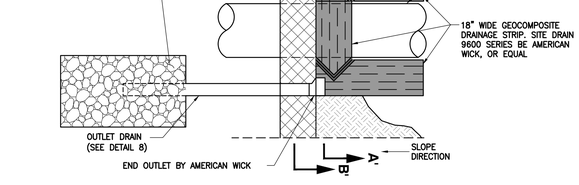


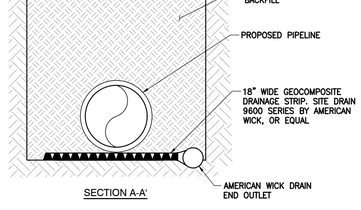


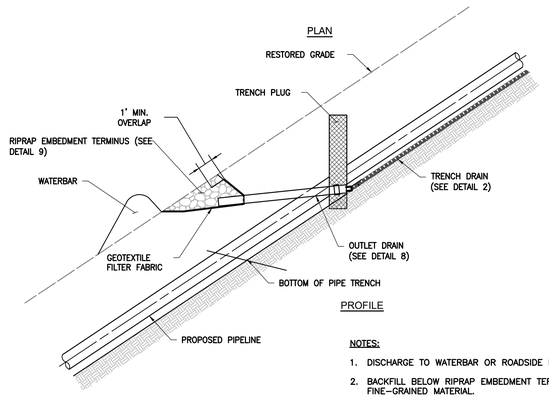


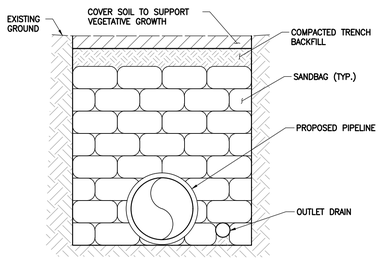


DETAIL 3
SLOPE TOE TRENCH DRAIN OUTLET
NOT TO SCALE









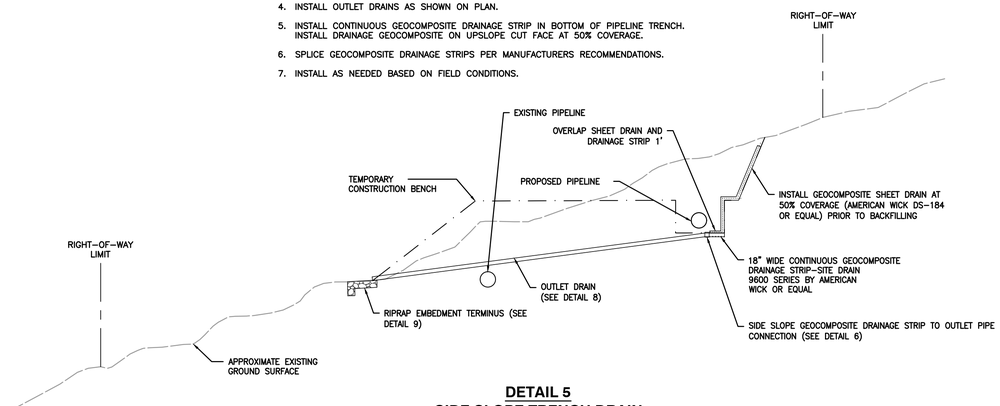
NOTES:

1. DISCHARGE TO WATERBAR OR ROADSIDE DITCH.
2. BACKFILL BELOW RIPRAP EMBEDMENT TERMINUS WITH CLAY OR OTHER FINE-GRAINED MATERIAL.

DETAIL 4
WATERBAR TRENCH DRAIN OUTLET
NOT TO SCALE

SIDE SLOPE DETAIL NOTES

1. INSTALL TOP OF PIPELINE AT 8' BELOW THE EXISTING GROUND SURFACE. EVALUATE ACTUAL LANDSLIDE/COLLUVIUM DEPTH PRIOR TO TRENCHING BY EXCAVATING TEST PITS UNDER THE DIRECTION OF A CEC GEOTECHNICAL REPRESENTATIVE. CONSIDER DEEPENING/SHALLOWING PIPELINE BASED ON FINDINGS.
2. MONITOR AREAS UPSLOPE AND DOWNSLOPE FROM TRENCH FOR MOVEMENT DURING PIPELINE TRENCHING AND INSTALLATION.
3. SLOPE TEMPORARY EXCAVATION AWAY FROM PIPELINE TRENCH.
4. INSTALL OUTLET DRAINS AS SHOWN ON PLAN.
5. INSTALL CONTINUOUS GEOCOMPOSITE DRAINAGE STRIP IN BOTTOM OF PIPELINE TRENCH. INSTALL DRAINAGE GEOCOMPOSITE ON UPSLOPE CUT FACE AT 50% COVERAGE.
6. SPLICE GEOCOMPOSITE DRAINAGE STRIPS PER MANUFACTURERS RECOMMENDATIONS.
7. INSTALL AS NEEDED BASED ON FIELD CONDITIONS.



DETAIL 5
SIDE SLOPE TRENCH DRAIN
NOT TO SCALE

NOTE:
REFER TO THE GEOTECHNICAL ENGINEERING REPORT DATED MAY 2025 BY CEC, INC. FOR ADDITIONAL INFORMATION

_____, P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 064
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-064	OF 097

Table 8 - Subsurface Drainage Schedule

Pipeline Alignment	Drainage Location, Type, and Construction Detail		
	Mile Point	*Orientation*	*Details*
	1387.28	--	1
	1387.29	--	1
	1387.82 - 1387.85	Down slope	2; 4
	1387.89 - 1387.91	Down slope	2; 4
	1388.00 - 1388.02	Down slope	2; 3
	1388.23 - 1388.24	Down slope	2; 3
	1389.09	--	1
	1389.24 - 1389.28	Down slope	2; 3
	1389.40 - 1389.42	Side slope	5
	1389.72 - 1389.73	Side slope	5
	1389.77 - 1389.79	Down slope	1; 2
	1390.12 - 1390.15	Down slope	1; 2
	1390.16 - 1390.27	Down slope	1; 2; 4
	1390.35 - 1390.39	Down slope	1; 2
	1390.53 - 1390.55	Down slope	1; 2
	1390.97 - 1390.99	Down slope	2; 3
	1391.00 -1391.03	Down slope	2; 3
	1391.14 - 1391.16	Side slope	5
	1391.46 - 1391.47	Side slope	5
	1391.51 - 1391.53	Down slope	1; 2
	1392.06	--	1
	1392.42 - 1392.44	Down slope	1; 2
	1392.66 - 1392.68	Down slope	2; 3
	1393.00 - 1393.02	Side slope	5
	1393.25 - 1393.28	Down slope	1; 2
	1393.30 - 1393.36	Side slope	5
	1393.39- 1393.41	Side slope	5
	1393.55 - 1393.57	Down slope	2; 3
	1393.99 - 1394.00	Down slope	1; 2
	1394.55 - 1394.56	Down slope	2; 4
	1394.78 - 1394.84	Side slope	5
	1394.94 - 1394.96	Side slope	5
	1395.72 - 1395.75	Side slope	5
	1395.88 - 1395.91	Side slope	5
	1396.62 - 1396.63	Side slope	5
	1396.66 - 1396.72	Down slope	2; 4
	1397.01 - 1397.02	Side slope	5
	1397.05 - 1397.06	Down slope	2; 3
	1397.15 - 1397.18	Side slope	5
	1397.19 - 1397.20	Down slope	2; 3
	1397.70 - 1397.73	Down slope	2; 3
	1398.64 - 1398.66	Down slope	2; 3
	1398.89 - 1398.91	Down slope	2; 4
	1398.95 - 1398.97	Down slope	2; 4
	1399.41 - 1399.43	Down slope	1; 2
	1400.00 - 1400.02	Down slope	2; 3
	1400.21 - 1400.24	Side slope	5
	1400.49 - 1400.54	Side slope	5
Eden Loop	1400.86 - 1400.88	Down slope	2; 3
	1401.15 - 1401.17	Down slope	2; 4
	1401.50 - 1401.52	Down slope	1; 2
	1401.54 - 1401.55	Down slope	2; 3
	1401.65 - 1401.67	Down slope	1; 2
	1401.69 - 1401.71	Down slope	2; 3
	1402.45 - 1402.46	Down slope	1; 2
	1402.49 - 1402.51	Down slope	2; 3
	1402.67 - 1402.69	Down slope	2; 3
	1402.90 - 1402.92	Down slope	2; 3
	1403.06 - 1403.10	Down slope	2; 4
	1403.56 - 1403.58	Down slope	2; 4
	1403.61 - 1403.63	Down slope	2; 3
	1404.04 - 1404.07	Down slope	2; 4
	1404.17 - 1404.19	Down slope	2; 4
	1404.65 - 1404.67	Down slope	1; 2
	1404.92 - 1404.94	Down slope	2; 4
	1404.97 - 1404.98	Down slope	1; 2
	1405.09 - 1405.11	Down slope	1; 2
	1405.13 - 1405.14	Down slope	1; 2
	1405.16 - 1405.19	Side slope	5
	1405.33 - 1405.36	Side slope	5
	1405.44 - 1405.47	Side slope	5
	1405.63 - 1405.69	Down slope	2; 3; 4
	1405.77	--	1
	1406.11 - 1406.15	Side slope	5
	1406.00 - 1406.33	Down slope	1; 2
	1406.71 - 1406.73	Down slope	1; 2
	1406.94 - 1407.06	Down slope	2; 3; 4
	1407.07 - 1407.09	Down slope	2; 3
	1407.12 - 1407.15	Side slope	5
	1407.62 - 1407.64	Down slope	2; 3
	1407.77 - 1407.79	Down slope	1; 2
	1407.82 - 1407.84	Side slope	5
	1407.88 - 1407.90	Side slope	5
	1408.27 - 1408.29	Side slope	5
	1409.06 - 1409.08	Side slope	5
	1409.33 - 1409.35	Side slope	5
	1409.44 - 1409.48	Down slope	1; 2
	1409.49 - 1409.50	Side slope	5
	1409.68 - 1409.70	Side slope	5
	1409.84 - 1409.86	Side slope	5
	1409.9	--	1
	1410.91	--	1
	1411.50 - 1411.52	Side slope	5
	1411.73	--	1
	1412.03	--	1
	1412.78 - 1412.79	Down slope	1; 2
	1413.44 - 1413.47	Side slope	5

Table 1 – USGS Landslide Hazard Designation

Pipeline Alignment	Landslide Hazard		
	Mile Point	*Susceptibility*	*Incidence*
Eden Loop	1382.53 – 1401.75	Moderate	Low
	1401.75 – 1413.69	High	Moderate

Table 3 - Landslide Susceptible Soils

Pipeline Alignment	Potentially Unstable Areas
	Mile Point
Eden Loop	1387.82 – 1387.84
	1390.13 – 1390.21
	1392.68 – 1392.70
	1393.58 – 1393.60
	1395.76 – 1395.77
	1397.08 – 1397.09
	1397.74 – 1397.76
	1399.44 – 1399.46
	1401.19 – 1401.20
	1411.42 – 1411.43
	1411.48 – 1411.49
	1412.70 – 1412.71

Table 4 – Side Slope Alignments

Pipeline Alignment	Side Slope Areas		
	Mile Point		
Eden Loop	1387.78 – 1387.80	1395.90 – 1395.94	1405.36 – 1405.39
	1388.14 – 1388.18	1396.27 – 1396.33	1405.46 – 1405.54
	1389.06 – 1389.08	1396.50 – 1396.57	1406.14 – 1406.18
	1389.41 – 1389.42	1396.65 – 1396.68	1407.85 – 1407.94
	1389.59 – 1389.64	1397.17 – 1397.23	1408.26 – 1408.33
	1389.70 – 1389.74	1397.45 – 1397.48	1409.09 – 1409.11
	1390.30 – 1390.35	1397.63 – 1397.67	1409.21 - 1409.27
	1390.59 – 1390.62	1397.78 – 1397.81	1409.54 – 1409.75
	1390.67 – 1390.70	1397.90 – 1397.92	1411.38 – 1411.48
	1393.03 – 1393.04	1398.25 – 1398.26	1413.32 – 1413.41
	1393.34 – 1393.43	1399.80 – 1399.88	
	1393.47 – 1393.52	1400.22 – 1400.31	
	1393.66 – 1393.68	1400.39 – 1400.44	
	1394.05 – 1394.12	1400.52 – 1400.57	
	1394.22 -1394.37	1400.80 – 1400.83	
	1394.81 – 1394.84	1401.39 – 1401.42	
	1394.97 – 1394.99	1403.73 – 1403.81	
	1395.70 – 1395.81	1405.19 – 1405.22	
	Continued in next column	Continued in next column	

Table 5 – Steep Slopes

Pipeline Alignment	Steep Slope Areas	
	Mile Point	
Eden Loop	1388.23 – 1388.24	1401.54 – 1401.56
	1389.78 – 1389.80	1402.52 – 1402.53
	1390.20 – 1390.25	1403.63 – 1403.64
	1391.53 – 1391.54	1404.07 – 1404.10
	1392.45 – 1392.46	1407.51 – 1407.53
	1392.69 – 1392.71	1408.43 – 1408.44
	1397.23 – 1397.24	1409.44 – 1409.45
	Continued in next column	

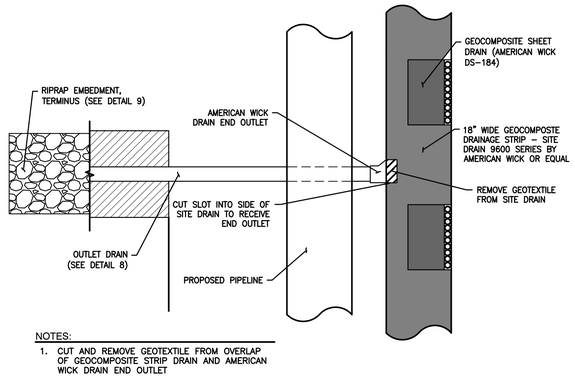
Table 6 – Steep Slope Mitigation

Pipeline Alignment	Steep Slope Areas	
	Mile Point	
Eden Loop	1388.23 – 1388.24	1403.63 – 1403.64
	1390.20 – 1390.25	1404.07 – 1404.10
	1392.69 – 1392.71	1407.09 – 1407.10
	1397.23 – 1397.24	1408.43 – 1408.44
	Continued in next column	1409.44 – 1409.45

Table 7 – Unstable Area Mitigation

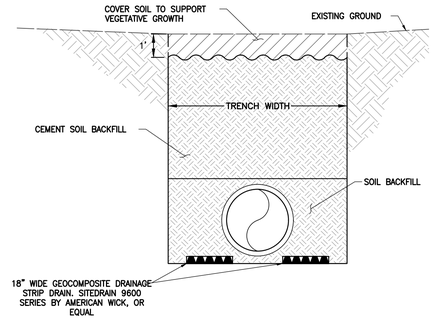
Pipeline Alignment	Mile Point	
Eden Loop	1387.82 – 1387.84	1399.44 – 1399.46
	1390.13 – 1390.21	1401.19 – 1401.20
	1392.68 – 1392.70	1411.42 – 1411.43
	1393.58 – 1393.60	1411.48 – 1411.49
	1395.76 – 1395.77	1412.70 – 1412.71
	1397.08 – 1397.09	
	1397.74 – 1397.76	
	Continued in next column	

NOTE:
REFER TO THE GEOTECHNICAL ENGINEERING REPORT DATED MAY 2025 BY CEC, INC. FOR ADDITIONAL INFORMATION.



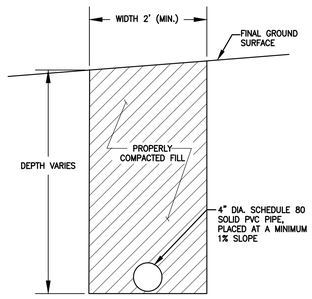
NOTES:
1. CUT AND REMOVE GEOTEXTILE FROM OVERLAP OF GEOCOMPOSITE STRIP DRAIN AND AMERICAN WICK DRAIN END OUTLET

DETAIL 6
SIDE SLOPE GEOCOMPOSITE DRAINAGE STRIP TO OUTLET PIPE CONNECTION
NOT TO SCALE

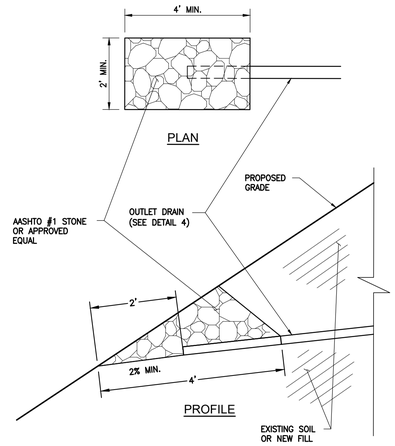


NOTES:
1. CEMENT SOIL BACKFILL SHALL BE THOROUGHLY MIXED WITH 8% CEMENT. BREAK ALL CLUMPS AND CLODS DURING MIXING. ADD WATER DURING MIXING AS NECESSARY TO PROPERLY HYDRATE.
2. LEAVE SURFACE OF BACKFILL ROUGHENED AND COVER WITH 1 FOOT OF SOIL FOR VEGETATION.
3. EXTEND CEMENT SOIL BACKFILL LIMITS TO INCLUDE ALL DISTURBED AREAS AND TRAVEL LANE BACKFILL.

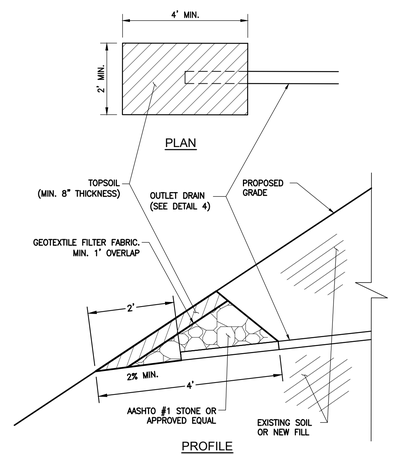
DETAIL 7
PIPELINE TRENCH CEMENT SOIL BACKFILL
NOT TO SCALE



DETAIL 8
OUTLET DRAIN
NOT TO SCALE



DETAIL 9
RIPRAP EMBEDMENT TERMINUS
NOT TO SCALE



DETAIL 9A
VEGETATED RIPRAP EMBEDMENT TERMINUS
NOT TO SCALE

_____ P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
09/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

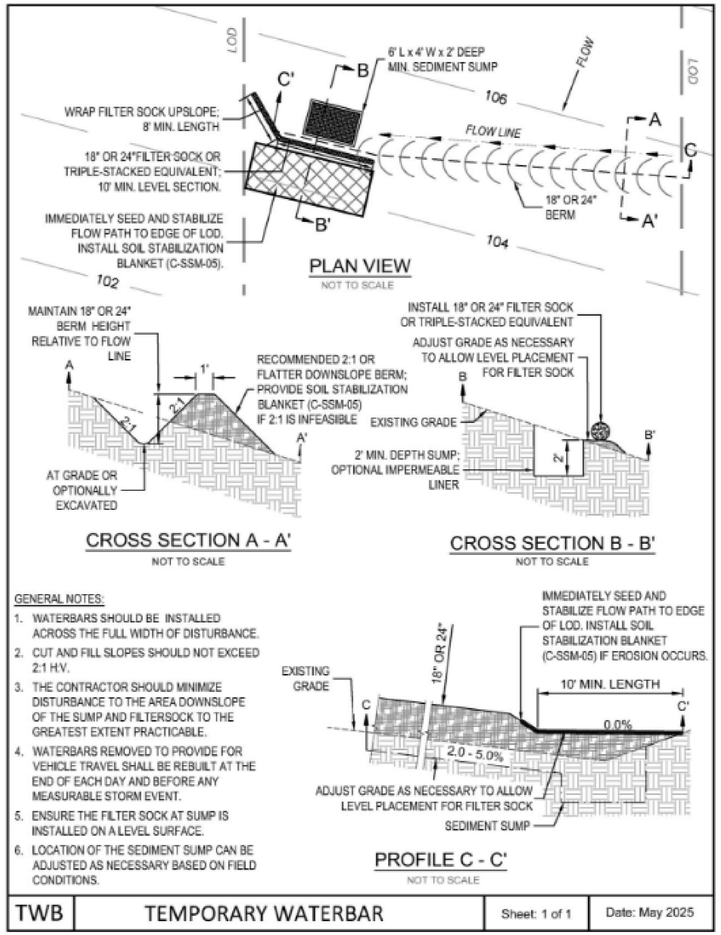
TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25	DRAWING NUMBER: VA-EDEN-ES-065	SHEET 065 OF 097
WO: C1009554	RID: 500		

Figure C-ECM-08-1 – Temporary Waterbar Configuration with sump.



GENERAL NOTES:

1. WATERBARS SHOULD BE INSTALLED ACROSS THE FULL WIDTH OF DISTURBANCE.
2. CUT AND FILL SLOPES SHOULD NOT EXCEED 2:1 H:V.
3. THE CONTRACTOR SHOULD MINIMIZE DISTURBANCE TO THE AREA DOWNSLOPE OF THE SUMP AND FILTERSOCK TO THE GREATEST EXTENT PRACTICABLE.
4. WATERBARS REMOVED TO PROVIDE FOR VEHICLE TRAVEL SHALL BE REBUILT AT THE END OF EACH DAY AND BEFORE ANY MEASURABLE STORM EVENT.
5. ENSURE THE FILTER SOCK AT SUMP IS INSTALLED ON A LEVEL SURFACE.
6. LOCATION OF THE SEDIMENT SUMP CAN BE ADJUSTED AS NECESSARY BASED ON FIELD CONDITIONS.

TWB	TEMPORARY WATERBAR	Sheet: 1 of 1	Date: May 2025

CONSTRUCTION SEQUENCE

1. BEFORE CONSTRUCTION, INSTALL THE APPROPRIATE EROSION AND SEDIMENT CONTROLS DOWNGRADIENT OF THE LAND–DISTURBING ACTIVITIES IN ACCORDANCE WITH THE APPROVED EROSION AND STORMWATER MANAGEMENT PLAN.
2. INSTALL WATERBARS AS SOON AS THE ROW HAS BEEN GRUBBED AND/OR GRADED.
3. COMPACT ALL EARTHEN WATERBARS AND STABILIZE PER MS–1. COMPACTION OF THE EXCAVATED MATERIAL USED TO MAKE THE BERM ON THE DOWNHILL SIDE OF THE WATERBAR SHOULD OCCUR BY USING WHEEL ROLLING OR WALKING THE EXCAVATION EQUIPMENT OVER THE DOWNHILL BERM.
4. WATERBARS SHOULD MAINTAIN A UNIFORM GRADE OF AT LEAST 2% BUT NO MORE THAN 5% TO MINIMIZE PONDING AND/OR EROSION WITHIN THE FLOW PATH.
5. INSTALL THE APPROPRIATE TEMPORARY SUMP (FIGURE C–ECM–08–1) AT THE DOWNGRADIENT END OF THE PRACTICE.
6. INSTALL SOIL STABILIZATION BLANKETS IN ACCORDANCE WITH C–SSM–05 ON THE OUTSIDE EDGE OF THE TEMPORARY SUMP IF DISCHARGE WILL OCCUR TO DISTURBED SOILS. SOIL STABILIZATION BLANKETS SHALL BE KEYED IN AND ANCHORED PER MANUFACTURER'S SPECIFICATIONS.
7. INSTALL COMPOST FILTER SOCK J–HOOK ON THE OUTSIDE EDGE OF THE TEMPORARY SUMP AND ON TOP OF THE SOIL STABILIZATION BLANKETS TO ENSURE THAT DISCHARGE FROM THE SUMP FLOWS THROUGH THE J–HOOK PRIOR TO DISCHARGING OFF RIGHT OF WAY.
8. STABILIZE WATERBARS THAT WILL REMAIN DORMANT FOR MORE THAN 14 DAYS IN ACCORDANCE WITH TEMPORARY OR PERMANENT SEEDING SPECIFICATIONS (C–SSM–09 OR C–SSM–10).
9. IF ANY PORTION OF THE WATERBAR AND/OR TEMPORARY OUTLET IS REMOVED, IT SHALL BE RESTORED BY THE END OF EACH WORKING DAY AND BEFORE A MEASURABLE STORM EVENT (A RAINFALL EVENT PRODUCING 0.25 INCHES OF RAIN OR GREATER OVER 24 HOURS OR SNOW MELT FROM A SNOW EVENT PRODUCING 3.25 INCHES OR MORE OF SNOW WITHIN A 24–HOUR PERIOD).
10. REMOVAL OF THE TEMPORARY WATERBAR MAY OCCUR WHEN THE PROJECT AREA IS AT FINAL GRADE AND THE CONTRIBUTING DRAINAGE AREA IS PERMANENTLY STABILIZED.
11. TO REMOVE THE WATERBAR, FILL IN THE SUMP, REMOVE THE FILTER SOCK AND IMMEDIATELY STABILIZE ANY AREA DISTURBED BY THIS ACTIVITY.

OPERATIONS AND MAINTENANCE

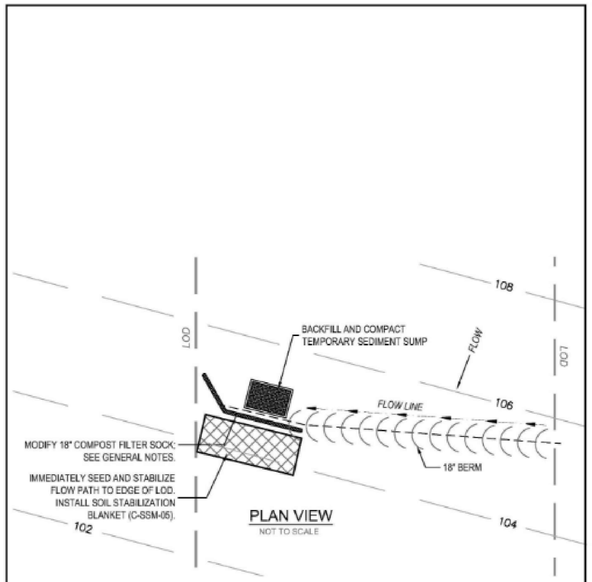
REFER TO THE BMP INSPECTION AND MAINTENANCE SCHEDULE OF THESE PLANS FOR INSPECTION FREQUENCIES.

ENSURE THAT THE WATERBARS FLOW PATH IS CLEAR OF SEDIMENT ACCUMULATIONS AND ANY OBSTRUCTIONS THAT IMPEDE FLOW. ENSURE TEMPORARY OR PERMANENT VEGETATIVE STABILIZATION IS MAINTAINED WITHIN THE WATERBAR ITSELF, AND THAT EROSION DOES NOT OCCUR WITHIN THE FLOW PATH.

RESTORE DAMAGED OR ERODED WATERBARS TO ORIGINAL DIMENSIONS AS SOON AS PRACTICABLE, BUT NO LATER THAN FIVE BUSINESS DAYS AFTER DISCOVERY. INSPECT CONSTRUCTED OUTLETS AND MAKE REPAIRS AS NEEDED INCLUDING MITIGATION OF ANY SUBSIDENCE THAT MAY FORM IN OR ADJACENT TO OUTLET STRUCTURES.

MAINTENANCE OF WATERBARS SHALL BE PROVIDED UNTIL THE ENTIRE CONTRIBUTING DRAINAGE AREA OF THE WATERBAR HAS BEEN PERMANENTLY STABILIZED. MAINTENANCE AND OPERATIONAL ACTIVITIES REQUIRED BY OTHER PERMITS AND ENTITIES ARE STILL APPLICABLE. TEMPORARY WATERBARS MAY BE CONVERTED TO PERMANENT WATERBARS DURING FINAL GRADING. FOR MORE INFORMATION ON PERMANENT WATERBARS SEE C–ECM–17 PERMANENT WATERBARS.

Figure C-ECM-17-2 – Temporary Waterbar Conversion

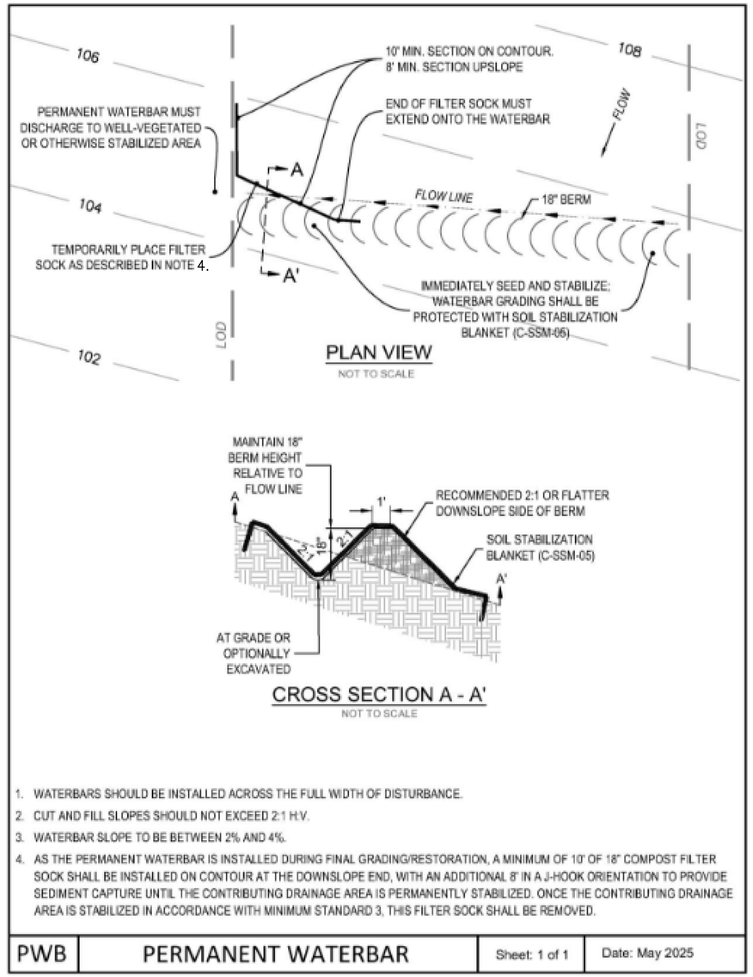


GENERAL NOTES:

1. WATERBARS SHOULD BE INSTALLED ACROSS THE FULL WIDTH OF DISTURBANCE.
2. CUT AND FILL SLOPES SHOULD NOT EXCEED 2:1 H:V.
3. UPON ESTABLISHING FINAL GRADE, BACKFILL AND COMPACT THE TEMPORARY SEDIMENT SUMP.
4. ENSURE 18" HEIGHT BERM.
5. MODIFY OR INSTALL THE COMPOST FILTER SOCK PER THE PERMANENT WATERBAR BMP (C-ECM-17-1).
6. INSTALL THE SOIL STABILIZATION BLANKET (C-SSM-05) PER THE PERMANENT WATERBAR BMP (C-ECM-17-1).

WBC	TEMPORARY WATERBAR CONVERSION	Sheet: 1 of 1	Date: May 2025

Figure C-ECM-17-1 - Permanent Waterbar Configuration



1. WATERBARS SHOULD BE INSTALLED ACROSS THE FULL WIDTH OF DISTURBANCE.
2. CUT AND FILL SLOPES SHOULD NOT EXCEED 2:1 H:V.
3. WATERBAR SLOPE TO BE BETWEEN 2% AND 4%.
4. AS THE PERMANENT WATERBAR IS INSTALLED DURING FINAL GRADING/RESTORATION, A MINIMUM OF 10' OF 18" COMPOST FILTER SOCK SHALL BE INSTALLED ON CONTOUR AT THE DOWNSLOPE END, WITH AN ADDITIONAL 8' IN A J-HOOK ORIENTATION TO PROVIDE SEDIMENT CAPTURE UNTIL THE CONTRIBUTING DRAINAGE AREA IS PERMANENTLY STABILIZED. ONCE THE CONTRIBUTING DRAINAGE AREA IS STABILIZED IN ACCORDANCE WITH MINIMUM STANDARD 3, THIS FILTER SOCK SHALL BE REMOVED.

PWB	PERMANENT WATERBAR	Sheet: 1 of 1	Date: May 2025

CONSTRUCTION SPECIFICATIONS:

1. BEFORE CONSTRUCTION, ENSURE THAT THE APPROPRIATE EROSION AND SEDIMENT CONTROLS ARE INSTALLED AND FUNCTIONAL DOWNGRADIENT OF THE LAND–DISTURBING ACTIVITIES IN ACCORDANCE WITH THE APPROVED EROSION AND STORMWATER MANAGEMENT PLAN.
2. INSTALL PERMANENT WATERBARS DURING THE FINAL GRADING AND SITE RESTORATION PHASE OF THE PROJECT. SPACING FOR PERMANENT WATERBARS SHALL BE IN ACCORDANCE WITH THE APPROVED SPACING REQUIREMENTS NOTED IN SECTION 5.0 DESIGN CRITERIA.
3. COMPACT ALL EARTHEN WATERBARS AND STABILIZE PER MS–1. COMPACTION OF THE EXCAVATED MATERIAL USED TO MAKE THE BERM ON THE DOWNHILL SIDE OF THE WATERBAR SHOULD OCCUR BY USING WHEEL ROLLING OR WALKING THE EXCAVATION EQUIPMENT OVER THE DOWNHILL BERM.
4. WATERBARS SHOULD MAINTAIN A UNIFORM GRADE OF AT LEAST 2% NOT TO EXCEED 4% TO MINIMIZE PONDING WITHIN THE FLOW PATH.
5. INSTALL COMPOST FILTER SOCK J–HOOK END TREATMENT AT THE OUTLET END OF THE PERMANENT WATERBAR (SEE TYPICAL DETAILS BELOW).
6. NO DISCHARGES SHOULD BE DIRECTED TO KARST FEATURES WITHOUT AN ENHANCED ENGINEERING DESIGN PREPARED BY A LICENSED PROFESSIONAL WITH EXPERIENCE WORKING IN KARST CONDITIONS.
7. IF ANY PORTION OF THE WATERBAR IS TEMPORARILY REMOVED, IT SHALL BE RESTORED BY THE END OF EACH WORKING DAY AND BEFORE A MEASURABLE STORM EVENT (A RAINFALL EVENT PRODUCING 0.25 INCHES OF RAIN OR GREATER OVER 24 HOURS OR SNOW MELT FROM A SNOW EVENT PRODUCING 3.25 INCHES OR MORE OF SNOW WITHIN A 24–HOUR PERIOD).
8. STABILIZE WATERBARS IN ACCORDANCE WITH PERMANENT SEEDING C–SSM–10 AND INSTALL SOIL STABILIZATION BLANKET AS OUTLINED IN SPECIFICATION C–SSM–05. THE COMPOST FILTER SOCK SHALL REMAIN UNTIL THE CONTRIBUTING DRAINAGE AREA OF THE WATERBAR HAS BEEN PERMANENTLY STABILIZED AND MEETS THE REQUIREMENTS OF MS–3.
9. FOR TEMPORARY WATERBARS CONVERTED TO PERMANENT WATERBARS, UPON ESTABLISHING FINAL GRADE WITHIN THE CONTRIBUTING DRAINAGE AREA, BACKFILL AND COMPACT THE TEMPORARY SUMP, INSTALL THE LEVEL BERM AND COMPOST FILTER SOCK, AND SOIL STABILIZATION BLANKET AS OUTLINED IN TABLE C–ECM–17–1.
10. REFER TO THE BMP INSPECTION AND MAINTENANCE SCHEDULE OF THESE PLANS FOR INSPECTION FREQUENCIES.
11. ONCE THE ENTIRE DISTURBED AREA DRAINING TO THE WATERBAR IS FULLY STABILIZED AND MEETS THE REQUIREMENTS OF MS–3, REMOVE THE COMPOST FILTER SOCK AND PERMANENTLY STABILIZE ANY DISTURBED AREAS RESULTING FROM ITS REMOVAL.

OPERATIONS AND MAINTENANCE

ALTHOUGH WATERBARS ARE NOT PERMANENT STORMWATER MANAGEMENT FACILITIES THAT ARE SUBJECT TO LONG–TERM MAINTENANCE AGREEMENTS, WATERBARS SHOULD BE INSPECTED DURING ANY INSPECTIONS OF THE ROW. ANY REQUIRED REPAIRS SHOULD BE MADE AS SOON AS PRACTICABLE.

MAINTAIN THE WATERBARS' FLOW PATH CLEAR OF SEDIMENT ACCUMULATIONS AND ANY OBSTRUCTIONS THAT IMPEDE FLOW. ENSURE PERMANENT VEGETATIVE STABILIZATION IS MAINTAINED AND THAT EROSION DOES NOT OCCUR WITHIN THE FLOW PATH OR ON THE WATERBAR ITSELF. RESTORE DAMAGED OR ERODED WATERBARS TO ORIGINAL DIMENSIONS AS SOON AS PRACTICABLE. INSPECT CONSTRUCTED OUTLETS AND MAKE REPAIRS AS NEEDED INCLUDING MITIGATION OF ANY EROSION OR SUBSIDENCE THAT MAY FORM IN OR ADJACENT TO THE OUTLET.

_____ P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

Williams

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25	DRAWING NUMBER: VA-EDEN-ES-066	SHEET 066 OF 097
WO: C1009554	RID: 500		

WATERBAR SCHEDULE					
Station	Temp/Perm	Drainage Area in Temporary Condition (Acres)	Drainage Area in Permanent Condition (Acres)	Cross Slope	ROW Slope
7420+42	Permanent	0.22	0.77	3.0%	5.3%
7425+03	Permanent	0.37	0.37	3.5%	3.9%
7426+40	Permanent	0.57	0.57	3.4%	3.9%
7427+00	Permanent	0.08	0.08	2.5%	19.4%
7428+23	Permanent	0.82	0.82	2.0%	2.6%
7429+84	Permanent	0.58	0.93	2.2%	5.6%
7430+34	Temporary	0.37	N/A	2.3%	5.6%
7430+75	Permanent	0.62	0.62	3.2%	5.6%
7432+01	Permanent	0.52	0.52	2.3%	5.6%
7440+25	Permanent	0.25	0.25	2.3%	8.1%
7440+81	Permanent	0.19	0.19	3.3%	8.1%
7441+45	Permanent	0.22	0.22	3.4%	3.5%
7447+35	Permanent	0.23	0.23	2.8%	3.5%
7449+04	Permanent	0.41	0.41	2.4%	5.6%
7456+61	Permanent	0.32	0.32	2.5%	4.3%
7459+20	Permanent	0.12	0.12	3.5%	12.2%
7459+99	Permanent	0.46	0.46	2.4%	12.2%
7461+12	Permanent	0.28	0.28	2.0%	12.2%
7461+86	Permanent	0.36	0.72	2.3%	3.1%
7462+51	Temporary	0.42	N/A	2.1%	3.1%
7464+50	Temporary	0.36	N/A	2.0%	2.8%
7465+42	Permanent	0.26	0.45	2.1%	19.1%
7469+00	Permanent	0.38	0.38	2.8%	11.2%
7469+99	Permanent	0.50	0.95	2.1%	11.2%
7471+06	Temporary	0.77	N/A	3.1%	2.3%
7475+56	Permanent	0.35	0.35	2.3%	2.3%
7476+68	Permanent	0.23	0.23	3.1%	8.0%
7478+40	Permanent	0.32	0.32	2.0%	3.2%
7491+28	Permanent	0.48	0.50	2.0%	5.0%
7493+59	Permanent	0.16	0.91	2.7%	5.0%
7495+04	Permanent	0.14	0.70	2.0%	5.0%
7495+87	Permanent	0.14	0.51	2.5%	3.8%
7499+37	Permanent	0.12	0.44	3.5%	9.3%
7500+42	Permanent	0.18	0.18	3.8%	10.8%
7502+00	Permanent	0.21	0.31	2.7%	4.8%
7503+22	Permanent	0.18	0.73	4.0%	4.8%
7513+05	Permanent	0.96	0.96	2.9%	2.9%
7514+41	Permanent	0.32	0.32	2.6%	2.9%
7515+53	Permanent	0.15	0.15	3.1%	2.9%
7518+29	Permanent	0.54	0.54	2.8%	7.6%
7519+28	Permanent	0.49	0.49	2.1%	4.4%
7521+88	Permanent	0.06	0.06	2.7%	9.6%
7529+31	Permanent	0.24	0.24	2.6%	9.3%
7530+39	Permanent	0.55	0.55	2.9%	14.0%
7531+26	Permanent	0.26	0.26	3.1%	14.0%
7532+01	Permanent	0.40	0.40	2.3%	14.0%
7532+56	Permanent	0.24	0.24	2.8%	14.0%
7533+13	Permanent	0.17	0.17	2.2%	6.7%
7537+48	Permanent	0.28	0.28	2.6%	9.0%
7542+14	Permanent	0.33	0.44	2.5%	13.3%
7543+39	Permanent	0.26	0.26	2.3%	5.0%
7545+15	Temporary	0.35	N/A	2.1%	9.5%
7546+20	Temporary	0.36	N/A	2.7%	4.6%
7557+17	Permanent	0.45	0.45	2.7%	11.4%
7557+64	Temporary	0.29	N/A	2.5%	28.4%
7558+10	Permanent	0.32	0.58	3.1%	28.4%
7558+54	Permanent	0.13	0.13	2.1%	28.4%
7558+88	Permanent	0.19	0.19	3.3%	28.4%
7560+52	Permanent	0.15	0.54	2.8%	14.7%
7561+85	Permanent	0.11	0.11	2.4%	18.7%
7562+74	Permanent	0.25	0.25	3.7%	9.3%
7564+12	Permanent	0.32	0.32	2.3%	13.1%
7565+51	Permanent	0.46	0.46	3.3%	7.0%
7569+56	Permanent	0.41	0.41	2.7%	9.8%
7572+14	Permanent	0.17	0.17	3.6%	10.1%
7573+39	Permanent	0.12	0.12	2.1%	4.4%
7574+31	Permanent	0.16	0.16	2.7%	11.0%
7575+39	Permanent	0.21	0.21	2.2%	4.4%
7576+13	Permanent	0.16	0.16	2.1%	13.3%
7576+88	Permanent	0.22	0.22	2.5%	13.3%
7578+12	Permanent	0.23	0.23	2.2%	12.6%
7578+98	Permanent	0.26	0.26	3.0%	25.5%
7579+84	Permanent	0.32	0.54	3.1%	25.5%
7580+03	Temporary	0.24	N/A	3.8%	25.5%
7580+82	Permanent	0.23	0.23	2.8%	25.5%
7581+69	Permanent	0.14	0.14	2.9%	25.5%
7582+15	Permanent	0.16	0.16	2.8%	27.9%
7582+64	Permanent	0.11	0.11	3.2%	27.9%
7583+06	Permanent	0.32	0.32	2.6%	27.9%
7583+82	Permanent	0.23	0.23	2.5%	27.9%
7584+43	Permanent	0.32	0.32	2.9%	27.9%
7585+42	Permanent	0.17	0.17	2.1%	10.6%
7594+28	Permanent	0.30	0.30	4.0%	13.8%
7595+35	Permanent	0.21	0.21	3.0%	13.8%
7596+56	Permanent	0.24	0.24	2.0%	13.8%
7597+47	Permanent	0.17	0.17	2.7%	12.9%
7598+30	Permanent	0.40	0.40	2.4%	12.9%
7599+10	Permanent	0.29	0.29	2.4%	21.6%
7608+63	Temporary	0.58	N/A	2.0%	5.4%
7616+00	Permanent	0.27	0.50	2.4%	9.4%
7617+07	Permanent	0.13	0.13	2.6%	11.6%
7618+92	Permanent	0.17	0.17	2.8%	10.6%
7622+47	Permanent	0.18	0.18	3.6%	25.0%
7625+00	Permanent	0.21	0.21	2.1%	10.7%
7625+67	Permanent	0.27	0.27	2.1%	5.9%
7626+70	Permanent	0.32	0.32	2.0%	5.9%
7627+94	Permanent	0.47	0.47	2.5%	5.9%
7638+05	Permanent	0.34	0.34	2.1%	8.7%
7639+67	Temporary	0.38	N/A	2.1%	12.4%
7640+56	Temporary	0.10	N/A	3.3%	12.4%
7640+85	Permanent	0.14	0.36	3.9%	12.4%
7641+27	Permanent	0.23	0.92	3.0%	12.4%
7642+11	Permanent	0.12	0.91	2.6%	9.2%
7643+02	Permanent	0.17	0.99	2.8%	9.2%
7649+87	Permanent	0.22	0.22	3.1%	24.8%
7650+53	Permanent	0.17	0.17	2.1%	24.8%
7651+17	Permanent	0.17	0.17	2.1%	24.8%
7652+06	Permanent	0.23	0.23	3.8%	10.8%
7652+91	Permanent	0.21	0.21	2.3%	10.8%
7653+70	Temporary	0.19	N/A	2.3%	10.8%
7654+44	Temporary	0.23	N/A	2.5%	10.8%
7655+30	Temporary	0.15	N/A	3.1%	10.8%
7661+64	Temporary	0.20	N/A	3.4%	5.8%
7662+62	Temporary	0.36	N/A	2.1%	5.8%
7663+70	Temporary	0.37	N/A	2.1%	13.0%
7665+21	Temporary	0.18	N/A	2.1%	11.9%
7670+35	Temporary	0.34	N/A	2.4%	7.1%
7677+58	Temporary	1.09	N/A	2.8%	5.0%
7678+49	Temporary	0.42	N/A	2.3%	5.0%
7679+38	Temporary	0.14	N/A	3.0%	15.2%
7680+93	Temporary	0.21	N/A	2.8%	8.9%
7681+91	Temporary	0.27	N/A	2.1%	8.9%
7682+59	Temporary	0.30	N/A	2.8%	8.9%
7683+44	Temporary	0.20	N/A	2.3%	8.9%
7684+23	Temporary	0.21	N/A	2.6%	4.6%
7685+48	Temporary	0.25	N/A	2.9%	4.6%
7689+80	Temporary	0.59	N/A	3.4%	8.5%
7690+69	Temporary	0.22	N/A	2.1%	8.5%
7691+53	Temporary	0.42	N/A	2.5%	6.0%
7692+59	Temporary	0.18	N/A	2.0%	6.0%
7693+44	Temporary	0.28	N/A	2.0%	6.0%
7697+35	Permanent	0.33	0.33	3.0%	9.8%
7697+80	Temporary	0.17	N/A	2.3%	20.5%
7698+19	Permanent	0.22	0.37	3.3%	20.5%
7698+93	Permanent	0.32	0.32	3.9%	20.5%
7699+37	Permanent	0.12	0.12	3.0%	20.5%
7699+76	Permanent	0.13	0.13	2.2%	20.5%
7700+79	Temporary	0.33	N/A	2.6%	13.3%
7701+57	Temporary	0.24	N/A	3.2%	13.3%
7702+40	Temporary	0.34	N/A	2.5%	13.3%
7703+14	Temporary	0.23	N/A	3.7%	6.2%
7704+06	Temporary	0.23	N/A	2.9%	6.2%
7704+99	Temporary	0.28	N/A	2.5%	6.2%
7705+80	Temporary	0.20	N/A	2.9%	6.2%
7706+36	Temporary	0.28	N/A	2.4%	6.2%
7707+14	Temporary	0.36	N/A	2.3%	6.2%
7710+84	Permanent	0.22	0.22	3.3%	22.7%
7711+32	Permanent	0.15	0.15	3.1%	22.7%
7711+93	Permanent	0.12	0.12	2.8%	22.7%
7718+28	Permanent	0.31	0.31	2.5%	10.7%
7719+07	Permanent	0.64	0.64	2.2%	10.7%
7720+00	Permanent	0.29	0.29	2.3%	10.7%
7720+96	Permanent	0.45	0.45	3.0%	6.5%
7721+92	Permanent	0.46	0.46	2.5%	6.5%
7730+72	Temporary	0.37	N/A	2.0%	8.4%
7731+47	Temporary	0.43	N/A	2.0%	8.4%
7736+95	Temporary	0.46	N/A	2.8%	7.1%
7738+24	Temporary	0.36	N/A	2.2%	5.9%
7738+89	Temporary	0.31	N/A	2.0%	5.9%
7739+85	Temporary	0.19	N/A	2.4%	5.9%
7740+68	Temporary	0.16	N/A	2.2%	6.7%
7741+29	Temporary	0.14	N/A	2.0%	6.7%
7742+13	Temporary	0.19	N/A	2.8%	6.7%
7743+66	Temporary	0.25	N/A	3.4%	6.7%
7744+51	Temporary	0.13	N/A	3.1%	6.7%
7758+28	Temporary	0.20	N/A	3.5%	20.0%
7758+97	Temporary	0.15	N/A	3.0%	20.0%
7760+36	Temporary	0.17	N/A	4.0%	3.5%
7760+95	Temporary	0.24	N/A	2.0%	5.8%
7763+48	Temporary	0.27	N/A	2.1%	6.8%
7764+24	Temporary	0.94	N/A	2.1%	2.4%
7774+92	Temporary	0.22	N/A	2.5%	8.2%
7787+20	Temporary	0.31	N/A	2.7%	2.6%
7787+92	Temporary	0.24	N/A	2.7%	7.6%
7788+89	Temporary	0.17	N/A	2.2%	7.6%
7790+68	Temporary	0.15	N/A	3.8%	3.6%
7810+19	Permanent	0.36	0.36	2.7%	12.6%
7810+88	Permanent	0.18	0.18	2.0%	23.6%
7812+40	Permanent	0.65	0.65	3.1%	3.9%
7828+77	Permanent	0.39	0.39	2.7%	10.6%
7829+25	Permanent	0.60	0.60	2.8%	10.6%
7830+21	Permanent	0.49	0.49	3.8%	10.6%
7830+34	Temporary	0.41	N/A	3.0%	12.7%
7830+88	Permanent	0.31	0.69	2.8%	12.7%
7866+47	Temporary	0.45	N/A	2.5%	6.4%
7868+79	Temporary	0.65	N/A	2.1%	6.4%
7869+62	Temporary	0.36	N/A	2.0%	2.8%
7875+62	Temporary	0.29	N/A	3.6%	3.7%
7877+01	Temporary	0.20	N/A	3.4%	10.2%
7878+29	Temporary	0.42	N/A	4.0%	2.7%
7885+88	Temporary	0.08	N/A	2.0%	5.6%
7886+74	Temporary	0.18	N/A	3.8%	13.0%
7887+33	Temporary	0.24	N/A	2.2%	13.0%
7888+21	Temporary	0.57	N/A	2.7%	3.4%
7905+03	Temporary	0.77	N/A	2.0%	4.1%
7927+20	Temporary	0.28	N/A	2.0%	6.7%
7927+95	Temporary	0.11	N/A	2.8%	13.8%
7929+07	Temporary	0.20	N/A	2.6%	9.6%
7930+01	Temporary	0.28	N/A	3.1%	9.6%
7930+95	Temporary	0.27	N/A	2.6%	5.5%
7934+51	Temporary	0.39	N/A	2.1%	3.3%
7934+83	Permanent	0.06	0.29	3.4%	16.9%
7935+86	Permanent	0.11	0.11	2.2%	11.7%
7936+43	Permanent	0.60	0.60	2.1%	4.2%
7943+07	Temporary	0.10	N/A	3.3%	13.3%
7944+14	Temporary	0.10	N/A	2.3%	8.7%
7954+50	Temporary	0.18	N/A	2.3%	3.7%
7955+46	Temporary	0.19	N/A	2.3%	3.7%
7956+11	Temporary	0.24	N/A	2.2%	5.8%
7956+94	Temporary	0.27	N/A	2.0%	3.8%
7957+82	Temporary	0.10	N/A	2.2%	8.0%
7958+05	Temporary	0.36	N/A	2.2%	8.0%
7959+68	Temporary	0.35	N/A	2.8%	3.9%
7960+62	Temporary	0.57	N/A	2.1%	3.9%
8000+03	Permanent	0.33	0.33	3.4%	10.6%
8000+99	Permanent	0.25	0.25	2.3%	9.5%
8001+77	Permanent	0.27	0.27	2.6%	9.5%
8002+82	Permanent	0.17	0.17	2.8%	9.5%
8003+86	Permanent	0.19	0.19	3.9%	5.8%
8012+25	Permanent	0.32	0.32	2.0%	9.0%
8013+72	Permanent	0.28	0.28	2.0%	6.6%
8017+15	Permanent	0.16	0.16	2.2%	7.7%
8018+17	Permanent	0.17	0.17	2.1%	7.7%
8024+41	Permanent	0.99	0.99	2.0%	4.8%
8025+54	Permanent	0.20	0.20	2.0%	4.8%
8026+32	Permanent	0.24	0.24	2.1%	18.0%
8027+38	Permanent	0.20	0.20	3.5%	18.0%
8029+24	Permanent	0.11	0.11	2.0%	3.7%
8030+02	Permanent	0.07	0.07	3.2%	6.5%
8030+87	Permanent	0.20	0.20	2.4%	6.5%
8031+89	Permanent	0.25	0.25	2.0%	6.5%
8033+13	Permanent	0.26	0.26	2.0%	6.5%
8036+31	Temporary	0.44	N/A	2.4%	3.2%
8037+32	Temporary	0.40	N/A	2.1%	3.2%
8039+69	Temporary	0.23	N/A	2.4%	4.9%
8040+79	Temporary	0.23	N/A	2.4%	4.9%
8044+79	Temporary	0.59	N/A	3.9%	5.5%
8047+77	Permanent	0.42	0.42	2.0%	8.0%
8048+56	Permanent	0.46	0.46	2.2%	8.0%
8049+07	Temporary	0.42	N/A	2.3%	5.3%
8049+58	Permanent	0.48	0.83	3.9%	5.3%
8052+21	Permanent	0.21	0.21	2.8%	5.1%
8053+21	Permanent	0.45	0.45	2.8%	5.1%
8054+21	Permanent	0.26	0.26	2.7%	5.1%
8055+21	Permanent	0.39	0.39	2.7%	2.7%
8056+23	Permanent	0.35	0.35	2.5%	2.7%
8059+75	Permanent	0.26	0.26	2.0%	3.4%
8060+98	Permanent	0.36	0.36	2.3%	3.0%
8062+77	Permanent	0.14	0.14	3.9%	5.3%
8063+69	Permanent	0.40	0.40	3.7%	5.3%
8064+75	Permanent	0.27	0.27	3.7%	5.3%
8065+48	Permanent	0.17	0.17	2.1%	8.6%
8066+48	Permanent	0.19	0.19	2.4%	8.6%
8067+41	Permanent	0.30	0.30	3.2%	8.6%
8068+03	Permanent	0.17	0.17	3.9%	23.9%
8068+54	Permanent	0.07	0.07	4.0%	23.9%
8069+65	Permanent	0.34	0.34	2.2%	0.0%
8080+48	Temporary	0.29	N/A	2.9%	4.8%
8081+48	Temporary	0.29	N/A	2.2%	4.8%
8082+48	Temporary	0.29	N/A	2.0%	4.8%
8083+48	Temporary	0.25	N/A	2.0%	4.8%
8084+33	Temporary	0.23	N/A	2.2%	4.8%
8085+14	Temporary	0.96	N/A	2.0%	4.8%
8092+19	Permanent	0.21	0.21	3.4%	5.2%
8093+07	Permanent	0.35	0.35	3.8%	5.2%
8094+42	Permanent	0.40	0.40	2.1%	5.2%
8095+47	Permanent	0.21	0.21	2.4%	5.2%
8097+77	Permanent	0.18	0.18	2.8%	5.9%
8098+78	Permanent	0.23	0.23	2.5%	12.2%
8099+35	Permanent	0.20	0.20	2.6%	27.0%
8103+05	Temporary	0.26	N/A	2.8%	11.6%
8103+89	Temporary	0.36	N/A	2.4%	6.1%
8115+28	Temporary	0.22	N/A	4.0%	6.4%
8116+37	Temporary	0.40	N/A	2.3%	6.4%
8127+29	Temporary	0.25	N/A	2.0%	4.6%
8128+70	Temporary	0.18	N/A	2.5%	5.8%
8129+81	Temporary	0.18	N/A	2.4%	5.8%
8135+99	Permanent	0.29	0.29	2.2%	17.6%
8137+17	Permanent	0.27	0.27	3.4%	11.9%
8142+61	Permanent	0.64	0.64	2.1%	13.9%
8143+38	Permanent	0.39	0.39	2.0%	13.9%
8144+04	Permanent	0.39	0.39	2.6%	13.9%
8144+98	Permanent	0.45	0.45	2.2%	13.9%
8145+81	Permanent	0.23	0.23	3.4%	4.9%
8147+24	Permanent	0.24	0.24	2.4%	4.0%
8148+40	Permanent	0.22	0.22	2.3%	13.4%
8149+03	Permanent	0.24	0.24	2.2%	13.4%
8149+97	Permanent	0.19	0.19	2.6%	6.3%
8150+87	Permanent	0.13	0.13	2.9%	6.3%
8151+94	Permanent	0.15	0.15	2.0%	6.3%
8153+03	Permanent	0.23	0.23	2.0%	3.4%
8154+12	Permanent	0.18	0.18	2.5%	3.4%
8154+78	Permanent	0.18	0.18	2.3%	5.2%
8155+44	Permanent	0.24	0.24	2.7%	5.2%
8156+43	Permanent	0.19	0.19	2.6%	5.2%
8159+16	Permanent	0.24	0.24	2.1%	11.3%
8159+63	Permanent	0.25	0.25	2.6%	21.0%
8160+75	Permanent	0.18	0.18	3.8%	21.0%
8162+24	Permanent	0.15	0.15	2.1%	14.1%
8163+12	Permanent	0.23	0.23	2.3%	8.5%
8163+99	Permanent	0.18	0.18	2.1%	5.7%
8164+87	Permanent	0.19	0.19	2.0%	5.7%
8165+66	Permanent	0.16	0.16	2.9%	5.7%
8166+36	Permanent	0.19	0.19	2.4%	2.6%
8174+73	Permanent	0.42	0.42	2.8%	5.3%
8175+70	Permanent	0.49	0.49	3.0%	5.3
8177+97	Permanent	0.46	0.46	3.1%	4.4%
8178+96	Permanent	0.18	0.18	3.7%	21.9%
8180+53	Permanent	0.31	0.31	2.3%	6.1%
8181+70	Permanent	0.26	0.26	2.9%	6.1%
8182+47	Permanent	0.60	0.60	2.1%	6.1%
8185+95	Permanent	0.44	0.44	3.7%	11.5%
8187+05	Permanent	0.21	0.21	3.8%	4.0%
8188+30	Permanent	0.19	0.19	2.3%	13.0%
8189+18	Permanent	0.26	0.26	3.8%	5.0%
8192+14	Permanent	0.12	0.12	3.7%	5.0%
8193+42	Permanent	0.15	0.15	2.0%	5.0%
8194+62	Permanent	0.31	0.31	2.0%	5.0%
8195+97	Permanent	0.99	0.99	2.0%	4.4%
8199+74	Permanent	0.37	0.37	2.1%	4.9%
8218+14	Permanent	0.47	0.47	3.7%	6.4%
8227+51	Permanent	0.65	0.65	3.3%	10.1%
8227+97	Permanent	0.24	0.24	3.6%	10.1%
8228+76	Permanent	0.24	0.24	4.0%	16.9%
8229+24	Permanent	0.12	0.12	3.4%	16.9%
8230+97	Permanent	0.43	0.43	2.4%	12.0%
8231+53	Permanent	0.70	0.70	2.3%	3.1%
8236+82	Permanent	0.30	0.30	2.3%	6.5%
8238+03	Permanent	0.37	0.37	2.0%	11.2%
8238+73	Permanent	0.25	0.25	2.7%	18.7%
8239+51	Permanent	0.29	0.29	3.0%	18.7%
8240+26	Permanent	0.32	0.32	2.4%	18.7%
8248+77	Temporary	0.30	N/A	2.1%	6.0%
8249+75	Temporary	0.26	N/A	2.0%	6.0%
8250+64	Temporary	0.35	N/A	2.0%	6.0%
8252+71	Permanent	0.27	0.95	2.7%	12.7%
8255+73	Permanent	0.35	0.35	2.3%	7.1%
8256+51	Permanent	0.36	0.36	2.6%	10.6%
8258+50	Permanent	0.29	0.29	2.1%	8.7%
8260+20	Permanent	0.57	0.57	3.2%	7.9%
8261+31	Permanent	0.49	0.74	3.9%	7.1%
8261+86	Temporary	0.29	N/A	3.0%	7.1%
8262+33	Permanent	0.33	0.33	3.0%	7.1%
8263+29	Permanent	0.31	0.31	3.0%	7.1%
8264+04	Temporary	0.35	N/A	3.0%	7.1%
8280+21	Temporary	0.36	N/A	2.0%	5.9%
8281+10	Temporary	0.26	N/A	2.5%	5.9%
8282+11	Temporary	0.30	N/A	3.6%	5.9%
8283+11	Temporary	0.27	N/A	3.4%	8.3%
8284+11	Temporary	0.34	N/A	3.1%	8.3%
8285+11	Temporary	0.25	N/A	2.6%	8.3%
8285+98	Temporary	0.19	N/A	2.6%	8.3%
8286+60	Permanent	0.18	0.18	3.6%	8.3%
8286+85	Temporary	0.25	N/A	3.0%	21.0%
8287+21	Permanent	0.13	0.42	2.6%	21.0%
8289+74	Permanent	0.07	0.07	3.5%	23.4%
8290+18	Permanent	0.19	0.19	3.8%	23.4%
8290+84	Permanent	0.23	0.46	4.0%	23.4%
8291+63	Temporary	0.28	N/A	2.5%	15.3%
8299+10	Permanent	0.34	0.34	3.3%	10.3%
8301+12	Permanent	0.31	0.31	3.8%	5.1%
8302+33	Permanent	0.67	0.67	3.1%	2.3%
8308+80	Permanent	0.13	0.13	2.0%	2.3%
8309+59	Permanent	0.18	0.18	2.1%	13.1%
8310+63	Permanent	0.34	0.34	2.7%	13.1%
8311+10	Temporary	0.30	N/A	2.4%	13.1%
8311+67	Permanent	0.27	0.58	2.1%	23.0%
8312+21	Permanent	0.32	0.32	2.0%	23.0%
8312+75	Permanent	0.19	0.19	2.0%	23.0%
8313+82	Permanent	0.26	0.26	3.3%	21.0%
8317+85	Permanent	0.45	0.45	2.1%	7.9%
8318+70	Permanent	0.41	0.82	2.3%	10.7%
8318+92	Temporary	0.41	N/A	2.4%	10.7%
8319+13	Temporary	0.63	0.63	2.0%	10.7%
8319+60	Permanent	0.16	0.16	2.0%	7.9%
8320+05	Permanent	0.43	0.43	2.4%	7.9%
8321+05	Permanent	0.21	0.21	4.0%	5.8%
8321+76	Permanent	0.31	0.31	4.0%	5.8%
8325+99	Temporary	0.26	N/A	2.1%	10.9%
8326+94	Temporary	0.31	N/A	2.9%	6.9%
8327+91	Temporary	0.36	N/A	2.0%	6.8%
8328+79	Temporary	0.43	N/A	2.5%	6.8%
8340+16	Temporary	0.51	N/A	2.5%	4.0%
8346+60	Temporary	0.16	N/A	3.3%	12.6%
8347+05	Temporary	0.05	N/A	3.8%	12.6%
8350+50	Temporary	0.14	N/A	3.7%	1.6%
8351+01	Temporary	0.14	N/A	2.2%	3.9%
8358+94	Temporary	0.21	N/A	3.1%	7.9%
8359+74	Temporary	0.32	N/A	2.7%	12.4%
8360+74	Temporary	0.18	N/A	2.3%	12.1%
8361+87	Permanent	0.20	N/A	3.0%	7.2%
8364+92	Temporary	0.28	N/A	2.4%	5.1%

_____ P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041896
05/30/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

Williams

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 067
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-067	OF 097

Waterbar Schedule

Station	Temp/Perm	Drainage Area in Temporary Conditions (Acres)	Drainage Area in Permanent Conditions (Acres)	Cross Slope	ROW Slope
8365+83	Temporary	0.20	N/A	2.6%	5.1%
8366+61	Temporary	0.25	N/A	3.7%	8.6%
8367+18	Temporary	0.19	N/A	2.3%	17.1%
8367+83	Temporary	0.19	N/A	2.7%	17.1%
8368+31	Temporary	0.11	N/A	2.8%	17.1%
8369+74	Permanent	0.18	0.18	3.0%	20.2%
8370+33	Permanent	0.49	0.49	3.0%	9.6%
8394+91	Temporary	0.30	N/A	2.0%	9.7%
8396+04	Temporary	0.30	N/A	3.1%	9.7%
8396+91	Permanent	0.33	0.55	3.5%	9.7%
8398+35	Permanent	0.14	0.14	3.5%	2.1%
8399+33	Permanent	0.20	0.20	2.2%	22.5%
8401+08	Permanent	0.22	0.22	2.3%	12.5%
8403+58	Temporary	0.22	N/A	2.8%	3.6%
8404+63	Permanent	0.17	0.17	2.0%	9.8%
8405+16	Permanent	0.59	0.59	2.0%	9.8%
8406+13	Permanent	0.57	0.57	3.8%	9.8%
8411+17	Permanent	0.48	0.48	2.1%	8.5%
8412+11	Permanent	0.28	0.28	2.1%	8.5%
8413+21	Permanent	0.35	0.35	2.0%	8.5%
8415+34	Permanent	0.12	0.12	2.6%	5.4%
8417+13	Permanent	0.41	0.41	2.0%	2.0%
8417+79	Permanent	0.23	0.23	2.3%	16.6%
8419+62	Permanent	0.10	0.10	3.2%	4.2%
8425+25	Temporary	0.16	N/A	2.4%	9.4%
8432+82	Permanent	0.32	0.32	2.4%	2.2%
8433+96	Permanent	0.24	0.24	3.1%	8.6%
8435+06	Permanent	0.13	0.13	2.0%	7.2%
8436+10	Permanent	0.23	0.23	2.0%	7.2%
8436+82	Permanent	0.15	0.15	2.0%	7.2%
8437+49	Permanent	0.23	0.23	4.0%	4.5%
8442+07	Permanent	0.29	0.29	2.1%	8.2%
8444+56	Permanent	0.20	0.20	2.5%	19.8%
8445+62	Permanent	0.18	0.18	2.0%	4.5%
8446+63	Permanent	0.17	0.17	2.0%	4.5%
8452+91	Permanent	0.53	0.53	2.7%	10.4%
8463+98	Permanent	0.32	0.32	2.0%	4.8%
8466+17	Permanent	0.18	0.18	3.2%	7.5%
8465+31	Permanent	0.40	0.40	2.0%	7.5%
8467+78	Permanent	0.34	0.34	2.2%	10.0%
8468+68	Permanent	0.16	0.16	2.8%	10.0%
8469+25	Permanent	0.15	0.15	2.8%	16.3%
8469+93	Permanent	0.23	0.23	2.0%	16.3%
8471+11	Temporary	0.31	N/A	3.6%	8.7%
8472+17	Permanent	0.42	0.42	2.7%	10.7%
8472+64	Permanent	0.64	0.71	2.1%	8.0%
8483+67	Permanent	0.59	0.59	2.4%	3.2%
8484+79	Permanent	0.75	0.75	2.0%	5.1%
8486+09	Permanent	0.62	0.62	2.2%	4.3%
8487+13	Permanent	0.48	0.48	2.5%	5.3%
8487+72	Temporary	0.41	N/A	3.8%	5.3%
8488+39	Permanent	0.49	0.86	3.4%	5.3%
8489+09	Permanent	0.73	0.73	2.0%	2.3%
8490+48	Permanent	0.33	0.33	2.7%	11.5%
8491+20	Permanent	0.32	0.32	3.3%	11.5%
8491+75	Permanent	0.47	0.47	2.2%	11.5%
8492+27	Permanent	0.26	0.26	3.0%	11.5%
8502+97	Permanent	0.48	0.48	2.2%	6.9%
8504+42	Permanent	0.21	0.21	3.9%	4.6%
8508+13	Permanent	0.47	0.47	2.0%	8.5%
8509+30	Permanent	0.53	0.53	2.7%	8.5%
8519+07	Temporary	0.31	N/A	2.0%	5.1%
8519+88	Temporary	0.25	N/A	2.8%	5.1%
8520+87	Temporary	0.23	N/A	2.7%	5.1%
8521+47	Temporary	0.29	N/A	3.0%	5.1%
8522+27	Temporary	0.30	N/A	2.0%	5.1%
8523+14	Temporary	0.36	N/A	2.6%	5.1%
8537+08	Temporary	0.91	N/A	2.0%	1.1%
8572+72	Temporary	0.35	N/A	2.0%	5.4%
8572+76	Temporary	0.41	N/A	2.0%	5.4%
8579+86	Temporary	0.65	N/A	2.4%	8.4%
8595+97	Temporary	0.16	N/A	2.4%	2.3%
8597+29	Temporary	0.31	N/A	3.1%	7.0%
8598+54	Temporary	0.34	N/A	3.1%	15.2%
8600+41	Temporary	0.34	N/A	2.6%	7.2%
8601+65	Temporary	0.18	N/A	3.0%	16.2%
8602+89	Temporary	0.38	N/A	2.2%	5.8%
8603+71	Temporary	0.37	N/A	2.0%	5.8%
8604+59	Temporary	0.52	N/A	2.0%	5.8%
8615+97	Temporary	0.44	N/A	2.8%	8.0%
8614+46	Temporary	0.29	N/A	2.7%	16.3%
8615+97	Temporary	0.20	N/A	2.5%	8.7%
8618+32	Temporary	0.31	N/A	3.1%	3.6%
8659+12	Permanent	0.39	0.39	2.4%	6.7%
8660+15	Permanent	0.36	0.36	2.2%	6.7%
8665+64	Permanent	0.28	0.28	2.2%	7.5%
8666+47	Permanent	0.27	0.27	2.0%	7.5%
8667+23	Permanent	0.30	0.30	2.7%	7.5%
8668+04	Permanent	0.47	0.47	3.2%	7.5%
8668+90	Permanent	0.51	0.51	2.9%	4.0%
8712+87	Temporary	0.26	N/A	2.0%	7.1%
8713+57	Temporary	0.30	N/A	2.1%	6.7%
8714+52	Temporary	0.30	N/A	2.2%	6.7%
8716+14	Temporary	0.24	N/A	2.9%	3.1%
8717+53	Temporary	0.23	N/A	2.9%	3.1%
8718+75	Temporary	0.21	N/A	3.1%	7.6%
8719+66	Temporary	0.21	N/A	2.0%	7.6%
8720+68	Temporary	0.18	N/A	2.3%	7.6%
8724+02	Temporary	0.18	N/A	2.0%	6.8%
8725+19	Temporary	0.14	N/A	3.3%	12.5%
8726+06	Temporary	0.20	N/A	2.6%	12.5%
8726+61	Temporary	0.15	N/A	2.7%	5.0%
8727+54	Temporary	0.06	N/A	2.9%	5.0%
8728+50	Temporary	0.41	N/A	2.1%	5.0%
8736+03	Permanent	0.36	0.36	2.0%	2.7%
8752+75	Temporary	0.47	N/A	2.0%	4.7%
8753+90	Temporary	0.54	N/A	2.0%	4.7%
8757+89	Temporary	0.13	N/A	3.0%	3.8%
8758+95	Temporary	0.30	N/A	2.5%	2.5%
8765+39	Temporary	0.39	N/A	2.4%	7.2%
8766+12	Temporary	0.25	N/A	2.1%	7.4%
8774+45	Permanent	0.26	0.26	2.0%	5.1%
8775+99	Permanent	0.22	0.22	2.4%	5.1%
8778+04	Permanent	0.95	0.95	2.6%	5.1%
8779+82	Temporary	0.09	N/A	2.0%	3.1%
8781+66	Temporary	0.16	N/A	2.2%	3.1%
8789+36	Permanent	0.37	0.37	3.8%	8.2%

NOTES
1. ALL TEMPORARY WATERBARS INSTALLED ON SLOPES LESS THAN 15% ARE TO BE 24" HIGH

_____, P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

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

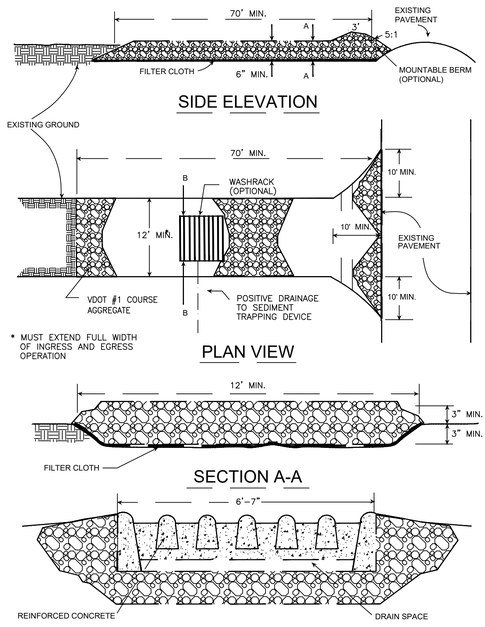
TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 068
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-068	OF 097

Figure C-SCM-03-1 STONE CONSTRUCTION ENTRANCE



SOURCE: ADAPTED FROM 1983 MARYLAND STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL, AND VA. DSWC

PLATE. 3.02-1

NOTES:

1. USE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) #1, #2, OR #3 COARSE AGGREGATE (1.5– TO 3.5–INCH STONE) OR AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) #1 COURSE AGGREGATE (2.5– TO 3.5–INCH STONE).
2. CONSTRUCT THE AGGREGATE LAYER TO BE A MINIMUM OF 6 INCHES THICK AND PLACE A MINIMUM 3 INCHES OF AGGREGATE IN A CUT SECTION TO GIVE THE ENTRANCE ADDED STABILITY AND HELP SECURE THE FABRIC FILTER SEPARATOR.
3. WHERE ACCESS TO THE SITE CROSSES A ROADSIDE DITCH, STREAM CHANNEL, OR NATURAL DRAINAGE COURSE, PROVIDE A SUITABLE MEANS OF CONVEYING THE FLOW PAST THE ENTRANCE (E.G., AN APPROPRIATELY SIZED CULVERT PIPE). INSTALL A MOUNTABLE BERM ABOVE THE PIPE TO AVOID CRUSHING THE PIPE. CONSTRUCT THE 3–FOOT–WIDE MOUNTABLE BERM CENTERED ABOVE THE PIPE WITH 5H:1V SIDE SLOPES AND 6 INCHES HIGHER THAN THE ELEVATION OF THE REST OF THE CONSTRUCTION ENTRANCE. INSTALL A ROCK CHECK DAM WITHIN THE ROADSIDE DITCH ON THE DOWNSLOPE SIDE OF THE LOD. PERIMETER CONTROLS (CFS) SHALL BE INSTALLED ON THE UPSLOPE (AWAY FROM THE ROAD) SIDE OF THE DRAINAGE DITCH
4. USE FILTER FABRIC THAT IS A WOVEN FABRIC CONSISTING ONLY OF CONTINUOUS–CHAIN POLYMERIC FILAMENTS OR YARNS OF POLYESTER. USE FILTER FABRIC INERT TO COMMONLY ENCOUNTERED CHEMICALS AND HYDROCARBONS, MILDEW AND ROT–RESISTANT, AND CONFORMS TO THE PHYSICAL PROPERTIES NOTED IN TABLE C–SCM–03–2.
5. IF MOST MUD IS NOT REMOVED BY THE VEHICLES TRAVELING OVER THE STONE, WASH THE VEHICLES TIRES BEFORE ENTERING THE PUBLIC ROAD. CARRY WASH WATER AWAY FROM THE ENTRANCE TO AN APPROVED SETTLING AREA OR SEDIMENT REMOVAL DEVICE (E.G., SEDIMENT BASIN OR TRAP, SILT FENCE, OR COMPOST FILTER SOCK) TO REMOVE SEDIMENT. PREVENT ALL SEDIMENT FROM ENTERING STORM DRAINS, DITCHES, OR WATERCOURSES. USE A WASH RACK TO MAKE WASHING MORE CONVENIENT AND EFFECTIVE FOR WASHING MUD FROM THE TIRES OF THE WORK VEHICLES ONLY. A REINFORCED CONCRETE OR METAL WASH RACK ARE BOTH VIABLE OPTIONS TO REDUCE THE PRESENCE OF SEDIMENT FROM WORK VEHICLES LEAVING THE CONSTRUCTION SITE.

CONSTRUCTION SPECIFICATIONS:

1. EXCAVATE THE ENTRANCE AREA TO A MINIMUM OF 3 INCHES AND CLEAR THE AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL.
2. CONSTRUCT ANY DRAINAGE FACILITIES ACCORDING TO SPECIFICATIONS. PROVIDE FOR THE CONVEYANCE OF SURFACE WATER UNDER THE ENTRANCE THROUGH CULVERTS.
3. PLACE THE FILTER FABRIC UNDERLAYMENT ATOP THE ENTIRE WIDTH AND LENGTH OF THE ENTRANCE.
4. FOLLOWING THE FILTER FABRIC INSTALLATION, PLACE THE STONE TO THE SPECIFIED DIMENSIONS (INCLUDING THE CONSTRUCTION OF THE MOUNTABLE BERM) AS NECESSARY.
5. IF WASH RACKS ARE USED, INSTALL WASH RACKS ACCORDING TO MANUFACTURER`S SPECIFICATIONS. ENSURE THE WASH RACK CAN CONVEY SEDIMENT–LADEN WATER IMMEDIATELY TO A SEDIMENT CONTROL TREATMENT DEVICE BEFORE ENTERING A WATER BODY.
6. CONFIRM THE LENGTH AND WIDTH OF THE CONSTRUCTION ENTRANCE BEFORE SETTING UP EROSION CONTROL MEASURES AND PERIMETER CONTROL MEASURES.

OPERATIONS AND MAINTENANCE:

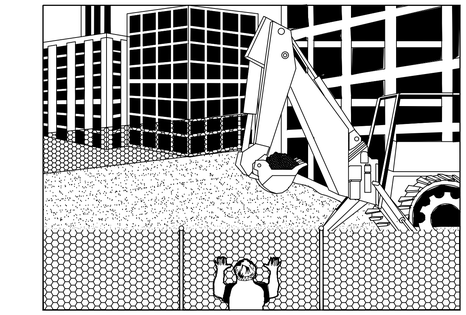
1. INSPECT THE CONSTRUCTION ENTRANCE PER THE BMP INSPECTION AND MAINTENANCE SCHEDULE.
2. MAINTAIN THE ENTRANCE TO PREVENT TRACKING OR FLOW OF DIRT, MUD, OR SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY, INCLUDING PERIODIC TOP DRESSING WITH ADDITIONAL STONE AND REPAIR OR CLEANOUT OF STRUCTURES THAT TRAP SEDIMENT OR BOTH.
3. MAINTAIN A STOCKPILE OF ROCK AT THE SITE FOR TOP DRESSING PURPOSES.
4. AS SOIL PARTICLES WILL EVENTUALLY CLOG THE VOIDS IN THE STONE AND COMPROMISE THE EFFECTIVENESS OF THE CONSTRUCTION ENTRANCE. WHEN THIS OCCURS, TOP DRESS THE PAD WITH NEW STONE. COMPLETE STONE REPLACEMENT IS NECESSARY WHEN THE PAD BECOMES WHOLLY CLOGGED WITH SEDIMENT AND THE TOPDRESSING IS NO LONGER EFFECTIVE AT REMOVING ACCUMULATED SEDIMENT FROM TIRES.
5. IMMEDIATELY REMOVE ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR STORM DRAINS. DO NOT USE WATER TRUCKS TO REMOVE MATERIALS DROPPED, WASHED, OR TRACKED ONTO ROADWAYS UNDER ANY CIRCUMSTANCES.
6. IMMEDIATELY REMOVE STONES FROM THE ADJOINING ROADWAY THAT CONSTRUCTION TRAFFIC DISLODGED FROM THE ENTRANCE.
7. MAINTAIN THE AREA UNDER THE WASH RACK FREE OF ACCUMULATED SEDIMENT. REPAIR OR REPLACE THE WASH RACK IF IT BECOMES DAMAGED.

Table C-SCM-03-2 Construction Specifications for Filter Fabric Liner Under Aggregate Stone

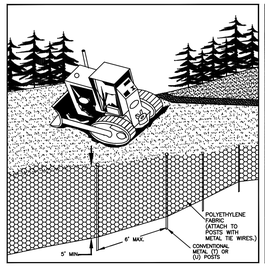
Fabric Properties[1]	Light-Duty Entrance[2] (Graded Subgrade)	Heavy-Duty Entrance[3] (Rough Graded)	Test Method
Grab Tensile Strength (lbs.)	200	315	ASTM D4632
Grab Tensile Elongation (%)	15	15	ASTM D4632
Trapezoidal Tear (lbs.)	75	113 – 120	ASTM D4533
CBR Puncture Strength (lbs.)	700	900	ASTM D6241
Apparent Opening Size	40	40	ASTM D4751

1. Only use fabrics not meeting these specifications when design procedure and supporting documentation are supplied to determine aggregate depth and fabric strength.
2. **Light-Duty Entrance:** Sites that have been graded to subgrade and where most travel would be by single-axle vehicles and an occasional multi-axle truck. Examples of fabrics that can be used are: Mirafi 500X, Skaps SW200, Geotex 200 ST, or equivalent.
3. **Heavy-Duty Entrance:** Sites with only rough grading and where most travel would be by multi-axle vehicles. Examples of fabrics that can be used are: Mirafi 600X, Skaps SW315, Geotex 315 ST, or the equivalent.

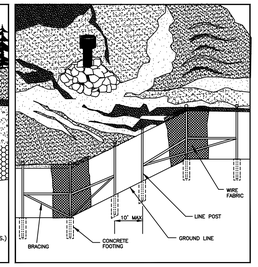
Figure C-PCM-01-1 SAFETY FENCE



PERSPECTIVE VIEW



PERSPECTIVE VIEW
PLASTIC FENCE



PERSPECTIVE VIEW
METAL FENCE

SOURCE: CONWED PLASTICS
VDOT ROAD AND BRIDGE STANDARDS
VA. DSWC

PLATE. 3.1-1

DESIGN CRITERIA:

1. SAFETY FENCES SHOULD BE LOCATED TO CREATE A FORMIDABLE BARRIER TO UNDESIRED ACCESS WHILE ALLOWING FOR THE CONTINUATION OF NECESSARY CONSTRUCTION OPERATIONS.
2. SAFETY FENCES ARE MOST APPLICABLE TO THE CONSTRUCTION OF BERMS, TRAPS, AND DAMS. IN USE WITH THOSE STRUCTURES, SAFETY FENCES SHOULD BE LOCATED FAR ENOUGH BEYOND THE OUTER TOE OF THE EMBANKMENT TO ALLOW FOR THE PASSAGE OF MAINTENANCE VEHICLES. FENCES SHOULD NOT BE INSTALLED ACROSS THE SLOPE OF A DAM OR DIKE.
3. THE HEIGHT OF THE FENCE SHOULD BE A MINIMUM OF 5 FEET FOR PLASTIC FENCE AND 6 FEET FOR METAL FENCE. A FENCE MUST NEVER BE SO SHORT AS TO BECOME AN ATTRACTION FOR CHILDREN TO CLIMB ON OR OVER.
4. SIGNS NOTING POTENTIAL HAZARDS SUCH AS `DANGER–QUICKSAND` OR `HAZARDOUS AREA–KEEP OUT` SHOULD BE POSTED AND EASILY SEEN BY ANYONE APPROACHING THE PROTECTED AREA.
5. PLASTIC (POLYETHYLENE) FENCE MAY BE USED AS SAFETY FENCING, PRIMARILY IN SITUATIONS WHERE THE NEED IS FOR A TEMPORARY BARRIER (SEE FIGURE C–PCM–01–1) SUCH AS MARKING TREE PROTECTION ZONES AND NON–COMPACTION AREAS. THE FENCE SHOULD MEET THE PHYSICAL REQUIREMENTS NOTED IN TABLE C–PCM–01–1.
6. METAL OR CHAIN LINK FENCE SHOULD BE USED WHEN A POTENTIALLY DANGEROUS CONTROL MEASURE WILL REMAIN IN PLACE PERMANENTLY SUCH AS A STORMWATER DETENTION OR RETENTION BASIN (SEE FIGURE C–PCM–01–1). HOWEVER, THE METAL FENCE MAY ALSO BE USED FOR MEASURES THAT SERVE A TEMPORARY FUNCTION AT THE DISCRETION OF THOSE RESPONSIBLE FOR PROJECT SAFETY. THE METAL FENCE SHOULD MEET THE FOLLOWING PHYSICAL REQUIREMENTS:
   a. FABRIC SHOULD BE A MINIMUM 2–INCH MESH, 9–GAUGE ZINC–COATED STEEL.
   b. ZINC COATING SHOULD HAVE A MINIMUM WEIGHT OF 1.8 OUNCES PER SQUARE FOOT.
   c. POSTS SHOULD BE ZINC–COATED STEEL PIPE.
   d. TOP RAILS SHOULD BE ZINC–COATED STEEL PIPE.
   e. BRACES SHOULD BE MADE OF ZINC–COATED STEEL.
   f. GATES SHOULD BE SINGLE– OR DOUBLE–SWING, ZINC–COATED STEEL. GATES SHOULD BE A MINIMUM OF 12 FEET WIDE.

CONSTRUCTION SPECIFICATIONS:

1. SAFETY FENCES SHOULD BE INSTALLED BEFORE THE EROSION AND SEDIMENT CONTROL MEASURE BECOMES ACCESSIBLE.
2. THE POLYETHYLENE WEB OF THE PLASTIC SAFETY FENCE SHOULD BE SECURED TO A CONVENTIONAL METAL `T` OR `U` POST DRIVEN INTO THE GROUND TO A MINIMUM DEPTH OF 18 INCHES; POSTS SHOULD BE SPACED AT 6–FOOT CENTERS. SEE PERSPECTIVE VIEW ON FIGURE C–PCM–01–1.
3. THE METAL SAFETY FENCE SHOULD BE INSTALLED AS PER THE FOLLOWING PROCEDURE:
   a. LINE POSTS SHOULD BE PLACED AT INTERVALS OF 10 FEET MEASURED FROM CENTER TO CENTER OF ADJACENT POSTS. IN DETERMINING THE POST SPACING, MEASUREMENT WILL BE MADE PARALLEL WITH THE GROUND SURFACE. SEE PERSPECTIVE VIEW ON FIGURE C–PCM–01–1.
   b. POSTS WILL BE SET IN CONCRETE AND BACKFILLED OR ANCHORED BY OTHER ACCEPTABLE MEANS.
   c. POSTS SET IN THE TOPS OF CONCRETE WALLS SHOULD BE GROUTED INTO PRE–FORMED HOLES TO A MINIMUM DEPTH OF 12 INCHES.
   d. ALL CORNER POSTS, END POSTS, GATE POSTS, AND PULL POSTS SHOULD BE EMBEDDED, BRACED, AND TRUSSED AS SHOWN IN THE `STANDARD FENCE – CHAIN LINK` DETAIL FOUND IN THE LATEST VERSION OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE STANDARDS.
   e. FENCING FABRIC SHOULD NOT BE STRETCHED UNTIL AT LEAST 4 DAYS AFTER THE POSTS ARE GROUTED INTO WALLS OR 14 DAYS AFTER THE POSTS ARE SET INTO CONCRETE.
   f. THE FABRIC SHOULD BE STRETCHED TAUT AND SECURELY FASTENED BY MEANS OF TIE CLIPS TO THE POSTS AT INTERVALS NOT EXCEEDING 15 INCHES AND TO THE TOP RAILS OR TENSION WIRES AT INTERVALS NOT EXCEEDING 2 FEET. CARE SHOULD BE TAKEN TO EQUALIZE THE TENSION ON EACH SIDE OF EACH POST.
4. APPLICABLE WARNING SIGNS NOTING HAZARDOUS CONDITIONS MUST BE INSTALLED IMMEDIATELY UPON INSTALLATION OF SAFETY FENCE.

Table C-PCM-01-1 Physical Properties of Plastic Safety Fence

Physical Property	Test	Requirements
Recommended Color	Not applicable	"International Orange"
Tensile Yield	ASTM D636	Average 2,000 pounds (lbs), per 4-foot width
Ultimate Tensile Strength	ASTM D636	Average 2,900 lbs, per 4-foot width
Elongation at Break (%)	ASTM D636	Greater than 1,000%
Chemical Resistance	Not applicable	Inert to most chemicals and acids

Source: Conwed Plastics.

Table C-PCM-05-2 Compost Sock Fabric Minimum Specifications

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 (inches)	12 18	8 12 18 24 32	12 18 24 32	12 18 24 32	12 18 24 32
Mesh Opening (inches)	0.375	0.375	0.375	0.375	0.125
Tensile Strength	26 psi	26 psi	26 psi	44 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1,000 hour	23% at 1,000 hour		100% at 1,000 hour	100% at 1,000 hour
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 0.75-inch x 0.75-inch maximum aperture size				
Outer Filtration Mesh	Composite polypropylene fabric (woven layer and non-woven fleece mechanically fused via needle punch) 0 1875-inch maximum aperture size				

Sock fabrics composed of burlap may be used on projects lasting 6 months or less.

Source: Filtrexx & JMD

" = inch(es)

HDPE = high-density polyethylene

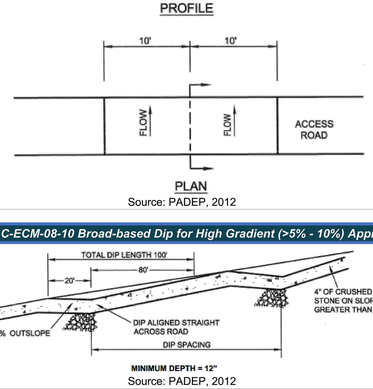
psi = pounds per square inch

Table C-PCM-05-3 Compost Material Standards

Organic Matter Content	25% - 100% (dry weight basis)
Organic Portion	Fibrous and elongated
pH	6.0 - 8.0
Moisture Content	30% - 60%
Particle Size	99% passing a 2-inch screen and 10 - 50% passing a 0.375-inch screen
Soluble Salt Concentration	5.0 Deci Siemens per meter (dS/m; millimho per centimeter [mmhos/cm]) maximum

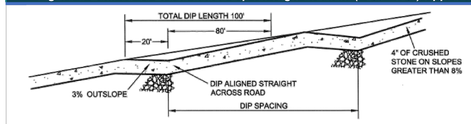
Source: SAG / NYS

Figure C-ECM-08-9 Broad-based Dip for Low Gradient (≤5%) Approach



Source: PADEP, 2012

Figure C-ECM-08-10 Broad-based Dip for High Gradient (>5% - 10%) Approach



Source: PADEP, 2012

NOTES:

1. DESIGN BROAD–BASED DIPS SO THAT DISCHARGES ARE TO THE DOWNSLOPE SIDES OF ACCESS ROADS WITH A MAXIMUM GRADIENT OF 3% IN THE DIP.
2. FOR ACCESS ROADS WITH GRADES UP TO 5% (LOW GRADIENT ROADS), CONSTRUCT THE DIP TO BE 2 FEET BELOW THE ROAD GRADE OVER A TOTAL LENGTH OF 20 FEET (10 FEET ON EITHER SIDE OF THE DIP).
3. FOR ACCESS ROAD BETWEEN 5% AND 10%, CONSTRUCT THE DIP TO BE A MINIMUM OF 12 INCHES BELOW GRADE WITH A 3% OUTSLOPE AND A TOTAL LENGTH OF 100 FEET.

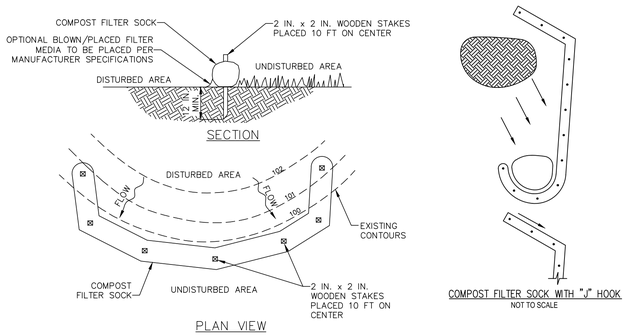
BROAD BASED DIP

Table C-ECM-08-4 Spacing of Sheet Flow Breakers – Open-Top Culverts, Water Deflectors, and Broad-based Dips

Slope (%)	Spacing for Erosion Resistant Soil (ft.) k<0.37	Spacing for Highly Erodible Soil (ft.) k>0.37
< 2%	400	300
2%	315	235
4%	265	200
5%	240	180
6%	220	165
7%	205	155
8%	200	150
9%	190	145
10%	180	140

Source: Adapted from PADEP, 2012

COMPOST FILTER SOCK SEDIMENT TRAP SIZING								
	Tributary Area (Acres) (A)	Effective Length (ft) (B)	Size (Bottom/Top) (in.) (C)	Trap Height (ft) (D)	Existing Slope (%) (E)	Cross-Section Area ft (ft2) (F)	Volume Required (yd3) (G)	Volume Provided (yd3) (H)
4-21	1.15	60	32/32	4.3	7	77.8	154	173
9-22	2.99	75	32/32/32	6.5	8.7	173.9	401	483
13-18	0.65	42	24/24	3.2	4	60.5	87	94
15-21	2.14	128	24/24	3.8	4.7	83.4	287	395
22-9	0.17	69	24/18	2.8	16.2	10.0	23	26
26-6	0.38	110	24/18	2.8	8.5	19.1	51	78
26-7	0.23	62	24/18	2.8	8.2	19.8	31	45
26-8	0.69	131	18/18	2.4	4.2	23.3	92	113
26-9	2.63	63	32/32/32	6.5	7.6	199.0	352	464
33-22	0.53	60	32/32	4.3	16.2	33.6	71	75
34-21	0.41	117	32/24	3.8	20.1	19.5	55	85
36-17	0.72	58	24/24	3.2	4.4	55.0	96	118
38-36	0.87	59	32/32	4.3	9	60.5	117	132
38-37	2.32	63	32/32	4.3	3.5	155.6	311	363
38-38	2.99	51	32/32/32	6.5	6.3	240.1	401	454
39-2A	0.71	95	24/18	2.8	4.8	33.8	95	119
52-11	2.72	57	32/32/32	6.5	8.6	175.9	364	371
52-12	0.57	33	32/24/18	5.0	12.4	64.5	76	79
52-13	2.81	48	32/32/32	6.5	7.1	213.0	377	379
52-14	2.21	70	32/24/18	5.0	6.6	121.2	296	314
52-15	2.94	96	24/24	3.2	1.8	134.4	394	478



COMPOST FILTER SOCK WITH "J" HOOK
NOT TO SCALE

NOTES:

1. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.
2. TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
3. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
4. COMPOST FILTER SOCKS SHALL BE INSPECTED PER THE BMP INSPECTION AND MAINTENANCE SCHEDULE. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 5 BUSINESS DAYS OF INSPECTION.
5. BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
6. 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.
7. WHERE COMPOST FILTER SOCK CANNOT BE INSTALLED PARALLEL TO GRADE, A J–HOOK WILL BE INSTALLED TO CREATE A SUMP AREA TO PROVIDE FILTRATION AND TO REDUCE FLOW VELOCITY.
8. J–HOOK WILL BE TURNED UPSLOPE AND EXTENDED A MINIMUM VERTICAL DISTANCE UPSLOPE EQUIVALENT TO THE COMPOST FILTER SOCK DIAMETER.
9. THE NEXT DOWNGRADIENT SECTION OF COMPOST FILTER SOCK WILL BE INSTALLED IN A MANNER TO DIRECT STORMWATER DISCHARGE FROM THE J–HOOK AWAY FROM THE PROJECT AREA.

COMPOST FILTER SOCK

P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

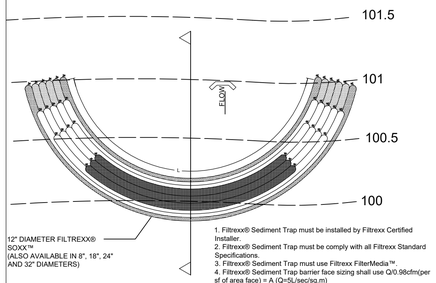
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

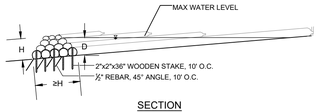
PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-069	SHEET 069 OF 097

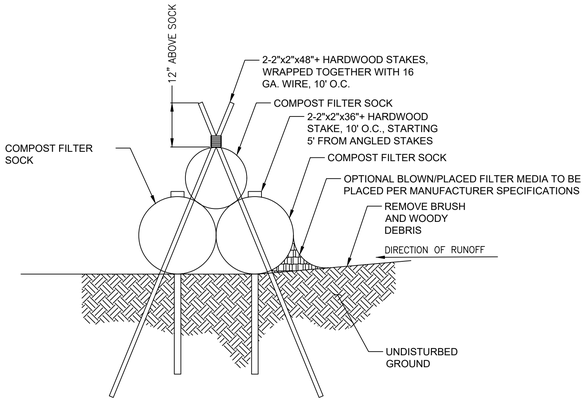


PLAN

1. Filtrexx® Sediment Trap must be installed by Filtrexx Certified Installer.
2. Filtrexx® Sediment Trap must be comply with all Filtrexx Standard Specifications.
3. Filtrexx® Sediment Trap must use Filtrexx FilterMedia™.
4. Filtrexx® Sediment Trap barrier face sizing shall use Q/0.99cfm(per sf of area face) = A (Q=5L/sec/sq.m)
5. Filtrexx® Sediment Trap barrier face shall be measured as A=L*D.
6. Filtrexx® Sediment Trap shall be constructed so that the minimum base width is equivalent to the height (1H:1V).
7. Sediment accumulation shall not exceed ½ the height of the barrier.
8. Filtrexx® Sediment Trap shall be inspected and maintained after storm events.
9. Soxx™ shall be of larger diameter at the base of the Sediment Tra and decrease in diameter for successive layers.
10. Ends of the Sediment Trap shall be a minimum 1 ft (30 cm) higher in elevation than the mid-section, which shall be at the lowest elevation.
11. Bottom layer of Soxx™ shall be staked with 2x2x36" wooden stakes. Successive layers shall be staked with ½" rebar at a 45 degree angle.



SECTION

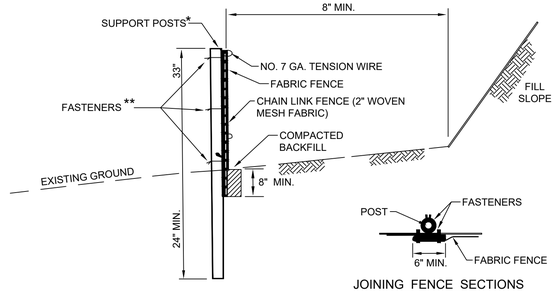


TRIPLE STACK SUBSTITUTIONS	
SOCK SIZE	TRIPLE STACK ALTERNATIVE
18	3 X 12"
24	2 X 18" AND 1 X 12"
32	3 X 18"

NOTES:

1. SOCK MATERIAL SHALL MEET THE STANDARDS OF TABLE C-PCM-05-2 OF THE VA DEQ STORMWATER MANAGEMENT HANDBOOK. COMPOST SHALL MEET THE STANDARDS OF TABLE C-PCM-05-3 OF THE VA DEQ STORMWATER MANAGEMENT HANDBOOK.
2. TO PREVENT WATER FLOWING AROUND THE ENDS OF SEDIMENT TRAPS, CONSTRUCT THE ENDS OF THE COMPOST FILTER SOCK SEDIMENT TRAP POINTING UPSLOPE WITH THE ENDS A MINIMUM OF 1 FOOT HIGHER IN ELEVATION THAN THE LOWEST POINT (MID-SECTION) OF THE SEDIMENT TRAP. INSTALL THE MID-SECTION OF THE SEDIMENT TRAP TO BE THE POINT OF LOWEST ELEVATION.
3. THE COMPOST FILTER SOCK EMBANKMENT MUST BE LOCATED TO PROVIDE, IN COMBINATION WITH EXCAVATION, A MINIMUM OF 134 CUBIC YARDS OF STORAGE AT THE DESIGN DEPTH.
4. THE MAXIMUM TRIBUTARY DRAINAGE AREA IS 3 ACRES. SINCE COMPOST SOCKS ARE "FLOW-THROUGH," NO SPILLWAY IS REQUIRED.
5. COMPOST SOCK SEDIMENT TRAPS SHALL BE INSPECTED PER THE BMP INSPECTION AND MAINTENANCE SCHEDULE. SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/3 THE HEIGHT OF THE SOCKS.
6. PHOTODEGRADABLE AND BIODEGRADABLE SOCKS SHALL NOT BE USED FOR MORE THAN 1 YEAR.

COMPOST SOCK SEDIMENT TRAP



JOINING FENCE SECTIONS

* POSTS SPACED @ 10' MAX. USE 2 1/2" DIA. HEAVY DUTY GALVANIZED OR ALUMINUM POSTS.

* * CHAIN LINK TO POST FASTENERS SPACED @ 14" MAX. USE NO. 9 GA. ALUMINUM WIRE OR NO. 9 GALVANIZED STEEL PRE-FORMED CLIPS. CHAIN LINK TO TENSION WIRE FASTENERS SPACED @ 60" MAX. USE NO. 13.5 GA. GALVANIZED STEEL WIRE. FABRIC TO CHAIN FASTENERS SPACED @ 24" MAX C. TO C.

FIGURE C-PCM-04-5
SUPER SILT FENCE

Table C-PCM-04-4 Physical Properties of Filter Fabric in Standard Silt Fence

Physical Property	Test	Requirements
Grab Strength Tensile	ASTM D 4632	124 lbs.
Elongation at Failure	ASTM D 4632	15%
CBR Puncture Resistance	ASTM D 6241	325 lbs.
Minimum Trapezoidal Tear Strength	ASTM D 4533	45 lbs.
Apparent Opening Size – U.S. Standard Sieve	ASTM D 4751	30

Table C-PCM-04-4 Physical Properties of Filter Fabric in Standard Silt Fence

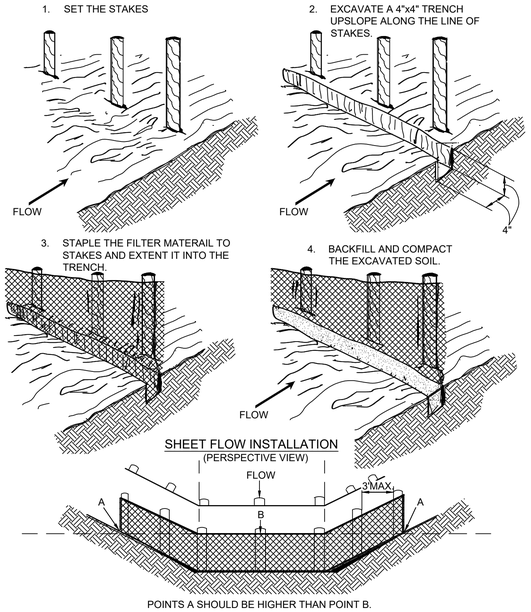
Physical Property	Test	Requirements
Flow Through Rate	ASTM D 4491	10 gallons/minute/square foot
Minimum Ultraviolet (UV) Residual	ASTM D 4355	70%

Notes:
Source: PADEP 2012, Table 4.3, p.75.
ASTM = ASTM International
CBR = California bearing ratio
lbs. = pounds

Table C-PCM-04-5 Physical Properties of Filter Fabric in High-Performance Silt Fence

Physical Property	Test	Requirements
Grab Strength Tensile	ASTM D 4632	180 lbs.
Elongation at Failure	ASTM D 4632	15%
CBR Puncture Resistance	ASTM D 6241	650 lbs.
Minimum Trapezoidal Tear Strength	ASTM D 4533	60 lbs.
Apparent Opening Size – U.S. Standard Sieve	ASTM D 4751	30
Flow Through Rate	ASTM D 4491	129 gallons/minute/square foot
Minimum Ultraviolet (UV) Residual	ASTM D 4355	80%

Notes:
Source: Colonial Construction Materials 2022.
ASTM = ASTM International
CBR = California bearing ratio
lbs. = pounds

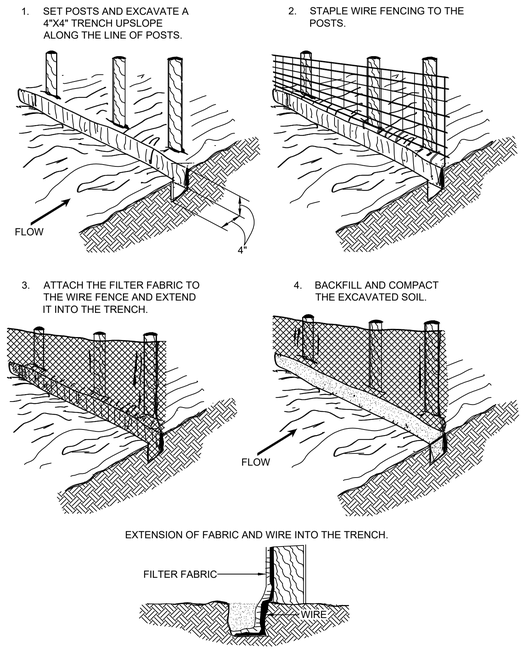


SHEET FLOW INSTALLATION
(PERSPECTIVE VIEW)

POINTS A SHOULD BE HIGHER THAN POINT B.

DRAINAGEWAY INSTALLATION
(FRONT ELEVATION)

FIGURE C-PCM-04-4
SILT FENCE WITHOUT WIRE SUPPORT



EXTENSION OF FABRIC AND WIRE INTO THE TRENCH.

FIGURE C-PCM-04-3
SILT FENCE WITH WIRE SUPPORT
(REINFORCED SILT FENCE)

MATERIAL SPECIFICATIONS:

FILTER FABRIC:
USE FILTER FABRIC CONSISTING OF WOVEN SLIT FILM SILT FENCE AND IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS NOTED IN TABLE C-PCM-04-4.

ENSURE FABRIC HAS THE MINIMUM PROPERTIES REQUIRED BY STATE-SPECIFIC OR LOCAL SPECIFICATIONS, WHICHEVER IS MORE STRINGENT. ENSURE THE FABRIC IS IN USE NO LONGER THAN THE MANUFACTURER'S RECOMMENDED LIFE SPAN AND IS REPLACED WITH NEW FABRIC AFTER THE LIFE SPAN HAS BEEN EXCEEDED. USE FABRIC WITH A MINIMUM WIDTH OF 30 INCHES FOR STANDARD SILT FENCE OR 36 INCHES OR GREATER FOR REINFORCED AND SUPER SILT FENCES. ENSURE STAKES ARE HARDWOOD OR EQUIVALENT STEEL ('U'OR 'T') STAKES.

USE TOE ANCHOR TRENCH MEASUREMENTS OF A MINIMUM OF 4 INCHES VERTICAL BY 4 INCHES HORIZONTAL TO ANCHOR BOTTOM OF FILTER FABRIC INTO THE GROUND.

A SILT FENCE IS REPLACED WHEN CLOGGED WITH SEDIMENT AND CAN NO LONGER BE CLEANED. SYNTHETIC FILTER FABRIC CONTAINING ULTRAVIOLET RAY INHIBITORS AND STABILIZERS SHALL BE USED TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 TO 120 DEGREES FAHRENHEIT.

STAKES:
IF WOODEN STAKES ARE USED FOR SILT FENCE CONSTRUCTION, ENSURE THE STAKE HAS A NOMINAL DIAMETER OF 2 INCHES WHEN OAK IS USED AND 4 INCHES WHEN PINE IS USED. USE WOODEN STAKES WITH A MINIMUM LENGTH OF 5 FEET.

IF STEEL POSTS (STANDARD 'U'OR 'T'SECTION) ARE USED FOR SILT FENCE CONSTRUCTION, ENSURE THE POSTS HAVE A MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT AND A MINIMUM LENGTH OF 5 FEET.

REINFORCED SILT FENCE:
USE WIRE REINFORCEMENT FOR REINFORCED SILT FENCE USING STANDARD-STRENGTH FILTER FABRIC WITH A MINIMUM OF 14 GAUGE AND A MAXIMUM MESH SPACING OF 6 INCHES.

SUPER SILT FENCE:
INSTALL 2.5-INCH-DIAMETER GALVANIZED OR ALUMINUM POLES SET AT 10-FOOT MAXIMUM SPACING. INSTALL POLES AT A MINIMUM DEPTH OF 24 INCHES BELOW THE GROUND SURFACE AND EXTEND A MINIMUM OF 33 INCHES ABOVE GROUND.

ENSURE CHAIN LINK IS GALVANIZED NO. 11.5 GA. STEEL WIRE WITH 2.25-INCH OPENING, NO. 11 GA. ALUMINUM COATED STEEL WIRE IN ACCORDANCE WITH ASTM-A-491, OR GALVANIZED NO. 9 GA. STEEL WIRE TOP AND BOTTOM WITH GALVANIZED NO. 11 GA. STEEL INTERMEDIATE WIRES.

INSTALLATION FOR SUPER SILT FENCE:

1. EXCAVATE AN 8-INCH-DEEP TRENCH, MINIMIZING THE DISTURBANCE ON THE DOWNSLOPE SIDE, WITH THE BOTTOM OF THE TRENCH AT LEVEL GRADE.
2. INSTALL THE CHAIN LINK FENCE IN THE DOWNSLOPE SIDE OF THE TRENCH WITH THE FENCE ON THE UPSLOPE SIDE OF THE SUPPORT POLES. INSTALL 2.5-INCH- DIAMETER GALVANIZED OR ALUMINUM POLES SET AT 10-FOOT MAXIMUM SPACING. INSTALL POLES AT A MINIMUM DEPTH OF 24 INCHES BELOW THE GROUND SURFACE AND EXTEND A MINIMUM OF 33 INCHES ABOVE GROUND. A POSTHOLE DRILL MAY BE NECESSARY TO INSTALL POLES APPROPRIATELY FOR MOST SITES. POLES DO NOT NEED TO BE SET IN CONCRETE.
3. FASTEN CHAIN LINK FENCE SECURELY TO FENCE POSTS WITH WIRE TIES, ZIP TIES, STAPLES, OR A SUITABLE ALTERNATIVE.
4. ENSURE CHAIN LINK IS GALVANIZED NO. 11.5 GA. STEEL WIRE WITH 2.25-INCH OPENING, NO. 11 GA. ALUMINUM COATED STEEL WIRE IN ACCORDANCE WITH ASTM-A-491, OR GALVANIZED NO. 9 GA. STEEL WIRE TOP AND BOTTOM WITH GALVANIZED NO. 11 GA. STEEL INTERMEDIATE WIRES. INSTALL NO. 7 GAGE TENSION WIRE HORIZONTALLY THROUGH HOLES AT THE TOP OF THE CHAIN LINK FENCE OR ATTACH WITH HOG RINGS, WIRE FASTENERS, STAPLES, OR PREFORMED CLIPS AT 5-FOOT (MAXIMUM) CENTERS.
5. STRETCH FILTER FABRIC AND SECURELY FASTEN TO THE FENCE WITH WIRE FASTENERS, STAPLES, OR PREFORMED CLIPS. EXTEND THE FABRIC A MINIMUM OF 33 INCHES ABOVE THE GROUND SURFACE. ENSURE THE FILTER FABRIC WIDTH IS A MINIMUM OF 42 INCHES.
6. FASTEN THE FILTER FABRIC SECURELY TO THE CHAIN LINK FENCE WITH FASTENERS, STAPLES, OR PREFORMED CLIPS SPACED HORIZONTALLY 24 INCHES AT THE GROUND SURFACE, TOP, AND MIDSECTION.
7. WHEN ATTACHING TWO SUPER SILT FENCES, THE OVERLAP JOINING METHOD SHOULD BE USED. SEE FIGURE C-PCM-04-3.
8. PLACE THE FABRIC TOE IN THE BOTTOM OF THE TRENCH, THEN BACKFILL AND COMPACT THE TRENCH.
9. REMOVE AND PROPERLY DISPOSE OF SUPER SILT FENCE WHEN THE DISTURBED AREA TRIBUTARY TO THE FENCE IS PERMANENTLY STABILIZED.

INSTALLATION FOR STANDARD AND REINFORCED SILT FENCE:

1. INSTALL SILT FENCE (AFTER TRENCHING) A MINIMUM HEIGHT OF:
   a. 18 INCHES ABOVE THE ORIGINAL GROUND SURFACE FOR STANDARD SILT FENCE; AND
   b. 30 INCHES ABOVE THE ORIGINAL GROUND SURFACE FOR REINFORCED SILT FENCE AND DOES NOT EXCEED 34 INCHES ABOVE GROUND ELEVATION.
2. TURN THE FENCE UPHILL AT 45-DEGREE ANGLES AT THE END OF EACH FENCE RUN TO PREVENT RUN-AROUND BYPASS.
3. WHERE SILT FENCE CANNOT BE INSTALLED ALONG THE CONTOUR, J-HOOKS SHOULD BE USED AT THE END OF EACH FENCE RUN.
4. PURCHASE THE FILTER FABRIC IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS.
5. AT FABRIC ENDS, WRAP BOTH ENDS AROUND THE SUPPORT STAKE AND FASTEN SECURELY WITH WIRE TIES, STAPLES, ZIP TIES, OR A SUITABLE ALTERNATIVE. IF THE FABRIC COMES ALREADY ATTACHED TO THE STAKES, HOLD THE END STAKES TOGETHER WHILE THE FABRIC IS WRAPPED AROUND THE STAKES AT LEAST ONE REVOLUTION (360 DEGREES) BEFORE DRIVING THE STAKES.
6. EXCAVATE A TRENCH APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP ON THE UPSLOPE SIDE OF THE PROPOSED LOCATION OF THE MEASURE.
7. WHEN WIRE SUPPORT IS USED (REINFORCED SILT FENCE), STANDARD-STRENGTH FILTER FABRIC MAY BE USED. FOR THIS TYPE OF INSTALLATION, PLACE POSTS A MAXIMUM OF 10 FEET APART. FASTEN THE WIRE MESH FENCE SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES, HOG RINGS, ZIP TIES, OR SUITABLE ALTERNATIVE. EXTEND THE WIRE INTO THE TRENCH A MINIMUM OF 2 INCHES AND DO NOT EXTEND MORE THAN 34 INCHES ABOVE THE ORIGINAL GROUND SURFACE. SECURELY FASTEN THE STANDARD-STRENGTH FABRIC TO THE WIRE FENCE AND EXTEND 8 INCHES OF THE FABRIC INTO THE TRENCH. DO NOT STAPLE THE FABRIC TO EXISTING TREES.
8. WHEN WIRE SUPPORT IS NOT USED (STANDARD SILT FENCE OR HIGH-PERFORMANCE SILT FENCE), USE EXTRA-STRENGTH FILTER FABRIC. PLACE POSTS FOR THIS TYPE OF FABRIC A MAXIMUM OF 6 FEET APART (SEE FIGURE C-PCM-04-3). FASTEN THE FILTER FABRIC SECURELY TO THE UPSLOPE SIDES OF THE POSTS USING 1-INCH-LONG (MINIMUM) HEAVY-DUTY WIRE STAPLES, ZIP TIES, OR A SUITABLE ALTERNATIVE AND EXTEND 8 INCHES OF THE FABRIC INTO THE TRENCH. THIS METHOD OF INSTALLATION IS MORE COMMONPLACE THAN THE USE OF THE REINFORCED SILT FENCE. DO NOT STAPLE THE FABRIC TO EXISTING TREES
9. WHEN ATTACHING TWO SILT FENCES, FIRST PLACE THE END POST OF ONE FENCE INSIDE THE END POST OF THE OTHER FENCE. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL. DRIVE BOTH POSTS A MINIMUM OF 18 INCHES INTO THE GROUND AND BURY THE FLAP IN A TRENCH.
10. IF A SILT FENCE IS TO BE CONSTRUCTED ACROSS A DITCH LINE OR SWALE, ENSURE THE MEASURE IS OF SUFFICIENT LENGTH TO ELIMINATE END-FLOW, AND THE PLAN CONFIGURATION RESEMBLES AN ARC OR HORSESHOE WITH THE ENDS ORIENTED UPSLOPE (SEE FIGURE C-PCM-04-3). USE EXTRA-STRENGTH FILTER FABRIC FOR THIS APPLICATION WITH A MAXIMUM 3-FOOT SPACING OF POSTS.
11. DRIVE STAKES A MINIMUM OF 18 INCHES BELOW GROUND SURFACE.
12. BACKFILL AND COMPACT THE 4-INCH BY 4-INCH TRENCH WITH SOIL OVER THE FILTER FABRIC.
13. REMOVE THE SILT FENCE WHEN THE FENCE HAS SERVED ITS USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 070
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-070	OF 097

SEDIMENT BARRIER SIZING CHART

SEDIMENT BARRIER ON PLAN				UPSLOPE		ALTERNATIVE SEDIMENT BARRIER	WITHIN 150' OF STREAMS
LOCATION	#	CFS SIZE (IN)	LENGTH (FT)	SLOPE (%)	LENGTH (FT)	SF/RSF/SSF	
SHEET 003	3–1	12	68	3.7	255	RSF	NO
SHEET 003	3–2	12	39	3.8	274	RSF	NO
SHEET 003	3–3	12	44	4.7	229	RSF	NO
SHEET 003	3–4	12	79	4.6	284	RSF	NO
SHEET 003	3–4A	12	50	4.2	222	RSF	NO
SHEET 003	3–4B	18	29	4.8	274	SSF	NO
SHEET 003	3–5	12	202	4.4	277	RSF	NO
SHEET 003	3–6	12	201	6.2	130	RSF	NO
SHEET 003	3–7	24	77	3.5	584	SSF	NO
SHEET 003	3–8	24	37	3.7	601	SSF	NO
SHEET 003	3–9	24	112	3.5	613	SSF	NO
SHEET 003	3–10	24	115	3.2	639	SSF	NO
SHEET 003	3–11	12	26	3.0	332	RSF	NO
SHEET 003	3–12	24	39	3.5	256	SSF	YES
SHEET 003	3–13	18	107	4.3	168	SSF	YES
SHEET 003	3–14	18	41	4.0	155	SSF	YES
SHEET 003	3–15	24	31	5.3	162	SSF	YES
SHEET 003	3–16	24	39	6.1	138	SSF	YES
SHEET 003	3–17	24	105	8.5	137	SSF	YES
SHEET 003	3–18	24	52	6.2	149	SSF	YES
SHEET 003	3–18A	32	49	5.7	179	SSF	YES
SHEET 003	3–19	12	44	3.4	65	SSF	YES
SHEET 003	3–20	12	37	2.6	52	SSF	YES
SHEET 003	3–21	12	129	4.3	136	SSF	YES
SHEET 003	3–22	12	100	7.4	45	SSF	YES
SHEET 003	3–23	12	34	8.8	35	SSF	YES
SHEET 003	3–24	24	62	7.6	139	SSF	YES
SHEET 003	3–25	12	68	6.5	112	SSF	YES
SHEET 003	3–26	12	89	2.2	168	SSF	YES
SHEET 003	3–27	12	40	1.7	359	RSF	NO
SHEET 003	3–28	12	116	2.8	105	RSF	NO
SHEET 003	3–29	12	110	2.1	561	RSF	NO
SHEET 003	3–30	12	44	3.6	276	RSF	NO
SHEET 003	3–31	24	111	4.7	186	SSF	YES
SHEET 003	3–32	18	85	10.9	64	SSF	YES
SHEET 003	3–33	18	132	42.4	19	SSF	YES
SHEET 003	3–34	12	98	3.5	94	SSF	YES
SHEET 003	3–35	12	56	2.9	64	SSF	YES
SHEET 003	3–36	12	101	5.1	139	SSF	YES
SHEET 003	3–37	12	122	N/A	N/A	RSF	NO
SHEET 003	3–38	12	119	N/A	N/A	RSF	NO
SHEET 004	4–1	12	40	5.1	113	SSF	YES
SHEET 004	4–2	12	45	4.8	61	SSF	YES
SHEET 004	4–3	12	40	5.1	36	SF	NO
SHEET 004	4–4	12	61	7.6	95	RSF	NO
SHEET 004	4–5	12	53	7.6	43	SF	NO
SHEET 004	4–6	12	70	8.4	117	RSF	NO
SHEET 004	4–7	12	84	8.7	54	SF	NO
SHEET 004	4–8	12	128	2.5	421	RSF	NO
SHEET 004	4–9	12	342	1.8	268	RSF	NO
SHEET 004	4–10	18	104	2.7	325	SSF	NO
SHEET 004	4–11	18	110	4.7	288	SSF	NO
SHEET 004	4–12	12	123	6.8	114	RSF	NO
SHEET 004	4–13	12	53	9.9	50	RSF	NO
SHEET 004	4–14	12	56	6.4	69	SF	NO
SHEET 004	4–15	18	107	4.9	306	SSF	NO
SHEET 004	4–16	12	104	4.8	248	RSF	NO
SHEET 004	4–17	12	108	3.8	198	RSF	NO
SHEET 004	4–18	12	116	3.4	178	RSF	NO
SHEET 004	4–19	12	70	3.4	78	SF	NO
SHEET 004	4–20	12	104	1.9	44	SF	NO
SHEET 004	4–20A	12	88	3.6	69	SF	NO
SHEET 004	4–20B	12	99	3.0	135	RSF	NO
SHEET 004	4–20C	12	71	4.3	112	RSF	NO
SHEET 004	4–20D	12	76	4.2	212	RSF	NO
SHEET 004	4–21	32/32	77	6.2	357	SSF	YES
SHEET 004	4–22	24	114	10.3	107	SSF	YES
SHEET 004	4–23	24	111	15.0	70	SSF	YES
SHEET 004	4–24	32	132	16.1	93	SSF	YES
SHEET 004	4–25	12	70	9.2	62	SSF	YES
SHEET 004	4–26	12	113	7.9	34	SSF	YES
SHEET 004	4–27	24	95	13.1	38	SSF	YES
SHEET 004	4–28	32	47	14.5	85	SSF	YES
SHEET 004	4–29	24	43	12.9	84	SSF	YES
SHEET 004	4–30	12	42	9.2	34	SSF	YES
SHEET 004	4–31	12	75	9.1	63	SSF	YES
SHEET 004	4–32	12	58	9.8	51	SSF	YES
SHEET 004	4–33	24	85	15.8	80	SSF	YES
SHEET 004	4–34	24	67	15.3	69	SSF	YES
SHEET 005	5–1	24	62	13.8	70	SSF	YES
SHEET 005	5–2	32	65	11.9	113	SSF	YES
SHEET 005	5–3	24	90	17.4	80	SSF	YES
SHEET 005	5–4	12	43	10.5	80	RSF	NO
SHEET 005	5–5	12	168	4.0	201	RSF	NO
SHEET 005	5–6	12	62	5.7	176	RSF	NO
SHEET 005	5–7	24	41	5.9	152	SSF	YES
SHEET 005	5–8	32	104	17.1	99	SSF	YES
SHEET 005	5–9	32	49	22.8	67	SSF	YES
SHEET 005	5–10	32	174	16.3	116	SSF	YES
SHEET 005	5–11	18	127	4.4	180	SSF	YES
SHEET 005	5–12	12	97	9.6	136	RSF	NO
SHEET 005	5–13	18	72	17.5	84	SSF	NO
SHEET 005	5–14	12	41	17.2	45	RSF	NO
SHEET 005	5–15	12	49	16.9	33	RSF	NO
SHEET 005	5–16	12	92	3.1	339	RSF	NO
SHEET 005	5–17	12	89	3	335	RSF	NO
SHEET 005	5–18	12	172	2.3	251	RSF	NO
SHEET 005	5–19	12	109	4.4	257	RSF	NO
SHEET 005	5–20	24	90	20.8	70	SSF	YES
SHEET 005	5–21	24	103	25.9	38	SSF	YES
SHEET 005	5–22	24	85	15.3	81	SSF	YES
SHEET 005	5–23	32	86	31.5	43	SSF	YES
SHEET 005	5–23A	24	109	4.9	183	SSF	YES
SHEET 005	5–24	12	140	3.9	113	SSF	YES
SHEET 005	5–25	12	57	3.6	92	SSF	YES
SHEET 005	5–26	12	72	3.2	51	SSF	YES
SHEET 005	5–27	24	75	4.5	198	SSF	YES
SHEET 005	5–28	12	80	5.7	95	SSF	YES
SHEET 005	5–29	12	75	4.2	103	SSF	YES
SHEET 005	5–30	12	125	4.3	151	SSF	YES
SHEET 005	5–31	12	34	5.7	115	SSF	YES
SHEET 005	5–32	18	61	5.4	147	SSF	YES
SHEET 005	5–33	12	157	6.2	155	SSF	YES
SHEET 005	5–34	32	200	7.4	181	SSF	YES
SHEET 005	5–35	32	87	6.6	341	SSF	YES
SHEET 005	5–36	18	73	5.6	252	SSF	NO
SHEET 005	5–36A	12	86	4.5	53	SF	NO
SHEET 005	5–37	12	364	4.7	93	SF	NO
SHEET 005	5–38	12	46	5.4	140	RSF	NO
SHEET 005	5–39	12	84	6.0	97	RSF	NO
SHEET 005	5–40	12	129	5.1	124	RSF	NO
SHEET 005	5–41	12	89	8.3	83	RSF	NO
SHEET 005	5–42	12	122	4.2	140	RSF	NO
SHEET 005	5–43	24	144	8.2	216	SSF	NO
SHEET 005	5–44	32	104	6.6	359	SSF	YES
SHEET 005	5–45	24	71	5.5	344	SSF	NO
SHEET 005	5–46	12	47	4.7	270	SSF	NO
SHEET 005	5–47	12	148	3.9	254	RSF	NO
SHEET 005	5–48	12	92	3.8	140	RSF	NO
SHEET 005	5–49	12	72	0.6	65	SF	NO
SHEET 005	5–50	12	64	4.3	183	RSF	NO
SHEET 005	5–51	12	42	N/A	N/A	RSF	NO
SHEET 005	5–52	12	320	N/A	N/A	RSF	NO
SHEET 006	6–1	12	143	6.5	144	RSF	NO
SHEET 006	6–2	12	108	8.5	99	RSF	NO
SHEET 006	6–3	12	100	7.8	131	RSF	NO
SHEET 006	6–4	12	60	7.0	48	SF	NO
SHEET 006	6–5	12	96	7.2	73	SF	NO
SHEET 006	6–6	12	66	7	121	RSF	NO
SHEET 006	6–7	32	108	9	145	SSF	YES
SHEET 006	6–8	32	66	11.9	142	SSF	YES
SHEET 006	6–9	32	55	14.4	108	SSF	YES
SHEET 006	6–10	24	128	27.8	31	SSF	YES
SHEET 006	6–11	18	107	11.8	64	SSF	YES
SHEET 006	6–12	32	65	8.8	173	SSF	YES
SHEET 006	6–13	24	52	8.9	121	SSF	YES
SHEET 006	6–14	32	91	9.2	153	SSF	YES
SHEET 006	6–15	12	63	9.2	88	RSF	NO
SHEET 006	6–16	12	77	9.3	51	SF	NO
SHEET 006	6–17	12	114	9.8	68	RSF	NO
SHEET 006	6–18	12	109	11.6	102	RSF	NO
SHEET 006	6–19	12	97	12.6	73	RSF	NO
SHEET 006	6–20	12	69	14.9	46	RSF	NO
SHEET 006	6–21	12	113	10.5	130	RSF	NO
SHEET 006	6–22	12	109	10	126	RSF	NO
SHEET 006	6–23	12	109	11.0	122	RSF	NO
SHEET 006	6–24	12	109	8.6	117	RSF	NO
SHEET 006	6–25	12	60	8.0	109	RSF	NO
SHEET 006	6–26	12	107	8.4	96	RSF	NO
SHEET 006	6–27	12	49	8.7	23	SF	NO
SHEET 006	6–28	12	160	5.3	105	RSF	NO
SHEET 006	6–29	12	144	5.2	120	RSF	NO
SHEET 006	6–30	12	131	4.5	133	RSF	NO
SHEET 006	6–31	12	67	9.7	62	RSF	NO
SHEET 006	6–32	12	90	7.0	84	RSF	NO
SHEET 006	6–33	12	58	2.5	54	SF	NO
SHEET 006	6–34	12	81	5.7	84	SSF	YES
SHEET 006	6–35	12	97	7.8	85	SSF	YES
SHEET 006	6–36	32	55	6.1	230	SSF	YES
SHEET 006	6–37	12	52	5.7	106	SSF	YES
SHEET 006	6–38	12	28	N/A	N/A	SSF	YES
SHEET 007	7–1	24	77	13	78	SSF	YES
SHEET 007	7–2	18	90	10.6	76	SSF	YES
SHEET 007	7–3	32	112	11.6	107	SSF	YES
SHEET 007	7–4	32	60	11.3	115	SSF	YES
SHEET 007	7–5	32	82	9.0	142	SSF	YES
SHEET 007	7–6	32	78	8.0	161	SSF	YES
SHEET 007	7–7	24	75	6.6	123	SSF	YES
SHEET 007	7–8	12	41	5.2	118	RSF	NO
SHEET 007	7–9	12	103	5.0	120	RSF	NO
SHEET 007	7–10	12	35	3.8	70	SF	NO
SHEET 007	7–11	12	43	4.4	88	SF	NO
SHEET 007	7–12	12	93	3.5	138	RSF	NO
SHEET 007	7–13	12	62	6.4	72	SSF	YES
SHEET 007	7–14	24	79	10.4	108	SSF	YES
SHEET 007	7–15	12	61	4.1	74	SSF	YES
SHEET 007	7–16	32	93	7.6	143	SSF	YES
SHEET 007	7–17	24	46	8.7	124	SSF	YES
SHEET 007	7–18	12	133	9.3	38	SSF	YES
SHEET 007	7–19	18	143	15.2	56	SSF	YES
SHEET 007	7–20	24	55	16.4	66	SSF	YES
SHEET 007	7–21	18	61	15.6	52	SSF	YES
SHEET 007	7–22	24	85	20.6	67	SSF	YES
SHEET 007	7–23	12	56	15.9	44	RSF	NO
SHEET 007	7–24	12	65	11.0	51	RSF	NO
SHEET 007	7–25	24	91	6.4	342	SSF	NO
SHEET 007	7–26	18	96	5.8	241	SSF	NO
SHEET 007	7–27	18	58	6.0	266	SSF	NO
SHEET 007	7–28	18	38	5.9	250	SSF	NO
SHEET 007	7–29	12	47	7.1	148	RSF	NO
SHEET 007	7–30	12	78	8.7	74	RSF	NO
SHEET 007	7–31	12	97	6.2	91	RSF	NO
SHEET 007	7–32	12	95	10.7	83	RSF	NO
SHEET 007	7–33	12	58	9.5	128	RSF	NO
SHEET 007	7–34	12	102	8.2	101	RSF	NO
SHEET 007	7–35	32	63	14.9	47	SSF	NO
SHEET 007	7–35A	32	29	12.2	139	SSF	NO
SHEET 007	7–35B	32	77	11.9	106	SSF	NO
SHEET 007	7–36	12	45	9.5	68	RSF	NO
SHEET 007	7–37	18	90	3.8	380	SF	NO
SHEET 007	7–38	24	94	10.1	116	SSF	YES
SHEET 007	7–39	12	59	12.1	51	SSF	YES
SHEET 007	7–40	32	45	6.7	165	SSF	YES
SHEET 007	7–41	12	123	6.0	43	SSF	YES
SHEET 007	7–42	24	102	9.4	105	SSF	YES
SHEET 007	7–43	24	66	12	76	SSF	YES
SHEET 007	7–44	18	40	9.2	88	SSF	YES
SHEET 007	7–45	12	78	9.5	52	SSF	YES
SHEET 007	7–46	12	59	6.7	56	SSF	YES
SHEET 007	7–47	12	28	13.3	20	SSF	YES
SHEET 007	7–48	12	44	7.9	41	SSF	YES
SHEET 007	7–49	12	40	7.7	57	SF	NO
SHEET 007	7–50	12	119	2.1	78	SF	NO
SHEET 007	7–51	12	63	3.9	305	RSF	NO
SHEET 007	7–52	32	112	4.5	627	SSF	NO
SHEET 007	7–53	24	113	5.6	409	SSF	NO
SHEET 007	7–54	24	97	6.6	324	SSF	NO
SHEET 007	7–55	12	98	2.9	135	SSF	NO
SHEET 007	7–56	24	63	6.4	343	SSF	NO
SHEET 007	7–57	12	27	N/A	N/A	SSF	YES
SHEET 007	7–58	12	134	N/A	N/A	SSF	YES
SHEET 007	7–59	12	40	N/A	N/A	SSF	YES
SHEET 008	8–1	18	109	13.4	124	SSF	NO
SHEET 008	8–2	12	97	8.0	110	RSF	NO
SHEET 008	8–3	24	83	23.1	100	SSF	NO
SHEET 008	8–4	12	95	13.1	104	RSF	NO
SHEET 008	8–5	18	77	19.7	79	SSF	NO
SHEET 008	8–6	24	71	23.6	51	SSF	YES
SHEET 008	8–7	24	84	30.4	36	SSF	YES
SHEET 008	8–8	32	34	35.9	30	SSF	YES
SHEET 008	8–9	24	161	29.5	29	SSF	YES
SHEET 008	8–10	32	65	18.1	104	SSF	YES
SHEET 008	8–11	12	56	13.0	46	SSF	YES
SHEET 008	8–12	24	83	24.3	41	SSF	YES
SHEET 008	8–13	18	83	16.3	49	SSF	YES
SHEET 008	8–14	12	45	14.7	40	SSF	YES
SHEET 008	8–15	24	45	14.1	95	SSF	YES
SHEET 008	8–16	12	80	8.6	65	SSF	YES
SHEET 008	8–17	32	161	5.8	292	SSF	YES
SHEET 008	8–18	12	43	15.4	41	SSF	YES
SHEET 008	8–19	32	84	11.3	142	SSF	YES
SHEET 008	8–20	32	47	13.3	127	SSF	YES
SHEET 008	8–21	24	90	9.7	86	SSF	YES
SHEET 008	8–22	24	98	13	84	SSF	YES
SHEET 008	8–23	12	62	8.5	117	RSF	NO
SHEET 008	8–24	12	50	9.0	82	RSF	NO
SHEET 008	8–25	12	34	5.0	199	RSF	NO
SHEET 008	8–26	12	54	4.7	150	RSF	NO
SHEET 008	8–27	32	136	5.6	493	RSF	NO
SHEET 008	8–28	12	63	6.7	151	RSF	NO
SHEET 008	8–29	12	38	6.8	94	SSF	NO
SHEET 008	8–30	12	44	8.1	42	SSF	NO
SHEET 008	8–31	24	78	6.9	261	SSF	NO
SHEET 008	8–32	32	75	6.4	202	SSF	YES
SHEET 008	8–33	32	33	7.2	163	SSF	YES
SHEET 008	8–34	24	38	7.9	124	SSF	YES
SHEET 008	8–35	18	52	7.8	109	SSF	YES
SHEET 008	8–36	12	41	13.7	32	SSF	YES
SHEET 008	8–37	12	93	13.0	34	SSF	YES
SHEET 008	8–38	12	186	6.4	71	SSF	YES
SHEET 008	8–39	24	101	12.0	81	SSF	YES
SHEET 008	8–40	24	33	10.4	109	SSF	YES
SHEET 008	8–41	24	101	10.5	96	SSF	YES
SHEET 008	8–42	24	70	9.5	105	SSF	YES
SHEET 008	8–43	12	82	8.2	86	SSF	YES
SHEET 008	8–44	24	79	15.4	72	SSF	YES
SHEET 008	8–45	24	115	10.8	107	SSF	YES
SHEET 008	8–46	24	70	15.6	65	SSF	YES
SHEET 008	8–47	12	120	13.5	75	RSF	NO
SHEET 008	8–48	24	70	19.9	77	SSF	YES
SHEET 008	8–49	24	85	21.8	38	SSF	YES
SHEET 008	8–50	24	89	21.7	57	SSF	YES
SHEET 008	8–51	18	67	23.2	84	SSF	NO
SHEET 008	8–52	24	76	18.6	63	SSF	YES
SHEET 008	8–53	18	91	19.6	68	SSF	NO
SHEET 008	8–54	24	69	25.6	104	SSF	NO
SHEET 008	8–55	12	38	25	25	RSF	NO
SHEET 008	8–56	24	92	29.7	87	SSF	NO
SHEET 008	8–57	12	47	35.7	41	SSF	NO
SHEET 008	8–58	18	48	36.0	45	SSF	NO
SHEET 008	8–59	12	50	30.2	46	SSF	NO
SHEET 008	8–60	18	71	28.5	68	SSF	NO
SHEET 009	8–61	18	61	28	57	SSF	NO
SHEET 008	8–62	24	96	26.2	78	SSF	NO
SHEET 008	8–63	24	56	18.8	110	SSF	NO
SHEET 009	9–1A	12	96	12.2	71	RSF	NO
SHEET 009	9–1	18	109	11.3	133	SSF	NO
SHEET 009	9–2	24	111	18.9	114	SSF	NO
SHEET 009	9–3	24	100	21.4	116	SSF	NO
SHEET 009	9–4	32	100	24.4	137	SSF	NO
SHEET 009	9–5	32	92	20.7	137	SSF	NO
SHEET 009	9–6	24	99	12.1	185	SSF	NO
SHEET 009	9–7	12	81	9.2	109	RSF	NO
SHEET 009	9–8	12	126	6.2	89	RSF	NO
SHEET 009	9–9	18	84	9.4	173	SSF	NO
SHEET 009	9–10	18	144	9.8	140	SSF	NO
SHEET 009	9–11	12	60	13.2	54	RSF	NO
SHEET 009	9–12	18	97	15.1	100	SSF	NO
SHEET 009	9–13	18	63	13.4	112	SSF	NO
SHEET 009	9–14	18	116	13.9	114	SSF	NO
SHEET 009	9–15	12	98	13.5	92	RSF	NO
SHEET 009	9–16	18	120	14.1	116	SSF	NO
SHEET 009	9–17	12	83	15.3	80	RSF	NO
SHEET 009	9–18	12	89	13.2	85	RSF	NO
SHEET 009	9–19	12	88	11.6	92	RSF	NO
SHEET 009	9–20	18	84	17.9	85	SSF	NO
SHEET 009	9–21	18	64	24.4	62	SSF	NO
SHEET 009	9–22	32/32/32	83	14.2	123	SSF	NO
SHEET 009	9–23	12	49	14.3	71	SSF	NO
SHEET 009	9–24	18	81	6	252	SSF	NO
SHEET 009	9–25	24	100	8.2	203	SSF	NO
SHEET 009	9–26	24	91	7.2	378	SSF	NO
SHEET 009	9–27	32	67	7.8	384	SSF	NO
SHEET 009	9–28	24	78	10.3	223	SSF	NO
SHEET 010	9–29	24	53	8.4	274	SSF	NO
SHEET 009	9–30	24	49	7.1	244	SSF	NO
SHEET 009	9–31	12	108	9.0	77	RSF	NO
SHEET 009	9–32	12	88	8.8	142	RSF	NO
SHEET 009	9–33	12	32	8.8	143	RSF	NO
SHEET 009	9–34	12	114	9.2	133	RSF	NO
SHEET 009	9–35	24	86	13.5	144	SSF	NO
SHEET 009	9–36	18	153	16.8	141	SSF	NO
SHEET 009	9–37	24	47	16	110	SSF	NO
SHEET 009	9–38	18	109	6.7	102	SSF	NO
SHEET 009	9–39	12	112	7.1	119	RSF	NO
SHEET 009	9–40	12	82	7.2	138	RSF	NO
SHEET 009	9–41	12	59	4.9	147	RSF	NO
SHEET 009	9–42	12	136	5	170	SSF	YES
SHEET 009	9–43	24	75	8.2	46	SSF	YES
SHEET 009	9–44	12	49	N/A	N/A	SSF	YES
SHEET 009	9–45	12	153	16.6	72	RSF	NO
SHEET 010	10–1	12	105	11.2	49	SSF	YES
SHEET 010	10–2	12	108	12.1	45	SSF	YES
SHEET 010	10–3	12	68	12.3	57	SSF	YES

_____ P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

Williams

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 071
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-071	OF 097

SHEET 010	10–4	24	87	14.5	69	SSF	YES
SHEET 010	10–5	32	114	11.6	103	SSF	YES
SHEET 010	10–6	12	58	3.4	41	SSF	YES
SHEET 010	10–7	24	81	13.9	73	SSF	YES
SHEET 010	10–8	24	107	11.6	172	SSF	NO
SHEET 010	10–9	24	72	10.2	97	SSF	YES
SHEET 010	10–10	32	78	12.5	105	SSF	YES
SHEET 010	10–11	32	84	17.7	120	SSF	YES
SHEET 010	10–12	32	41	16.6	102	SSF	YES
SHEET 010	10–12A	12	37	22.7	29	SSF	YES
SHEET 010	10–13	32	54	35.7	48	SSF	YES
SHEET 010	10–14	24	117	28.0	44	SSF	YES
SHEET 010	10–15	12	163	17.4	36	SSF	YES
SHEET 010	10–15A	12	18	N/A	N/A	SSF	YES
SHEET 010	10–15D	12	58	N/A	N/A	SSF	YES
SHEET 010	10–15A	12	59	21.4	32	SSF	YES
SHEET 010	10–15B	12	108	5.3	108	SSF	YES
SHEET 010	10–15E	12	34	11.6	52	SSF	YES
SHEET 010	10–16	24	15	9.1	125	SSF	YES
SHEET 010	10–16A	12	40	4.3	46	SSF	YES
SHEET 010	10–17	24	44	18.5	69	SSF	YES
SHEET 010	10–18	24	35	16.6	65	SSF	YES
SHEET 010	10–19	18	102	17.4	46	SSF	YES
SHEET 010	10–20	12	53	14.6	34	SSF	YES
SHEET 010	10–21	12	87	4.8	80	SF	NO
SHEET 010	10–22	12	81	12.4	52	SSF	YES
SHEET 010	10–23	12	35	9.6	45	SSF	YES
SHEET 010	10–24	12	71	6.3	126	RSF	NO
SHEET 010	10–25	12	91	7.7	74	RSF	NO
SHEET 010	10–26	32	91	10.5	321	SSF	NO
SHEET 010	10–27	32	93	11.6	133	SSF	YES
SHEET 010	10–28	32	83	16.6	110	SSF	YES
SHEET 010	10–29	32	38	17.6	106	SSF	YES
SHEET 010	10–30	32	55	19.8	84	SSF	YES
SHEET 010	10–31	32	41	16.2	111	SSF	YES
SHEET 010	10–32	32	102	16.3	113	SSF	YES
SHEET 010	10–33	32	110	12.3	136	SSF	YES
SHEET 010	10–34	12	110	8.0	100	RSF	NO
SHEET 010	10–35	18	99	8.5	163	RSF	NO
SHEET 010	10–36	12	49	6.7	126	RSF	NO
SHEET 010	10–37	24	122	8.7	211	SSF	NO
SHEET 010	10–38	12	30	23.1	18	SSF	YES
SHEET 010	10–39	12	78	24.7	24	SSF	YES
SHEET 010	10–40	32	59	24.7	72	SSF	YES
SHEET 010	10–41	32	104	18.9	93	SSF	YES
SHEET 010	10–42	24	50	13.4	87	SSF	YES
SHEET 010	10–43	24	90	13.6	98	SSF	YES
SHEET 010	10–44	12	52	18.0	37	SSF	YES
SHEET 010	10–45	24	74	19.9	66	SSF	YES
SHEET 010	10–46	12	43	6.1	46	SF	NO
SHEET 010	10–46A	12	51	10.7	49	SF	NO
SHEET 010	10–47	12	72	11.5	66	SSF	NO
SHEET 010	10–48	12	68	10.2	95	RSF	NO
SHEET 010	10–49	12	62	11.3	46	RSF	NO
SHEET 010	10–50	18	74	13.8	124	SSF	NO
SHEET 010	10–51	12	137	14.0	101	RSF	NO
SHEET 010	10–52	18	110	13.3	123	SSF	NO
SHEET 010	10–53	24	117	19.7	121	SSF	NO
SHEET 010	10–54	12	51	N/A	N/A	SSF	YES
SHEET 011	11–1	24	88	18.4	130	SSF	NO
SHEET 011	11–2	12	94	13.8	101	RSF	NO
SHEET 011	11–3	18	106	24.9	69	SSF	NO
SHEET 011	11–4	18	77	27.1	72	SSF	NO
SHEET 011	11–5	12	86	16.0	78	RSF	NO
SHEET 011	11–6	24	85	13.3	157	SSF	NO
SHEET 011	11–7	12	39	14.2	37	RSF	NO
SHEET 011	11–8	12	30	13.8	70	RSF	NO
SHEET 011	11–9	12	43	14.9	51	RSF	NO
SHEET 011	11–10	12	65	12.5	52	RSF	NO
SHEET 011	11–11	12	65	12.7	49	RSF	NO
SHEET 011	11–12	12	56	10.8	15	SSF	YES
SHEET 011	11–13	18	75	10.5	78	SSF	YES
SHEET 011	11–14	12	44	7.1	39	SSF	YES
SHEET 011	11–15	32	113	13.6	96	SSF	YES
SHEET 011	11–16	24	82	11.0	100	SSF	YES
SHEET 011	11–17	24	60	21.1	58	SSF	YES
SHEET 011	11–18	32	127	13.7	120	SSF	YES
SHEET 011	11–19	24	142	15.0	86	SSF	YES
SHEET 011	11–20	32	81	11.8	120	SSF	YES
SHEET 011	11–21	12	76	6.3	94	SSF	YES
SHEET 011	11–22	12	63	9.7	46	SSF	YES
SHEET 011	11–23	12	89	4.3	153	RSF	NO
SHEET 011	11–24	12	34	3.2	116	RSF	NO
SHEET 011	11–25	12	107	7.0	122	RSF	NO
SHEET 011	11–26	12	104	6.0	181	RSF	NO
SHEET 011	11–27	24	107	8.1	121	SSF	YES
SHEET 011	11–28	12	42	10.7	72	RSF	NO
SHEET 011	11–29	12	66	12.0	42	RSF	NO
SHEET 011	11–30	12	47	12.1	79	RSF	NO
SHEET 011	11–31	24	117	14.1	73	SSF	YES
SHEET 011	11–32	32	76	13.1	108	SSF	YES
SHEET 011	11–33	32	52	17	121	SSF	YES
SHEET 011	11–34	32	41	13.4	140	SSF	YES
SHEET 011	11–35	12	66	10.3	52	SSF	YES
SHEET 011	11–36	12	125	11.3	56	SSF	YES
SHEET 011	11–37	18	214	6.1	65	SSF	YES
SHEET 011	11–38	18	103	10.6	150	SSF	NO
SHEET 011	11–39	18	34	13.3	96	RSF	NO
SHEET 011	11–40	12	87	9.5	113	RSF	NO
SHEET 011	11–41	12	40	12.8	68	RSF	NO
SHEET 011	11–42	12	37	14.4	29	SF	NO
SHEET 011	11–43	12	97	5.2	224	RSF	NO
SHEET 011	11–44	12	73	5.9	67	SF	NO
SHEET 011	11–45	12	73	5.3	151	RSF	NO
SHEET 011	11–46	12	100	4.8	142	RSF	NO
SHEET 011	11–47	12	100	4.7	93	SF	NO
SHEET 011	11–48	12	39	4.0	67	SF	NO
SHEET 011	11–49	12	37	4.7	54	SF	NO
SHEET 011	11–50	12	104	3.1	47	SF	NO
SHEET 011	11–51	12	63	4.4	36	SF	NO
SHEET 011	11–52	12	106	4.7	33	SF	NO
SHEET 011	11–53	12	56	3.1	32	SF	NO
SHEET 011	11–54	12	39	2.1	12	SF	NO
SHEET 011	11–55	12	66	2.9	54	SF	NO
SHEET 011	11–56	12	103	3.9	118	RSF	NO
SHEET 011	11–57	12	87	4.5	96	SF	NO
SHEET 011	11–58	12	38	8	34	SF	NO
SHEET 011	11–59	12	70	6.9	105	RSF	NO
SHEET 011	11–60	12	39	9.7	38	SF	NO
SHEET 011	11–61	12	27	10.4	62	RSF	NO
SHEET 011	11–62	12	96	3.1	112	RSF	NO
SHEET 011	11–63	12	99	5.1	121	RSF	NO
SHEET 011	11–64	12	102	6.1	138	RSF	NO
SHEET 011	11–65	12	77	4.2	226	RSF	NO
SHEET 011	11–65A	12	114	3.3	293	RSF	NO
SHEET 011	11–66	12	639	N/A	N/A	SSF	YES
SHEET 012	12–1	12	58	13.5	35	SSF	YES
SHEET 012	12–2	12	37	14.9	29	SSF	YES
SHEET 012	12–3	32	79	13.6	108	SSF	YES
SHEET 012	12–4	12	58	4.2	60	SSF	YES
SHEET 012	12–5	12	47	6.2	34	SSF	YES
SHEET 012	12–6	12	117	4.6	42	SSF	YES
SHEET 012	12–7	12	78	3.5	22	SSF	YES
SHEET 012	12–8	12	98	7.8	75	SSF	YES
SHEET 012	12–9	18	60	11.2	70	SSF	YES
SHEET 012	12–10	12	64	9.7	69	SSF	YES
SHEET 012	12–11	12	50	10.3	29	SSF	YES
SHEET 012	12–12	12	48	7.1	89	SSF	YES
SHEET 012	12–13	12	74	7.6	62	SSF	YES
SHEET 012	12–13A	12	69	8.7	65	RSF	NO
SHEET 012	12–13B	12	69	8.5	67	RSF	NO
SHEET 012	12–14	12	81	8.2	81	RSF	NO
SHEET 012	12–15	12	81	7.3	121	RSF	NO
SHEET 012	12–16	12	60	7.3	54	SF	NO
SHEET 012	12–17	12	96	6.7	164	RSF	NO
SHEET 012	12–18	12	74	4.9	184	RSF	NO
SHEET 012	12–19	12	151	8.0	123	RSF	NO
SHEET 012	12–19A	18	144	9.0	133	SSF	NO
SHEET 012	12–19B	18	141	7.4	30	SSF	NO
SHEET 012	12–20	12	34	6.0	35	SF	NO
SHEET 012	12–21	12	52	11	94	RSF	NO
SHEET 012	12–22	12	50	11.8	46	RSF	NO
SHEET 012	12–23	12	112	7.6	83	RSF	NO
SHEET 012	12–24	12	77	7.3	67	SF	NO
SHEET 012	12–25	12	115	6.0	119	RSF	NO
SHEET 012	12–26	12	89	4.5	93	SF	NO
SHEET 012	12–27	18	39	7.2	207	SSF	NO
SHEET 012	12–28	24	98	7.2	232	SSF	NO
SHEET 012	12–29	18	98	6.3	238	SSF	NO
SHEET 012	12–30	12	109	7.6	168	RSF	NO
SHEET 012	12–31	12	60	10.9	102	RSF	NO
SHEET 012	12–32	12	29	15.5	22	SF	NO
SHEET 012	12–33	18	33	20.0	77	SSF	NO
SHEET 012	12–34	32	72	26.4	61	SSF	YES
SHEET 012	12–35	32	51	34.7	39	SSF	YES
SHEET 012	12–36	12	60	28.5	19	SSF	YES
SHEET 012	12–37	12	40	14.5	30	SSF	YES
SHEET 012	12–38	12	95	16.1	39	SSF	YES
SHEET 012	12–39	12	147	10.2	39	SSF	YES
SHEET 012	12–39A	24	59	15.2	86	SSF	YES
SHEET 012	12–40	18	78	15	52	SSF	YES
SHEET 012	12–41	24	84	11.8	83	SSF	YES
SHEET 012	12–42	12	58	10.6	60	SSF	YES
SHEET 012	12–43	12	107	7.7	114	RSF	NO
SHEET 012	12–44	12	103	7.0	108	RSF	NO
SHEET 012	12–45	12	52	7.0	33	SF	NO
SHEET 012	12–46	12	31	6.4	85	RSF	NO
SHEET 012	12–47	12	70	7.3	79	RSF	NO
SHEET 012	12–48	12	59	6.0	70	SF	NO
SHEET 012	12–49	12	84	5.8	92	RSF	NO
SHEET 012	12–50	12	96	4.6	168	RSF	NO
SHEET 012	12–51	12	101	4.4	90	SF	NO
SHEET 012	12–52	12	101	1.9	89	SF	NO
SHEET 012	12–53	12	39	1.6	38	SF	NO
SHEET 012	12–54	12	82	2.3	177	RSF	NO
SHEET 012	12–55	12	71	3.7	60	SF	NO
SHEET 012	12–56	12	38	N/A	N/A	RSF	NO
SHEET 013	13–1	12	120	10.7	118	RSF	NO
SHEET 013	13–2	12	84	3.1	73	SF	NO
SHEET 013	13–3	12	47	2.7	73	SF	NO
SHEET 013	13–4	24	49	27.8	36	SSF	YES
SHEET 013	13–5	12	46	32.3	13	SSF	YES
SHEET 013	13–6	12	42	8.2	25	SSF	YES
SHEET 013	13–7	32	54	35	45	SSF	YES
SHEET 013	13–8	32	58	38.4	29	SSF	YES
SHEET 013	13–9	24	46	35.7	31	SSF	YES
SHEET 013	13–10	32	150	29.8	47	SSF	YES
SHEET 013	13–10A	12	79	5.5	31	SSF	YES
SHEET 013	13–11	12	92	5.1	56	SSF	YES
SHEET 013	13–12	12	119	5.6	43	SSF	YES
SHEET 013	13–13	12	56	6.1	55	SSF	YES
SHEET 013	13–14	12	143	9.5	61	SSF	YES
SHEET 013	13–15	12	83	7.1	33	SSF	YES
SHEET 013	13–16	12	51	9.8	48	SSF	YES
SHEET 013	13–17	12	147	12.5	66	RSF	NO
SHEET 013	13–18	24/24	76	9.7	397	SSF	NO
SHEET 013	13–19	12	96	10.0	42	SF	NO
SHEET 013	13–20	12	108	14.0	50	RSF	NO
SHEET 013	13–21	12	101	9.6	67	RSF	NO
SHEET 013	13–22	12	34	8.7	14	SF	NO
SHEET 013	13–23	12	33	14.6	74	RSF	NO
SHEET 013	13–24	12	68	16.2	51	RSF	NO
SHEET 013	13–25	12	96	17.4	72	RSF	NO
SHEET 013	13–26	12	68	13.7	69	RSF	NO
SHEET 013	13–27	12	101	10.1	99	RSF	NO
SHEET 013	13–28	12	130	7.2	124	RSF	NO
SHEET 013	13–29	12	109	5.2	179	RSF	NO
SHEET 013	13–30	12	100	6.2	99	RSF	NO
SHEET 013	13–31	12	103	3.5	57	SF	NO
SHEET 013	13–32	12	100	2.1	119	RSF	NO
SHEET 013	13–33	12	34	2.0	56	SF	NO
SHEET 013	13–34	12	80	3.4	119	RSF	NO
SHEET 013	13–35	12	51	4.0	129	RSF	NO
SHEET 013	13–36	12	72	9.0	82	RSF	NO
SHEET 013	13–37	18	83	11.5	130	SSF	NO
SHEET 013	13–38	18	50	4.8	275	SSF	NO
SHEET 013	13–39	12	97	11.1	96	RSF	NO
SHEET 013	13–40	12	36	7.8	81	RSF	NO
SHEET 013	13–41	12	55	7.6	50	SF	NO
SHEET 013	13–42	12	80	6.1	74	SF	NO
SHEET 013	13–43	12	62	7.5	96	RSF	NO
SHEET 013	13–44	12	105	3.1	15	SF	NO
SHEET 013	13–45	12	87	4.1	75	SF	NO
SHEET 013	13–46	12	105	4.1	32	SF	NO
SHEET 013	13–47	12	46	4.3	40	SF	NO
SHEET 013	13–48	12	86	5.3	176	RSF	NO
SHEET 013	13–49	12	73	5.5	180	RSF	NO
SHEET 013	13–50	12	76	6.1	73	SF	NO
SHEET 013	13–51	12	43	6.6	105	RSF	NO
SHEET 013	13–52	12	61	6.8	48	SF	NO
SHEET 013	13–53	18	40	6.4	214	SSF	NO
SHEET 013	13–54	12	82	6.2	125	RSF	NO
SHEET 013	13–55	12	118	7.0	138	RSF	NO
SHEET 013	13–56	12	67	7.2	67	SF	NO
SHEET 013	13–57	12	42	6.7	36	SF	NO
SHEET 013	13–58	12	63	6.7	94	RSF	NO
SHEET 013	13–59	12	85	7.0	86	RSF	NO
SHEET 013	13–60	12	25	5.9	27	SF	NO
SHEET 013	13–61	12	49	6.5	43	SF	NO
SHEET 013	13–62	12	51	5.6	43	SF	NO
SHEET 013	13–63	12	312	N/A	N/A	RSF	NO
SHEET 014	14–1	12	49	6.8	47	SF	NO
SHEET 014	14–2	18	78	8.2	98	SSF	YES
SHEET 014	14–3	18	58	12.3	60	SSF	YES
SHEET 014	14–4	24	77	7.6	138	SSF	YES
SHEET 014	14–5	12	63	11.7	39	SSF	YES
SHEET 014	14–5A	18	43	12.5	67	SSF	YES
SHEET 014	14–6	18	116	10.4	79	SSF	YES
SHEET 014	14–7	12	112	7.7	60	SSF	YES
SHEET 014	14–8	12	71	3.6	53	SSF	YES
SHEET 014	14–9	12	98	6.3	120	SSF	YES
SHEET 014	14–10	12	53	7.8	97	RSF	NO
SHEET 014	14–11	12	66	9.8	124	RSF	NO
SHEET 014	14–12	12	139	8.7	120	RSF	NO
SHEET 014	14–13	32	100	9.2	176	SSF	NO
SHEET 014	14–13A	32	98	10.1	194	SSF	NO
SHEET 014	14–14	24	113	9.8	202	RSF	NO
SHEET 014	14–15	32	216	11.0	309	SSF	NO
SHEET 014	14–16	12	89	13.7	94	RSF	NO
SHEET 014	14–17	32	43	7.5	379	SSF	NO
SHEET 014	14–18	24	52	7.6	293	SSF	NO
SHEET 014	14–19	24	67	7.7	256	SSF	NO
SHEET 014	14–20	12	72	8.6	120	RSF	NO
SHEET 014	14–21	24	134	7.0	146	SSF	YES
SHEET 014	14–22	18	47	26.3	30	SSF	YES
SHEET 014	14–23	32	39	25.4	61	SSF	YES
SHEET 014	14–23A	24	62	24.8	49	SSF	YES
SHEET 014	14–24	32	147	12.9	274	SSF	YES
SHEET 014	14–25	24	100	6.7	138	SSF	YES
SHEET 014	14–26	12	39	7.3	39	SSF	YES
SHEET 014	14–27	18	78	6.3	58	SSF	YES
SHEET 014	14–28	18	80	5.7	146	SSF	YES
SHEET 014	14–29	32	70	4.7	235	SSF	YES
SHEET 014	14–30	18	45	5.7	225	SSF	NO
SHEET 014	14–31	12	95	7.8	89	RSF	NO
SHEET 014	14–32	12	57	7.1	61	RSF	NO
SHEET 014	14–33	12	96	3.8	119	RSF	NO
SHEET 014	14–34	12	101	2.5	171	RSF	NO
SHEET 014	14–35	12	109	4.7	133	RSF	NO
SHEET 014	14–36	12	40	6.2	180	RSF	NO
SHEET 014	14–37	32	161	4.8	497	SSF	NO
SHEET 014	14–38	18	132	6.0	250	SSF	NO
SHEET 014	14–39	12	150	6.0	124	RSF	NO
SHEET 014	14–40	12	90	N/A	N/A	RSF	NO
SHEET 014	14–41	12	76	4.2	46	SF	NO
SHEET 014	14–42	12	75	4.6	220	RSF	NO
SHEET 014	14–43	12	121	6.7	139	RSF	NO
SHEET 015	15–1	12	112	4.8	121	RSF	NO
SHEET 015	15–2	12	102	5.1	228	RSF	NO
SHEET 015	15–3	12	34	5.4	116	RSF	NO
SHEET 015	15–4	12	154	4.4	108	RSF	NO
SHEET 015	15–5	12	88	17.1	23	SF	NO
SHEET 015	15–6	12	58	22.6	12	SF	NO
SHEET 015	15–7	12	46	44.3	4	RSF	NO
SHEET 015	15–8	12	35	4.9	13	SF	NO
SHEET 015	15–9	12	99	5.3	150	RSF	NO
SHEET 015	15–10	12	46	7.9	29	SF	NO
SHEET 015	15–11	12	102	7.9	161	RSF	NO
SHEET 015	15–12	12	87	7.5	101	RSF	NO
SHEET 015	15–13	12	102	9.9	101	SSF	NO
SHEET 015	15–14	32	99	4.5	526	SSF	NO
SHEET 015	15–15	12	46	6.8	107	RSF	NO
SHEET 015	15–16	12	38	5.9	93	SF	NO
SHEET 015	15–17	12	183	6.0	65	SF	NO
SHEET 015	15–18	24	111	5.4	311	SSF	NO
SHEET 015	15–19	24	60	5.6	356	SSF	NO
SHEET 015	15–20	32	116	5.2	452	SSF	NO
SHEET 015	15–21	24/24	136	5.9	591	SSF	NO
SHEET 015	15–22	12	76	3.5	65	SF	NO
SHEET 015	15–23	12	67	2.8	63	SF	NO
SHEET 015	15–24	12	112	6.1	53	SF	NO
SHEET 015	15–25	12	176	2.5	53	SF	NO
SHEET 015	15–26	12	37	8.5	83	RSF	NO
SHEET 015	15–27	12	45	9.6	84	RSF	NO
SHEET 015	15–28	12	85	13.8	57	RSF	NO
SHEET 015	15–29	12	54	15.1	24	SF	NO
SHEET 015	15–30	24	66	14.0	77	SSF	YES
SHEET 015	15–31	12	77	10.5	58	SSF	YES
SHEET 015	15–32	24	129	13.7	74	SSF	YES
SHEET 015	15–33	12	133	11.3	50	SSF	YES
SHEET 015	15–34	24	93	7.9	116	SSF	YES
SHEET 015	15–35	24	77	9.2	124	SSF	YES
SHEET 015	15–36	32	115	8.5	135	SSF	YES
SHEET 015	15–37	18	34	5.7	137	SSF	YES
SHEET 015	15–38	24	47	4.7	297	SSF	NO
SHEET 015	15–39	24	78	4.5	307	SSF	NO
SHEET 015	15–40	18	45	4.5	325	SSF	NO
SHEET 015	15–41	12	63	3.8	258	RSF	NO
SHEET 015	15–42	12	38	3.3	259	RSF	NO
SHEET 015	15–43	12	115	4.0	281	RSF	NO
SHEET 015	15–44	12	36	4.0	298	RSF	NO
SHEET 015	15–45	12	64	4.8	207	RSF	NO
SHEET 015	15–46	12	144	2.8	206	RSF	NO
SHEET 015	15–47	12	55	2.7	230	RSF	NO
SHEET 015	15–48	12	191	2.6	173	RSF	NO
SHEET 015	15–49	12	123	2.7	274	RSF	NO
SHEET 015	15–50	12	27	N/A	N/A	RSF	NO
SHEET 016	16–1	12	243	3.1	226	RSF	NO
SHEET 016	16–2	12	48	3.7	232	RSF	NO

P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

Williams

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 072
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-072	OF 097

SHEET 016	16–3	12	77	4.0	224	RSF	NO
SHEET 016	16–4	12	106	3.7	216	RSF	NO
SHEET 016	16–5	12	47	3.6	139	RSF	NO
SHEET 016	16–6	12	239	3.7	106	RSF	NO
SHEET 016	16–7	12	114	3.2	59	RF	NO
SHEET 016	16–8	12	42	4.5	125	RSF	NO
SHEET 016	16–9	12	96	4.3	177	RSF	NO
SHEET 016	16–10	32	37	5.0	210	SSF	YES
SHEET 016	16–11	24	74	22.0	58	SSF	YES
SHEET 016	16–12	24	65	16.9	84	SSF	YES
SHEET 016	16–13	24	181	22.1	60	SSF	YES
SHEET 016	16–14	18	119	10.9	82	SSF	YES
SHEET 016	16–15	24	91	13.7	70	SSF	YES
SHEET 016	16–16	12	87	8.4	38	SSF	YES
SHEET 016	16–17	12	43	2.9	70	SSF	YES
SHEET 016	16–18	18	101	8.0	202	SSF	NO
SHEET 016	16–19	12	120	6.5	111	RSF	NO
SHEET 016	16–19A	12	162	1.3	40	SF	NO
SHEET 016	16–20	12	41	5.0	113	RSF	NO
SHEET 016	16–21	12	115	4.3	175	RSF	NO
SHEET 016	16–22	12	52	5.2	106	RSF	NO
SHEET 016	16–23	12	118	4.3	280	RSF	NO
SHEET 016	16–24	18	96	4.9	279	SSF	NO
SHEET 016	16–25	12	23	4.4	264	RSF	NO
SHEET 016	16–26	12	152	4.5	278	RSF	NO
SHEET 016	16–27	12	101	2.5	323	RSF	NO
SHEET 016	16–28	12	99	9.4	97	RSF	NO
SHEET 016	16–29	18	83	6.9	215	SSF	NO
SHEET 016	16–30	18	74	8.1	179	SSF	NO
SHEET 016	16–31	24	63	8.9	196	SSF	NO
SHEET 016	16–32	24	51	7.9	236	SSF	NO
SHEET 016	16–33	24	112	7.2	270	SSF	NO
SHEET 016	16–34	24	107	8.9	236	SSF	NO
SHEET 016	16–35	24	102	8.1	210	SSF	NO
SHEET 016	16–36	12	129	6.4	177	RSF	NO
SHEET 016	16–37	12	102	1.7	74	SF	NO
SHEET 016	16–38	12	111	6.7	125	RSF	NO
SHEET 016	16–39	32	111	8.5	136	SSF	YES
SHEET 016	16–40	12	83	N/A	N/A	RSF	NO
SHEET 016	16–41	12	278	6.9	33	SF	NO
SHEET 016	16–42	12	54	3.5	121	RSF	NO
SHEET 016	16–43	12	46	3.5	144	RSF	NO
SHEET 016	16–44	12	42	3.5	166	RSF	NO
SHEET 016	16–45	12	45	3.4	194	RSF	NO
SHEET 016	16–46	12	53	3.8	227	RSF	NO
SHEET 017	17–1	32	324	30.7	71	SSF	YES
SHEET 017	17–2	32	119	14.0	114	SSF	YES
SHEET 017	17–3	24	109	16.7	53	SSF	YES
SHEET 017	17–4	32	189	21.5	82	SSF	YES
SHEET 017	17–5	12	152	3.4	107	RSF	NO
SHEET 017	17–6	12	115	8.6+	111	RSF	NO
SHEET 017	17–7	32	136	5.4	473	SSF	NO
SHEET 017	17–8	12	105	0	10	SF	NO
SHEET 017	17–9	12	117	7.1	108	RSF	NO
SHEET 018	18–1A	12	80	6.9	62	SF	NO
SHEET 018	18–1	12	103	6.1	400	RSF	NO
SHEET 018	18–2	12	138	5.7	167	SF	NO
SHEET 018	18–3	12	59	4.1	47	SF	NO
SHEET 018	18–4	24	137	6.2	313	SSF	NO
SHEET 018	18–5	24	113	12.2	194	SSF	NO
SHEET 018	18–6	32	84	20.4	170	SSF	YES
SHEET 018	18–7	32	92	20.2	174	SSF	YES
SHEET 018	18–8	32	35	14.1	183	SSF	YES
SHEET 018	18–9	32	68	13.5	174	SSF	YES
SHEET 018	18–10	32	68	12.7	164	SSF	YES
SHEET 018	18–11	24	78	17.7	48	SSF	YES
SHEET 018	18–12	18	93	15.6	52	SSF	YES
SHEET 018	18–13	12	152	14.1	50	SSF	YES
SHEET 018	18–14	12	44	13.4	59	SSF	YES
SHEET 018	18–15	24	81	8.4	122	SSF	YES
SHEET 018	18–16	18	80	9.1	92	SSF	YES
SHEET 018	18–17	18	84	9.9	64	SSF	YES
SHEET 018	18–18	32	62	10.7	148	SSF	YES
SHEET 018	18–19	32	48	12.8	146	SSF	YES
SHEET 018	18–20	32	65	13.8	152	SSF	YES
SHEET 018	18–21	32	68	14.3	146	SSF	YES
SHEET 018	18–22	32	64	12.5	147	SSF	YES
SHEET 018	18–23	32	41	13.3	124	SSF	YES
SHEET 018	18–24	32	98	11.3	237	SSF	YES
SHEET 018	18–25	32	32	8.1	30	SSF	YES
SHEET 018	18–26	32	52	9	30	SSF	YES
SHEET 018	18–26A	12	277	8.5	30	SSF	YES
SHEET 018	18–27	32	112	5.0	51	SSF	YES
SHEET 018	18–28	24	70	9.0	103	SSF	YES
SHEET 018	18–28A	12	45	8.5	40	SSF	YES
SHEET 018	18–29	12	77	4.8	68	SSF	YES
SHEET 018	18–30	18	60	11.1	73	SSF	YES
SHEET 018	18–31	12	45	5.9	112	RSF	NO
SHEET 018	18–32	12	70	5.1	73	SF	NO
SHEET 018	18–33	18	149	4.0	375	SSF	NO
SHEET 018	18–33A	12	92	4.7	224	RSF	NO
SHEET 018	18–33B	12	88	5.9	118	RSF	NO
SHEET 018	18–33C	12	100	5.6	187	RSF	NO
SHEET 018	18–33D	12	89	4.8	32	SF	NO
SHEET 018	18–34	12	23	4.9	179	RSF	NO
SHEET 018	18–35	12	58	4.9	176	RSF	NO
SHEET 018	18–36	12	160	6.4	190	RSF	NO
SHEET 018	18–37	12	94	7.5	143	RSF	NO
SHEET 018	18–38	12	155	8.9	90	RSF	NO
SHEET 018	18–39	24	116	6.3	253	SSF	NO
SHEET 018	18–40	12	45	5.5	45	SF	NO
SHEET 018	18–41	12	125	N/A	N/A	RSF	NO
SHEET 018	18–42	12	72	6.9	83	RSF	NO
SHEET 018	18–43	12	61	6.8	143	RSF	NO
SHEET 018	18–44	12	56	6.7	194	RSF	NO
SHEET 018	18–45	12	56	6.2	63	SF	NO
SHEET 018	18–46	12	80	5.2	148	RSF	NO
SHEET 019	19–1	18	74	5.7	270	SSF	NO
SHEET 019	19–2	18	43	5.5	266	SSF	NO
SHEET 019	19–3	12	22	3.3	23	SF	NO
SHEET 019	19–3A	12	157	3.9	36	SF	NO
SHEET 019	19–3B	24	146	4.7	348	SSF	NO
SHEET 019	19–4	24	104	5.0	324	SSF	NO
SHEET 019	19–5	24	133	6.4	248	SSF	NO
SHEET 019	19–6	12	115	6.3	159	RSF	NO
SHEET 019	19–7	12	167	7.5	99	RSF	NO
SHEET 019	19–8	12	159	2.4	364	RSF	NO
SHEET 019	19–9	12	118	1.9	214	RSF	NO
SHEET 019	19–10	12	109	2.4	108	RSF	NO
SHEET 019	19–11	12	150	6.3	148	RSF	NO
SHEET 019	19–12	12	66	8.1	99	SF	NO
SHEET 019	19–13	12	65	7.2	73	RSF	NO
SHEET 019	19–14	12	70	4.8	121	RSF	NO
SHEET 019	19–15	12	200	4.3	165	RSF	NO
SHEET 019	19–16	12	54	4.3	219	RSF	NO
SHEET 019	19–17	12	39	6.5	165	RSF	NO
SHEET 019	19–18	12	55	6.8	135	RSF	NO
SHEET 019	19–19	12	41	13.3	24	SF	NO
SHEET 019	19–20	12	103	5.7	207	SSF	NO
SHEET 019	19–21	18	43	8.5	186	RSF	NO
SHEET 019	19–22	18	97	8.6	170	SSF	NO
SHEET 019	19–22A	12	49	5.7	83	SF	NO
SHEET 019	19–22B	12	79	1.0	38	SF	NO
SHEET 019	19–23	12	58	5.5	69	SF	NO
SHEET 019	19–24	12	101	4.3	109	RSF	NO
SHEET 019	19–25	12	99	2.7	97	SF	NO
SHEET 019	19–26	12	106	2.0	169	RSF	NO
SHEET 019	19–27	12	103	2.9	69	SF	NO
SHEET 019	19–28	12	106	3.0	112	RSF	NO
SHEET 019	19–29	12	66	2.8	167	RSF	NO
SHEET 019	19–30	24	109	6.0	290	SSF	NO
SHEET 019	19–31	24	75	5.5	287	SSF	NO
SHEET 019	19–32	24	79	5.8	274	SSF	NO
SHEET 019	19–33	24	108	6.8	293	SSF	NO
SHEET 019	19–34	18	71	9.4	162	SSF	NO
SHEET 019	19–34A	18	50	8.3	196	SSF	NO
SHEET 019	19–35	32	103	6.7	389	SSF	NO
SHEET 019	19–36	32	63	6.1	428	SSF	NO
SHEET 019	19–37	32	103	5.7	454	SSF	NO
SHEET 019	19–38	18	114	9.4	151	RSF	NO
SHEET 019	19–39	18	35	10.1	151	SSF	NO
SHEET 019	19–40	12	55	9.5	120	RSF	NO
SHEET 019	19–41	12	43	10.0	121	RSF	NO
SHEET 019	19–42	12	86	8.0	120	RSF	NO
SHEET 019	19–43	18	94	8.7	185	SSF	NO
SHEET 019	19–44	18	35	8.8	186	SSF	NO
SHEET 019	19–45	24	85	9.5	194	SSF	NO
SHEET 019	19–46	18	77	9.1	146	RSF	NO
SHEET 019	19–47	18	29	9.5	131	RSF	NO
SHEET 019	19–48	18	57	11.4	120	RSF	NO
SHEET 019	19–49	18	45	9.2	119	RSF	NO
SHEET 020	20–1	12	46	8.5	28	SF	NO
SHEET 020	20–2	12	68	7.5	35	SF	NO
SHEET 020	20–3	12	40	10.0	64	SSF	YES
SHEET 020	20–4	24	84	13.6	85	SSF	YES
SHEET 020	20–5	24	75	15.3	63	SSF	YES
SHEET 020	20–6	12	48	17.4	28	SSF	YES
SHEET 020	20–7	12	170	11.9	51	SSF	YES
SHEET 020	20–8	12	89	4.0	50	SSF	YES
SHEET 020	20–9	12	57	4.9	56	SSF	YES
SHEET 020	20–10	12	55	10.9	67	SSF	YES
SHEET 020	20–11	12	53	12.8	48	SSF	YES
SHEET 020	20–12	24	92	11.1	94	SSF	YES
SHEET 020	20–13	18	97	5.6	282	SSF	NO
SHEET 020	20–14	32	157	5.7	196	SSF	YES
SHEET 020	20–15	32	44	7.1	196	SSF	YES
SHEET 020	20–16	12	70	19.3	21	SSF	YES
SHEET 020	20–17	24	24	9.3	116	SSF	YES
SHEET 020	20–18	24	135	22.1	37	SSF	YES
SHEET 020	20–19	18	191	11.7	66	SSF	YES
SHEET 020	20–20	18	45	10.3	77	SSF	YES
SHEET 020	20–21	12	57	10.4	44	SSF	YES
SHEET 020	20–22	24	80	5.1	164	SSF	YES
SHEET 020	20–23	12	64	3.1	109	RSF	NO
SHEET 020	20–24	12	53	3.0	134	RSF	NO
SHEET 020	20–25	12	106	6.1	163	RSF	NO
SHEET 020	20–25A	12	77	4.9	72	SF	NO
SHEET 020	20–25B	12	114	6.7	44	SF	NO
SHEET 020	20–25C	12	81	4.7	34	SF	NO
SHEET 020	20–25D	12	94	3.3	41	SF	NO
SHEET 020	20–26	24	98	5.3	382	SSF	NO
SHEET 020	20–27	12	92	6.0	95	RSF	NO
SHEET 020	20–28	12	48	6.1	132	RSF	NO
SHEET 020	20–29	18	50	6.9	202	SSF	NO
SHEET 020	20–30	12	67	9.7	93	RSF	NO
SHEET 020	20–31	12	46	8.2	67	SSF	YES
SHEET 020	20–32	12	44	6.1	28	SSF	YES
SHEET 020	20–33	12	39	6.7	120	SSF	YES
SHEET 020	20–34	12	121	16.5	44	SSF	YES
SHEET 020	20–35	18	135	18.8	42	SSF	YES
SHEET 020	20–36	24	80	6.7	140	SSF	YES
SHEET 020	20–37	32	65	8.0	157	SSF	YES
SHEET 020	20–38	32	32	7.9	152	SSF	YES
SHEET 020	20–39	24	181	13.3	190	SSF	NO
SHEET 020	20–40	24	30	13.0	152	SSF	NO
SHEET 020	20–41	24	118	15.3	145	SSF	NO
SHEET 020	20–42	32	135	17	106	SSF	YES
SHEET 020	20–43	32	55	17.6	107	SSF	YES
SHEET 020	20–44	32	40	8.7	163	SSF	YES
SHEET 020	20–45	32	183	25.2	70	SSF	YES
SHEET 020	20–46	18	25	30.5	38	SSF	YES
SHEET 020	20–47	32	330	3.2	302	SSF	YES
SHEET 020	20–48	12	60	4.8	143	SSF	YES
SHEET 020	20–49	32	156	3.7	199	SSF	YES
SHEET 020	20–50	12	85	3.5	132	SSF	YES
SHEET 020	20–51	12	94	5.2	109	SSF	YES
SHEET 020	20–52	12	102	5.2	91	SF	NO
SHEET 020	20–53	12	81	5.7	77	SF	NO
SHEET 020	20–54	12	70	5.4	63	SF	NO
SHEET 020	20–55	12	59	5.3	45	SSF	YES
SHEET 020	20–56	12	64	6.1	50	SSF	YES
SHEET 020	20–57	12	84	5.6	45	SSF	YES
SHEET 020	20–58	12	68	6.4	47	SSF	YES
SHEET 001	20–59	12	19	N/A	N/A	RSF	NO
SHEET 021	21–1	12	81	6	93	RSF	NO
SHEET 021	21–1A	12	102	8.7	99	RSF	NO
SHEET 021	21–2	12	82	6.7	60	SSF	YES
SHEET 021	21–2A	12	42	7	21	SSF	YES
SHEET 021	21–3	18	140	5.2	155	SSF	YES
SHEET 021	21–4	12	51	7.6	44	SSF	YES
SHEET 021	21–5	12	42	10.6	51	SSF	NO
SHEET 021	21–6	12	64	13.6	24	SF	NO
SHEET 021	21–7	18	133	7.0	192	SSF	NO
SHEET 021	21–8	12	204	6.6	183	RSF	NO
SHEET 021	21–8A	12	128	9.2	120	RSF	NO
SHEET 021	21–8B	12	82	5.8	161	RSF	NO
SHEET 021	21–9	18	42	5.8	250	SSF	NO
SHEET 021	21–10	18	87	5.4	239	SSF	NO
SHEET 021	21–11	18	101	6.4	201	RSF	NO
SHEET 021	21–12	18	66	6.3	205	RSF	NO
SHEET 021	21–13	18	66	6.1	221	SSF	NO
SHEET 021	21–14	12	81	7.2	51	SF	NO
SHEET 021	21–15	12	41	6.5	78	SF	NO
SHEET 021	21–16	12	48	6.1	159	RSF	NO
SHEET 021	21–17	12	112	6.6	183	RSF	NO
SHEET 021	21–18	18	101	8.5	186	SSF	NO
SHEET 021	21–19	24	95	13.3	145	SSF	NO
SHEET 021	21–20	24	47	14.0	173	SSF	NO
SHEET 021	21–21	18	133	9.0	169	SSF	NO
SHEET 021	21–21A	12	74	7.8	70	RSF	NO
SHEET 021	21–21B	12	68	6.7	58	SF	NO
SHEET 021	21–22	24	116	9.0	206	SSF	NO
SHEET 021	21–23	18	85	8.9	150	RSF	NO
SHEET 021	21–23A	12	50	12.8	31	SF	NO
SHEET 021	21–23B	12	69	8.0	57	SF	NO
SHEET 021	21–24	18	92	14.6	121	SSF	NO
SHEET 021	21–25	18	110	14.7	115	SSF	NO
SHEET 021	21–26	18	96	7.6	205	SSF	NO
SHEET 021	21–27	12	48	8.8	92	RSF	NO
SHEET 021	21–28	12	35	9.6	73	RSF	NO
SHEET 021	21–29	12	46	7.8	65	SF	NO
SHEET 021	21–30	12	92	7.4	169	RSF	NO
SHEET 021	21–31	18	72	10.5	143	SSF	NO
SHEET 021	21–32	18	32	10.8	144	SSF	NO
SHEET 021	21–33	18	34	8.7	161	RSF	NO
SHEET 021	21–34	24	112	10.9	202	SSF	NO
SHEET 021	21–35	24	113	12.8	168	SSF	NO
SHEET 021	21–36	24	63	13.0	148	SSF	NO
SHEET 021	21–37	24	66	15.1	132	SSF	NO
SHEET 021	21–38	24	100	16.7	126	SSF	NO
SHEET 021	21–39	24	90	16.4	134	SSF	NO
SHEET 021	21–40	32	117	11.6	234	SSF	NO
SHEET 021	21–41	24	93	7.9	222	SSF	NO
SHEET 021	21–42	18	120	7.8	198	SSF	NO
SHEET 021	21–43	12	64	14.2	8	SF	NO
SHEET 021	21–44	12	70	7.8	86	RSF	NO
SHEET 021	21–45	12	64	4.1	58	SF	NO
SHEET 021	21–46	12	66	6.7	63	SF	NO
SHEET 021	21–47	12	92	11.8	73	RSF	NO
SHEET 021	21–48	24	168	8.9	234	SSF	NO
SHEET 021	21–49	12	111	N/A	N/A	RSF	NO
SHEET 022	22–1	12	104	9.2	82	RSF	NO
SHEET 022	22–2	12	70	8.0	86	RSF	NO
SHEET 022	22–3	12	91	7.5	129	RSF	NO
SHEET 022	22–4	24	127	7.6	249	SSF	NO
SHEET 022	22–5	32	113	7.5	347	SSF	NO
SHEET 022	22–6	18	108	5.0	288	SSF	NO
SHEET 022	22–7	12	94	3.9	318	SSF	NO
SHEET 022	22–7A	24	117	4.7	373	SSF	NO
SHEET 022	22–7B	12	105	4.7	97	SF	NO
SHEET 022	22–7C	12	102	6.4	97	RSF	NO
SHEET 022	22–7D	12	75	6.3	73	SF	NO
SHEET 022	22–8	32	100	9.3	191	SSF	YES
SHEET 022	22–8A	12	118	3.2	23	SF	NO
SHEET 022	22–9	24/18	83	10.3	177	SSF	YES
SHEET 022	22–10	24	85	11.8	74	SSF	YES
SHEET 022	22–11	12	53	8.0	120	RSF	NO
SHEET 022	22–12	12	89	9.8	76	RSF	NO
SHEET 022	22–13	18	113	8.1	102	SSF	YES
SHEET 022	22–14	12	86	9.5	65	SSF	YES
SHEET 022	22–15	12	75	9.7	70	SSF	YES
SHEET 022	22–16	18	34	9.1	87	SSF	YES
SHEET 022	22–17	12	100	6.5	60	SSF	YES
SHEET 022	22–18	12	129	10.1	46	SSF	YES
SHEET 022	22–19	32	83	9.5	180	SSF	YES
SHEET 022	22–20	32	51	7.3	204	SSF	YES
SHEET 022	22–21	32	33	8.3	182	SSF	YES
SHEET 022	22–22	18	114	7.6	106	SSF	YES
SHEET 022	22–23	12	38	7.6	154	RSF	NO
SHEET 022	22–24	12	64	6.2	188	RSF	NO
SHEET 022	22–25	24	185	5.2	411	SSF	NO
SHEET 022	22–26	32	78	4.8	501	SSF	NO
SHEET 022	22–27	32	66	4.5	502	SSF	NO
SHEET 022	22–28	32	114	5.3	528	SSF	NO
SHEET 022	22–29	24	113	5.3	320	SSF	NO
SHEET 022	22–29A	24	108	9.4	61	SSF	NO
SHEET 022	22–30	12	64	10.4	61	RSF	NO
SHEET 022	22–30A	12	83	9.3	76	RSF	NO
SHEET 022	22–30B	12	62	7.5	58	SF	NO
SHEET 022	22–30C	12	94	6.3	83	RSF	NO
SHEET 022	22–30D	12	82	<2	17	SF	NO
SHEET 022	22–31	12	57	10.5	91	RSF	NO
SHEET 022	22–32	12	57	6.4	88	RSF	NO
SHEET 022	22–33	12	50	6.2	41	SF	NO
SHEET 022	22–34	12	57	3.2	116	RSF	NO
SHEET 022	22–35	12	104	1.7	57	SF	NO
SHEET 022	22–36	12	122	5.6	97	RSF	NO
SHEET 022	22–37	12	49	6.0	140	RSF	NO
SHEET 022	22–38	12	126	4.7	107	RSF	NO
SHEET 022	22–39	12	40	5.3	135	RSF	NO
SHEET 022	22–40	12	43	6.2	168	RSF	NO
SHEET 022	22–41	12	105	7.8	85	RSF	NO
SHEET 022	22–42	12	95	8.0	104	RSF	NO
SHEET 022	22–43	12	53	7.7	53	SF	NO
SHEET 022	22–43A	12	77	9.2	80	RSF	NO
SHEET 022	22–43B	12	105	8.2	93	RSF	NO
SHEET 022	22–43C	18	120	8.3	195	SSF	NO
SHEET 023	23–1	12	104	9.3	138	RSF	NO
SHEET 023	23–2	12	145	9.3	141	RSF	NO
SHEET 023	23–3	18	124	5.3	250	SSF	NO
SHEET 023	23–4	12	78	5.9	38	SF	NO
SHEET 023	23–5	12	62	6.6	72	SF	NO
SHEET 023	23–6	12	35	5.1	27	SF	NO
SHEET 023	23–7	12	50	6.6	68	SF	NO
SHEET 023	23–8	12	70	7.9	72	SSF	YES
SHEET 023	23–9	24	97	13.6	84	SSF	YES
SHEET 023	23–10	32	46	14.8	106	SSF	YES
SHEET 023	23–10A	24	69	23.1	58	SSF	YES
SHEET 023	23–11	32	188	23.7	79	SSF	YES
SHEET 023	23–12	12	174	3.7	79	SSF	YES
SHEET 023	23–13	12	111	5.0	40	SSF	YES

P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 073
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-073	OF 097

SHEET 023	23–13A	12	45	5.3	34	SSF	YES
SHEET 023	23–13B	12	56	9.4	70	SSF	YES
SHEET 023	23–14	12	66	3.8	96	SSF	YES
SHEET 023	23–14A	12	60	5.6	53	SF	NO
SHEET 023	23–14B	12	84	8.2	23	SF	NO
SHEET 023	23–14C	32	82	N/A	N/A	SSF	NO
SHEET 023	23–14D	32	81	N/A	N/A	SSF	NO
SHEET 023	23–14E	32	51	N/A	N/A	SSF	NO
SHEET 023	23–15	12	43	8.7	96	RSF	NO
SHEET 023	23–16	12	71	9.5	75	RSF	NO
SHEET 023	23–17	12	74	7.8	94	RSF	NO
SHEET 023	23–18	12	51	8.7	32	SF	NO
SHEET 023	23–18A	12	84	8.9	70	RSF	NO
SHEET 023	23–19	12	52	7.9	88	RSF	NO
SHEET 023	23–20	12	109	6.0	133	RSF	NO
SHEET 023	23–21	12	106	6.7	111	RSF	NO
SHEET 023	23–22	12	97	8.3	51	SF	NO
SHEET 023	23–23	18	67	5.9	223	SSF	NO
SHEET 023	23–24	18	115	5.0	283	SSF	NO
SHEET 023	23–25	12	44	5.9	38	SF	NO
SHEET 023	23–25A	12	86	2.9	81	SF	NO
SHEET 023	23–25B	12	123	3.5	117	RSF	NO
SHEET 023	23–25C	12	45	1.5	67	SF	NO
SHEET 023	23–26	12	117	4.7	137	RSF	NO
SHEET 023	23–27	12	51	6.3	150	RSF	NO
SHEET 023	23–28	12	102	8.7	100	RSF	NO
SHEET 023	23–29	12	109	8.5	104	RSF	NO
SHEET 023	23–30	12	56	7.2	155	RSF	NO
SHEET 023	23–31	12	45	7.0	128	RSF	NO
SHEET 023	23–32	18	36	6.8	197	SSF	NO
SHEET 023	23–32A	12	78	7.1	159	RSF	NO
SHEET 023	23–33	12	80	7.7	79	RSF	NO
SHEET 023	23–34	12	105	6.7	139	RSF	NO
SHEET 023	23–35	12	133	2.3	202	RSF	NO
SHEET 023	23–36	12	73	5.0	119	RSF	NO
SHEET 023	23–37	12	74	10.2	66	RSF	NO
SHEET 023	23–38	12	45	9.0	97	RSF	NO
SHEET 023	23–39	12	60	10.4	65	RSF	NO
SHEET 023	23–40	32	108	6.5	412	SSF	NO
SHEET 023	23–41	18	106	6.5	168	RSF	NO
SHEET 023	23–42	12	52	N/A	N/A	RSF	NO
SHEET 023	23–43	12	25	N/A	N/A	RSF	NO
SHEET 024	24–1	12	111	5.4	161	RSF	NO
SHEET 024	24–1A	12	51	6.4	51	SF	NO
SHEET 024	24–2	12	107	6.5	93	RSF	NO
SHEET 024	24–3	12	97	4.8	105	RSF	NO
SHEET 024	24–4	12	99	4.7	88	SF	NO
SHEET 024	24–5	12	90	5.1	91	SF	NO
SHEET 024	24–6	12	96	4.6	98	SF	NO
SHEET 024	24–7	12	98	3.2	107	RSF	NO
SHEET 024	24–8	12	110	3.4	202	RSF	NO
SHEET 024	24–9	12	143	2.9	154	RSF	NO
SHEET 024	24–10	12	113	3.9	182	RSF	NO
SHEET 024	24–11	12	41	6.5	37	SF	NO
SHEET 024	24–12	12	113	3.4	98	SF	NO
SHEET 024	24–13	12	149	4.8	140	RSF	NO
SHEET 024	24–14	12	123	1.8	124	RSF	NO
SHEET 024	24–15	12	94	4.2	90	SF	NO
SHEET 024	24–16	12	101	6.7	85	RSF	NO
SHEET 024	24–17	12	78	8.3	89	RSF	NO
SHEET 024	24–18	12	100	10.6	84	RSF	NO
SHEET 024	24–19	12	50	12.0	40	RSF	NO
SHEET 024	24–20	12	50	9.7	25	SF	NO
SHEET 024	24–21	12	88	9.2	79	RSF	NO
SHEET 024	24–21A	12	84	10.6	79	RSF	NO
SHEET 024	24–22	12	66	7.9	92	RSF	NO
SHEET 024	24–22A	24	55	23.1	46	SSF	YES
SHEET 024	24–22B	24	70	18.7	61	SSF	YES
SHEET 024	24–23	12	27	26.2	19	SSF	YES
SHEET 024	24–23A	24	37	27.9	29	SSF	YES
SHEET 024	24–24	32	51	27.9	46	SSF	YES
SHEET 024	24–24A	24	45	21.9	41	SSF	YES
SHEET 024	24–25	24	141	24.5	46	SSF	YES
SHEET 024	24–26	12	160	5.7	48	SSF	YES
SHEET 024	24–28A	12	37	0	45	SSF	YES
SHEET 024	24–27	24	88	4.1	222	SSF	YES
SHEET 024	24–28	24	126	5.6	168	SSF	YES
SHEET 024	24–29	24	55	4.8	167	SSF	YES
SHEET 024	24–29A	12	61	10.7	55	SSF	YES
SHEET 024	24–29B	12	61	3.1	64	SSF	YES
SHEET 024	24–30	24	117	7.8	258	SSF	NO
SHEET 024	24–30A	12	90	8.9	110	RSF	NO
SHEET 024	24–31	12	75	6.5	68	SF	NO
SHEET 024	24–31A	12	90	6.5	85	RSF	NO
SHEET 024	24–32	32	36	7.8	334	SSF	NO
SHEET 024	24–32A	12	115	6.5	108	RSF	NO
SHEET 024	24–32B	12	82	10.7	74	RSF	NO

SHEET 024	24–32C	12	82	7.6	137	RSF	NO
SHEET 024	24–33	18	81	7.0	59	SF	NO
SHEET 024	24–34	18	85	7.0	88	RSF	NO
SHEET 024	24–35	32	101	5.6	448	RSF	NO
SHEET 024	24–36	24	117	5.6	387	RSF	NO
SHEET 024	24–37	24	116	6.0	319	RSF	NO
SHEET 024	24–38	24	62	5.7	321	RSF	NO
SHEET 024	24–39	24	87	5.9	358	RSF	NO
SHEET 024	24–40	12	96	5.8	93	RSF	NO
SHEET 025	25–1	12	97	4.9	93	SF	NO
SHEET 025	25–2	12	98	4.4	87	SF	NO
SHEET 025	25–3	12	97	5.4	80	SF	NO
SHEET 025	25–4	12	87	5.1	76	SF	NO
SHEET 025	25–5	12	84	5.2	81	SF	NO
SHEET 025	25–6	12	93	4.7	90	SF	NO
SHEET 025	25–7	12	82	4.7	78	SF	NO
SHEET 025	25–8	12	56	5.5	56	SF	NO
SHEET 025	25–8A	12	115	5.3	100	RSF	NO
SHEET 025	25–9	12	73	3.7	71	SF	NO
SHEET 025	25–10	24	123	3.5	537	SSF	NO
SHEET 025	25–11	24	74	4.3	503	SSF	NO
SHEET 025	25–12	32	83	4.9	500	SSF	NO
SHEET 025	25–13	32	48	6.6	358	SSF	NO
SHEET 025	25–14	32	175	6.8	375	SSF	NO
SHEET 025	25–15	24	102	8.2	207	SSF	NO
SHEET 025	25–16	12	107	9.2	88	RSF	NO
SHEET 025	25–17	12	124	8.2	123	RSF	NO
SHEET 025	25–18	12	94	8.5	80	RSF	NO
SHEET 025	25–19	12	114	5.7	87	SF	NO
SHEET 025	25–20	12	117	5.0	110	RSF	NO
SHEET 025	25–21	12	67	5.4	151	RSF	NO
SHEET 025	25–22	12	77	13.2	84	RSF	NO
SHEET 025	25–23	12	115	5.5	110	RSF	NO
SHEET 025	25–24	12	91	12.7	86	RSF	NO
SHEET 025	25–25	32	62	18.6	117	SSF	YES
SHEET 025	25–26	32	61	23.7	79	SSF	YES
SHEET 025	25–26A	32	48	16.1	122	SSF	YES
SHEET 025	25–27	32	258	14.2	179	SSF	YES
SHEET 025	25–28	32	160	15.8	122	SSF	YES
SHEET 025	25–28A	18	71	11.0	67	SSF	YES
SHEET 025	25–29	24	39	15.8	72	SSF	YES
SHEET 025	25–30	24	81	14.4	70	SSF	YES
SHEET 025	25–30A	12	41	15.9	35	SSF	YES
SHEET 025	25–30B	12	98	7.1	86	RSF	NO
SHEET 025	25–31	24	113	9.2	195	SSF	NO
SHEET 025	25–32	18	118	8.8	172	SSF	NO
SHEET 025	25–33	12	154	8.8	126	RSF	NO
SHEET 025	25–34	12	82	10.0	118	RSF	NO
SHEET 025	25–35	12	154	9.6	117	RSF	NO
SHEET 025	25–36	12	35	10.4	114	RSF	NO
SHEET 025	25–37	12	58	12.7	100	RSF	NO
SHEET 025	25–38	12	151	13.0	96	RSF	NO
SHEET 026	26–1	12	35	7.4	139	RSF	NO
SHEET 026	26–2	12	53	7.8	163	RSF	NO
SHEET 026	26–3	18	111	7.9	166	RSF	NO
SHEET 026	26–4	18	145	10.8	132	RSF	NO
SHEET 026	26–5	12	86	15.2	84	RSF	NO
SHEET 026	26–6	24/18	124	5.1	291	SSF	YES
SHEET 026	26–7	24/18	80	4.9	273	SSF	YES
SHEET 026	26–8	18/18	147	4.9	299	SSF	YES
SHEET 026	26–9	32/32/32	76	7.4	367	SSF	YES
SHEET 026	26–10	32	82	7.6	358	SSF	YES
SHEET 026	26–11	32	50	6.9	290	SSF	YES
SHEET 026	26–12	12	68	10.2	64	SSF	YES
SHEET 026	26–13	12	71	5.7	183	RSF	NO
SHEET 026	26–14	12	123	5.9	115	RSF	NO
SHEET 026	26–14A	12	107	5.1	92	RSF	NO
SHEET 026	26–14B	12	108	5.3	218	SF	NO
SHEET 026	26–15	18	168	5.0	268	SSF	NO
SHEET 026	26–16	12	100	7.0	112	RSF	NO
SHEET 026	26–17	12	64	6.9	50	SF	NO
SHEET 026	26–18	12	79	7.6	97	RSF	NO
SHEET 026	26–19	12	68	7.9	48	SF	NO
SHEET 026	26–20	12	89	10.6	65	RSF	NO
SHEET 026	26–21	12	109	10.0	120	RSF	NO
SHEET 026	26–22	12	49	6.3	178	RSF	NO
SHEET 026	26–23	12	71	5.5	138	RSF	NO
SHEET 026	26–24	12	197	2.3	89	SF	NO
SHEET 026	26–25	12	118	6.7	134	RSF	NO
SHEET 026	26–25A	12	63	2.7	48	SF	NO
SHEET 026	26–26	12	125	5.2	161	RSF	NO
SHEET 026	26–27	18	102	9.8	171	SSF	NO
SHEET 026	26–28	32	106	16.7	56	SSF	NO
SHEET 026	26–28A	32	103	17.5	20	SSF	NO
SHEET 026	26–29	32	111	7.7	299	SSF	NO
SHEET 026	26–30	18	80	6.2	221	SSF	NO
SHEET 026	26–31	12	110	6.8	148	RSF	NO

SHEET 026	26–32	12	66	7.5	117	RSF	NO
SHEET 026	26–33	12	36	6.9	165	RSF	NO
SHEET 026	26–34	24	111	7.0	300	SSF	NO
SHEET 026	26–35	12	65	17.5	45	RSF	NO
SHEET 026	26–36	12	71	20.9	44	RSF	NO
SHEET 027	27–1	18	80	22.0	77	SSF	NO
SHEET 027	27–2	24	73	18.5	59	SSF	YES
SHEET 027	27–3	32	52	21.5	76	SSF	YES
SHEET 027	27–4	12	195	8.5	68	SSF	YES
SHEET 027	27–5	12	170	3.6	53	SSF	YES
SHEET 027	27–6	12	66	5.5	88	SSF	YES
SHEET 027	27–7	12	78	10.0	25	SSF	YES
SHEET 027	27–8	24	64	20.4	48	SSF	YES
SHEET 027	27–9	18	54	6.2	130	SSF	YES
SHEET 027	27–9A	12	63	4.9	56	SSF	YES
SHEET 027	27–9B	12	47	10.5	41	SSF	YES
SHEET 027	27–9C	32	47	10.2	254	SSF	NO
SHEET 027	27–10	12	95	11.1	90	RSF	NO
SHEET 027	27–11	12	94	5.8	88	SF	NO
SHEET 027	27–12	24	93	14.1	77	SSF	YES
SHEET 027	27–13	12	51	9.8	53	SSF	YES
SHEET 027	27–14	12	84	7.9	92	RSF	NO
SHEET 027	27–15	12	71	5.9	88	SF	NO
SHEET 027	27–16	12	75	5.5	37	SF	NO
SHEET 027	27–17	12	113	5.1	55	SF	NO
SHEET 027	27–18	12	87	4.5	90	SF	NO
SHEET 027	27–19	12	111	3.0	115	RSF	NO
SHEET 027	27–20	12	94	4.6	98	SF	NO
SHEET 027	27–21	12	78	5.2	82	SF	NO
SHEET 027	27–22	12	85	5.3	97	RSF	NO
SHEET 027	27–23	12	78	5.4	146	RSF	NO
SHEET 027	27–24	12	88	4.9	81	SF	NO
SHEET 027	27–25	12	56	4.0	134	RSF	NO
SHEET 027	27–26	12	176	7.0	35	SF	NO
SHEET 027	27–27	24	58	18.7	45	SSF	YES
SHEET 027	27–28	32	88	26.9	73	SSF	YES
SHEET 027	27–29	32	45	26.9	83	SSF	YES
SHEET 027	27–30	32	66	23.6	96	SSF	YES
SHEET 027	27–31	18	148	21.2	37	SSF	YES
SHEET 027	27–32	18	135	13.6	59	SSF	YES
SHEET 027	27–33	24	88	13.3	70	SSF	YES
SHEET 027	27–34	12	70	10.1	67	SSF	YES
SHEET 027	27–35	12	67	6.8	80	SF	NO
SHEET 027	27–36	24	33	9.5	97	SSF	YES
SHEET 027	27–37	12	84	7.8	77	SSF	YES
SHEET 027	27–38	12	94	6.2	84	SF	NO
SHEET 027	27–39	12	86	5.0	78	SF	NO
SHEET 027	27–40	12	80	6.5	74	SF	NO
SHEET 027	27–40A	12	80	5.5	61	SF	NO
SHEET 027	27–41	12	78	4.4	76	SF	NO
SHEET 027	27–41A	12	83	6.0	84	SF	NO
SHEET 027	27–42	12	49	4.1	153	RSF	NO
SHEET 027	27–43	12	115	3.0	202	RSF	NO
SHEET 027	27–44	12	169	2.9	208	RSF	NO
SHEET 027	27–45	12	62	2.9	135	RSF	NO
SHEET 027	27–46	12	94	2.3	151	RSF	NO
SHEET 027	27–47	12	55	3.2	186	RSF	NO
SHEET 027	27–48	12	75	5.3	184	RSF	NO
SHEET 027	27–49	32	111	5.3	505	RSF	NO
SHEET 027	27–50	18	108	14.7	108	SSF	NO
SHEET 027	27–51	18	48	15.2	107	SSF	NO
SHEET 027	27–52	18	126	11.0	135	SSF	NO
SHEET 027	27–54	12	63	N/A	N/A	RSF	NO
SHEET 027	27–55	12	59	N/A	N/A	RSF	NO
SHEET 028	28–1	12	111	6.8	113	RSF	NO
SHEET 028	28–2	12	76	6.0	133	RSF	NO
SHEET 028	28–3	12	65	9.1	81	RSF	NO
SHEET 028	28–4	12	71	19.5	30	SSF	YES
SHEET 028	28–5	24	47	20.3	49	SSF	YES
SHEET 028	28–6	24	43	22.9	52	SSF	YES
SHEET 028	28–7	32	40	29.7	76	SSF	YES
SHEET 028	28–8	32	83	21.3	78	SSF	YES
SHEET 028	28–9	24	128	20.7	61	SSF	YES
SHEET 028	28–10	24	177	15.1	60	SSF	YES
SHEET 028	28–11	12	53	15.1	46	SSF	YES
SHEET 028	28–12	18	79	11.2	67	SSF	YES
SHEET 028	28–13	12	96	4.9	86	SSF	YES
SHEET 028	28–14	12	55	12.3	19	SSF	YES
SHEET 028	28–15	12	53	11.3	47	SSF	YES
SHEET 028	28–15A	12	63	7.5	61	SF	NO
SHEET 028	28–15B	12	37	2.1	30	SF	NO
SHEET 028	28–15C	12	47	5.8	42	SF	NO
SHEET 028	28–16	24	126	5.2	356	SSF	NO
SHEET 028	28–17	12	64	12.1	70	RSF	NO
SHEET 028	28–18	24	57	12.7	76	SSF	YES
SHEET 028	28–19	32	57	16.5	102	SSF	YES
SHEET 028	28–20	18	39	24.3	30	SSF	YES

SHEET 028	28–21	24	48	23.3	41	SSF	YES
SHEET 028	28–22	32	55	19.4	79	SSF	YES
SHEET 028	28–22A	24	78	17.3	76	SSF	YES
SHEET 028	28–23	12	96	11.6	18	SSF	YES
SHEET 028	28–24	12	140	6.2	52	SSF	YES
SHEET 028	28–25	24	147	18.5	48	SSF	YES
SHEET 028	28–25A	24	48	14.9	80	SSF	YES
SHEET 028	28–25B	12	77	14.3	21	SSF	YES
SHEET 028	28–26	12	84	11.6	42	SSF	YES
SHEET 028	28–27	12	60	13.0	36	SSF	YES
SHEET 028	28–28	12	91	9.3	108	RSF	NO
SHEET 028	28–29	12	79	3.5	105	RSF	NO
SHEET 028	28–30	12	57	4.6	201	RSF	NO
SHEET 028	28–31	12	78	5.0	154	RSF	NO
SHEET 028	28–32	12	108	6.2	86	SF	NO
SHEET 028	28–33	12	107	6.7	94	RSF	NO
SHEET 028	28–33A	12	38	6.4	97	RSF	NO
SHEET 028	28–34	12	114	7.7	124	RSF	NO
SHEET 028	28–35	12	118	7.2	116	RSF	NO
SHEET 028	28–36	12	91	7.0	93	RSF	NO
SHEET 028	28–37	12	103	5.4	111	RSF	NO
SHEET 028	28–38	12	101	6.7	75	SF	NO
SHEET 028	28–39	12	137	6.6	85	RSF	NO
SHEET 028	28–40	12	138	5.5	66	SF	NO
SHEET 028	28–41	18	102	5.8	232	SSF	NO
SHEET 028	28–42	12	110	5.6	153	RSF	NO
SHEET 028	28–43	12	72	4.9	68	SF	NO
SHEET 028	28–43A	12	60	5.8	14	SF	NO
SHEET 028	28–44	12	110	4.3	90	SF	NO
SHEET 028	28–45	12	83	5.3	187	RSF	NO
SHEET 028	28–46	12	111	5.9	195	RSF	NO
SHEET 028	28–47	12	115	5.0	186	RSF	NO
SHEET 028	28–48	12	124	3.6	106	RSF	NO
SHEET 028	28–48A	12	95	4.8	87	SF	NO
SHEET 028	28–48B	12	81	4.5	78	SF	NO
SHEET 028	28–49	12	122	3.2	73	SF	NO
SHEET 028	28–49A	12	75	1.0	14	SF	NO
SHEET 028	28–49B	12	38	2.8	88	SF	NO
SHEET 028	28–50	12	27	2.7	95	SF	NO
SHEET 028	28–51	12	136	2.0	100	RSF	NO
SHEET 028	28–52	12	78	4.7	43	SF	NO
SHEET 028	28–53	12	23	N/A	N/A	RSF	NO
SHEET 029	29–1	12	129	5.1	134	RSF	NO
SHEET 029	29–2	12	82	4.8	210	RSF	NO
SHEET 029	29–3	12	153	4.0	315	SSF	NO
SHEET 029	29–4	12	88	3.8	313	SSF	NO
SHEET 029	29–5	24	53	4.4	366	SSF	NO
SHEET 029	29–6	24	58	4.3	454	SSF	NO
SHEET 029	29–7	24	80	4.6	346	SSF	NO
SHEET 029	29–8	12	228	3.4	284	RSF	NO
SHEET 029	29–9	12	64	3.2	244	RSF	NO
SHEET 029	29–10	12	111	2.7	155	RSF	NO
SHEET 029	29–11	12	129	0.4	227	RSF	NO
SHEET 029	29–12	12	46	1.1	76	SF	NO
SHEET 029	29–13	12	39	2.1	94	SF	NO
SHEET 029	29–14	12	142	4.8	181	RSF	NO
SHEET 029	29–15	24	115	5.6	356	SSF	NO
SHEET 029	29–16	24	132	5.4	327	SSF	NO
SHEET 029	29–17	12	109	4.4	74	RSF	NO
SHEET 029	29–17A	12	82	3.7	14	SF	NO
SHEET 029	29–17B	12	64	5.4	199	RSF	NO
SHEET 029	29–17C	12	51	3.8	184	RSF	NO
SHEET 029	29–17D	12	93	5.6	171	RSF	NO
SHEET 029	29–18	12	58	4.8	158	RSF	NO
SHEET 029	29–19	12	182	6.3	77	SF	NO
SHEET 029	29–20	12	113	6.1	83	SF	NO
SHEET 029	29–21	12	113	7.7	162	RSF	NO
SHEET 029	29–22	24	83	8.9	217	SSF	NO
SHEET 029	29–22A	12	34	9.1	88	RSF	NO
SHEET 029	29–23	12	53	13.3	45	RSF	NO
SHEET 029	29–23A	12	60	10.0	57	RSF	NO
SHEET 029	29–23B	12	54	19.0	51	RSF	NO
SHEET 029	29–24	24	45	24.0	40	SSF	YES
SHEET 029	29–25	24	74	16.8	68	SSF	YES
SHEET 029	29–26	12	92	11.7	42	SSF	YES
SHEET 029	29–27	32	69	26.3	67	SSF	YES
SHEET 029	29–27A	24	102	14.1	23	SSF	YES
SHEET 029	29–27B	24	101	25.5	52	SSF	YES
SHEET 029	29–28	24	64	21.1	59	SSF	YES
SHEET 029	29–29	18	58	16.1	47	SSF	YES
SHEET 029	29–29A	24	44	6.4	269	SSF	NO
SHEET 029	29–29B	12	111	9.4	103	RSF	NO
SHEET 029	29–29C	12	151	8.9	94	RSF	NO
SHEET 029	29–29D	12	35	6.2	162	RSF	NO
SHEET 029	29–30	24	107	7.1	239	SSF	NO
SHEET 029	29–30A	12	104	2.9	114	RSF	NO
SHEET 029	29–31	12	97	2.9	126	RSF	NO

P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041896
09/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 074
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-074	OF 097

SHEET 029	29–32	12	52	2.3	76	SF	NO
SHEET 029	29–33	12	179	1.0	53	SF	NO
SHEET 029	29–34	12	96	4.7	93	SF	NO
SHEET 029	29–35	12	61	5.6	139	RSF	NO
SHEET 029	29–36	12	111	3.3	108	RSF	NO
SHEET 029	29–37	12	34	3.6	122	RSF	NO
SHEET 030	30–1	12	93	7.7	81	RSF	NO
SHEET 030	30–1A	12	82	5.1	222	RSF	NO
SHEET 030	30–1B	12	57	5.2	51	SF	NO
SHEET 030	30–1C	12	45	6.2	12	SF	NO
SHEET 030	30–2	12	62	8.5	135	RSF	NO
SHEET 030	30–2A	12	96	11.9	96	RSF	NO
SHEET 030	30–2B	12	82	12.9	82	RSF	NO
SHEET 030	30–2C	12	33	14.3	32	SF	NO
SHEET 030	30–3	12	74	13.2	70	RSF	NO
SHEET 030	30–4	12	69	21.3	64	RSF	NO
SHEET 030	30–5	12	89	20.6	56	RSF	NO
SHEET 030	30–7	24	65	24.9	48	SSF	YES
SHEET 030	30–8	24	48	23.4	55	SSF	YES
SHEET 030	30–9	18	118	21.8	35	SSF	YES
SHEET 030	30–9A	12	58	9.4	51	SSF	YES
SHEET 030	30–9B	32	87	7.2	159	SSF	YES
SHEET 030	30–10	32	179	7.3	183	SSF	YES
SHEET 030	30–11	32	281	9.3	217	SSF	YES
SHEET 030	30–12	24	286	14.5	94	SSF	YES
SHEET 030	30–13	12	55	12.3	113	RSF	NO
SHEET 030	30–14	12	80	11.1	69	RSF	NO
SHEET 030	30–15	12	46	9.2	40	SF	NO
SHEET 030	30–16	12	54	8.1	93	RSF	NO
SHEET 030	30–17	12	61	8.0	51	SF	NO
SHEET 030	30–18	24	56	11.3	83	SSF	YES
SHEET 030	30–19	12	49	13.2	51	SSF	YES
SHEET 030	30–20	12	41	14.9	29	SSF	YES
SHEET 030	30–21	32	34	7.1	164	SSF	YES
SHEET 030	30–22	32	66	10.5	153	SSF	YES
SHEET 030	30–23	12	76	17.4	40	SSF	YES
SHEET 030	30–24	24	127	28.0	35	SSF	YES
SHEET 030	30–25	12	155	5.9	91	SSF	YES
SHEET 030	30–26	24	94	12.1	93	SSF	YES
SHEET 030	30–26A	12	69	10.5	94	RSF	NO
SHEET 030	30–27	12	65	5.3	20	SSF	YES
SHEET 030	30–28	12	52	7.8	47	SSF	YES
SHEET 030	30–29	32	113	10.3	140	SSF	YES
SHEET 030	30–30	12	55	10.5	54	RSF	NO
SHEET 030	30–31	12	54	11.7	38	SF	NO
SHEET 030	30–32	12	106	12.0	46	RSF	NO
SHEET 030	30–33	12	120	9.8	92	RSF	NO
SHEET 030	30–33A	12	56	8.7	50	SF	NO
SHEET 030	30–34	12	45	9.2	38	SF	NO
SHEET 030	30–35	12	84	9.2	130	RSF	NO
SHEET 030	30–36	12	43	13.3	34	SF	NO
SHEET 030	30–37	12	58	11.6	44	RSF	NO
SHEET 030	30–38	12	39	9.4	36	SF	NO
SHEET 030	30–39	12	76	9.3	84	RSF	NO
SHEET 030	30–39A	12	60	7.4	92	RSF	NO
SHEET 030	30–40	12	86	6.9	46	SF	NO
SHEET 030	30–40A	12	89	6.9	80	SF	NO
SHEET 030	30–41	12	57	5.1	177	RSF	NO
SHEET 030	30–42	12	84	3.7	161	RSF	NO
SHEET 030	30–43	12	84	1.7	111	RSF	NO
SHEET 030	30–44	12	160	2.8	109	RSF	NO
SHEET 030	30–45	12	96	4.0	118	RSF	NO
SHEET 030	30–46	12	413	N/A	N/A	RSF	NO
SHEET 030	30–47	12	439	N/A	N/A	RSF	NO
SHEET 030	30–48	12	414	N/A	N/A	RSF	NO
SHEET 030	30–49	12	21	N/A	N/A	RSF	NO
SHEET 030	30–50	12	43	N/A	N/A	RSF	NO
SHEET 030	30–51	12	94	4.4	183	RSF	NO
SHEET 030	30–52	12	79	7.8	117	RSF	NO
SHEET 030	30–53	12	86	7.8	103	RSF	NO
SHEET 030	30–54	12	95	9.9	77	RSF	NO
SHEET 031	31–1	12	111	7.3	160	RSF	NO
SHEET 031	31–2	24	64	3.0	672	SSF	NO
SHEET 031	31–3	12	96	6.0	179	RSF	NO
SHEET 031	31–4	12	51	3.6	78	SF	NO
SHEET 031	31–5	12	96	1.5	129	RSF	NO
SHEET 031	31–6	12	109	5.5	122	RSF	NO
SHEET 031	31–7	18	101	7.2	212	SSF	NO
SHEET 031	31–8	32	97	6.1	380	SSF	NO
SHEET 031	31–9	18	111	4.8	291	SSF	NO
SHEET 031	31–10	12	78	6.8	183	RSF	NO
SHEET 031	31–11	18	76	5.8	242	SSF	NO
SHEET 031	31–11A	12	130	3.2	126	RSF	NO
SHEET 031	31–11B	12	67	3.2	153	RSF	NO
SHEET 031	31–12	12	58	3.5	285	RSF	NO
SHEET 031	31–13	12	99	3.1	241	RSF	NO
SHEET 031	31–14	12	39	4.0	40	SF	NO
SHEET 031	31–15	12	142	1.6	121	RSF	NO
SHEET 031	31–16	12	83	0.6	115	RSF	NO
SHEET 031	31–17	12	120	4.7	93	SF	NO
SHEET 031	31–17A	12	89	2.5	159	RSF	NO
SHEET 031	31–18	12	40	21.2	40	RSF	NO
SHEET 031	31–18A	12	115	5.3	107	RSF	NO
SHEET 031	31–18B	12	89	7.2	85	RSF	NO
SHEET 031	31–18C	12	99	8.1	95	RSF	NO
SHEET 031	31–18D	12	99	8.0	94	RSF	NO
SHEET 031	31–18E	12	79	8.1	75	RSF	NO
SHEET 031	31–18F	12	64	12.6	59	RSF	NO
SHEET 031	31–18G	12	40	21.1	40	RSF	NO
SHEET 031	31–19	12	82	9.5	88	RSF	NO
SHEET 031	31–20	12	100	7.6	98	RSF	NO
SHEET 031	31–21	12	101	8.6	97	RSF	NO
SHEET 031	31–22	12	56	12.2	53	RSF	NO
SHEET 031	31–23	12	52	9.2	100	RSF	NO
SHEET 031	31–24	12	95	8.3	89	RSF	NO
SHEET 031	31–25	24	82	11.6	76	SSF	YES
SHEET 031	31–25A	12	29	15.0	25	SSF	YES
SHEET 031	31–25B	12	45	18.1	40	SSF	YES
SHEET 031	31–25C	12	71	0.9	66	SSF	YES
SHEET 031	31–25D	12	66	11.8	28	SSF	YES
SHEET 031	31–26	18	54	15.5	49	SSF	YES
SHEET 031	31–27	12	74	7.7	62	SSF	YES
SHEET 031	31–28	12	38	7.6	44	SSF	YES
SHEET 031	31–29	12	48	10.6	67	SSF	YES
SHEET 031	31–30	12	91	37.4	17	SSF	YES
SHEET 031	31–31	32	161	32.0	35	SSF	YES
SHEET 031	31–32	24	43	25.2	34	SSF	YES
SHEET 031	31–32A	24	64	24.6	58	SSF	YES
SHEET 031	31–33	24	48	28.1	32	SSF	YES
SHEET 031	31–34	32	82	24.2	69	SSF	YES
SHEET 031	31–35	12	57	16.4	68	RSF	NO
SHEET 031	31–36	12	40	11.4	33	SF	NO
SHEET 031	31–37	12	124	7.4	128	RSF	NO
SHEET 031	31–38	24	77	8.7	206	SSF	NO
SHEET 031	31–39	32	89	8.9	274	SSF	NO
SHEET 031	31–40	24	63	6.8	271	SSF	NO
SHEET 031	31–41	24	63	6.4	259	SSF	NO
SHEET 031	31–42	12	98	5.5	217	RSF	NO
SHEET 031	31–43	12	70	4.6	141	RSF	NO
SHEET 031	31–44	12	91	2.8	113	RSF	NO
SHEET 031	31–45	12	24	N/A	N/A	RSF	NO
SHEET 032	32–1	12	76	4.6	154	RSF	NO
SHEET 032	32–2	24	68	6.4	292	SSF	NO
SHEET 032	32–3	18	105	13.7	36	SSF	NO
SHEET 032	32–3A	18	93	10.6	122	SSF	NO
SHEET 032	32–4	18	63	10.3	129	SSF	NO
SHEET 032	32–5	12	77	9.8	78	RSF	NO
SHEET 032	32–6	12	133	7.2	104	RSF	NO
SHEET 032	32–7	12	88	11.0	109	RSF	NO
SHEET 032	32–8	18	111	5.4	293	SSF	NO
SHEET 032	32–9	12	40	4.9	233	RSF	NO
SHEET 032	32–10	12	107	5.1	202	RSF	NO
SHEET 032	32–11	12	103	4.9	113	RSF	NO
SHEET 032	32–12	12	90	3.8	42	SF	NO
SHEET 032	32–12A	12	75	0	41	SF	NO
SHEET 032	32–13	12	319	1.7	73	SF	NO
SHEET 032	32–14	12	103	4.6	74	SF	NO
SHEET 032	32–15	12	87	12.0	73	RSF	NO
SHEET 032	32–16	12	77	13.2	64	RSF	NO
SHEET 032	32–17	12	35	10.6	123	RSF	NO
SHEET 032	32–17A	12	48	32.6	43	SSF	NO
SHEET 032	32–18	32	48	28.3	75	SSF	YES
SHEET 032	32–19	32	46	35.8	66	SSF	YES
SHEET 032	32–20	12	46	11.4	18	SSF	YES
SHEET 032	32–21	24	176	19.9	43	SSF	YES
SHEET 032	32–22	12	172	10.3	60	RSF	NO
SHEET 032	32–23	12	53	11.2	48	RSF	NO
SHEET 032	32–24	12	43	11.8	44	RSF	NO
SHEET 032	32–25	12	45	11.1	39	SF	NO
SHEET 032	32–26	12	70	6.5	103	RSF	NO
SHEET 032	32–27	12	35	8.2	39	SF	NO
SHEET 032	32–28	12	57	7.0	81	RSF	NO
SHEET 032	32–29	12	41	6.7	58	SF	NO
SHEET 032	32–30	12	93	6.8	159	RSF	NO
SHEET 032	32–31	12	46	9.4	135	RSF	NO
SHEET 032	32–32	32	99	11.8	223	SSF	NO
SHEET 032	32–33	32	140	12.3	234	SSF	NO
SHEET 032	32–34	12	219	9.2	86	RSF	NO
SHEET 032	32–35	12	82	10.7	39	SF	NO
SHEET 032	32–36	12	97	10.9	90	RSF	NO
SHEET 032	32–37	12	49	7.8	84	RSF	NO
SHEET 032	32–38	12	80	12.7	91	RSF	NO
SHEET 032	32–39	12	39	11.1	30	SF	NO
SHEET 032	32–40	12	86	10.8	84	RSF	NO
SHEET 032	32–40A	12	67	7.1	63	SF	NO
SHEET 032	32–41	12	47	N/A	N/A	RSF	NO
SHEET 032	32–42	12	605	N/A	N/A	RSF	NO
SHEET 032	32–43	12	69	N/A	N/A	RSF	NO
SHEET 032	32–44	12	74	N/A	N/A	RSF	NO
SHEET 033	33–1	12	47	8.3	53	SF	NO
SHEET 033	33+1A	18	51	7.4	205	SSF	NO
SHEET 033	33–2	24	112	5.5	329	SSF	NO
SHEET 033	33–3	18	107	5.1	253	SSF	NO
SHEET 033	33–4	12	111	4.6	198	RSF	NO
SHEET 033	33–5	12	109	4.5	143	RSF	NO
SHEET 033	33–6	12	172	3.2	160	RSF	NO
SHEET 033	33–7	12	149	4.3	70	SF	NO
SHEET 033	33–8	12	111	5.6	127	RSF	NO
SHEET 033	33–9	12	36	3.7	167	RSF	NO
SHEET 033	33–10	12	129	3.3	178	RSF	NO
SHEET 033	33–11	12	110	4.9	254	SSF	NO
SHEET 033	33–12	24	58	6.0	298	SSF	NO
SHEET 033	33–13	32	78	6.9	305	SSF	NO
SHEET 033	33–14	12	107	7.5	121	RSF	NO
SHEET 033	33–15	12	110	4.7	191	RSF	NO
SHEET 033	33–16	12	109	3.4	96	SF	NO
SHEET 033	33–17	12	48	0.2	18	SF	NO
SHEET 033	33–18	12	52	2.9	69	SF	NO
SHEET 033	33–19	12	73	2.8	62	SF	NO
SHEET 033	33–20	12	86	4.8	123	RSF	NO
SHEET 033	33–21	12	112	5.9	127	RSF	NO
SHEET 033	33–22	32/32	72	21.5	205	SSF	NO
SHEET 033	33–23	32	42	17.5	233	SSF	NO
SHEET 033	33–24	32	154	16.9	224	SSF	NO
SHEET 033	33–25	32	140	15.0	227	SSF	NO
SHEET 033	33–25A	12	71	15.8	58	RSF	NO
SHEET 033	33–25B	12	41	22.1	26	RSF	NO
SHEET 033	33–25C	12	60	30.2	44	RSF	NO
SHEET 033	33–26	24	88	16.2	78	SSF	YES
SHEET 033	33–27	12	40	6.9	13	SSF	YES
SHEET 033	33–28	12	54	6.3	53	SSF	YES
SHEET 033	33–29	12	76	16.7	39	SSF	YES
SHEET 033	33–30	24	111	4.7	318	SSF	YES
SHEET 033	33–31	24	249	6.4	149	SSF	YES
SHEET 033	33–33	12	77	5.9	99	RSF	NO
SHEET 033	33–34	12	93	8.4	125	RSF	NO
SHEET 033	33–35	12	89	6.0	134	RSF	NO
SHEET 033	33–36	12	106	5.6	154	RSF	NO
SHEET 033	33–37	12	117	5.0	175	RSF	NO
SHEET 033	33–38	12	112	4.2	200	RSF	NO
SHEET 033	33–39	12	109	4.2	131	RSF	NO
SHEET 033	33–39A	12	64	3.2	62	SF	NO
SHEET 033	33–40	12	129	4.8	158	RSF	NO
SHEET 033	33–41	12	82	11.7	77	RSF	NO
SHEET 034	34–1	32	100	N/A	N/A	SSF	NO
SHEET 034	34–2	32	102	N/A	N/A	SSF	NO
SHEET 034	34–3	12	103	11.9	118	RSF	NO
SHEET 034	34–4	12	108	8.3	136	RSF	NO
SHEET 034	34–5	12	110	10.1	105	SSF	NO
SHEET 034	34–6	12	111	6.4	140	RSF	NO
SHEET 034	34–7	12	46	6.2	54	SF	NO
SHEET 034	34–8	12	127	5.3	64	SF	NO
SHEET 034	34–9	12	79	3.7	149	RSF	NO
SHEET 034	34–10	12	63	6.4	62	SF	NO
SHEET 034	34–11	12	94	10.1	91	RSF	NO
SHEET 034	34–12	12	25	20.2	25	RSF	NO
SHEET 034	34–13	24	40	24.3	33	SSF	YES
SHEET 034	34–14	24	44	23.7	50	SSF	YES
SHEET 034	34–15	12	38	18.4	32	SSF	YES
SHEET 034	34–16	24	256	19.2	58	SSF	YES
SHEET 034	34–17	24	141	24.5	51	SSF	YES
SHEET 034	34–18	24	112	13.0	89	SSF	YES
SHEET 034	34–19	24	49	25.4	42	SSF	YES
SHEET 034	34–20	32	51	14.6	130	SSF	YES
SHEET 034	34–21	32/24	130	13.3	149	SSF	NO
SHEET 034	34–23	12	40	5.2	194	RSF	NO
SHEET 034	34–24	12	67	5.3	179	RSF	NO
SHEET 034	34–25	12	94	4.4	183	RSF	NO
SHEET 034	34–26	12	115	2.8	94	SF	NO
SHEET 034	34–26A	12	33	4.4	31	SF	NO
SHEET 034	34–26B	12	212	6.6	162	RSF	NO
SHEET 034	34–27	24	113	7.1	252	SSF	NO
SHEET 034	34–28	24	47	7.3	297	SSF	NO
SHEET 034	34–29	24	112	10.5	216	SSF	NO
SHEET 034	34–30	24	111	15.1	170	SSF	NO
SHEET 034	34–31	24	59	16.0	145	SSF	NO
SHEET 034	34–32	32	111	13.2	205	SSF	NO
SHEET 034	34–33	18	113	7.6	175	RSF	NO
SHEET 034	34–34	12	83	9.6	159	RSF	NO
SHEET 034	34–35	18	109	9.3	158	SSF	NO
SHEET 034	34–36	12	110	12.3	50	SSF	NO
SHEET 034	34–37	12	81	10.0	39	SSF	NO
SHEET 034	34–38	32	76	5.5	490	SSF	NO
SHEET 034	34–39	24	62	10.8	201	SSF	NO
SHEET 034	34–40	18	162	7.6	185	SSF	NO
SHEET 034	34–41	18	27	6.7	219	SSF	NO
SHEET 034	34–42	32	85	7.6	313	SSF	NO
SHEET 034	34–43	24	79	7.0	299	RSF	NO
SHEET 034	34–44	18	71	11.5	122	RSF	NO
SHEET 034	34–45	32	58	7.3	382	SSF	NO
SHEET 034	34–46	12	19	N/A	N/A	RSF	NO
SHEET 034	34–47	12	44	N/A	N/A	RSF	NO
SHEET 034	34–48	12	152	8.6	29	SF	NO
SHEET 034	34–49	24	108	5.9	272	SSF	NO
SHEET 035	35–1A	24	71	9.7	185	SSF	NO
SHEET 035	35–1	12	75	5.0	235	RSF	NO
SHEET 035	35–1B	24	168	5.9	278	SSF	NO
SHEET 035	35–1C	32	38	10.6	322	SSF	NO
SHEET 035	35–1D	12	125	7.1	110	RSF	NO
SHEET 035	35–1E	24	159	6.2	324	SSF	NO
SHEET 035	35–1F	18	45	5.6	245	SSF	NO
SHEET 035	35–2	24	97	9.7	95	SSF	YES
SHEET 035	35–3	24	84	11.7	85	SSF	YES
SHEET 035	35–4	32	123	12.1	149	SSF	YES
SHEET 035	35–5	12	31	14.4	29	SSF	YES
SHEET 035	35–6	32	64	26.1	77	SSF	YES
SHEET 035	35–7	12	67	11.2	49	SSF	YES
SHEET 035	35–8	12	118	13.4	49	SSF	YES
SHEET 035	35–9	24	198	9.6	110	SSF	YES
SHEET 035	35–10	18	48	12.5	59	SSF	YES
SHEET 035	35–11	12	59	12.5	42	SSF	YES
SHEET 035	35–12	18	72	9.0	98	SSF	YES
SHEET 035	35–13	24	64	10.0	104	SSF	YES
SHEET 035	35–14	18	54	8.2	100	SSF	YES
SHEET 035	35–15	32	89	6.9	176	SSF	YES
SHEET 035	35–16	12	130	4.1	40	SSF	YES
SHEET 035	35–17	12	91	6.4	53	SSF	YES
SHEET 035	35–18	12	108	7.1	44	SSF	YES
SHEET 035	35–19	12	33	6.6	25	SSF	YES
SHEET 035	35–20	18	82	10.3	75	SSF	YES
SHEET 035	35–21	18	72	9.9	163	SSF	NO
SHEET 035	35–22	12	84	9.3	91	RSF	NO
SHEET 035	35–23	12	62	2.1	34	SF	NO
SHEET 035	35–24	12	98	1.6	90	SF	NO
SHEET 035	35–25	12	97	4.0	152	RSF	NO
SHEET 035	35–26	12	70	2.9	49	SF	NO
SHEET 035	35–27	12	68	4.6	102	RSF	NO
SHEET 035	35–28	12	82	7.2	83	RSF	NO
SHEET 035	35–29	12	102	11.1	100	RSF	NO
SHEET 035	35–30	12	62	6.4	61	SF	NO
SHEET 035	35–30A	18	104	5.1	83	SSF	NO
SHEET 035	35–30B	18	93	7.9	112	SSF	NO
SHEET 035	35–31	12	70	8.0	120	RSF	NO
SHEET 035	35–32	12	73	7.2	58	SF	NO
SHEET 035	35–33	12	122	4.8	163	RSF	NO
SHEET 035	35–34	12	92	9.3	72	SSF	YES
SHEET 035	35–35	12	49	16.5	28	SSF	YES
SHEET 035	35–36	24	142	13.4	85	SSF	YES
SHEET 035	35–36A	24	99	12.7	77	SSF	YES
SHEET 035	35–37	12	167	1.5	41	SSF	YES
SHEET 035	35–38	12	43	4.8	35	SSF	YES
SHEET 035	35–39	12	41	5.8	108	SSF	YES
SHEET 035	35–40	12	96	4.8	84	SSF	YES
SHEET 035	35–41	12	104	6.7	56	SSF	YES
SHEET 035	35–42	12	159	8.7	127	RSF	NO
SHEET 035	35–43	12	64	N/A	N/A	RSF	NO
SHEET 036	36–1	12	42	7.2	93	RSF	NO
SHEET 036	36–1A	12	46	9.3	94	RSF	NO
SHEET 036	36–1B	18	61	13.4	119	SSF	NO
SHEET 036	36–2	18	96	15.6	118	SSF	NO
SHEET 036	36–3	12	116	15.2	78	RSF	NO
SHEET 036	36–4	24	72	6.9	248	SSF	NO
SHEET 036	36–5	24	50	7.9	226	SSF	NO
SHEET 036	36–6	24	90	8.0	219	SSF	NO
SHEET 036	36–7	24	23	8.6	225	SSF	NO
SHEET 036	36–8	24	72	12.5	200	SSF	NO
SHEET 036	36–9	32	45	12.2	230	SSF	NO
SHEET 036	36–10	32	92	11.2	232	SSF	NO
SHEET 036	36–11	12	101	6.0	68	SF	NO
SHEET 036	36–12	12	132	5.2	115	RSF	NO
SHEET 036	36–13	12	64	3.9	165	RSF	NO
SHEET 036	36–14	18	71	4.2	183	SSF	YES
SHEET 036	36–15	24	111	9.1	102	SSF	YES
SHEET 036	36–15A	12	569	5.6	78	SSF	YES
SHEET 036	36–16	24	205	4.9	358	SSF	NO
SHEET 036	36–17	24/24	76	4.4	728	SSF	NO
SHEET 036	36–18	24	108	8.8	260	SSF	NO
SHEET 036	36–19	18	36	9.3	171	SSF	NO

_____ P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
09/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

Williams

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 075
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-075	OF 097

SHEET 036	36–20	12	118	13.0	104	RSF	NO
SHEET 036	36–21	12	92	5.4	146	RSF	NO
SHEET 036	36–22	12	53	7.7	107	RSF	NO
SHEET 036	36–23	12	65	6.2	59	SF	NO
SHEET 036	36–24	12	125	5.1	116	RSF	NO
SHEET 036	36–25	12	132	8.4	94	RSF	NO
SHEET 036	36–26	12	82	7.4	69	SF	NO
SHEET 036	36–27	12	57	6.2	169	RSF	NO
SHEET 036	36–28	24	93	5.1	371	SSF	NO
SHEET 036	36–29	32	116	5.2	458	SSF	NO
SHEET 036	36–30	32	109	7.4	399	SSF	NO
SHEET 036	36–31	32	100	8.7	361	SSF	NO
SHEET 036	36–32	32	98	8.4	324	RSF	NO
SHEET 036	36–33	12	29	N/A	N/A	RSF	NO
SHEET 036	36–34	12	65	N/A	N/A	RSF	NO
SHEET 037	37–1	12	129	7.7	163	RSF	NO
SHEET 037	37–2	12	99	5.7	152	RSF	NO
SHEET 037	37–3	12	75	7.3	67	SF	NO
SHEET 037	37–4	12	94	4.1	131	RSF	NO
SHEET 037	37–5	12	56	4.4	162	RSF	NO
SHEET 037	37–6	12	103	5.4	116	RSF	NO
SHEET 037	37–7	12	45	3.0	27	SF	NO
SHEET 037	37–8	12	94	3.0	98	SF	NO
SHEET 037	37–9	12	75	3.9	122	RSF	NO
SHEET 037	37–10	12	42	3.7	123	RSF	NO
SHEET 037	37–11	12	87	3.3	162	RSF	NO
SHEET 037	37–12	12	127	7.2	28	SF	NO
SHEET 037	37–13	12	126	2.7	100	RSF	NO
SHEET 037	37–14	12	160	1.0	69	SF	NO
SHEET 037	37–14A	12	371	2.0	34	SF	NO
SHEET 037	37–15	12	65	3.3	118	RSF	NO
SHEET 037	37–16	12	132	5.1	193	RSF	NO
SHEET 037	37–17	12	86	4.9	89	SF	NO
SHEET 037	37–18	12	71	5.0	168	RSF	NO
SHEET 037	37–19	12	94	11.2	73	RSF	NO
SHEET 037	37–19A	12	53	25.1	37	RSF	NO
SHEET 037	37–20	12	82	6.7	81	SF	NO
SHEET 037	37–21	24	80	23.5	86	SSF	NO
SHEET 037	37–22	12	104	8.8	98	RSF	NO
SHEET 037	37–23	12	112	9.8	69	RSF	NO
SHEET 037	37–24	12	51	20.3	36	RSF	NO
SHEET 037	37–25	24	90	10.0	92	SSF	YES
SHEET 037	37–26	24	99	13.1	85	SSF	YES
SHEET 037	37–27	12	86	18.5	35	SSF	YES
SHEET 037	37–28	24	82	26.7	46	SSF	YES
SHEET 037	37–28A	24	50	19.4	44	SSF	YES
SHEET 037	37–29	32	31	32.5	35	SSF	YES
SHEET 037	37–29A	18	46	18.0	43	SSF	YES
SHEET 037	37–30	32	108	9.6	133	SSF	YES
SHEET 037	37–31	32	131	10.0	122	SSF	YES
SHEET 037	37–32	32	43	10.8	119	SSF	YES
SHEET 037	37–32A	12	44	7.7	94	SSF	YES
SHEET 037	37–33	32	74	8.3	138	SSF	YES
SHEET 037	37–34	24	53	7.9	129	SSF	YES
SHEET 037	37–35	12	42	6.7	93	SSF	YES
SHEET 037	37–36	32	67	4.7	226	SSF	YES
SHEET 037	37–37	32	81	2.6	115	SSF	YES
SHEET 037	37–38	12	69	3.0	64	SF	NO
SHEET 037	37–39	12	36	8.2	55	SF	NO
SHEET 037	37–40	12	55	8.1	52	SF	NO
SHEET 037	37–41	12	82	5.0	38	SF	NO
SHEET 037	37–42	12	110	5.5	70	SF	NO
SHEET 037	37–43	12	144	7.2	126	RSF	NO
SHEET 038	38–1	12	103	6.8	182	RSF	NO
SHEET 038	38–2	12	106	10.0	64	RSF	NO
SHEET 038	38–3	12	110	9.6	64	SSF	NO
SHEET 038	38–4	12	129	10.0	72	RSF	NO
SHEET 038	38–5	12	63	9.3	46	SF	NO
SHEET 038	38–6	12	53	9.4	39	SF	NO
SHEET 038	38–7	12	81	8.5	94	RSF	NO
SHEET 038	38–8	12	76	9.9	76	RSF	NO
SHEET 038	38–9	12	57	10.8	56	RSF	NO
SHEET 038	38–10	12	52	13.0	49	RSF	NO
SHEET 038	38–11	18	102	15.2	105	SSF	NO
SHEET 038	38–12	18	41	14.3	128	SSF	NO
SHEET 038	38–13	24	53	14.6	129	SSF	NO
SHEET 038	38–13A	24	54	14.9	134	SSF	NO
SHEET 038	38–13B	12	102	6.5	148	RSF	NO
SHEET 038	38–14	12	34	17.8	17	SF	NO
SHEET 038	38–15	12	76	15.5	42	RSF	NO
SHEET 038	38–16	12	33	15.3	65	RSF	NO
SHEET 038	38–17	32	508	28.8	102	SSF	NO
SHEET 038	38–18	12	352	2.9	65	SSF	YES
SHEET 038	38–18A	12	79	0	38	SSF	YES
SHEET 038	38–18B	12	94	0.2	18	SSF	YES
SHEET 038	38–19	12	75	8.7	23	SSF	YES
SHEET 038	38–20	32	76	14.6	253	SSF	YES
SHEET 038	38–20A	32	67	16.5	225	SSF	YES
SHEET 038	38–20B	32	71	15.3	249	SSF	YES
SHEET 038	38–21	32	46	15.5	152	SSF	YES
SHEET 038	38–22	32	54	16.8	139	SSF	YES
SHEET 038	38–23	12	99	14.7	85	RSF	NO
SHEET 038	38–24	32	81	15.8	123	SSF	YES
SHEET 038	38–25	18	67	15.0	110	SSF	NO
SHEET 038	38–26	12	85	13.2	61	RSF	NO
SHEET 038	38–27	12	34	8.9	116	RSF	NO
SHEET 038	38–28	12	81	8.2	77	RSF	NO
SHEET 038	38–29	24	112	6.6	251	SSF	NO
SHEET 038	38–30	18	87	5.4	255	SSF	NO
SHEET 038	38–31	24	129	10.1	176	SSF	NO
SHEET 038	38–32	12	93	11.4	66	RSF	NO
SHEET 038	38–33	12	55	12.8	106	RSF	NO
SHEET 038	38–34	18	90	19.8	92	SSF	NO
SHEET 038	38–35	24	78	14.8	159	SSF	NO
SHEET 038	38–36	32/32	69	N/A	N/A	SSF	NO
SHEET 038	38–37	32/32	110	N/A	N/A	RSF	NO
SHEET 038	38–38	32/32/32	51	N/A	N/A	RSF	NO
SHEET 038	38–39	12	407	N/A	N/A	RSF	NO
SHEET 038	38–40	12	328	N/A	N/A	RSF	NO
SHEET 039	39–1	24	60	5.5	164	SSF	YES
SHEET 039	39–2	24	160	9.4	94	SSF	YES
SHEET 039	39–2A	24/18	111	–	–	SSF	YES
SHEET 039	39–2B	12	80	4.8	187	SF	NO
SHEET 040	39–2C	12	70	4.7	98	SF	NO
SHEET 039	39–3	32	82	7.7	302	SSF	NO
SHEET 039	39–4	18	151	11.9	145	SSF	NO
SHEET 039	39–5	12	54	4.4	57	SF	NO
SHEET 039	39–6	12	PL	5.1	114	RSF	NO
SHEET 039	39–7	12	63	6.1	66	SF	NO
SHEET 039	39–8	12	113	6.8	87	RSF	NO
SHEET 039	39–8A	12	68	6.7	60	RSF	NO
SHEET 039	39–9	12	61	5.5	78	SF	NO
SHEET 039	39–10	12	52	6.7	120	RSF	NO
SHEET 039	39–10A	18	52	11.6	131	SSF	NO
SHEET 039	39–11	24	49	12.0	167	SSF	NO
SHEET 039	39–12	32	108	8.0	481	SSF	NO
SHEET 039	39–13	12	247	5.2	44	SF	NO
SHEET 040	40–1	32	114	7.3	328	SSF	NO
SHEET 040	40–2	18	128	8.4	193	SSF	NO
SHEET 040	40–3	12	71	5.9	163	RSF	NO
SHEET 040	40–4	12	66	6.7	173	RSF	NO
SHEET 040	40–5	12	42	10.3	51	RSF	NO
SHEET 040	40–6	32	98	6.9	438	SSF	NO
SHEET 040	40–7	32	39	7.7	311	SSF	NO
SHEET 040	40–8	24	112	7.4	280	SSF	NO
SHEET 040	40–9	12	86	5.2	191	RSF	NO
SHEET 040	40–10	12	255	5.9	210	RSF	NO
SHEET 040	40–11	12	92	9.1	88	RSF	NO
SHEET 040	40–12	18	90	9.1	175	SSF	NO
SHEET 040	40–13	32	89	8.9	265	SSF	NO
SHEET 040	40–14	32	84	9.8	283	SSF	NO
SHEET 040	40–15	32	56	9.5	302	SSF	NO
SHEET 040	40–16	32	110	10.5	239	SSF	NO
SHEET 040	40–17	12	142	6.0	116	RSF	NO
SHEET 040	40–18	12	108	6.6	123	RSF	NO
SHEET 040	40–19	12	118	4.5	122	RSF	NO
SHEET 040	40–19A	12	106	4.5	88	SF	NO
SHEET 040	40–20	12	61	3.7	149	RSF	NO
SHEET 040	40–21	12	85	3.5	130	RSF	NO
SHEET 040	40–22	12	116	5.9	203	RSF	NO
SHEET 040	40–23	24	78	6.2	265	SSF	NO
SHEET 040	40–24	24	167	6.6	282	SSF	NO
SHEET 040	40–25	24	144	5.7	311	SSF	NO
SHEET 040	40–26	24	131	6.0	302	SSF	NO
SHEET 040	40–27	18	93	5.3	301	SSF	NO
SHEET 040	40–28	12	82	6.3	81	SF	NO
SHEET 040	40–29	12	82	5.1	88	SF	NO
SHEET 041	41–1	32	93	7.9	306	RSF	NO
SHEET 041	41–2	32	116	9.0	293	RSF	NO
SHEET 041	41–3	24	72	7.1	278	RSF	NO
SHEET 041	41–4	12	82	6.7	171	RSF	NO
SHEET 041	41–5	32	112	9.8	272	RSF	NO
SHEET 041	41–6	12	54	5.7	125	SF	NO
SHEET 041	41–7	24	75	10.6	184	RSF	NO
SHEET 041	41–8	18	75	11.6	126	RSF	NO
SHEET 041	41–9	12	77	12.0	62	SSF	NO
SHEET 041	41–10	24	126	6.4	278	SSF	NO
SHEET 041	41–11	12	116	6.2	126	RSF	NO
SHEET 041	41–12	12	81	5.5	127	RSF	NO
SHEET 041	41–13	12	212	4.8	196	RSF	NO
SHEET 041	41–14	12	103	8.0	150	RSF	NO
SHEET 041	41–15	18	89	8.8	188	SSF	NO
SHEET 041	41–16	24	49	10.2	191	SSF	NO
SHEET 041	41–17	24	88	10.2	207	SSF	NO
SHEET 041	41–17A	32	88	9.8	288	SSF	NO
SHEET 041	41–18	24	88	10.1	200	SSF	NO
SHEET 041	41–19	12	106	8.6	123	RSF	NO
SHEET 041	41–20	18	106	4.9	309	SSF	NO
SHEET 041	41–21	12	166	3.7	154	RSF	NO
SHEET 041	41–22	12	55	4.6	167	RSF	NO
SHEET 041	41–23	12	58	3.9	216	RSF	NO
SHEET 041	41–24	12	106	3.3	111	RSF	NO
SHEET 041	41–25	12	103	4.1	211	RSF	NO
SHEET 041	41–26	12	103	4.9	252	RSF	NO
SHEET 041	41–27	32	123	11.1	118	SSF	YES
SHEET 041	41–28	24	108	6.3	273	SSF	NO
SHEET 041	41–29	12	107	10.3	113	RSF	NO
SHEET 041	41–30	12	107	13.5	105	RSF	NO
SHEET 041	41–31	12	88	4.5	80	SSF	YES
SHEET 041	41–32	32	99	11.7	130	SSF	YES
SHEET 041	41–33	12	213	2.3	239	RSF	NO
SHEET 041	41–34	12	88	7.2	82	RSF	NO
SHEET 041	41–35	12	96	4.6	86	RSF	NO
SHEET 042	42–1	12	228	1.5	88	SF	NO
SHEET 043	42–1A	12	75	2.3	83	SF	NO
SHEET 042	42–2	12	129	2.3	68	SF	NO
SHEET 042	42–3	12	89	2.9	137	RSF	NO
SHEET 042	42–4	12	89	2.8	133	RSF	NO
SHEET 042	42–5	12	181	2.4	46	SF	NO
SHEET 042	42–6	12	89	3.4	226	RSF	NO
SHEET 042	42–7	12	89	2.7	98	SF	NO
SHEET 042	42–8	12	112	1.8	61	SF	NO
SHEET 042	42–9	12	89	3.1	117	RSF	NO
SHEET 042	42–10	12	89	3.2	117	RSF	NO
SHEET 042	42–11	12	89	3.5	222	RSF	NO
SHEET 042	42–12	12	89	5.3	219	RSF	NO
SHEET 042	42–13	18	78	5.1	249	SSF	NO
SHEET 042	42–14	12	89	2.6	292	RSF	NO
SHEET 042	42–15	12	220	2.9	185	RSF	NO
SHEET 042	42–16	12	89	4.7	162	RSF	NO
SHEET 042	42–17	12	89	7.0	80	RSF	NO
SHEET 042	42–18	12	55	7.1	130	RSF	NO
SHEET 042	42–19	32	114	12.3	115	SSF	YES
SHEET 042	42–20	18	69	13.3	63	SSF	YES
SHEET 042	42–21	24	108	11.4	88	SSF	YES
SHEET 042	42–22	12	35	4.8	69	SSF	YES
SHEET 042	42–23	12	50	12.9	42	SSF	YES
SHEET 042	42–24	12	61	9.1	60	SSF	YES
SHEET 042	42–25	12	97	4.4	166	SSF	YES
SHEET 042	42–26	24	93	15.4	62	SSF	YES
SHEET 042	42–27	18	49	17.2	45	SSF	YES
SHEET 042	42–28	12	51	12.1	43	SSF	YES
SHEET 042	42–29	32	60	8.5	149	SSF	YES
SHEET 042	42–30	24	62	7.4	128	SSF	YES
SHEET 042	42–31	12	54	7.4	47	SSF	YES
SHEET 042	42–32	12	62	5.7	56	SF	NO
SHEET 042	42–33	24	40	9.9	105	SSF	YES
SHEET 042	42–34	12	39	8.6	65	SSF	YES
SHEET 042	42–35	12	43	8.8	37	SSF	YES
SHEET 042	42–36	12	66	8.2	74	SSF	YES
SHEET 042	42–37	12	62	4.9	56	SF	NO
SHEET 042	42–38	12	50	5.0	42	SF	NO
SHEET 042	42–39	12	71	5.5	97	RSF	NO
SHEET 042	42–40	12	71	4.3	91	SF	NO
SHEET 042	42–41	12	50	3.7	33	SF	NO
SHEET 042	42–42	18	71	4.1	343	SSF	NO
SHEET 042	42–43	12	71	5.0	91	SF	NO
SHEET 042	42–44	12	71	4.3	130	RSF	NO
SHEET 042	42–45	12	71	4.0	113	RSF	NO
SHEET 042	42–46	12	50	4.1	216	RSF	NO
SHEET 042	42–47	12	99	4.3	187	RSF	NO
SHEET 042A	42A–1	24	39	5.7	304	SSF	NO
SHEET 042A	42A–2	12	71	3.9	152	RSF	NO
SHEET 042A	42A–3	12	41	4.2	87	SF	NO
SHEET 042A	42A–4	12	52	4.4	140	RSF	NO
SHEET 042A	42A–5	12	71	4.3	162	RSF	NO
SHEET 042A	42A–6	24	43	6.5	299	SSF	NO
SHEET 042A	42A–7	32	134	6.6	421	SSF	NO
SHEET 042A	42A–8	32	160	8.5	207	SSF	NO
SHEET 042A	42A–9	32	192	5.6	297	SSF	NO
SHEET 042A	42A–10	12	56	7.6	54	SF	NO
SHEET 042A	42A–11	12	49	8.0	47	SF	NO
SHEET 042A	42A–12	12	108	5.7	105	RSF	NO
SHEET 042A	42A–13	12	161	3.6	90	SF	NO
SHEET 042A	42A–14	12	105	4.1	197	RSF	NO
SHEET 042A	42A–15	12	90	4.6	273	RSF	NO
SHEET 042A	42A–16	12	84	7.2	81	RSF	NO
SHEET 043	43–1	24	101	6.1	315	SSF	NO
SHEET 043	43–2	18	90	11.8	125	SSF	NO
SHEET 043	43–2A	32	145	8.0	161	SSF	YES
SHEET 043	43–3	24	75	16.8	77	SSF	YES
SHEET 043	43–4	12	90	10.1	55	SSF	YES
SHEET 043	43–5	18	94	9.1	92	SSF	YES
SHEET 043	43–6	12	96	11.8	59	SSF	YES
SHEET 043	43–7	32	28	16.1	151	SSF	YES
SHEET 043	43–8	32	41	13.4	171	SSF	YES
SHEET 043	43–9	32	67	11.3	190	SSF	YES
SHEET 043	43–10	32	60	9.2	338	SSF	YES
SHEET 043	43–11	32	57	9.1	320	SSF	YES
SHEET 043	43–12	32	54	9.5	290	SSF	YES
SHEET 043	43–13	32	39	8.1	246	SSF	YES
SHEET 043	43–13A	12	62	10.1	56	SSF	YES
SHEET 043	43–14	32	81	8.4	221	SSF	YES
SHEET 043	43–15	18	94	7.2	114	SSF	YES
SHEET 043	43–16	12	55	5.3	58	SF	NO
SHEET 043	43–17	12	89	4.4	182	RSF	NO
SHEET 043	43–18	12	155	2.5	121	RSF	NO
SHEET 043	43–19	12	63	5.2	150	RSF	NO
SHEET 043	43–20	12	49	3.4	120	RSF	NO
SHEET 043	43–21	18	62	5.9	237	SSF	NO
SHEET 043	43–22	12	111	5.1	190	RSF	NO
SHEET 043	43–23	12	143	4.7	157	RSF	NO
SHEET 043	43–24	12	37	5.6	171	RSF	NO
SHEET 043	43–25	24	129	4.8	378	RSF	NO
SHEET 043	43–26	12	112	4.5	101	RSF	NO
SHEET 043	43–27	12	64	3.4	259	RSF	NO
SHEET 043	43–27A	12	93	4.2	199	RSF	NO
SHEET 043	43–28	12	36	5.9	97	RSF	NO
SHEET 043	43–29	12	71	3.0	323	RSF	NO
SHEET 043	43–30	12	52	4.3	182	RSF	NO
SHEET 043	43–31	32	77	5.2	542	SSF	NO
SHEET 043	43–32	12	95	3.5	167	RSF	NO
SHEET 043	43–33	12	95	2.4	80	SF	NO
SHEET 043	43–34	12	47	1.0	62	SF	NO
SHEET 044	44–1	24	192	8.3	217	SSF	NO
SHEET 044	44–2	12	270	6.7	133	RSF	NO
SHEET 044	44–3	12	185	2.7	60	SF	NO
SHEET 044	44–5	24	720	5.8	294	SSF	NO
SHEET 044	44–6	18	64	4.2	384	SSF	NO
SHEET 044	44–7	12	102	2.9	187	RSF	NO
SHEET 044	44–8	12	66	1.8	185	RSF	NO
SHEET 044	44–9	12	82	2.5	155	RSF	NO
SHEET 044	44–10	12	259	2.4	213	RSF	NO
SHEET 044	44–10A	12	114	1.9	39	SF	NO
SHEET 044	44–11	12	77	4.3	98	SF	NO
SHEET 044	44–12	12	47	4.6	95	SF	NO
SHEET 044	44–13	12	219	3.4	235	RSF	NO
SHEET 044	44–14	12	48	4.0	73	SF	NO
SHEET 044	44–15	12	57	6.9	153	RSF	NO
SHEET 044	44–16	12	69	9.5	60	RSF	NO
SHEET 044	44–17	12	86	8.7	76	RSF	NO
SHEET 044	44–18	12	102	9.3	115	RSF	NO
SHEET 044	44–19	12	41	12.6	32	SF	NO
SHEET 044	44–20	12	77	6.3	166	RSF	NO
SHEET 044	44–21	12	75	9.2	55	RSF	NO
SHEET 044	44–22	12	94	11.4	47	RSF	NO
SHEET 044	44–23	12	77	11.1	52	RSF	NO
SHEET 044	44–24	12	62	10.0	80	RSF	NO
SHEET 044	44–25	12	42	10.3	22	RSF	NO
SHEET 044	44–25A	12	59	7.2	128	RSF	NO
SHEET 044	44–25B	18	47	9.5	145	SSF	NO
SHEET 044	44–26	12	104	19.6	29	RSF	NO
SHEET 044	44–27	12	46	23.4	22	RSF	NO
SHEET 044	44–28	12	104	26.5	33	RSF	NO
SHEET 044	44–29	12	1879	N/A	N/A	RSF	NO
SHEET 044	44–30	12	2183	N/A	N/A	RSF	NO
SHEET 045	45–1	12	347	1.8	111	SSF	YES
SHEET 045	45–2	12	125	2.5	81	SSF	YES
SHEET 045	45–3	12	121	2.9	70	SSF	YES
SHEET 045	45–4	12	123	1.0	45	SSF	YES
SHEET 045	45–5	12	59	1.0	30	SSF	YES
SHEET 045	45–6	12	86	1.0	37	SSF	YES
SHEET 045	45–7	12	113	1.0	58	SSF	YES
SHEET 045	45–8	12	99	1.0	79	SSF	YES
SHEET 045	45–9	12	111	1.0	50	SSF	YES
SHEET 045	45–10	32	174	5.4	491	SSF	YES
SHEET 045	45–11	32	86	4.9	533	SSF	YES
SHEET 045	45–11A	12	107	4.7	142	SF	NO
SHEET 045	45–12	32	213	5	549	SSF	NO
SHEET 045	45–13	24	104	4.4	448	SSF	NO
SHEET 045	45–14	18	122	5.8	194	SSF	NO
SHEET 045	45–15	32	317	10.2	310	SSF	NO
SHEET 045	45–16	32	58	18.8	159	SSF	NO
SHEET 045	45–17	32	105	18.2	197	SSF	NO
SHEET 045	45–18	12	88	N/A	N/A	RSF	NO
SHEET 045	45–19	12	51	N/A	N/A	RSF	NO
SHEET 046	46–1	12	17	2.0	100	RSF	NO
SHEET 046	46–2	32	154	9.1	277	SSF	NO
SHEET 046	46–3	12	272	1.8	218	SSF	YES

P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
09/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

Williams

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 076
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-076	OF 097

SHEET 046	46–4	24	103	2.1	175	SSF	YES
SHEET 046	46–5	18	58	6.0	134	SSF	YES
SHEET 046	46–6	18	114	7.1	121	SSF	YES
SHEET 046	46–7	18	83	9.5	86	SSF	YES
SHEET 046	46–8	12	101	7.6	84	SSF	YES
SHEET 046	46–10	12	59	12.2	65	RSF	NO
SHEET 046	46–11	12	109	6.6	115	RSF	NO
SHEET 046	46–12	12	97	5.9	142	RSF	NO
SHEET 046	46–13	12	86	3.9	62	SF	NO
SHEET 046	46–14	12	130	7.2	118	RSF	NO
SHEET 046	46–15	12	107	9.7	113	RSF	NO
SHEET 046	46–16	12	97	8.8	98	RSF	NO
SHEET 046	46–17	12	110	8.7	96	RSF	NO
SHEET 046	46–18	12	36	8.5	134	RSF	NO
SHEET 046	46–19	24	118	8.5	238	SSF	NO
SHEET 046	46–20	24	47	8.9	235	SSF	NO
SHEET 046	46–21	32	95	10.4	267	SSF	NO
SHEET 046	46–22	12	135	16.8	81	RSF	NO
SHEET 046	46–23	12	40	15.4	27	SF	NO
SHEET 046	46–24	12	42	13.6	88	RSF	NO
SHEET 046	46–25	12	61	11.5	53	SSF	YES
SHEET 046	46–26	12	51	8.4	47	SSF	YES
SHEET 046	46–27	12	66	6.7	66	SSF	YES
SHEET 046	46–28	12	105	10.8	32	SSF	YES
SHEET 046	46–29	12	151	6.2	55	SSF	YES
SHEET 046	46–29A	32	147	5.0	199	SSF	YES
SHEET 046	46–30	32	126	3.9	273	SSF	YES
SHEET 046	46–31	24	308	4.0	255	SSF	YES
SHEET 046	46–32	12	116	3.1	228	RSF	NO
SHEET 046	46–33	12	78	2.8	352	SF	NO
SHEET 046	46–34	24	102	2.9	293	SSF	YES
SHEET 046	46–35	12	35	2.8	106	SSF	YES
SHEET 046	46–36	12	151	2.3	128	SSF	YES
SHEET 046	46–36A	12	23	4.5	54	SSF	YES
SHEET 046	46–37	12	206	5.0	143	SSF	YES
SHEET 046	46–37A	12	81	5.8	151	RSF	NO
SHEET 046	46–38	12	89	5.3	87	SSF	YES
SHEET 046	46–39	24	66	4.2	188	SSF	YES
SHEET 046	46–40	12	75	3.9	174	RSF	NO
SHEET 046	46–41	12	102	3.2	78	SF	NO
SHEET 046	46–42	12	285	N/A	N/A	RSF	NO
SHEET 046	46–43	12	69	N/A	N/A	RSF	NO
SHEET 046	46–44	12	112	N/A	N/A	RSF	NO
SHEET 046	46–45	12	679	N/A	N/A	RSF	NO
SHEET 046	46–45A	12	114	N/A	N/A	RSF	NO
SHEET 046	46–46	12	155	N/A	N/A	RSF	NO
SHEET 046	46–47	12	128	N/A	N/A	RSF	NO
SHEET 047	47–1	18	131	5.2	266	SSF	NO
SHEET 047	47–2	18	105	6.3	238	SSF	NO
SHEET 047	47–3	18	30	6.6	241	SSF	NO
SHEET 047	47–4	24	103	5.5	259	SSF	NO
SHEET 047	47–5	18	98	5.1	325	SSF	NO
SHEET 047	47–6	24	311	2.7	675	SSF	NO
SHEET 047	47–7	12	89	3.1	110	RSF	NO
SHEET 047	47–8	12	65	3.7	153	SF	NO
SHEET 047	47–9	12	63	4.5	180	RSF	NO
SHEET 047	47–10	12	48	5.0	238	RSF	NO
SHEET 047	47–11	12	99	3.8	237	RSF	NO
SHEET 047	47–12	12	42	5.2	157	RSF	NO
SHEET 047	47–13	12	32	6	65	RSF	NO
SHEET 047	47–14	12	43	4.2	50	SF	NO
SHEET 047	47–15	12	148	0.8	118	RSF	NO
SHEET 047	47–16	12	123	2.1	176	RSF	NO
SHEET 047	47–17	12	51	2.0	50	SF	NO
SHEET 047	47–18	12	78	2.7	72	SF	NO
SHEET 047	47–19	12	85	2.3	86	SF	NO
SHEET 047	47–20	12	101	3.4	82	SF	NO
SHEET 047	47–21	12	87	4.6	99	SF	NO
SHEET 047	47–22	12	43	2.9	148	RSF	NO
SHEET 047	47–23	12	44	5.3	28	SF	NO
SHEET 047	47–24	12	61	7.3	58	SF	NO
SHEET 047	47–25	12	60	8.4	42	SF	NO
SHEET 047	47–26	12	42	8.6	80	SSF	YES
SHEET 047	47–27	18	90	8.1	100	SSF	YES
SHEET 047	47–27A	32	134	5.4	204	SSF	YES
SHEET 047	47–28	12	102	6.3	63	SSF	YES
SHEET 047	47–29	12	44	2.4	43	SSF	YES
SHEET 047	47–30	12	38	8.6	38	SSF	YES
SHEET 047	47–31	12	45	6.8	37	SSF	YES
SHEET 047	47–32	12	97	8.7	81	SSF	YES
SHEET 047	47–33	12	46	9.4	59	SSF	YES
SHEET 047	47–34	12	45	11.2	29	SSF	YES
SHEET 047	47–35	18	249	6.3	251	SSF	NO
SHEET 047	47–36	32	38	6.5	357	SSF	NO
SHEET 047	47–37	24	75	6.7	302	SSF	NO
SHEET 047	47–38	32	80	7.4	302	SSF	NO
SHEET 047	47–39	32	68	7.5	321	SSF	NO
SHEET 047	47–40	24	59	8.3	298	SSF	NO
SHEET 047	47–41	12	50	14.3	33	RSF	NO
SHEET 047	47–42	24	130	12.9	69	SSF	YES
SHEET 047	47–43	24	39	10.7	87	SSF	YES
SHEET 047	47–44	24	71	11	65	SSF	YES
SHEET 047	47–45	32	60	11.9	117	SSF	YES
SHEET 047	47–46	32	150	13.7	110	SSF	YES
SHEET 047	47–47	12	84	6.7	44	SSF	YES
SHEET 047	47–48	12	111	4	50	SSF	YES
SHEET 047	47–49	12	131	1.0	19	SSF	YES
SHEET 047	47–50	12	171	N/A	N/A	RSF	NO
SHEET 047	47–51	12	194	N/A	N/A	RR	NO
SHEET 048	48–1	12	95	4.2	14	SSF	YES
SHEET 048	48–2	12	442	4.1	113	SSF	YES
SHEET 048	48–3	12	56	4.7	52	SSF	YES
SHEET 048	48–4	18	52	6.3	117	SSF	YES
SHEET 048	48–5	12	102	4.6	133	SSF	YES
SHEET 048	48–6	12	68	3.7	51	SSF	YES
SHEET 048	48–7	12	117	5.2	136	SSF	YES
SHEET 048	48–8	12	79	4.1	74	SF	NO
SHEET 048	48–9	12	65	5.8	132	RSF	NO
SHEET 048	48–10	12	68	6.3	70	SF	NO
SHEET 048	48–11	12	97	5.3	168	RSF	NO
SHEET 048	48–12	12	110	5.2	140	RSF	NO
SHEET 048	48–13	12	106	5.5	108	RSF	NO
SHEET 048	48–14	12	84	3.5	252	RSF	NO
SHEET 048	48–15	12	47	3.1	164	RSF	NO
SHEET 048	48–16	12	58	3	138	RSF	NO
SHEET 048	48–17	12	87	2.1	83	SF	NO
SHEET 048	48–18	12	117	3.6	190	RSF	NO
SHEET 048	48–19	12	141	5.1	103	RSF	NO
SHEET 048	48–20	12	134	4.1	284	RSF	NO
SHEET 048	48–21	12	134	3.4	281	RSF	NO
SHEET 048	48–22	12	82	3.6	287	RSF	NO
SHEET 048	48–23	12	38	3.5	301	RSF	NO
SHEET 048	48–24	32	111	5.1	435	SSF	NO
SHEET 048	48–25	32	122	4.7	398	SSF	YES
SHEET 048	48–26	32	73	5.8	380	SSF	YES
SHEET 048	48–27	32	77	6.1	358	SSF	YES
SHEET 048	48–28	12	56	15	43	SSF	YES
SHEET 048	48–29	12	94	12.6	42	SSF	YES
SHEET 048	48–29A	12	60	10.9	24	SSF	YES
SHEET 048	48–30	12	116	7.3	100	SSF	YES
SHEET 048	48–31	12	46	7.2	41	SSF	YES
SHEET 048	48–32	12	49	6.2	43	SSF	YES
SHEET 048	48–33	12	55	2.6	82	SSF	YES
SHEET 048	48–34	12	78	1.0	72	SSF	YES
SHEET 048	48–35	12	45	1.8	61	SF	NO
SHEET 048	48–36	12	75	4.8	46	SSF	YES
SHEET 048	48–37	12	129	1.0	37	SSF	YES
SHEET 048	48–38	12	92	2.4	84	SSF	YES
SHEET 048	48–39	24	179	2.9	277	SSF	NO
SHEET 048	48–40	24	96	4.2	407	SSF	NO
SHEET 048	48–41	32	100	4.6	460	SSF	NO
SHEET 048	48–42	12	757	N/A	N/A	RSF	NO
SHEET 048	48–43	12	332	N/A	N/A	RSF	NO
SHEET 048	48–44	12	301	N/A	N/A	RSF	NO
SHEET 048	48–45	12	54	N/A	N/A	RSF	NO
SHEET 050	50–1	12	108	7.0	161	RSF	NO
SHEET 050	50–2	18	109	8.0	178	SSF	NO
SHEET 050	50–3	24	121	10.0	180	SSF	NO
SHEET 050	50–4	18	132	7.9	208	SSF	NO
SHEET 050	50–5	18	101	8.5	193	SSF	NO
SHEET 050	50–6	18	79	9.1	154	SSF	NO
SHEET 050	50–7	12	88	8.0	125	RSF	NO
SHEET 050	50–8	12	50	5.2	116	RSF	NO
SHEET 050	50–9	12	38	6.1	99	RSF	NO
SHEET 050	50–10	12	50	6.9	74	SF	NO
SHEET 050	50–11	12	93	1.0	98	SF	NO
SHEET 050	50–12	12	88	2.3	59	SF	NO
SHEET 050	50–13	12	59	1.8	120	RSF	NO
SHEET 050	50–14	12	229	1.0	82	SF	NO
SHEET 050	50–15	12	90	1.1	84	SF	NO
SHEET 050	50–16	12	52	1.3	106	RSF	NO
SHEET 050	50–17	12	53	1.0	48	SF	NO
SHEET 050	50–18	12	53	1.0	48	SF	NO
SHEET 050	50–19	12	53	1.0	45	SF	NO
SHEET 050	50–20	12	63	1.0	45	SF	NO
SHEET 050	50–21	12	436	N/A	N/A	RSF	NO
SHEET 050	50–22	12	120	6.2	112	RSF	NO
SHEET 050	50–23	32	111	8.3	387	SSF	NO
SHEET 050	50–24	32	80	10.3	268	SSF	NO
SHEET 050	50–25	24	138	8.0	225	SSF	NO
SHEET 050	50–26	24	111	7.7	254	SSF	NO
SHEET 050	50–27	24	132	6.9	321	SSF	NO
SHEET 051	51–1	18	64	8.9	168	SSF	NO
SHEET 051	51–2	12	57	11.3	98	RSF	NO
SHEET 052	52–2	18	162	7.3	185	SSF	NO
SHEET 052	52–4	12	110	7.2	35	SF	NO
SHEET 052	52–5	12	93	9.5	109	RSF	NO
SHEET 052	52–6	12	112	6.6	159	RSF	NO
SHEET 052	52–7	12	93	5.7	45	SF	NO
SHEET 052	52–8	12	112	5.1	117	RSF	NO
SHEET 052	52–9	12	93	6.1	144	RSF	NO
SHEET 052	52–10	12	112	1.9	37	SF	NO
SHEET 052	52–11	32/32/32	74	N/A	N/A	SSF	NO
SHEET 052	52–12	32/24/18	51	N/A	N/A	SSF	NO
SHEET 052	52–13	32/32/32	62	N/A	N/A	SSF	NO
SHEET 052	52–14	32/24/18	112	N/A	N/A	SSF	NO
SHEET 052	52–15	24/24	138	N/A	N/A	SSF	NO
SHEET 053	53–1	12	106	4.5	41	SSF	YES
SHEET 053	53–1A	12	99	3.5	57	SSF	YES
SHEET 053	53–2	12	101	5.7	17	SSF	YES
SHEET 053	53–3	12	74	4.2	70	SSF	YES
SHEET 053	53–4	12	64	7.0	70	SSF	YES
SHEET 053	53–5	12	42	6.7	31	SSF	YES
SHEET 053	53–6	12	160	7.8	74	SSF	YES
SHEET 053	53–7	12	101	7.2	65	SSF	YES
SHEET 053	53–8	12	102	5.7	186	RSF	NO
SHEET 053	53–9	12	100	5.7	139	RSF	NO
SHEET 053	53–10	12	100	4.9	96	SF	NO
SHEET 053	53–11	12	102	4.1	194	RSF	NO
SHEET 053	53–12	12	56	3.7	100	SF	NO
SHEET 053	53–13	12	158	3.1	52	SF	NO
SHEET 053	53–14	12	66	3.5	32	SF	NO
SHEET 053	53–15	12	24	3.1	112	RSF	NO
SHEET 053	53–16	12	32	6.0	24	SF	NO
SHEET 053	53–17	12	29	2.7	30	SF	NO
SHEET 053	53–18	12	35	4.3	55	SF	NO
SHEET 053	53–19	12	38	5.9	96	RSF	NO
SHEET 053	53–20	12	38	6.4	73	SF	NO
SHEET 053	53–21	12	96	7.4	81	RSF	NO
SHEET 053	53–22	12	114	0.2	21	SF	NO
SHEET 053	53–23	12	99	3.2	119	RSF	NO
SHEET 053	53–24	12	101	4.6	173	RSF	NO
SHEET 053	53–25	24	65	8.1	271	SSF	NO
SHEET 053	53–26	24	36	9.3	218	SSF	NO
SHEET 053	53–27	24	112	9.3	195	SSF	NO
SHEET 053	53–28	18	60	10.2	139	RSF	NO
SHEET 053	53–29	12	68	7.6	89	RSF	NO
SHEET 053	53–30	12	32	15.2	44	RSF	NO
SHEET 053	53–31	12	27	11.9	29	SF	NO
SHEET 055	55–1	32	104	5.1	496	SSF	NO
SHEET 055	55–2	24	103	4.4	434	SSF	NO
SHEET 055	55–3	18	104	3.6	384	SSF	NO
SHEET 055	55–4	12	148	3.1	367	RSF	NO
SHEET 055	55–5	12	82	3.0	345	RSF	NO
SHEET 055	55–6	12	46	3.2	376	RSF	NO
SHEET 055	55–7	12	49	3.3	260	RSF	NO
SHEET 055	55–8	12	56	3.6	235	RSF	NO
SHEET 055	55–9	12	69	4.3	245	RSF	NO
SHEET 056	56–1	24	56	7.6	291	SSF	NO
SHEET 056	56–2	24	57	7.5	242	SSF	NO
SHEET 058	58–1	12	112	3.2	175	RSF	NO
SHEET 058	58–2	12	113	5.4	71	SF	NO
SHEET 058	58–3	12	113	4.5	191	RSF	NO
SHEET 058	58–4	32	198	6	252	SSF	YES
SHEET 058	58–5	32	62	5	327	SSF	YES
SHEET 058	58–6	32	36	5	327	SSF	YES
SHEET 058	58–7	32	46	5	399	SSF	YES
SHEET 058	58–8	32	67	5	423	SSF	YES
SHEET 058	58–9	24	195	4.6	378	SSF	NO
SHEET 058	58–10	24	130	5.2	330	SSF	NO
SHEET 058	58–11	18	111	6.1	228	SSF	NO
SHEET 058	58–12	12	61	5.2	191	RSF	NO
SHEET 058	58–13	12	50	5.6	170	RSF	NO
SHEET 058	58–14	12	48	5.7	177	RSF	NO
SHEET 058	58–15	12	90	6.6	169	RSF	NO
SHEET 059	59–1	12	90	5.9	84	SF	NO
SHEET 059	59–2	12	110	8.7	105	RSF	NO
SHEET 059	59–3	12	110	6.3	102	RSF	NO
SHEET 059	59–4	12	60	17.5	42	RSF	NO
SHEET 059	59–5	12	107	15.7	37	RSF	NO
SHEET 059	59–6	12	83	12.6	44	RSF	NO
SHEET 059	59–7	12	107	9.4	64	RSF	NO
SHEET 059	59–8	12	107	6.7	95	RSF	NO
SHEET 059	59–9	32	89	10.0	255	SSF	YES
SHEET 059	59–10	18	31	13.0	66	SSF	YES
SHEET 059	59–11	12	33	8.2	73	SSF	YES
SHEET 059	59–12	18	31	7.8	103	SSF	YES
SHEET 060	60–1	12	119	3	225	RSF	NO
SHEET 060	60–1A	12	77	1	78	RSF	NO
SHEET 060	60–1B	12	97	2.2	94	RSF	NO
SHEET 060	60–2	12	127	3.7	244	RSF	NO
SHEET 060	60–3	12	142	2.6	149	RSF	NO
SHEET 060	60–4	12	106	1.3	88	SF	NO
SHEET 060	60–5	12	95	3.8	88	SF	NO
SHEET 060	60–6	12	130	4.6	122	RSF	NO
SHEET 060	60–7	24	241	3.2	641	SSF	NO
SHEET 060	60–8	18	110	3.2	440	SSF	NO
SHEET 060	60–9	12	119	2.8	290	RSF	NO
SHEET 060	60–10	24	99	3.4	585	SSF	NO
SHEET 060	60–11	24	102	4.3	429	SSF	NO
SHEET 060	60–12	24	102	4.9	329	SSF	NO
SHEET 060	60–13	18	102	5.8	242	SSF	NO
SHEET 060	60–14	12	77	6.7	176	RSF	NO
SHEET 060	60–15	12	92	6.1	122	RSF	NO
SHEET 060	60–16	12	113	2.3	61	SF	NO
SHEET 060	60–17	12	102	4.7	143	RSF	NO
SHEET 060	60–18	18	167	2.5	547	SSF	NO
SHEET 060	60–19	12	117	4.4	86	SF	NO
SHEET 060	60–20	12	113	6.6	182	RSF	NO
SHEET 060	60–21	18	108	5.8	239	SSF	NO
SHEET 061	61–1	12	82	3.7	102	SF	NO
SHEET 061	61–2	12	109	3.2	126	RSF	NO
SHEET 061	61–3	12	139	3.2	166	RSF	NO
SHEET 061	61–4	12	78	2.6	215	SF	NO
SHEET 062	62–1	12	265	5.6	142	RSF	NO
SHEET 048/064	64–1	24	62	4.9	391	SSF	NO
SHEET 048/064	64–2	24	92	4.7	358	SSF	NO
SHEET 048/064	64–3	24	117	4.8	343	SSF	NO

_____ P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041896
05/30/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

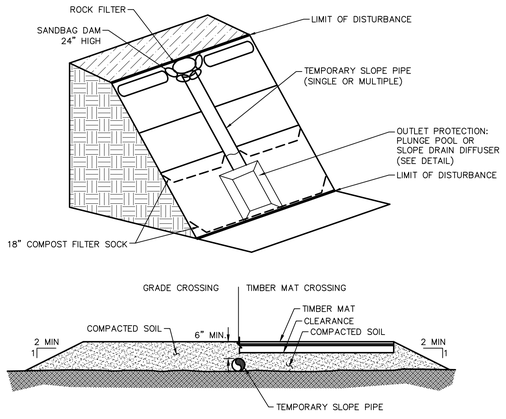
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 077
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-077	OF 097



NOTES:

CLEAN WATER DIVERSION TO BE INSPECTED PER THE BMP INSPECTION AND MAINTENANCE SCHEDULE AND SHALL BE MAINTAINED IN GOOD CONDITION AT ALL TIMES.

W.O. NO.	CHK.	APP.

VIRGINIA

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
STANDARD ENVIRONMENTAL DETAIL

CWD CLEAN WATER DIVERSION

Williams

NOTES:

1. CLEAN WATER DIVERSION DIKE TO BE CONSTRUCTED PER C-ECM-04.
2. AS NEEDED ON STEEP SLOPES (>2%) INSTALL ROCK CHECK DAMS PER C-SCM-07, EXCEPT THAT NATIVE ROCK PRODUCED DURING EXCAVATION WILL BE SUBSTITUTED FOR THE STONE AND RIPRAP.
3. PER C-ECM-12, THE DIVERSION DIKE MUST BE 6-INCHES HIGHER THAN THE PIPE ON THE INLET SIDE AND THE DIKE MUST SLOPE NO GREATER THAN 3:1 TO RE-JOIN THE ADJACENT DIKE HEIGHT.
4. ALL ROCK CHECK DAMS TO BE A MINIMUM OF 1-FT HIGH AS MEASURED AT THE LOW POINT LOCATED AT THE CENTER OF THE STRUCTURE.

Table C-ECM-12-2 Slope Drain Sizing

Maximum Drainage Area (acres)	Pipe Diameter (inches)
0.5	12
1.5	18
2.5	21
3.5	24
5.0	30

Source: Virginia Department of Conservation and Recreation [VDCR] 2004

CLEAN WATER DIVERSION

NOTES:

1. INSTALL REINFORCED HOLD-DOWN GROMMETS SPACED AT 10-FOOT (OR LESS) INTERVALS TO SECURE THE DRAIN IN PLACE.
2. DESIGN THE HEIGHT OF THE DIKE AT THE CENTERLINE OF THE INLET TO BE EQUAL TO THE DIAMETER OF THE PIPE PLUS 6 INCHES. WHERE THE DIKE HEIGHT IS GREATER THAN 18 INCHES AT THE INLET, SLOPE THE DIKE AT THE RATE OF 3H:1V OR FLATTER TO CONNECT WITH THE REMAINDER OF THE DIKE.
3. DESIGN THE ENTRANCE TO THE SLOPE DRAIN TO CONSIST OF A STANDARD VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) FLARED END SECTION FOR METAL PIPE CULVERTS (SEE FIGURES C-ECM-12-2 AND C-ECM-12-3) WITH APPROPRIATE INLET PROTECTION AS SET FORTH IN CULVERT INLET PROTECTION (BMP C-SCM-05). IF PONDING WILL CAUSE A PROBLEM AT THE ENTRANCE AND MAKE SUCH PROTECTION IMPRACTICAL, INSTALL APPROPRIATE SEDIMENT-REMOVING MEASURES AT THE OUTLET OF THE PIPE. USE EXTENSION COLLARS THAT CONSIST OF 12-INCH-LONG CORRUGATED METAL PIPE. PROVIDE WATERTIGHT FITTINGS (SEE FIGURE C-ECM-12-1).

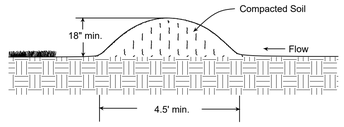
CONSTRUCTION SPECIFICATIONS:

1. PLACE THE SLOPE DRAIN PIPE ON UNDISTURBED SOIL OR WELL-COMPACTED FILL.
2. SLOPE THE ENTRANCE SECTION TOWARD THE SLOPE DRAIN AT THE MINIMUM RATE OF 0.5 INCH PER FOOT.
3. HAND-TAMP THE SOIL AROUND AND UNDER THE ENTRANCE SECTION IN 8-INCH LIFTS TO THE TOP OF THE DIKE TO PREVENT PIPING FAILURE AROUND THE INLET.
4. SECURELY STAKE THE SLOPE DRAIN PIPE TO THE SLOPE USING REINFORCED HOLD-DOWN GROMMETS SPACED AT 10-FOOT INTERVALS.
5. ENSURE THE SLOPE DRAIN SECTIONS ARE SECURELY FASTENED TOGETHER AND HAVE WATERTIGHT FITTINGS.
6. INSTALL CULVERT INLET PROTECTION AND OUTLET PROTECTION AS LISTED ON THE DETAIL.
7. INSTALL COMPOST FILTER SOCK UPSLOPE OF PLUNGE POOLS OR SLOPE DRAIN DIFFUSERS TO AVOID COLLECTING SEDIMENT.

CLEAN WATER DIVERSION SCHEDULE

Name	Drainage Area (Acres)	Pipe diameter (inches)	Type of Diversion (dike/berm or Fence)
CWD 03-01	2.51	24	Berm
CWD 03-02	1.13	18	Fence
CWD 04-01	1.83	21	Fence
CWD 04-02	2.42	End Release	Berm
CWD 04-03	4.98	30	Berm
CWD 06-1A	1.41	18	Fence
CWD 06-01	3.12	24	Berm
CWD 06-02	0.9	End Release	Fence
CWD 06-03	2.98	24	Berm
CWD 06-04	2.28	21	Berm
CWD 06-05	2.16	21	Berm
CWD 06-5A	5.00	30	Berm
CWD 06-06	4.62	30	Berm
CWD 06-6A	4.62	30	Berm
CWD 07-01	1.4	18	Fence
CWD 07-02	0.59	18	Fence
CWD 07-03	2.04	21	Berm
CWD 07-04	1.23	18	Fence
CWD 08-01	5.93	21 (Engineered Design)	Berm
CWD 08-02	0.52	18	Fence
CWD 08-03	1.53	21	Fence
CWD 08-04	6.44	24 (Engineered Design)	Berm
CWD 09-01	0.46	12	Fence
CWD 09-02	1.95	21	Fence
CWD 09-03	2.95	24	Berm
CWD 09-04	0.53	18	Fence
CWD 09-05	2.16	21	Berm
CWD 10-01	3.17	24	Berm
CWD 10-03	2.42	21	Berm
CWD 10-04	2.98	24	Berm
CWD 10-07	4.43	30	Berm
CWD 10-08	3.27	24	Berm
CWD 11-1A	2.23	21	Berm
CWD 11-1B	0.15	12	Fence
CWD 11-02	0.32	12	Fence
CWD 12-01	1.17	End Release	Fence
CWD 12-02	1.96	21	Fence
CWD 12-03	0.54	18	Fence
CWD 13-01	0.55	End Release	Fence
CWD 14-01	4.41	30	Berm
CWD 14-1A	9.34	30 (Engineered Design)	Berm
CWD 14-1B	12.33	30 (Engineered Design)	Berm
CWD 14-02	0.76	18	Fence
CWD 14-05	0.12	12	Fence
CWD 14-06	0.09	12	Fence
CWD 14-6A	2.64	24	Berm
CWD 14-6B	1.27	18	Fence
CWD 15-01	1.11	18	Fence
CWD 15-02	0.41	12	Fence
CWD 16-01	2.94	24	Berm
CWD 17-01	2.81	24	Berm
CWD 18-01	0.98	18	Fence
CWD 18-02	3.29	24	Berm
CWD 18-4A	0.24	12	Fence
CWD 18-4B	0.58	18	Fence
CWD 18-05	1.51	21	Fence
CWD 19-02	3.27	24	Berm
CWD 19-03	2.01	21	Berm
CWD 20-01	2.11	21	Berm
CWD 20-1A	1.45	18	Fence
CWD 20-02	3.01	24	Berm
CWD 20-03	1.69	21	Fence
CWD 20-04	0.95	18	Fence
CWD 21-1A	1.08	End Release	Fence
CWD 21-1B	3.47	24	Berm
CWD 21-02	2.87	24	Berm
CWD 21-03	2.04	21	Berm
CWD 21-04	0.68	18	Fence
CWD 21-05	3.04	24	Berm
CWD 21-06	0.59	18	Fence
CWD 22-01	0.62	18	Fence
CWD-22-02	4.37	30	Berm
CWD 23-01	2.74	24	Berm
CWD 23-03	0.87	18	Fence
CWD 23-04	1.41	18	Fence
CWD 23-5A	4.78	30	Berm
CWD 23-5B	0.32	12	Fence
CWD 25-1A	2.54	24	Berm
CWD 25-1B	1.33	18	Fence
CWD 25-02	2.06	21	Berm
CWD 25-03	2.17	21	Berm
CWD 26-1A	4.86	24	Berm
CWD 26-1B	0.66	18	Fence
CWD 26-02	1.84	21	Fence
CWD 27-2A	1.41	18	Fence
CWD 27-2B	3.69	30	Berm
CWD 30-1A	3.35	24	Berm
CWD 30-1B	2.06	21	Berm
CWD 30-1C	0.68	18	Fence
CWD 33-01	9.12	24 (Engineered Design)	Berm
CWD 34-1A	1.16	18	Fence
CWD 34-02	2.18	21	Berm
CWD 34-03	3.13	24	Berm
CWD 35-01	2.49	21	Berm
CWD 35-02	3.16	24	Berm
CWD 36-1A	1.40	18	Fence
CWD 36-1B	0.90	18	Fence
CWD 36-02	1.46	18	Fence
CWD 36-3A	2.69	24	Berm
CWD 36-3B	2.27	21	Berm
CWD 37-01	2.73	End Release	Berm
CWD 37-02	0.35	12	Fence
CWD 37-03	2.10	21	Berm
CWD 39-01	2.91	24	Berm
CWD 39-02	4.96	30	Berm
CWD 39-04	5.13	24 (Engineered Design)	Berm
CWD 39-05	3.50	24	Berm
CWD 39-06	12.65	30 (Engineered Design)	Berm
CWD 39-08	1.14	18	Fence
CWD 39-9A	2.81	24	Berm
CWD 39-9B	4.90	30	Berm
CWD 42-01	4.56	30	Berm
CWD 42A-1	4.43	30	Berm
CWD 43-01	2.78	24	Berm
CWD 46-01	2.02	End Release	Berm
CWD 46-02	0.96	18	Fence
CWD 47-01	0.92	18	Fence
CWD 47-02	1.21	18	Fence
CWD 48-01	0.72	18	Fence
CWD 52-01	1.10	18	Fence
CWD 52-02	0.54	End Release	Fence
CWD 52-03	2.78	24	Berm
CWD 52-04	0.29	End Release	Fence
CWD 52-05	2.47	End Release	Berm
CWD 52-06	2.01	21	Berm
CWD 52-07	2.40	21	Berm

TEMPORARY DIVERSION DIKE (C-ECM-04)



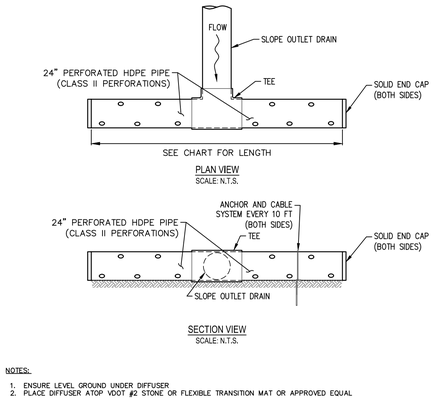
NOTES:

1. THE MAXIMUM ALLOWABLE DRAINAGE AREA IS 5 ACRES CALCULATED FROM THE AREA TRIBUTARY TO THE LOWEST POINT ON THE BMP.
2. SIDE SLOPES OF 2H:1V OR FLATTER, ALONG WITH A MINIMUM TOP WIDTH OF 2 FEET AND A MINIMUM OF 6 INCHES OF FREEBOARD.
3. INSTALL THE CHANNEL BEHIND THE DIKE TO HAVE A POSITIVE GRADE TO A STABILIZED OUTLET. IF THE CHANNEL SLOPE IS LESS THAN OR EQUAL TO 2%, NO STABILIZATION IS REQUIRED. IF THE SLOPE IS GREATER THAN 2%, STABILIZE THE CHANNEL WITH TURF REINFORCEMENT MAT OR RECP.

CONSTRUCTION SPECIFICATIONS:

1. INSTALL TEMPORARY DIVERSION DIKES AS A FIRST STEP IN THE LAND-DISTURBING ACTIVITY AND MAKE THE DIVERSION DIKES FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE.
2. REMOVE AND PROPERLY DISPOSE OF ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTIONABLE MATERIAL.
3. ADEQUATELY COMPACT THE DIKE TO PREVENT FAILURE.
4. ENSURE THAT THE MINIMUM CONSTRUCTED CROSS-SECTION MEETS ALL DESIGN REQUIREMENTS.
5. ENSURE THAT THE TOP OF THE DIKE IS NOT LOWER AT ANY POINT THAN THE DESIGN ELEVATION PLUS THE SPECIFIED SETTLEMENT.
6. PROVIDE SUFFICIENT ROOM AROUND DIVERSIONS TO PERMIT MACHINE REGRADING AND CLEANOUT.
7. APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO THE DIKE IMMEDIATELY FOLLOWING ITS CONSTRUCTION.
8. LOCATE THE DIKE TO MINIMIZE DAMAGE BY CONSTRUCTION OPERATIONS AND TRAFFIC.

SOURCE: VA. DSWC PLATE. 3.09-1



NOTES:

1. ENSURE LEVEL GROUND UNDER DIFFUSER
2. PLACE DIFFUSER ATOP VDOT #2 STONE OR FLEXIBLE TRANSITION MAT OR APPROVED EQUAL

SIZING CHART

DRAINAGE AREA (AC)	LENGTH (FT)
0 - 1	20
1 - 2	40
2 - 3	60
3 - 4	80
4 - 5	100

SLOPE DRAIN DIFFUSER
TEMPORARY EROSION CONTROL MEASURE SDD

NO.	DATE	REVISION DESCRIPTION	CHK.	APP.

VIRGINIA

TRANSCONTINENTAL GAS PIPE LINE LLC
STANDARD ENVIRONMENTAL DETAIL

SDD SLOPE DRAIN DIFFUSER

Williams

Table C-ECM-16-1 Design Criteria Specifications

Flexible Transition Mat Application

Pipe Diameter (inches)	Discharge[a,b,c] (cfs)	Transition Mats		TRM
		Width (feet) x Length (feet)	Quantity	Width (feet) x Length (feet)
12	8	4 x 4	1	6 x 8
24	30	4 x 8	2	11 x 12
36	75	8 x 12	6	17 x 16
48	100	12 x 16	12	23 x 20

NOTES:

a. PROVIDE ALTERNATIVE METHODS OF OUTLET PROTECTION IF THE DESIGN EXCEEDS THAT FOR THE DIAMETER SHOWN
b. VERIFY DISCHARGE RATES BASED ON PIPE DIAMETERS AND PIPE SLOPED USING THE 10-YEAR STORM TO ENSURE THAT DISCHARGE QUANTITIES COINCIDE WITH THOSE IN THE TABLE.
c. DO NOT EXCEED THE MANUFACTURER'S SPECIFICATION FOR MAXIMUM DISCHARGE TO THE TRANSITION MAT REGARDLESS OF THE DISCHARGE SHOWN IN THE TABLE

CONSTRUCTION SPECIFICATIONS:

1. FLEXIBLE TRANSITION MAT IS TO BE HIGH-DENSITY POLYETHYLENE (HDPE), ULTRAVIOLET (UV) STABILIZED, PLASTIC APPROXIMATELY 0.5 INCH THICK THAT CONTAINS MULTIPLE VOIDS THAT ALLOW VEGETATION TO GROW THROUGH OR SMALL GRAVEL AND PEBBLES TO ACCUMULATE AND STABILIZE THE AREA.
2. CONTINUE SOIL COVER BEYOND THE OUTLET APRON AREA TO PROPERLY PROTECT THE DOWNSTREAM CHANNEL AND PREVENT HEAD CUTTING.
3. INSTALL A SOIL COVER (SEEDED TRM, SOD, OR BOTH) ACROSS THE FULL WIDTH OF CHANNEL, INCLUDING THE BOTTOM AND UP BOTH SIDE SLOPES.
4. INSTALL TRANSITION MATS AT A MAXIMUM OF 1 TO 3 INCHES BELOW THE FLOWLINE OF THE CULVERT OR CULVERT APRON. INSTALL SO THAT THERE ARE NO WATERFALL IMPACTS ONTO THE TRANSITION MATS.
5. INSTALL ANCHORS PER MANUFACTURER' S INSTALLATION GUIDELINES.

OPERATIONS AND MAINTENANCE CONSIDERATIONS

FAILURE OF A TRANSITION MAT HAS OCCURRED WHEN A RILL FORMS UNDER THE MAT. IF RILLS FORM UNDER THE MAT, REMOVE THE MAT, GRADE THE RILL, AND PROVIDE A HIGHER FORM OF PROTECTION. TRANSITION MATS ARE GENERALLY PERMANENT INSTALLATIONS, AND MAINTENANCE SHOULD NOT BE NECESSARY.

USED IN A TEMPORARY INSTALLATION, THE TRANSITION MATS AND TRMS CAN BE PICKED UP AND MOVED WHEN APPROPRIATE.

MOWING OVER A VEGETATED TRANSITION MAT IS ALLOWED; A MINIMUM HEIGHT OF 4 INCHES IS RECOMMENDED. MOWING IS NOT RECOMMENDED WHERE SOFT, SATURATED SOILS EXIST.

_____ P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

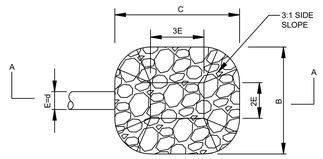
TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

Williams

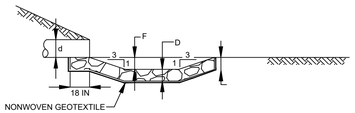
DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 078
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-078	OF 097



PLAN VIEW



SECTION A-A

CONSTRUCTION SPECIFICATIONS

1. USE VDOT CLASS A1 RIPRAP.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCHING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE.
3. PREPARE THE SUBGRADE FOR THE PLUNGE POOL TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. EMBED THE GEOTEXTILE A MINIMUM OF 4 INCHES AND EXTEND THE GEOTEXTILE A MINIMUM OF 6 INCHES BEYOND THE EDGE OF THE SCOUR HOLE.
5. STONE FOR THE PLUNGE POOL MAY BE PLACED BY EQUIPMENT. CONSTRUCT TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. DELIVER AND PLACE THE STONE FOR THE PLUNGE POOL IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE STONE FOR THE PLUNGE POOL IN A MANNER TO PREVENT DAMAGE TO THE GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
6. AT THE PLUNGE POOL OUTLET, PLACE THE STONE SO THAT IT MEETS THE EXISTING GRADE.
7. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

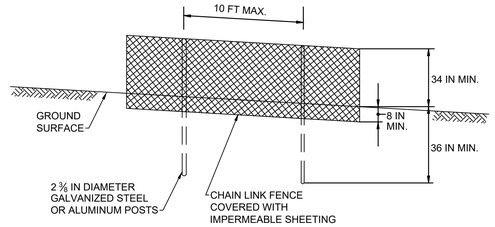
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

PLUNGE POOL DESIGN

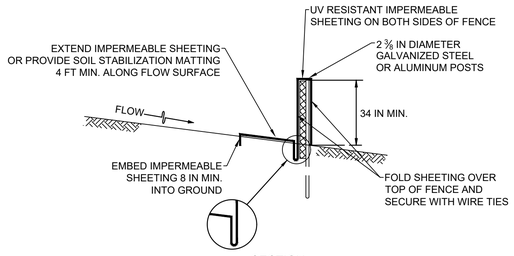
v1.1 SOURCE: MDE, 2011 C-ECM-15-6

PLUNGE POOL DIMENSIONS

E (IN)	C (FEET)	B (FEET)	F (FEET)	D (FEET)	D_{50} STONE SIZE (IN)
12	9	8	1	1.5	6
18	13.5	12	1.5	1.5	6
21	15.75	14	1.75	1.5	6
24	18	16	2	1.5	6
30	22.5	20	2.5	1.5	6



ELEVATION



SECTION

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

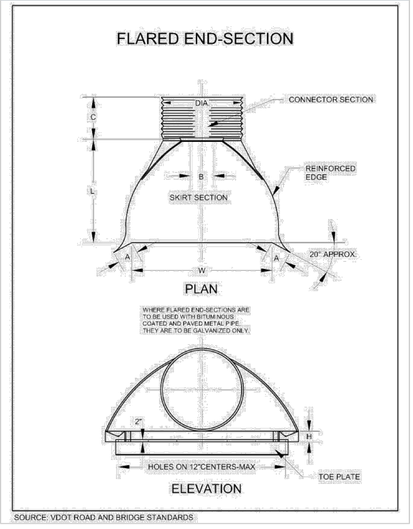
IMPERMEABLE DIVERSION FENCE

v1.1 C-ECM-02-1

OPERATIONS AND MAINTENANCE CONSIDERATIONS

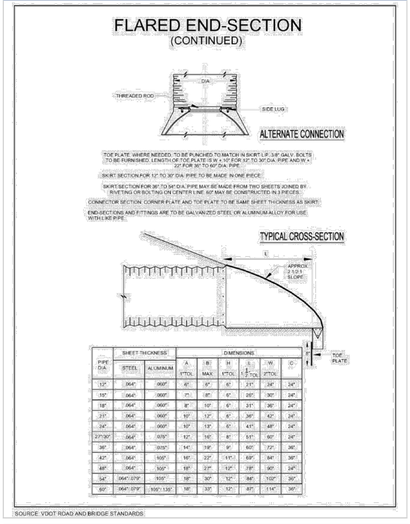
MAINTAIN THE FLOW SURFACE ALONG THE DIVERSION FENCE AND THE POINT OF DISCHARGE FREE OF EROSION AND SUBSIDENCE.
REMOVE ACCUMULATED SEDIMENT AND DEBRIS AND MAINTAIN POSITIVE DRAINAGE.
REPLACE IMPERMEABLE SHEETING IF TORN. REINSTALL THE FENCE IF UNDERMINING OCCURS.
IMPERMEABLE DIVERSION FENCE SHOULD BE REMOVED AND PROPERLY DISPOSED OF WHEN THE TRIBUTARY AREA IS PERMANENTLY STABILIZED.
FOLLOWING FENCE REMOVAL, PERMANENTLY STABILIZE ANY AREAS DISTURBED DURING REMOVAL.

Figure C-ECM-12-2 Flared End Section



SOURCE: VDOT ROAD AND BRIDGE STANDARDS

Figure C-ECM-12-3 Flared End Section 2



PIPE DIA.	SHEET THICKNESS: STEEL	SHEET THICKNESS: ALUMINUM	DIMENSIONS: A (FT/IN)	B MAX.	H (FT/IN)	L (FT/IN)	W (FT/IN)	C
12"	.064"	.060"	6"	6"	6"	2'1"	2'4"	24"
15"	.064"	.060"	7"	8"	6"	2'6"	2'8"	24"
18"	.064"	.060"	8"	10"	6"	3'1"	3'0"	24"
21"	.064"	.060"	10"	12"	6"	3'6"	3'3"	24"
24"	.064"	.060"	10"	13"	6"	4'1"	3'8"	24"
27"/30"	.064"	.075"	12"	15"	8"	5'1"	4'6"	24"
36"	.064"	.075"	14"	19"	9"	6'0"	7'3"	36"
42"	.064"	.105"	16"	22"	11"	6'8"	8'4"	36"
48"	.064"	.105"	18"	23"	12"	7'8"	9'0"	24"
54"	.064"/.079"	.105"	18"	26"	12"	8'6"	10'0"	36"
60"	.064"/.079"	.105"/.135"	18"	33"	12"	9'7"	11'4"	36"

SOURCE: VDOT ROAD AND BRIDGE STANDARDS

_____ P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041896
09/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

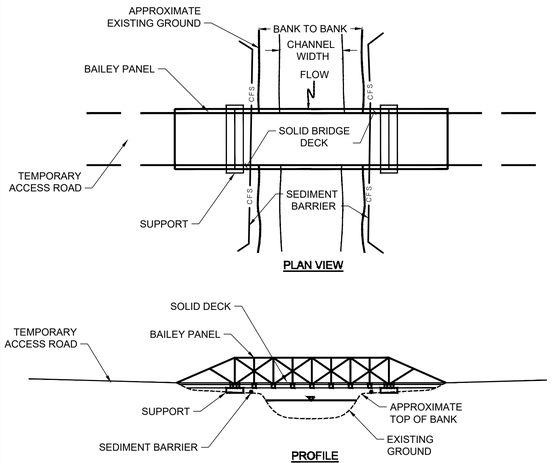
REVISIONS						
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

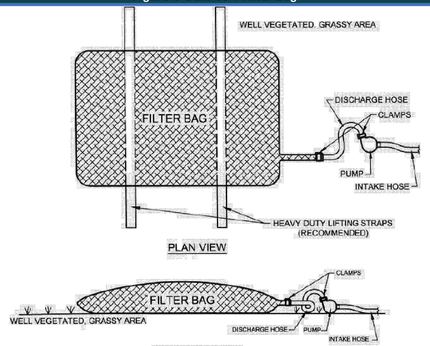
PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 079
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-079	OF 097



PORTABLE BRIDGE DETAIL

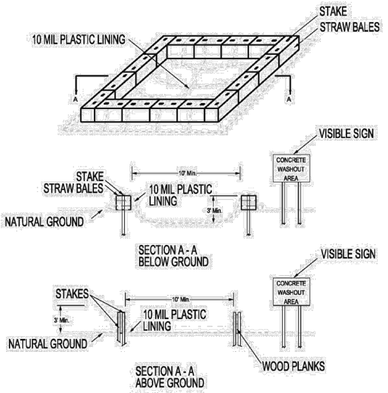
Figure C-SCM-10-4 Filter Bag



Source: PADEP 2012

Table C-SCM-10-3 Material Specifications for Pumped Water Filter Bag

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-4833	110 lb
Mullen Burst	ASTM D-3786	350 psi
UV Resistance	ASTM D-4355	70%
AOS % Retained	ASTM D-4751	80 Sieve



NOTE:

1. STAKE THE BALES USING TWO WOOD OR METAL STAKES PER BALE. PLACE THE PLASTIC LINING OVER THE INSIDE AREA AND THE TOP AND SIDE OF THE STRAW BALES. STAPLE THE LINING TO THE TOP OF THE STRAW BALES USING 2–INCH WIDE BY 4–INCH LONG BY 0.125–INCH DIAMETER STEEL WIRE STAPLES. USE TWO STAPLES PER STRAW BALE. THE WASHOUT PIT CAN BE CONSTRUCTED USING TWO STACKED BALES OR CAN BE PARTIALLY EXCAVATED TO REACH THE 3–FOOT DEPTH.
2. DERIVED FROM VDOT POLLUTION PREVENTION FIELD GUIDE.

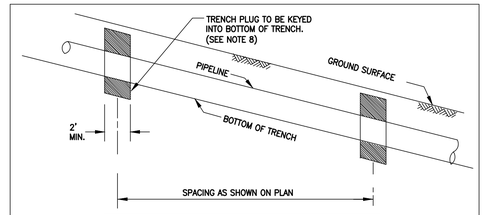
TYPICAL CONCRETE WASHOUT DETAIL

STRAW BALE/SILT FENCE PIT CONSTRUCTION SPECIFICATIONS:

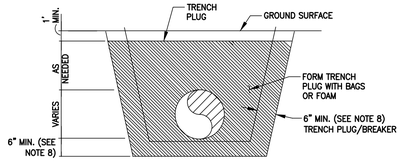
1. ENSURE THE PIT CONSISTS OF STRAW BALES, SILT FENCE, A STONE OUTLET (A COMBINATION OF VDOT CLASS AI RIPRAP AND VDOT #25 OR #26 AGGREGATE), AND A WET STORAGE PIT ORIENTED AS SHOWN ON FIGURE C–SCM–10–3. FOR THE STRAW BALE PIT, USE A FILTER FABRIC TO LINE THE FACE OF THE STRAW BALES THAT CONFORMS TO THE REQUIREMENT IDENTIFIED IN RIPRAP (BMP C–ECM–13).
2. IN CALCULATING THE CAPACITY, INCLUDE THE VOLUME AVAILABLE FROM THE FLOOR OF THE EXCAVATION TO THE CREST OF THE STONE WEIR. IN ANY CASE, ENSURE THE EXCAVATION IS A MINIMUM OF 3 FEET BELOW THE BASE OF THE PERIMETER MEASURES (STRAW BALES OR SILT FENCE).
3. INSTALL THE PERIMETER MEASURES AS PER THE GUIDELINES IN STRAW BALE BARRIER (C–PCM–02) AND SILT FENCE (C–PCM–04).
4. ONCE THE WATER LEVEL APPROACHES THE CREST OF THE STONE WEIR (EMERGENCY OVERFLOW), SHUT OFF THE PUMP WHILE THE STRUCTURE DRAINS DOWN TO THE ELEVATION OF THE WET STORAGE. THE WET STORAGE PIT MAY BE DEWATERED ONLY AFTER A MINIMUM OF 6 HOURS OF SEDIMENT SETTLING TIME. PUMP THIS EFFLUENT ACROSS A WELL–VEGETATED AREA OR THROUGH A SILT FENCE OR COMPOST FILTER SOCK BEFORE ALLOWING IT TO ENTER A WATERCOURSE.
5. ONCE THE WET STORAGE AREA BECOMES FILLED TO ONE HALF OF THE EXCAVATED DEPTH, REMOVE AND DISPOSE OF ACCUMULATED SEDIMENT. ONCE THE DEVICE HAS BEEN REMOVED, GROUND CONTOURS WILL BE RETURNED TO ORIGINAL CONDITION.

PUMPED WATER FILTER BAG CONSTRUCTION SPECIFICATIONS:

1. USE LOW–VOLUME FILTER BAGS MADE FROM NON–WOVEN MONOFILAMENT GEOTEXTILE MATERIAL SEWN WITH HIGH–STRENGTH, DOUBLE–STITCHED "J" TYPE SEAMS. USE FILTER BAGS CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
2. USE HIGH–VOLUME FILTER BAGS MADE FROM WOVEN MONOFILAMENT THAT MEET THE REQUIREMENTS INCLUDED IN TABLE C–SCM–10–3.
3. PROVIDE A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES. REPLACE FILTER BAGS WHEN THEY BECOME HALF FULL OF SEDIMENT. KEEP SPARE BAGS AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. PLACE BAGS ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.
4. LOCATE BAGS IN A WELL–VEGETATED (GRASSY) AREA AND DISCHARGE ONTO STABLE, EROSION–RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, PROVIDE A GEOTEXTILE UNDERLAYMENT AND FLOW PATH. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. DO NOT PLACE BAGS 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. NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. INSTALL SILT FENCE (BMP C–PCM–04) OR COMPOST FILTER SOCK (BMP C–PCM–05) BELOW BAGS LOCATED WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE A GRASSY AREA IS NOT AVAILABLE.



TRENCH PLUG TYPES	
PLUG DESCRIPTION	PLUG MATERIAL
SACK	1/2 CU. FT. SACKS OF WELL SIFTED SOIL OR SAND
FOAM	2–4 PCF URETHANE (FOAMED IN PLACE)



TRENCH PLUG NOTES:

1. INSTALL TRENCH PLUG AT THE BANKS OF ALL WATERBODIES AND AT THE BOUNDARIES OF ALL WETLAND CROSSINGS AND AS SHOWN ON PLANS AND/OR AS DIRECTED BY ENVIRONMENTAL INSPECTOR.
2. TRENCH PLUGS SHALL BE INSTALLED IMMEDIATELY AFTER TRENCH EXCAVATION.
3. TOP SOIL SHALL NOT BE USED IN TRENCH PLUGS.
4. TOP OF TRENCH PLUG TO TERMINATE 6–INCHES BELOW THE PROPOSED FINAL GRADE.
5. CONTRACTOR MAY SUBSTITUTE FOAM MATERIAL THAT HAS BEEN APPROVED BY THE ENGINEER AND OWNER.
6. TRENCH PLUGS SHALL BE LEFT IN PLACE WHEN TRENCH IS BACKFILLED.
7. TRENCH PLUGS SHALL BE KEYED AT LEAST 6" TO SIDES AND BOTTOM OF TRENCH.

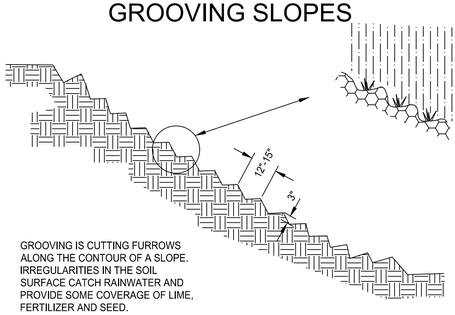
TEMPORARY AND PERMANENT EROSION CONTROL MEASURE (TP)

VIRGINIA

NO.	DATE	REVISION DESCRIPTION	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE LLC
STANDARD ENVIRONMENTAL DETAIL
(TP) TRENCH PLUG/BREAKER

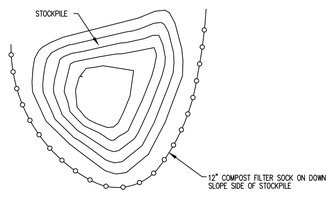
GROOVING SLOPES



GROOVING IS CUTTING FURROWS ALONG THE CONTOUR OF A SLOPE. IRREGULARITIES IN THE SOIL SURFACE CATCH RAINWATER AND PROVIDE SOME COVERAGE OF LIME, FERTILIZER AND SEED.

SOURCE: VA. DSWC

PLATE 3.29-2



NOTES:

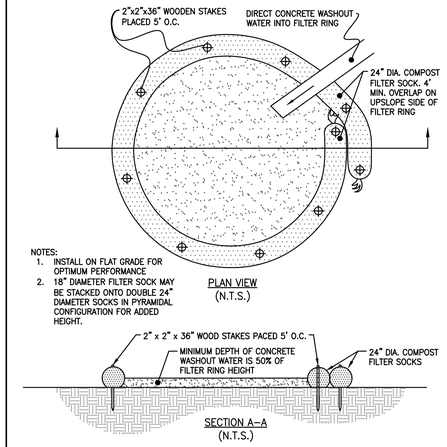
1. MAXIMUM STOCKPILE HEIGHT IS 35 FEET.
2. STOCKPILE SLOPES MUST BE NO STEEPER THAN 2H:1V.
3. STOCKPILE LOCATIONS SHOWN ON THE PLANS ARE ILLUSTRATIVE AND MAY VARY IN LOCATION AS CONSTRUCTION PROCEEDS.
4. STOCKPILE IS TO BE STABILIZED IN ACCORDANCE WITH TEMPORARY SEEDING SPECIFICATIONS AND MULCH IS TO BE MAINTAINED UNTIL THE STOCKPILE IS STABILIZED.
5. 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.

VIRGINIA

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

STANDARD ENVIRONMENTAL DETAIL

TYPICAL TOPSOIL STOCKPILE



NOTES:
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE
2. 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.

A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS.

TYPICAL COMPOST SOCK WASHOUT

P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041896
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

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

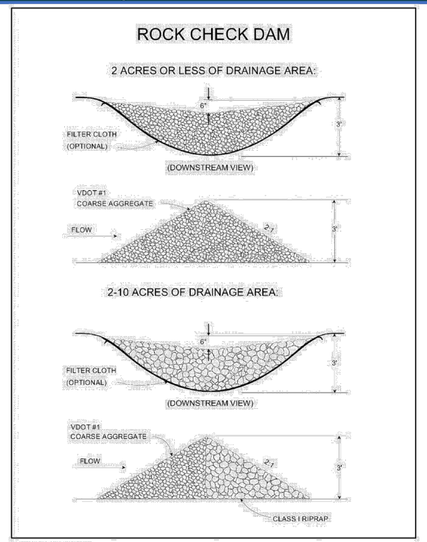
TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

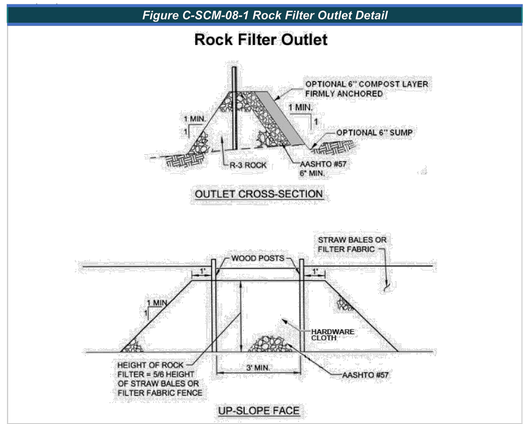
DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 080
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-080	OF 097

Figure C-SCM-07-1 Rock Check Dam



SOURCE: VA. DSWC

Figure C-SCM-08-1 Rock Filter Outlet Detail



NOTES:

1. CONSTRUCT THE ROCK FILTER OUTLET OF CLASS A1 RIPRAP WITH A 6–INCH–THICK LAYER OF VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) #3, #357, OR #5 COARSE AGGREGATE ON THE UPSLOPE FACE OF THE ROCK FILTER.
2. DO NOT ALLOW MORE THAN 0.25 ACRE OF SURFACE AREA TO DRAIN TO A ROCK FILTER OUTLET.
3. THE MINIMUM SIDE SLOPE OF THE ROCK FILTER IS 1H:1V.
4. THE MINIMUM TOP WIDTH OF THE ROCK FILTER IS 5 FEET WITH 1 FOOT EXTENDING BEYOND THE SILT FENCE OR STRAW BALE BARRIERS ON BOTH SIDES SUCH THAT A MINIMUM OF 3 FEET OF THE ROCK FILTER IS BETWEEN THE TWO SECTIONS OF SILT FENCE OR STRAW BALE BARRIERS.
5. THE MINIMUM TOP WIDTH IS 1 FOOT.
6. CONSTRUCT THE ROCK FILTER TO BE A MINIMUM OF FIVE SIXTHS THE HEIGHT OF THE SILT FENCE FILTER FABRIC OR STRAW BALE BARRIERS.
7. INSTALL AN OPTIONAL 6–INCH–DEEP SUMP ON THE UPSLOPE SIDE OF THE ROCK FILTER OUTLET TO PROVIDE ADDITIONAL SEDIMENT REMOVAL CAPACITY.

CONSTRUCTION SPECIFICATIONS:

1. WHERE A SILT FENCE HAS BEEN COMPROMISED OR A FAILURE HAS OCCURRED, CUT A 3–FOOT SECTION OUT OF THE SILT FENCE. INSTALL TWO NEW POSTS AT EACH END OF THE NEWLY CUT SILT FENCE AND ATTACH THE FILTER FABRIC TO THE NEWLY INSTALLED SUPPORT POSTS.
2. INSTALL THE RIPRAP PORTION OF THE ROCK FILTER OUTLET, AND THEN PLACE THE LAYER OF COARSE AGGREGATE ON THE UPSLOPE SIDE.

APPLICATION RATES

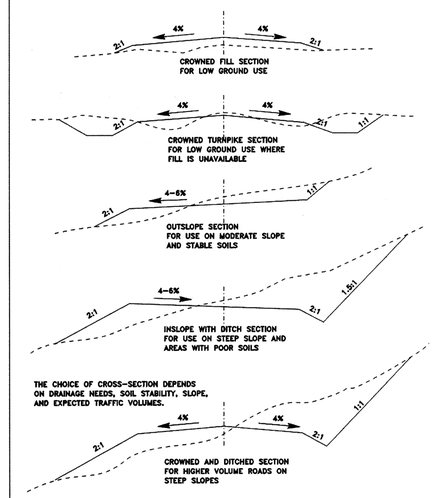
THESE APPLICATION RATES ARE FOR STANDARD CONDITIONS BASED OFF EARTHGUARD SPECIFICATIONS. IF ANOTHER PRODUCT SUCH AS FLEXTERRA IS USED, PLEASE REFER TO MANUFACTURER SPECIFICATIONS FOR RECOMMENDED APPLICATION RATES. DESIGNERS MAY WISH TO REDUCE RATES TO ENCOURAGE FASTER VEGETATION ESTABLISHMENT OR MAY NEED TO INCREASE APPLICATION RATES ON ROUGH SURFACES. CONSULT APPLICATION AND LOADING CHARTS TO DETERMINE NUMBER OF BAGS TO BE ADDED FOR DESIRED ARES AND APPLICATION RATE.

SLOPE GRADIENT / CONDITION	ENGLISH	SI
< 4H TO 1V	1,500 LB/AC	2,800 KG/HA
> 4H TO 1V AND < 3H TO 1V	1,800 LB/AC	3,400 KG/HA
> 3H TO 1V AND < 2H TO 1V	2,000 LB/AC	3,900 KG/HA
> 2H TO 1V AND < 1H TO 1V	2,500 LB/AC	4,500 KG/HA
> 1H TO 1V	3,000 LB/AC	5,100 KG/HA

HP-FGM EROSION CONTROL PRODUCT

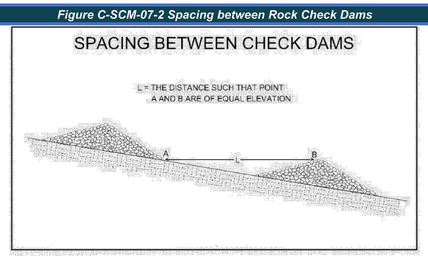
FIGURE 3.35.1

TYPES OF ROAD CROSS–SECTIONS



FROM: US FOREST SERVICE AND MICHIGAN DNR

Figure C-SCM-07-2 Spacing between Rock Check Dams



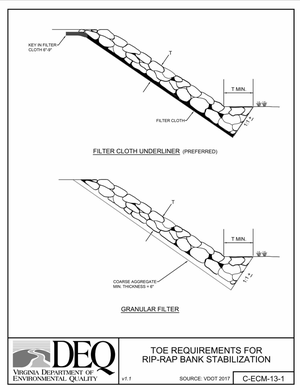
SOURCE: VA. DSWC

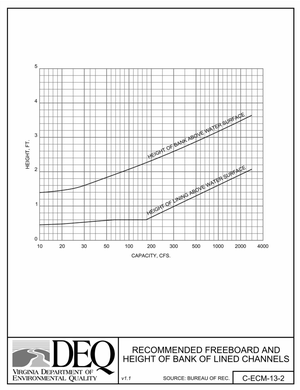
NOTES:

1. DESIGN THE MAXIMUM SPACING BETWEEN THE DAMS SO THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM (SEE FIGURE C–SCM–07–2). ADJUST AND COMPUTE SPACING BASED ON THE PROPOSED SLOPE OF THE CHANNEL/SWALE.
2. ENSURE THE MAXIMUM HEIGHT OF THE CHECK DAM IS 2 FEET AT THE CENTER OF THE CHANNEL/ SWALE. DESIGN THE CENTER OF THE CHECK DAM TO BE A MINIMUM OF 6 INCHES (0.5 FOOT) LOWER THAN THE OUTER EDGES AT NATURAL GROUND, PROVIDING A WEIR FOR OPEN FLOW OVER THE DAM.
3. IN THE DIRECTION OF THE FLOW, INSTALL THE SIDE SLOPES OF THE ROCKS IN THE ROCK CHECK DAM TO BE A MAXIMUM OF 2H:1V (SEE FIGURE C–SCM–07–1) TO PREVENT SCOURING OF THE MATERIAL AND MAXIMIZE THE EFFICIENCY OF THE CONTROL MEASURE.
4. A FILTER FABRIC MAY BE USED AS A SEPARATOR BETWEEN THE GRADED STONE AND THE SOIL BASE AND ABUTMENTS. THE FILTER FABRIC WILL PREVENT THE MIGRATION OF SOIL PARTICLES FROM THE SUBGRADE INTO THE GRADED STONE. SET THE FILTER FABRIC INTO THE SUBGRADE SOILS. PLACE THE FILTER FABRIC IMMEDIATELY ADJACENT TO THE SUBGRADE WITHOUT ANY VOIDS AND EXTEND 3 FEET BEYOND THE DOWNSTREAM TOE OF THE DAM TO PREVENT SCOUR.
5. INSTALL A ROCK CHECK DAM WITHIN THE ROADSIDE DITCH ON THE DOWNSLOPE SIDE OF THE LOD. PERIMETER CONTROLS (CFS) SHALL BE INSTALLED ON THE UPSLOPE (AWAY FROM THE ROAD) SIDE OF THE DRAINAGE DITCH.

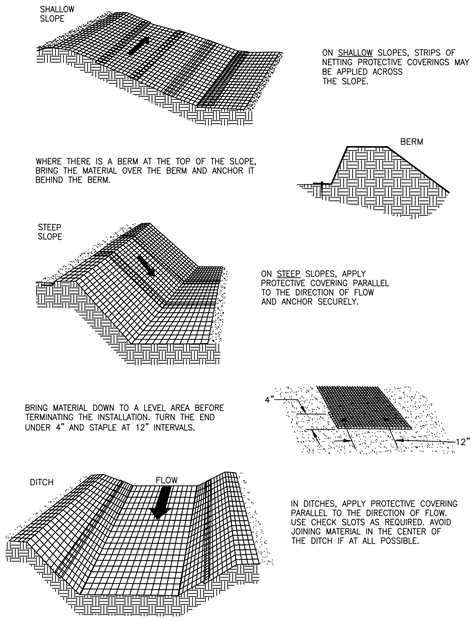
CONSTRUCTION SPECIFICATIONS:

1. FOR ADDED STABILITY, THE BASE OF THE CHECK DAM CAN BE KEYED INTO THE SOIL APPROXIMATELY 6 INCHES.
2. PLACE THE STONE ACCORDING TO THE CONFIGURATION SHOWN ON FIGURE C–SCM–07–1. HAND OR MECHANICAL PLACEMENT IS NECESSARY TO ACHIEVE COMPLETE COVERAGE OF THE CHANNEL OR SWALE AND TO ENSURE THAT THE CENTER OF THE DAM IS LOWER THAN THE EDGES.





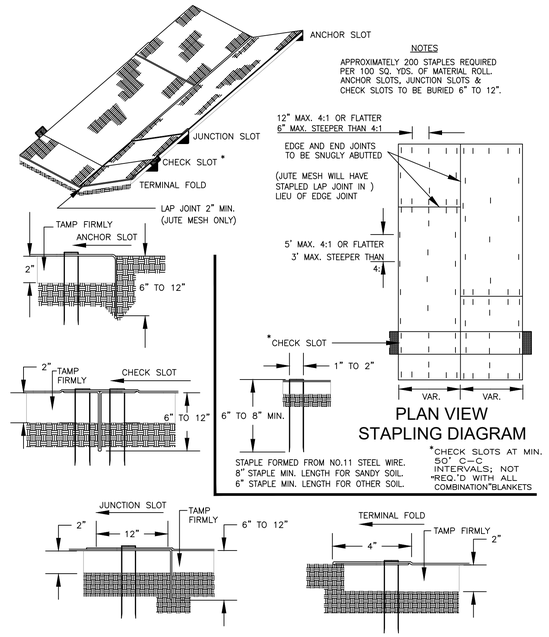
TYPICAL ORIENTATION OF TREATMENT - 1 (SOIL STABILIZATION BLANKET)



SOURCE: ADAPTED FROM LUDLOW PRODUCTS BROCHURE

PLATE: 3.36-1

TYPICAL TREATMENT - 1 (SOIL STABILIZATION BLANKET) INSTALLATION CRITERIA



SOURCE: VDOT ROAD AND BRIDGE STANDARDS

PLATE: 3.36-2

P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041896
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

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

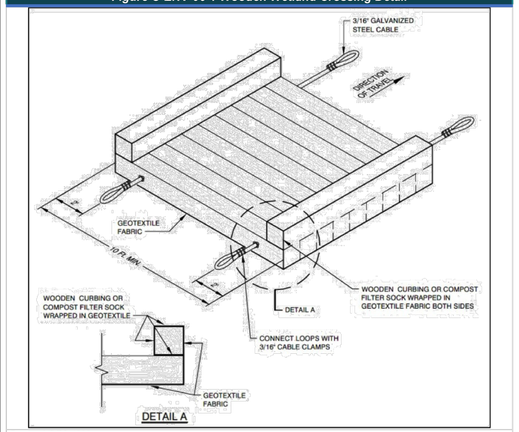
TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 081
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-081	OF 097

Figure C-ENV-06-1 Wooden Wetland Crossing Detail



Source: VDEQ 1992

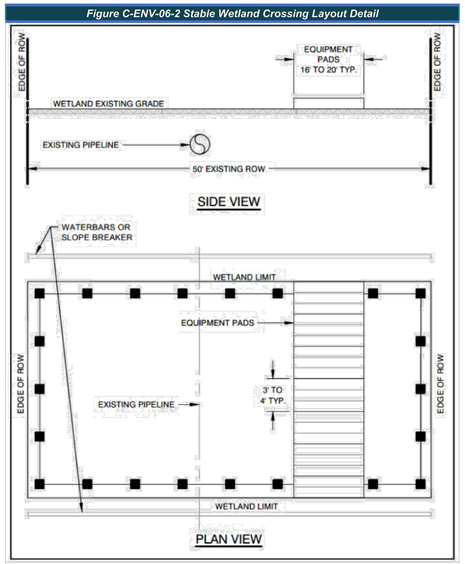
NOTES:

1. INSTALL A GEOTEXTILE UNDERLAYMENT UNDER A TEMPORARY PREFABRICATED WOOD MAT, CABLED TOGETHER WITH 0.1875–INCH GALVANIZED STEEL CABLE. INSTALL WOOD CURBING OR COMPOST FILTER SOCK ON EITHER SIDE OF THE WOOD MATS TO PREVENT SEDIMENT FROM ENTERING THE WETLAND FROM THE WOOD MAT.
2. OPERATE EQUIPMENT IN WETLANDS ON TEMPORARY PADS OR MATS. DO NOT USE TREE STUMPS, ROCK, BRUSH, OR SOIL IMPORTED FROM OUTSIDE THE WETLAND TO STABILIZE THE CONSTRUCTION WORK AREA OR AS EQUIPMENT PADS OR MATS IN WETLANDS.
3. REMOVE TEMPORARY PADS OR MATS BY BACKING OUT OF THE SITE, REMOVING THE PADS OR MATS ONE AT A TIME. IMMEDIATELY REGRADE ANY RUTTING OR SIGNIFICANT INDENTATIONS IDENTIFIED DURING PAD/MAT REMOVAL, TAKING CARE NOT TO COMPACT SOILS.
4. CLEAN PADS OR MATS BEFORE TRANSPORT TO ANOTHER WETLAND LOCATION AND BEFORE INSTALLATION IN THE WETLAND TO REMOVE SOIL AND ANY INVASIVE PLANT SPECIES SEED STOCK OR PLANT MATERIAL. CLEANING METHODS MAY INCLUDE BUT ARE NOT LIMITED TO SHAKING OR DROPPING MATS IN A CONTROLLED MANNER WITH A PIECE OF MACHINERY TO KNOCK OFF ATTACHED SOIL AND DEBRIS, SPRAYING WITH WATER OR AIR, AND SWEEPING.
5. REVEGETATE DISTURBED WETLAND AREAS IN ACCORDANCE WITH SEEDING, MULCHING, AND SOIL STABILIZATION (WETLANDS/STREAMS) (BMP C–ENV–15).

CONSTRUCTION SPECIFICATIONS:

1. INSTALL TIMBER MATS OR EQUIPMENT PADS THROUGH ENTIRE WETLAND AREA. EQUIPMENT NECESSARY FOR RIGHT–OF–WAY CLEARING MAY MAKE ONE PASS THROUGH THE WETLAND BEFORE PADS OR MATS ARE INSTALLED. INSTALL FILTER FABRIC UNDER TIMBER MATS IN ACCORDANCE WITH RIPRAP (BMP C–ECM–13).
2. CUT VEGETATION TO IMMEDIATELY ABOVE GROUND LEVEL, LEAVING THE EXISTING ROOT SYSTEMS IN PLACE, AND REMOVE THE CLEARED VEGETATION FROM THE WETLAND.
3. IF FLOWING OR EXCESS SURFACE WATER IS PRESENT IN THE WETLAND, REFER TO UTILITY STREAM CROSSING (BMP C–ENV–04) FOR TEMPORARY DIVERSION TECHNIQUES.
4. REMOVE TIMBER MATS OR EQUIPMENT PADS FROM WETLANDS UPON COMPLETION AND WHEN ACCESS IS NO LONGER REQUIRED.
5. RESTORE THE SURFACE TO PRE–CONSTRUCTION CONTOURS SUCH THAT DRAINAGE PATTERNS ARE NOT ALTERED.
6. REVEGETATE DISTURBED WETLAND AREAS.
7. ONCE REVEGETATION IS COMPLETED, REMOVE TEMPORARY PERIMETER CONTROL MEASURES AND REVEGETATE AREAS DISTURBED DURING REMOVAL OF THE TEMPORARY MEASURES.

Figure C-ENV-06-2 Stable Wetland Crossing Layout Detail



Source: VDEQ 1992

Eden Loop (VA)
Stream Crossing with Bridge Requiring Instream Support

Stream Name	Milepost	Width - 26' Offset from CL (TOB-TOB)	# of Supports
E2–L146–VA	1389.82	36.2	1
E2–L148–VA	1389.87	24.3	1
E1–L037–VA	1392.08	35	1
E1–L044–VA	1394.17	25.3	1
E1–L007–VA	1397.24	72.9	3
E2–L066–VA	1400.09	35.9	1
E1–L009–VA	1402.8	56.2	2
E2–L073–VA	1407.08	23.1	1
E1–L072–VA	1407.63	28.3	1
E1–L110–VA	1410.88	38.3	1
E1–L113–VA	1411.23	35.4	1
E1–L120–VA	1412.12	29.1	1
E1–L121–VA	1412.33	44.9	2

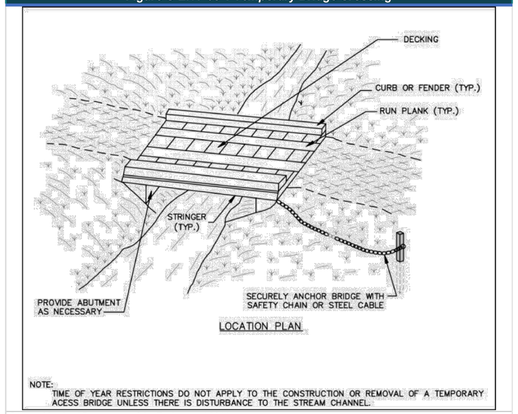
Eden Loop - Instream Crossing Duration - Virginia

Waterway ID	Waterway Name	Milepost	Crossing Length (Linear Ft.) [1]	Crossing Method	Anticipated Crossing Duration (hours) [2]	Justification for Exceeding Standard Crossing Window
E2-L126-VA	UNT to Trotters Creek	1391.01	8.5	Dam and Pump	168	The bore exit pit on the south side of Horseshoe Road will be immediately adjacent to E2-L126-VA. In order to minimize the potential for subsidence in the stream and flooding of the pit, Transco is proposing to cross the stream via dam and pump for a week. This will allow time for the bore pipe to be located in an adjacent receiving pit prior to initiating the stream crossing. Once located, the stream crossing dam and pump will be started, and the trench excavated to allow the bore pipe to be received past the stream. Once the product pipe is fully installed past the stream, the stream will be restored and dam and pump removed.
E1-L009-VA	White Oak Creek	1402.81	23.2	Dam and Pump	96	Due to the stream being within a large wetland complex, the stream and the wetlands will need to be crossed at the same time. The overall crossing length for the pipe segment is over 400-ft, which will require additional time to segregate wetland topsoil and excavate the over 400-ft trench length, install the pipe segment, install buoyancy controls, and backfill the trench to ultimately restore stream flow.
E1-L010-VA	UNT to White Oak Creek	1402.98	16.7	Dam and Pump	72	Due to the stream being within a large wetland complex, the stream and the wetland will need to be crossed at the same time. Additional time will be required to segregate the wetland topsoil, excavate the trench, lower in the pipe, and backfill the trench and complete the crossings.
E1-L014-VA	UNT to White Oak Creek	1404.16	17.4	Dam and Pump	96	Due to the stream being within a large wetland complex, the stream and the wetland will need to be crossed at the same time. The overall crossing length for the pipe segment is over 300-ft, which will require additional time to segregate wetland topsoil, excavate the trench, lower in the pipe, and backfill the trench and complete the crossings.
E1-L072-VA	White Oak Creek	1407.61	26.7	Dam and Pump	120	Due to the stream being pinched between a large, saturated wetland complex to the south and a steep hill to the north, the workspace available to store excavated trench and bellhole spoils is extremely limited. The excavated spoils will mostly have to be hauled out of the area, up the steep hill to the north and into an upland area more suitable for storing the materials. Once the pipe section is lowered in, these materials will need to be hauled back down to the stream to complete backfilling and stream restoration. These factors will require additional time to excavate the trench and bellholes for tie-ins, install the pipe segment, install buoyancy controls, complete tie-ins to the adjacent wetland crossing and backfill the trench to ultimately restore stream flow.
E1-L110-VA & E1-L112-VA	Cherrystone Creek & UNT to Cherrystone Creek	1410.88	47.4, 6.8	Dam and Pump	72	Due to crossing two streams simultaneously, additional time will be required to effectively dam and bypass the streams, excavate the trench, lower in the pipe, and backfill the trench and complete the crossings.
E1-L119-VA	UNT to Little Cherrystone Creek	1412.09	4	Dam and Pump	72	Due to the stream being adjacent to a large wetland complex, the stream and the wetland will need to be crossed at the same time. Additional time will be required to segregate the wetland topsoil, excavate the trench, lower in the pipe, and backfill the trench and complete the crossings.
E1-L122-VA	UNT to Little Cherrystone Creek	1412.35	4.8	Dam and Pump	48	Due to the stream being within a large wetland complex, the stream and the wetland will need to be crossed at the same time. Additional time will be required to segregate the wetland topsoil, excavate the trench, lower in the pipe, and backfill the trench and complete the crossings.

Notes

1. Measured from Ordinary High Water Mark
2. Crossing Window is designated as time within or below Ordinary High Watermark. Duration is determined by length of the crossing:
   a. For crossings less than 10 feet in length, the standard crossing window is 24 hours
   b. For crossings that are 10 -100 feet in length, the standard crossing window is 48 hours.
   c. Crossing not referenced in this table will meeting standard crossing windows.

Figure C-ENV-03-1 Temporary Bridge Crossing



Source: Maryland Department of the Environment 2011

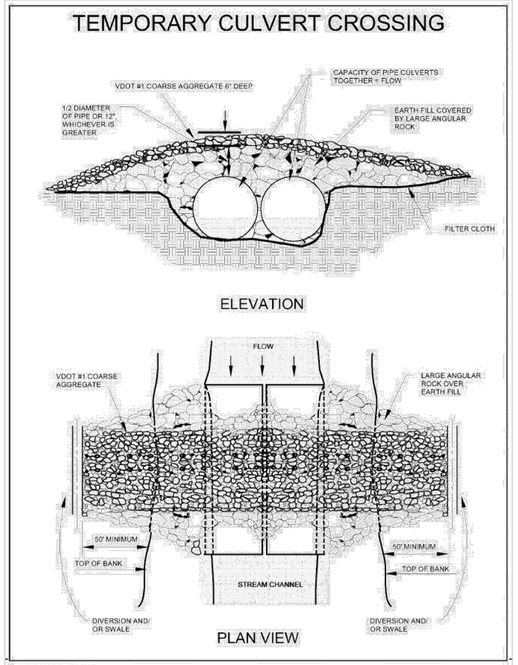
NOTES:

1. DESIGN THE TEMPORARY WATERWAY CROSSING TO BE AT RIGHT ANGLES TO THE STREAM. WHERE APPROACH CONDITIONS DICTATE, THE CROSSING MAY VARY 15 DEGREES FROM A LINE DRAWN PERPENDICULAR TO THE CENTER LINE OF THE STREAM AT THE INTENDED CROSSING LOCATION.
2. DESIGN THE CENTERLINES OF BOTH ROADWAY APPROACHES TO COINCIDE WITH THE CROSSING ALIGNMENT CENTERLINE FOR A MINIMUM DISTANCE OF 50 FEET FROM EACH BANK OF THE WATERWAY BEING CROSSED. THE 50–FOOT APPROACH DISTANCE SHOULD BE MEASURED FROM THE TOP OF THE WATERWAY BANK. IF PHYSICAL OR RIGHT–OF–WAY RESTRAINTS PRECLUDE THE 50 FEET MINIMUM, A SHORTER DISTANCE MAY BE EXPLORED. CONSULT WITH THE VESMP AUTHORITY FOR ASSISTANCE. LIMIT ALL FILL MATERIALS ASSOCIATED WITH THE ROADWAY APPROACH TO A MAXIMUM HEIGHT OF 2 FEET ABOVE THE EXISTING FLOODPLAIN ELEVATION.
3. FOR APPROACHES THAT SLOPE TO THE WATERWAY, CONSTRUCT A WATER DIVERTING STRUCTURE, SUCH AS A DIKE, WATERBAR, OR SWALE (ACROSS THE ROADWAY ON BOTH ROADWAY APPROACHES), 50 FEET (MAXIMUM) ON EITHER SIDE OF THE WATERWAY CROSSING.
4. EMPLOY APPROPRIATE PERIMETER CONTROLS, WHEN NECESSARY, ALONG BANKS OF STREAMS PARALLEL TO THE STREAMS.
5. DESIGN ALL CROSSINGS TO HAVE ONE TRAFFIC LANE WITH A MINIMUM WIDTH OF 12 FEET AND A MAXIMUM WIDTH OF 20 FEET.

CONSTRUCTION SPECIFICATIONS:

1. KEEP CLEARING AND EXCAVATION OF THE STREAM BED AND BANKS TO A MINIMUM.
2. CONSTRUCT THE TEMPORARY BRIDGE STRUCTURE AT OR ABOVE BANK ELEVATION TO PREVENT THE ENTRAPMENT OF FLOATING MATERIALS AND DEBRIS.
3. PLACE ABUTMENTS PARALLEL TO AND ON STABLE BANKS.
4. CONSTRUCT BRIDGES TO SPAN THE ENTIRE CHANNEL. IF THE CHANNEL WIDTH EXCEEDS 8 FEET (AS MEASURED FROM TOP–OF–BANK TO TOP–OF–BANK), THEN A FOOTING, PIER, OR BRIDGE SUPPORT MAY BE CONSTRUCTED WITHIN THE WATERWAY. ONE ADDITIONAL FOOTING, PIER, OR BRIDGE SUPPORT WILL BE PERMITTED FOR EACH ADDITIONAL 8–FOOT WIDTH OF THE CHANNEL. DO NOT CONSTRUCT A FOOTING, PIER, OR BRIDGE SUPPORT WITHIN THE CHANNEL FOR WATERWAYS LESS THAN 8 FEET WIDE.
5. CONSTRUCT STRINGERS USING LOGS, SAWN TIMBER, PRE–STRESSED CONCRETE BEAMS, METAL BEAMS, OR OTHER APPROVED MATERIALS.
6. ENSURE DECKING MATERIALS ARE OF SUFFICIENT STRENGTH TO SUPPORT THE ANTICIPATED LOAD. PLACE ALL DECKING MEMBERS PERPENDICULAR TO THE STRINGERS, BUTTED TIGHTLY, AND SECURELY FASTENED TO THE STRINGERS. CONSTRUCT DECKING MATERIALS TO BE BUTTED TIGHTLY TO PREVENT ANY SOIL MATERIAL TRACKED ONTO THE BRIDGE FROM FALLING INTO THE WATERWAY BELOW.
7. SECURELY FASTEN RUN PLANKING (OPTIONAL) TO THE LENGTH OF THE SPAN. PROVIDE ONE RUN PLANK FOR EACH TRACK OF THE EQUIPMENT WHEELS. ALTHOUGH RUN PLANKS ARE OPTIONAL, THEY MAY BE NECESSARY TO PROPERLY DISTRIBUTE LOADS.
8. INSTALL CURBS OR FENDERS ALONG THE OUTER SIDES OF THE DECK. CURBS OR FENDERS ARE AN OPTION THAT WILL PROVIDE ADDITIONAL SAFETY.
9. SECURELY ANCHOR BRIDGES AT ONLY ONE END USING STEEL CABLE OR CHAIN. ANCHORING AT ONLY ONE END WILL PREVENT CHANNEL OBSTRUCTION IF FLOODWATERS FLOAT THE BRIDGE. ACCEPTABLE ANCHORS ARE LARGE TREES, LARGE BOULDERS, OR DRIVEN STEEL ANCHORS. ENSURE ANCHORING IS SUFFICIENT TO PREVENT THE BRIDGE FROM FLOATING DOWNSTREAM AND POSSIBLY CAUSING AN OBSTRUCTION TO THE FLOW.
10. STABILIZE ALL AREAS DISTURBED DURING INSTALLATION WITHIN 7 CALENDAR DAYS OF THAT DISTURBANCE IN ACCORDANCE WITH MINIMUM STANDARD #1.
11. WHEN THE TEMPORARY BRIDGE IS NO LONGER NEEDED, IMMEDIATELY REMOVE ALL STRUCTURES INCLUDING ABUTMENTS AND OTHER BRIDGING MATERIALS. CONSIDER THE NEED FOR INSPECTIONS AND REPAIRS PRIOR TO PERMIT TERMINATION BEFORE THE CROSSING IS REMOVED.
12. TO ACHIEVE FINAL CLEANUP, REMOVE THE TEMPORARY BRIDGE FROM THE WATERWAY. PROTECT THE BANKS FROM EROSION, AND REMOVE ALL CONSTRUCTION MATERIALS. STORE ALL REMOVED MATERIALS OUTSIDE THE FLOODPLAIN OF THE STREAM. REMOVE THE BRIDGE AND CLEAN UP THE AREA WITHOUT CONSTRUCTION EQUIPMENT WORKING IN THE WATERWAY CHANNEL.

Figure C-ENV-03-2 Temporary Culvert Crossing



SOURCE: VA. DSWC

NOTES:

1. WHERE CULVERTS ARE INSTALLED, USE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) #1 COARSE AGGREGATE OR LARGER TO FORM THE CROSSING. ENSURE THE DEPTH OF STONE COVER OVER THE CULVERT IS EQUAL TO ONE HALF THE DIAMETER OF THE CULVERT OR 12 INCHES, WHICHEVER IS GREATER. TO PROTECT THE SIDES OF THE STONE FROM EROSION, DESIGN AND USE THE RIPRAP IN ACCORDANCE WITH RIPRAP (BMP C–ECM–13) (SEE FIGURE C–ENV–03–2).
2. MULTIPLE CULVERTS MAY BE USED IN PLACE OF ONE LARGE CULVERT IF THEY HAVE THE EQUIVALENT CAPACITY OF THE LARGER ONE. DO NOT USE CULVERTS LESS THAN 18 INCHES IN DIAMETER.
3. ENSURE THE LENGTH OF THE CULVERT IS ADEQUATE TO EXTEND THE FULL WIDTH OF THE CROSSING INCLUDING SIDESLOPES.
4. DESIGN THE SLOPE OF THE CULVERT TO BE AT LEAST 0.25 INCH PER FOOT (4 PERCENT).
5. WHERE CONDITIONS ALLOW, INSTALL THE TEMPORARY WATERWAY CROSSING AT RIGHT ANGLES TO THE STREAM. WHERE APPROACH CONDITIONS DICTATE, THE CROSSING MAY VARY 15 DEGREES FROM A LINE DRAWN PERPENDICULAR TO THE CENTERLINE OF THE STREAM AT THE INTENDED CROSSING LOCATION.
6. DESIGN THE CENTERLINES OF BOTH ROADWAY APPROACHES TO COINCIDE WITH THE CROSSING ALIGNMENT CENTERLINE FOR A MINIMUM DISTANCE OF 50 FEET FROM EACH BANK OF THE WATERWAY BEING CROSSED. IF PHYSICAL OR RIGHT–OF–WAY RESTRAINTS PRECLUDE THE 50–FOOT MINIMUM, A SHORTER DISTANCE MAY BE PROVIDED. LIMIT ALL FILL MATERIALS ASSOCIATED WITH THE ROADWAY APPROACH TO A MAXIMUM HEIGHT OF 2 FEET ABOVE THE EXISTING FLOODPLAIN ELEVATION.
7. DESIGN THE APPROACHES TO THE STRUCTURE TO CONSIST OF STONE PADS MEETING THE FOLLOWING SPECIFICATIONS:
   7.1. STONE: VDOT #1
   7.2. MINIMUM THICKNESS: 6 INCHES
   7.3. MINIMUM WIDTH: EQUAL TO THE WIDTH OF THE STRUCTURE
8. CONSTRUCT A WATER DIVERTING STRUCTURE, SUCH AS A SWALE (ACROSS THE ROADWAY ON BOTH ROADWAY APPROACHES), 50 FEET (MAXIMUM) ON EITHER SIDE OF THE WATERWAY CROSSING. THE WATER DIVERTING STRUCTURE WILL PREVENT ROADWAY SURFACE RUNOFF FROM DIRECTLY ENTERING THE WATERWAY. THE 50–FOOT DISTANCE IS MEASURED FROM THE TOP OF THE WATERWAY BANK.

CONSTRUCTION SPECIFICATIONS:

1. KEEP CLEARING AND EXCAVATION OF THE STREAM BED AND BANKS TO A MINIMUM.
2. INSTALL THE INVERT ELEVATION OF THE CULVERT ON THE NATURAL STREAMBED GRADE TO MINIMIZE INTERFERENCE WITH FISH MIGRATION.
3. PLACE FILTER FABRIC ON THE STREAMBED AND STREAMBANKS BEFORE PLACEMENT OF THE PIPE CULVERT(S) AND AGGREGATE. ENSURE THE FILTER FABRIC COVERS THE STREAMBED AND EXTEND A MINIMUM OF 6 INCHES AND A MAXIMUM OF 1 FOOT BEYOND THE END OF THE CULVERT AND BEDDING MATERIAL. FILTER FABRIC REDUCES SETTLEMENT AND IMPROVES CROSSING STABILITY. SEE RIPRAP (BMP C–ECM–13) FOR REQUIRED PHYSICAL QUALITIES OF THE FILTER FABRIC.
4. EXTEND THE CULVERT(S) A MINIMUM OF 1 FOOT BEYOND THE UPSTREAM AND DOWNSTREAM TOES OF THE AGGREGATE PLACED AROUND THE CULVERT. ENSURE THE CULVERT LENGTH DOES NOT EXCEED 40 FEET.
5. COVER THE CULVERT(S) WITH A MINIMUM OF 1 FOOT OF AGGREGATE. IF MULTIPLE CULVERTS ARE USED, SEPARATE THE CULVERTS BY AT LEAST 12 INCHES OF COMPACTED AGGREGATE FILL. AT A MINIMUM, ENSURE THE BEDDING AND FILL MATERIAL USED IN THE CONSTRUCTION OF THE TEMPORARY ACCESS CULVERT CROSSINGS CONFORMS WITH THE AGGREGATE REQUIREMENTS CITED IN SECTION 5.0 DESIGN CRITERIA.
6. WHEN THE CROSSING HAS SERVED ITS PURPOSE, REMOVE ALL STRUCTURES INCLUDING CULVERTS, BEDDING, AND FILTER FABRIC MATERIALS. REMOVE THE STRUCTURE AND CLEAN UP THE AREA WITHOUT CONSTRUCTION EQUIPMENT WORKING IN THE WATERWAY CHANNEL. CONSIDER THE NEED FOR INSPECTIONS AND REPAIRS PRIOR TO PERMIT TERMINATION BEFORE THE CROSSING IS REMOVED
7. UPON REMOVAL OF THE STRUCTURE, IMMEDIATELY SHAPE THE STREAM TO ITS ORIGINAL CROSS–SECTION AND PROPERLY STABILIZE.

_____ P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C MURPHY
Lic. No. 041898
06/06/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

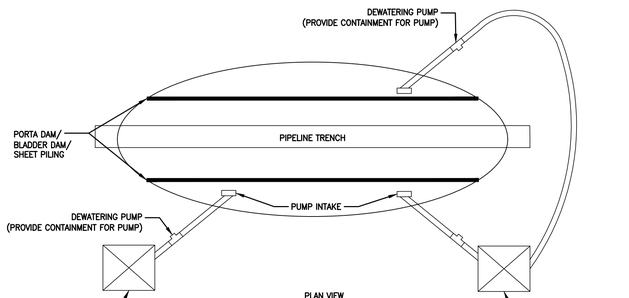
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY:RCM	DATE: 5-30-25	DRAWING NUMBER: VA-EDEN-ES-082	SHEET 082 OF 097
WO: C1009554	RID: 500		



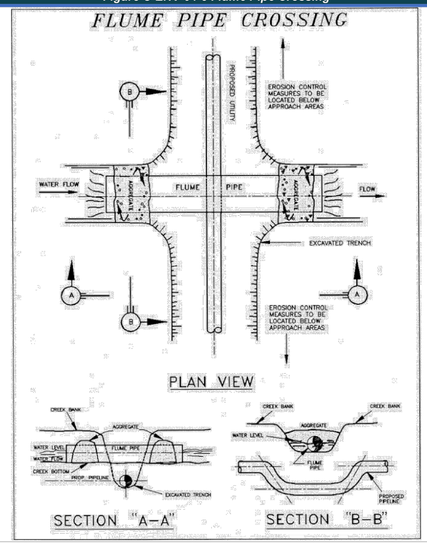
PLAN VIEW

POND CROSSING
MP 1404.75

NOTES:

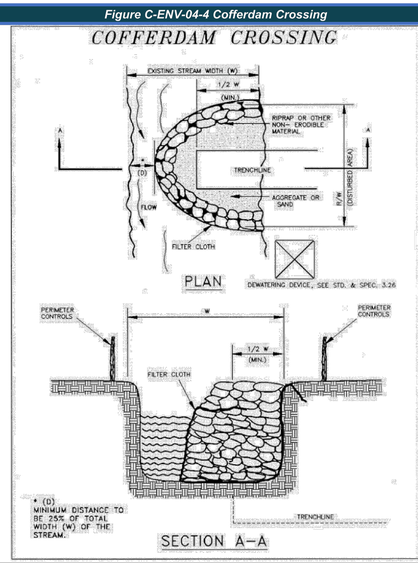
1. TRENCH BREAKER SHALL BE INSTALLED WITHIN THE TRENCH ON BOTH SIDES OF THE WATERBODY CHANNEL.
2. WATER ACCUMULATING WITHIN THE WORK AREA SHALL BE PUMPED TO A PUMPED WATER FILTER BAG OR SEDIMENT TRAP PRIOR TO DISCHARGING INTO ANY SURFACE WATER.
3. HAZARDOUS OR POLLUTANT MATERIAL STORAGE AREAS SHALL BE LOCATED AT LEAST 100 FEET BACK FROM THE TOP OF WATERBODY BANK.
4. ALL EXCESS EXCAVATED MATERIAL SHALL BE IMMEDIATELY REMOVED FROM THE WATERBODY CROSSING AREA.
5. ALL DISTURBED AREAS WITHIN 50 FEET OF TOP-OF-BANK SHALL BE BLANKETED OR MATTED WITHIN 24 HOURS OF INITIAL DISTURBANCE FOR MINOR WATERBODIES OR 48 HOURS OF INITIAL DISTURBANCE FOR INTERMEDIATE WATERBODIES UNLESS OTHERWISE AUTHORIZED.
6. APPROPRIATE WATERBODY BANK PROTECTION SHALL BE PROVIDED WITHIN THE CHANNEL.
7. THE WATERBODY CROSSING WILL GENERALLY BE COMPLETED IN 2 STAGES. THE DETAIL DEPICTS STAGE 1. STAGE 2 WILL GENERALLY BE COMPLETED USING THE SAME CONFIGURATION FROM THE OPPOSITE BANK.

Figure C-ENV-04-3 Flume Pipe Crossing



Source: Va. DSWC

Figure C-ENV-04-4 Cofferdam Crossing



Source: Va. DSWC

NOTES:

1. IMPLEMENTATION OF THE DAM-AND-PUMP CROSSING METHOD MUST MEET THE FOLLOWING PERFORMANCE CRITERIA:
   A. USE SUFFICIENT PUMPS, INCLUDING ON-SITE BACKUP PUMPS, TO MAINTAIN DOWNSTREAM FLOWS.
   B. CONSTRUCT DAMS WITH MATERIALS THAT PREVENT SEDIMENT AND OTHER POLLUTANTS FROM ENTERING THE WATERBODY (E.G., SANDBAGS, STEEL PLATES, OR BLADDER DAMS).
   C. SCREEN PUMP INTAKES;
   D. PREVENT STREAM BED SCOUR AT PUMP DISCHARGE.
   E. MONITOR THE DAM AND PUMPS TO ENSURE PROPER OPERATION THROUGHOUT THE WATERBODY CROSSING.
2. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED DAILY AND REPAIRED IF NECESSARY.
3. CHEMICALS, FUELS AND LUBRICATING OILS SHALL NOT BE STORED AND EQUIPMENT SHALL NOT BE REFUELED WITHIN 100 FEET OF THE WATERBODY.
4. CONTRACTOR SHALL POSTPONE GRADING OF RIGHT-OF-WAY ADJACENT TO WATERBODY UNTIL STAGING AREA IS PREPARED AND WORK IN THE WATERBODY IS READY TO COMMENCE.
5. TRENCH PLUGS SHALL BE INSTALLED WITHIN THE TRENCH ON BOTH SIDES OF THE STREAM CHANNEL.
6. USE SUFFICIENT PUMPS, INCLUDING ON-SITE BACKUP PUMPS, TO MAINTAIN DOWNSTREAM FLOWS.
7. CONSTRUCT DAMS WITH MATERIALS THAT PREVENT SEDIMENT AND OTHER POLLUTANTS FROM ENTERING THE WATERBODY(E.G. SANDBAGS, STEEL PLATES, BLADDER DAMS, OR EQUIVALENT).
8. SCREEN PUMP INTAKES AND MONITOR THE PUMP DISCHARGE TO PREVENT STREAM BED SCOUR
9. MONITOR THE DAM AND PUMPS TO ENSURE PROPER OPERATION THROUGHOUT THE WATERBODY CROSSING.
10. SEPARATE SOIL STOCKPILES ARE TO BE PROVIDED FOR WETLAND TOPSOIL AND STREAM SUBSTRATE.
11. SECONDARY CONTAINMENT SHALL BE PROVIDED FOR ANY PUMPS UTILIZED FOR THE CROSSING.
12. CONTRACTOR SHALL POSTPONE GRADING OF THE LIMITS OF DISTURBANCE ADJACENT TO THE WATERBODY AND WITHIN THE WATERBODY UNTIL ALL MATERIALS ARE PREPARED AND ON SITE TO FACILITATE THE CROSSING.
13. THE PROVIDED INSTREAM CROSSING DURATION TABLE OUTLINES STREAM CROSSINGS ASSOCIATED WITH THE PROJECT AND SPECIFIES CERTAIN CROSSINGS WHERE DITCHING OR INSTREAM DISTURBANCE IS EXPECTED TO EXCEED THE STANDARD 24 OR 48 HOUR TIMEFRAMES. APPROVAL OF THIS PERMIT INCLUDES THE AUTHORIZATION TO EXCEED THE 24-48 HOUR TIMEFRAME WHERE SPECIFIED.
14. TRENCH DEWATERING HOSE DISCHARGE SHOULD BE DEWATERED THROUGH USE OF A SILT BAG OR DEWATER STRUCTURE AS DESIGNATED BY THE ENVIRONMENTAL INSPECTOR.
15. TEMPORARY STREAM CROSSINGS ASSOCIATED WITH THE DPX CROSSING SHOULD BE LOCATED WITHIN THE LIMITS OF DISTURBANCE.

DAM AND PUMP CROSSING

TEMPORARY EROSION CONTROL MEASURE (DPX)

VIRGINIA

NO.	DATE	REVISION DESCRIPTION	CHK	APP

TRANSCONTINENTAL GAS PIPE LINE LLC
STANDARD ENVIRONMENTAL DETAIL

(DPX) DAM AND PUMP CROSSING

Williams

SHEET 1

DIVERSION CHANNEL CROSSING CONSTRUCTION SPECIFICATIONS:

DIVERSION CHANNEL CROSSING IS THE PREFERRED METHOD IF CONSTRUCTION WILL REMAIN IN THE AREA OF STREAM FOR AN EXTENDED PERIOD (LONGER THAN 72 HOURS) AND SITE CONDITIONS (SUCH AS WIDTH OF STREAM) MAKE DIVERSION PRACTICAL.

1. ENSURE THE DIVERSION CHANNEL CROSSING IS OPERATIONAL BEFORE WORKING IN THE STREAM (CONSTRUCTION WILL BE PERFORMED "IN THE DRY" WHEN NO STREAM FLOW IS PRESENT).
2. CONSTRUCT THE TEMPORARY DIVERSION CHANNEL TO HAVE A MINIMUM BOTTOM WIDTH OF 6 FEET OR EQUAL TO BOTTOM WIDTH OF EXISTING STREAMBED, WHICHEVER IS LESS. REFER TO FIGURE C-ENV-04-1 AND FIGURE C-ENV-04-2.
3. CONSTRUCT THE TEMPORARY DIVERSION CHANNEL WITH A MAXIMUM SIDESLOPE STEEPNESS OF 2H:1V. CONSTRUCT THE DEPTH AND GRADE OF THE TEMPORARY DIVERSION CHANNEL TO BE SUFFICIENT TO ENSURE CONTINUOUS FLOW OF WATER IN THE DIVERSION. HOWEVER, THE DEPTH AND GRADE MAY VARY DEPENDENT ON SITE CONDITIONS.
4. THERE ARE THREE TYPES OF DIVERSION CHANNEL LININGS THAT CAN BE USED BASED ON EXPECTED VELOCITY OF BANK FULL FLOW. REFER TO FIGURE C-ENV-04-2 AND TABLE C-ENV-04-1.
5. TYPE A STREAM DIVERSIONS MAY BE SEEDED WITH A STANDARD SEED MIX FOR THE TYPE OF SOILS ENCOUNTERED AND THE TIME OF YEAR IN WHICH SEED IS SOWN. ACHIEVE AN AVERAGE GROWTH OF 2 INCHES THROUGHOUT THE DIVERSION WITH AN 85% COVER BEFORE WATER IS TURNED THROUGH IT.
6. SECURE STREAM DIVERSION LINERS AT THE UPSTREAM AND DOWNSTREAM SIDES WITH NON-ERODIBLE WEIGHTS SUCH AS RIPRAP. ENSURE THESE WEIGHTS ALLOW NORMAL FLOW OF THE STREAM. DO NOT MIX SOIL IN WITH STREAM DIVERSION WEIGHTS. WEIGHTS MAY ALSO BE NEEDED ALONG THE STREAM DIVERSION'S LENGTH TO SECURE THE LINER.
7. OVERLAP STREAM DIVERSION LINERS WHEN A SINGLE OR CONTINUOUS LINER IS NOT AVAILABLE OR IS IMPRACTICAL. INSTALL OVERLAPS SO THAT CONTINUOUS FLOW OF THE STREAM IS MAINTAINED AND AN UPSTREAM SECTION OVERLAPS A DOWNSTREAM SECTION BY A MINIMUM OF 18 INCHES. MAKE OVERLAPS ALONG THE CROSS-SECTION SO THAT A LINER IS PLACED IN THE STEAM DIVERSION BOTTOM FIRST AND ADDITIONAL PIECES OF LINER ON THE SLOPES OVERLAP THE BOTTOM PIECE BY A MINIMUM OF 18 INCHES.
8. ENTRENCH STREAM DIVERSION LINERS AT THE TOPS OF THE DIVERSION SLOPES (SLOPE BREAKS) ALONG WITH A LINE OF SILT FENCE. SILT FENCE MAY BE EXCLUDED IF THE DIVERSION LINER IS EXTENDED TO SUCH A POINT THAT SILTATION OF THE STREAM WILL NOT OCCUR. IF SILT FENCE IS EXCLUDED, SECURE THE DIVERSION LINER. EXTEND LINERS FROM SLOPE BREAK TO SLOPE BREAK AS SHOWN ON FIGURE C-ENV-04-2.
9. USE STAPLES EMPLOYED IN SECURING SOIL STABILIZATION BLANKETS AND MATTING (BMP C-SSM-05) OR NON-ERODIBLE WEIGHTS (RIPRAP) AS NECESSARY TO ANCHOR STREAM DIVERSION LINERS TO THE SIDESLOPES OF THE DIVERSION. DO NOT USE WOODEN STAKES ON THE DIVERSION'S BOTTOM OR SIDE SLOPES.
10. USE NON-ERODIBLE MATERIALS, SUCH AS RIPRAP, JERSEY BARRIERS, SANDBAGS, PLYWOOD, OR SHEET PILING, AS FLOW BARRIERS TO DIVERT THE STREAM AWAY FROM ITS ORIGINAL CHANNEL AND PREVENT OR REDUCE WATER BACKUP INTO A CONSTRUCTION AREA.
11. REMOVE THE DOWNSTREAM FLOW BARRIER BEFORE THE UPSTREAM BARRIER WHEN OPENING A STREAM DIVERSION FOR THE TRANSPORT OF WATER.
12. REDIVERT STREAMS UPON COMPLETION OF THE UTILITY CROSSING FOR WHICH THE DIVERSION WAS BUILT. BEFORE DIVERSION, REMOVE ANY MATERIALS (FLOW BARRIER) USED TO PREVENT WATER BACKUP INTO THE DOWNSTREAM END OF THE ORIGINAL STREAMBED. DO NOT PLACE THIS MATERIAL IN THE DOWNSTREAM END OF THE DIVERSION UNTIL AFTER WATER HAS BEEN REDIVERTED TO THE ORIGINAL WATERWAY. REDIVERT THE STREAM BY REMOVING ALL THE MATERIALS DAMMING THE UPSTREAM END OF THE ORIGINAL STREAMBED AND THEN PLACING IT IN THE UPSTREAM END OF THE STREAM DIVERSION. SEAL OFF THE DIVERSION AT THE DOWNSTREAM END AND THEN BACKFILL.
13. ONCE STARTED, DO NOT DISCONTINUE ANY WORK TO RELOCATE A STREAM UNTIL IT IS COMPLETED.
14. REDIVERT THE STREAM ONLY AFTER BACKFILLING AND STABILIZATION OF ORIGINAL STREAMBED AND BANKS. ENSURE RE-STABILIZATION CONSISTS OF THE INSTALLATION OF NON-GROUTED RIPRAP ON ALL DISTURBED STREAMBANK AREAS (OR ON THE AREA 6 FEET ON BOTH SIDES OF THE CENTERLINE OF ITS UTILITY TRENCH, WHICHEVER IS GREATER) WITH SLOPES OF 3H:1V OR GREATER. REFER TO RIPRAP (BMP C-ECM-13) FOR INSTALLATION REQUIREMENTS. FOR SLOPES OF 3H:1V OR LESS, VEGETATIVE STABILIZATION MAY BE USED PENDING APPROVAL BY THE CERTIFIED PLAN REVIEWER. IMMEDIATELY STABILIZE THE STREAMBED, BANKS, AND THE APPROACH AREAS FOLLOWING THE ATTAINMENT OF FINAL GRADE.
15. PLACE ANY DEWATERING DISCHARGE FROM THIS OPERATION INTO AN APPROVED DEWATERING STRUCTURE (BMP C-SCM-10).

FLUME PIPE CROSSING CONSTRUCTION SPECIFICATIONS:

FLUME PIPE CROSSING IS TO BE USED WHEN IN-STREAM CONSTRUCTION WILL LAST LESS THAN 72 HOURS AND THE STREAM IS NARROW (LESS THAN 10 FEET WIDE), MAKING COFFERDAM CONSTRUCTION IMPRACTICAL.

1. MAKE THE FLUME PIPE CROSSING OPERATIONAL BEFORE THE START OF CONSTRUCTION IN THE STREAM.
2. ENSURE THE MATERIALS USED (CULVERT[S], STONE, AND FILTER FABRIC) MEET THE PHYSICAL CONSTRAINTS OF THOSE USED IN TEMPORARY VEHICULAR STREAM CROSSING (BMP C-ENV-03).
3. INSTALL A LARGE FLUME PIPE (OR CULVERT) OF AN ADEQUATE SIZE TO SUPPORT NORMAL WATER CHANNEL FLOW (SEE FIGURE C-ENV-04-3) IN THE STREAM BED ACROSS THE PROPOSED PIPELINE TRENCH CENTERLINE. PLACE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) #1 COARSE AGGREGATE (MINIMUM SIZE) OR RIPRAP CLOSE TO EACH END OF THE FLUME PIPE TO DAM OFF THE CREEK, FORCING THE WATER TO FLOW THROUGH THE FLUME PIPE (SEE FIGURE C-ENV-04-3).
4. PUMP THE ENTRAPPED WATER FROM THE CREEK WITHIN THE DAMMED-OFF AREA AND IN THE PROPOSED TRENCH CENTERLINE INTO AN APPROVED DEWATERING STRUCTURE (BMP C-SCM-10).
5. DIG THE TRENCH UNDER THE FLUME PIPE. INSTALL THE PIPE SECTIONS WITHIN THE TRENCH TO THE PROPER DEPTH UNDER THE FLUME PIPE. AFTER PIPE SECTIONS ARE INSTALLED, BACKFILL AND RESTABILIZE THE STREAM CHANNEL.
6. ENSURE RE-STABILIZATION CONSISTS OF THE INSTALLATION OF NON-GROUTED RIPRAP ON ALL DISTURBED STREAMBANK AREAS (OR ON THE AREA 6 FEET ON BOTH SIDES OF THE CENTERLINE OF THE UTILITY TRENCH, WHICHEVER IS GREATER) WITH SLOPES OF 3H:1V OR GREATER. REFER TO RIPRAP (BMP C-ECM-13) FOR INSTALLATION REQUIREMENTS. FOR SLOPES OF 3H:1V OR LESS, VEGETATIVE STABILIZATION MAY BE USED PENDING APPROVAL BY THE CERTIFIED PLAN REVIEWER. IMMEDIATELY STABILIZE THE STREAMBED, BANKS, AND THE APPROACH AREAS FOLLOWING THE ATTAINMENT OF FINAL GRADE.
7. AFTER COMPLETION OF BACKFILLING, RESTORATION OF STREAM BANKS, AND LEVELING OF STREAM BED, REMOVE THE FLUME PIPE. REMOVE OR SPREAD THE GRAVEL IN THE STREAM BED DEPENDING ON PERMIT REQUIREMENTS. DO NOT REMOVE SEDIMENT CONTROLS IN APPROACH AREAS UNTIL ALL CONSTRUCTION IS COMPLETED IN THE STREAM CROSSING AREA. RETURN ALL GROUND CONTOURS TO THEIR ORIGINAL CONDITION.

COFFERDAM UTILITY CROSSING CONSTRUCTION SPECIFICATIONS:

COFFERDAM UTILITY CROSSING IS TO BE USED WHEN STREAM DIVERSION IS NOT PRACTICAL AND THE STREAM IS WIDE ENOUGH (10 FEET OR WIDER) TO ACCOMMODATE COFFERDAM INSTALLATION.

1. PERFORM CONSTRUCTION IN LOW-FLOW PERIODS.
2. CONSTRUCT THE CROSSING IN A MANNER THAT WILL NOT PROHIBIT THE FLOW OF THE STREAM (SEE FIGURE C-ENV-04-4).
3. AS WITH ALL UTILITY LINE CROSSINGS, CONTROL APPROACH AREAS WITH PERIMETER MEASURES SUCH AS SILT FENCE, COMPOST FILTER SOCK, OR STRAW BALES.
4. REMOVE LARGE ROCKS, WOODY VEGETATION, OR OTHER MATERIAL FROM THE STREAMBED AND BANKS THAT MAY IMPEDE PLACEMENT OF THE RIPRAP, SANDBAGS, SHEET METAL, OR WOOD PLANKS OR INSTALLING THE UTILITY PIPE OR LINE.
5. FORM A COFFERDAM IN A SEMICIRCLE ALONG THE SIDE OF THE STREAM IN WHICH THE UTILITY INSTALLATION WILL BEGIN. SURROUND AND UNDERLAY THE COFFERDAM WITH FILTER FABRIC AS SHOWN ON FIGURE C-ENV-04-4. THE HEIGHT OF AND AREA WITHIN THE DAM WILL DEPEND ON THE SIZE OF THE WORK AREA AND THE AMOUNT OF STREAM FLOW. STACK MATERIALS AS HIGH AS WILL BE NECESSARY TO KEEP WATER FROM OVERTOPPING THE DAM AND FLOODING THE WORK AREA. REFER TO COFFERDAM CROSSING (BMP C-ENV-05) FOR ADDITIONAL DETAILS ON COFFERDAMS.
6. WHEN THE STREAM FLOW IS SUCCESSFULLY DIVERTED BY THE COFFERDAM, DEWATER THE WORK AREA AND STABILIZE IT WITH AGGREGATE (VDOT #57 OR #68 COARSE AGGREGATE) OR SAND. MAKE SURE TO DISCHARGE THE WATER INTO A SEDIMENT TRAPPING DEVICE; SEE DEWATERING STRUCTURE (BMP C-SCM-10). PUMP WATER FROM THE WORK AREA TO A DEWATERING STRUCTURE (BMP C-SCM-10) LOCATED SUCH THAT THE WATER DRAINS BACK INTO THE CHANNEL BELOW THE DOWNSTREAM COFFERDAMS.
7. INSTALL THE UTILITY PIPE OR LINE IN HALF THE STREAMBED AS NOTED ON FIGURE C-ENV-04-4. REMOVE THE RIPRAP OR OTHER MATERIALS AND BEGIN PLACING THEM ON THE OTHER SIDE OF THE STREAM.
8. ENSURE RE-STABILIZATION CONSISTS OF THE INSTALLATION OF NON-GROUTED RIPRAP ON ALL DISTURBED STREAMBANK AREAS (OR ON THE AREA 6 FEET ON BOTH SIDES OF THE CENTERLINE OF ITS UTILITY TRENCH, WHICHEVER IS GREATER) WITH SLOPES OF 3H:1V OR GREATER. REFER TO RIPRAP (BMP C-ECM-13) FOR INSTALLATION REQUIREMENTS. FOR SLOPES OF 3H:1V OR LESS, VEGETATIVE STABILIZATION MAY BE USED PENDING APPROVAL BY CERTIFIED PLAN REVIEWER. IMMEDIATELY STABILIZE THE STREAMBED, BANKS, AND THE APPROACH AREAS FOLLOWING THE ATTAINMENT OF FINAL GRADE.
9. WHEN THE STREAM FLOW IS SUCCESSFULLY DIVERTED BY THE COFFERDAM, DEWATER THE WORK AREA AND STABILIZE IT WITH AGGREGATE (VIRGINIA DEPARTMENT OF TRANSPORTATION [VDOT] #57 OR #68 COARSE AGGREGATE) OR SAND. MAKE SURE TO DISCHARGE THE WATER INTO A SEDIMENT TRAPPING DEVICE; SEE DEWATERING STRUCTURE (BMP C-SCM-10). PUMP WATER FROM THE WORK AREA TO A DEWATERING STRUCTURE (BMP C-SCM-10) LOCATED SUCH THAT THE WATER DRAINS BACK INTO THE CHANNEL BELOW THE DOWNSTREAM COFFERDAMS.
10. USE ONLY ORIGINAL PARENT MATERIAL TO REESTABLISH THE STREAMBED WHEN ACTIVE DAM AND PUMP BYPASS STREAM CROSSING CONSTRUCTION ACTIVITIES ARE COMPLETED.

DAM AND PUMP BYPASS CROSSING CONSTRUCTION SPECIFICATIONS:

DAM AND PUMP BYPASS CROSSING IS USED WHEN IN-STREAM CONSTRUCTION WILL LAST LESS THAN 72 HOURS AND THE STREAM IS NARROW (LESS THAN 10 FEET WIDE), MAKING COFFERDAM CONSTRUCTION IMPRACTICAL.

1. PERFORM CONSTRUCTION IN LOW-FLOW PERIODS.
2. AS WITH ALL UTILITY LINE CROSSINGS, CONTROL APPROACH AREAS WITH PERIMETER MEASURES SUCH AS SILT FENCE, COMPOST FILTER SOCK, OR STRAW BALES.
3. REMOVE LARGE ROCKS, WOODY VEGETATION, OR OTHER MATERIAL FROM THE STREAMBED AND BANKS THAT MAY IMPEDE PLACEMENT OF THE COFFERDAM OR INSTALLING THE UTILITY PIPE OR LINE.
4. FORM AN UPSTREAM AND DOWNSTREAM COFFERDAM AT BOTH ENDS OF THE IN-STREAM WORK AREA BY PLACING THE COFFERDAM ACROSS THE ENTIRE UPSTREAM AND DOWNSTREAM WIDTH OF THE STREAM IN WHICH THE UTILITY WILL BE INSTALLED. SURROUND AND UNDERLAY THE COFFERDAMS WITH FILTER FABRIC AS SHOWN ON FIGURE C-ENV-04-5. THE HEIGHT OF AND AREA WITHIN THE DAMS WILL DEPEND ON THE SIZE OF THE WORK AREA AND THE AMOUNT OF STREAM FLOW. STACK MATERIALS AS HIGH AS NECESSARY

_____ P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C MURPHY
Lic. No. 041898
09/09/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

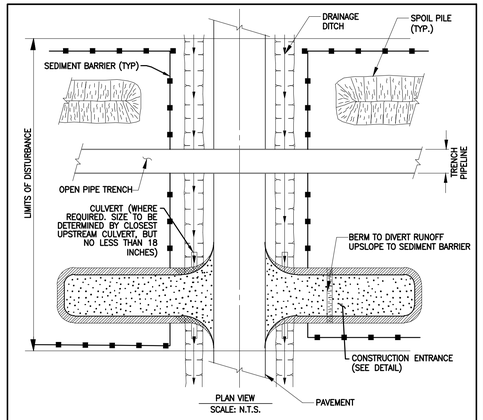
TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

Williams

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25	DRAWING NUMBER: VA-EDEN-ES-083	SHEET 083 OF 097
WO: C1009554	RID: 500		



NOTES:

1. SEDIMENT BARRIER SHALL BE INSTALLED AT THE BASE OF SLOPES ADJACENT TO ROAD CROSSINGS WHERE VEGETATION IS DISTURBED, TO INTERCEPT SURFACE RUNOFF.
2. SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL PERMANENT REVEGETATION IS ESTABLISHED.
3. CULVERTS TO BE SIZED AND PLACED WHERE REQUIRED TO MAINTAIN WATER FLOW.
4. CONTRACTOR MAY ELECT TO UTILIZE SHEET PILING IN ORDER TO STABILIZE PIPE TRENCH.
5. CONTRACTOR MAY ELECT TO UTILIZE WELL-POINTS IN ORDER TO REDUCE THE WATER TABLE PRIOR TO COMMENCING EXCAVATION.
6. PROTECTION FOR SPOIL PILES SHALL BE INSTATED ONLY WHERE SEDIMENT BARRIERS ACROSS THE ENTIRE LOD ARE REQUIRED.
7. SEDIMENT BARRIERS SHALL BE INSTALLED AS DEPICTED ON PLANS.

MAINTENANCE NOTES:

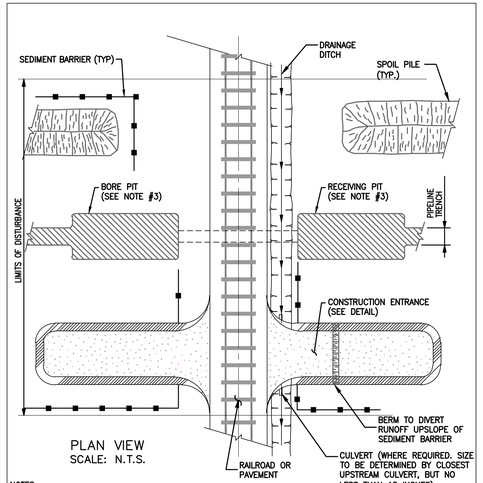
1. UPON REMOVAL OF CONSTRUCTION ENTRANCE, ECB AND SEDIMENT BARRIERS SHALL BE APPLIED TO DOWNSTREAM SIDE OF DISTURBED DITCHLINE.
2. CONTRACTOR SHALL BE REQUIRED TO KEEP THE ROAD CLEAN OF DEBRIS AT ALL TIMES.

TRENCHED ROAD CROSSING
TEMPORARY EROSION CONTROL MEASURE (RX.1)

VIRGINIA

NO.	DATE	REVISION DESCRIPTION	CHK	APP

STANDARD ENVIRONMENTAL DETAIL
(RX.1) TRENCHED ROAD CROSSING



NOTES:

1. SEDIMENT BARRIER SHALL BE INSTALLED AT THE BASE OF SLOPES ADJACENT TO ROAD CROSSINGS WHERE VEGETATION IS DISTURBED, TO INTERCEPT SURFACE RUNOFF.
2. SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL PERMANENT REVEGETATION IS ESTABLISHED.
3. WATER REMOVED FROM BORE PIT AND RECEIVING PIT SHALL BE FILTERED THROUGH A DEWATERING STRUCTURE OR FILTER BAG. SEDIMENT BARRIER SHALL BE AROUND THE SILT BAG.
4. IF WELL POINTING IS REQUIRED PRIOR TO EXCAVATING BORE PITS, CONTRACTOR SHALL CONSULT WITH COMPANY'S ENVIRONMENTAL INSPECTOR PRIOR TO COMMENCEMENT OF WORK IN ORDER TO DETERMINE PROPER DEWATERING LOCATION.
5. CONTRACTOR SHALL BE REQUIRED TO KEEP THE ROAD CLEAN OF DEBRIS AT ALL TIMES.
6. CONTRACTOR MAY ELECT TO UTILIZE SHEET PILING IN ORDER TO STABILIZE BORE PITS.
7. BENTONITE AND WATER ARE PROPOSED FOR THE PURPOSE OF PIPE LUBRICATION AND CUTTINGS REMOVAL DURING THE AUGER BORE INSULATION.
8. PROTECTION FOR SPOIL PILES SHALL BE INSTATED ONLY WHERE SEDIMENT BARRIERS ACROSS THE ENTIRE LOD ARE REQUIRED.
9. SEDIMENT BARRIERS SHALL BE INSTALLED AS DEPICTED ON PLANS.

MAINTENANCE NOTE:

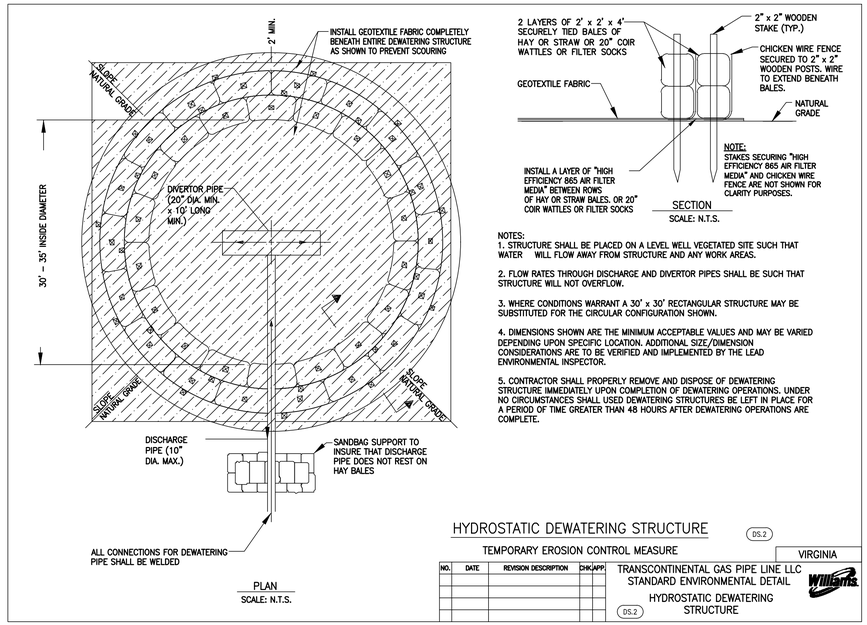
1. UPON REMOVAL OF CONSTRUCTION ENTRANCE, MATTING AND WATTLES SHALL BE APPLIED TO DISTURBED DITCHLINES.

BORED ROAD/RAILROAD CROSSING
TEMPORARY EROSION CONTROL MEASURE (RX.2)

VIRGINIA

NO.	DATE	REVISION DESCRIPTION	CHK	APP

STANDARD ENVIRONMENTAL DETAIL
(RX.2) BORED ROAD/RAILROAD CROSSING



NOTES:

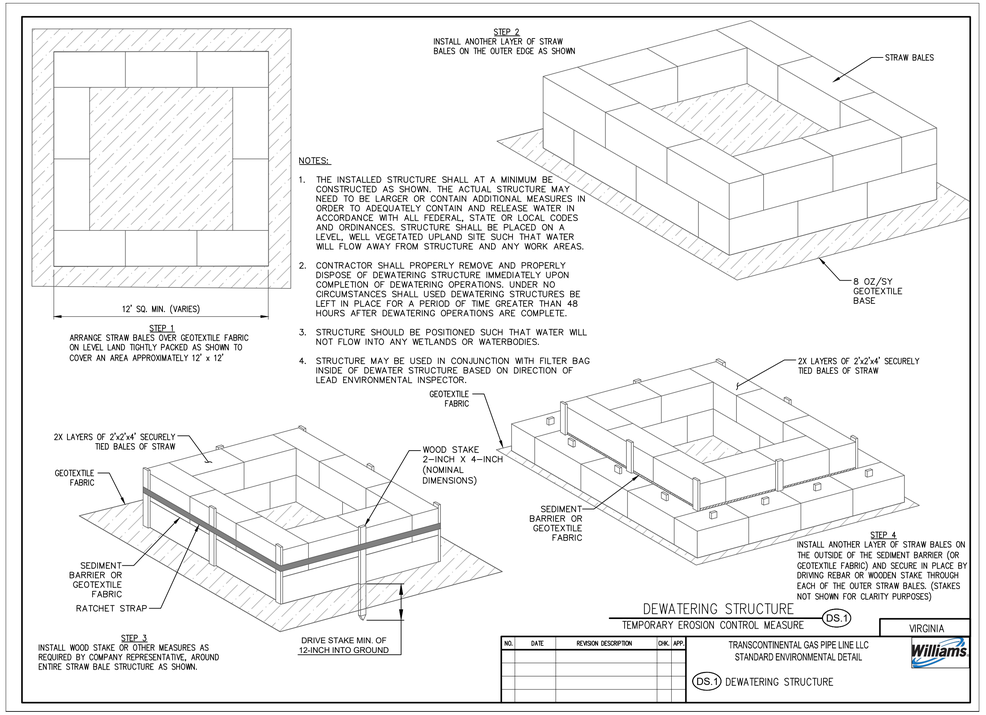
1. STRUCTURE SHALL BE PLACED ON A LEVEL WELL VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM STRUCTURE AND ANY WORK AREAS.
2. FLOW RATES THROUGH DISCHARGE AND DIVERTOR PIPES SHALL BE SUCH THAT STRUCTURE WILL NOT OVERFLOW.
3. WHERE CONDITIONS WARRANT A 30' x 30' RECTANGULAR STRUCTURE MAY BE SUBSTITUTED FOR THE CIRCULAR CONFIGURATION SHOWN.
4. DIMENSIONS SHOWN ARE THE MINIMUM ACCEPTABLE VALUES AND MAY BE VARIED DEPENDING UPON SPECIFIC LOCATION. ADDITIONAL SIZE/DIMENSION CONSIDERATIONS ARE TO BE VERIFIED AND IMPLEMENTED BY THE LEAD ENVIRONMENTAL INSPECTOR.
5. CONTRACTOR SHALL PROPERLY REMOVE AND DISPOSE OF DEWATERING STRUCTURE IMMEDIATELY UPON COMPLETION OF DEWATERING OPERATIONS. UNDER NO CIRCUMSTANCES SHALL USED DEWATERING STRUCTURES BE LEFT IN PLACE FOR A PERIOD OF TIME GREATER THAN 48 HOURS AFTER DEWATERING OPERATIONS ARE COMPLETE.

HYDROSTATIC DEWATERING STRUCTURE (DS.2)
TEMPORARY EROSION CONTROL MEASURE

VIRGINIA

NO.	DATE	REVISION DESCRIPTION	CHK	APP

TRANSCONTINENTAL GAS PIPE LINE LLC
STANDARD ENVIRONMENTAL DETAIL
(DS.2) HYDROSTATIC DEWATERING STRUCTURE



DEWATERING STRUCTURE (DS.1)
TEMPORARY EROSION CONTROL MEASURE

VIRGINIA

NO.	DATE	REVISION DESCRIPTION	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE LLC
STANDARD ENVIRONMENTAL DETAIL
(DS.1) DEWATERING STRUCTURE

P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041896
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

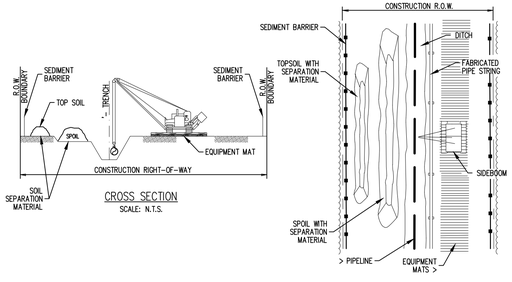
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 084
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-084	OF 097



CROSS SECTION
SCALE: N.T.S.

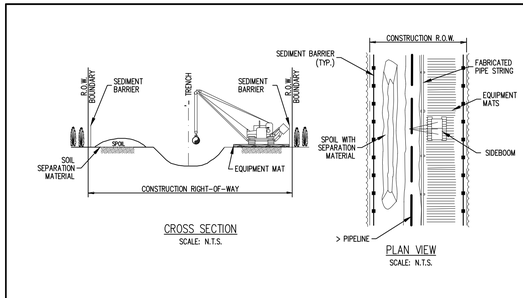
PLAN VIEW
SCALE: N.T.S.

CONSTRUCTION PROCEDURE NOTES:

1. FLAG WETLAND BOUNDARIES AND INSTALL BOUNDARY SIGNS PRIOR TO CLEARING.
2. NO OVERNIGHT PARKING OR REFUELING OF MOBILE EQUIPMENT IS ALLOWED WITHIN 100 FEET OF WETLAND. PLACE "NO FUELING" SIGN POSTS 100 FEET BACK FROM WETLAND BOUNDARY.
3. INSTALL EQUIPMENT MATS THROUGH ENTIRE WETLAND AREA ON THE WORKING SIDE OF THE CONSTRUCTION CORRIDOR.
4. AVOID ADJACENT WETLANDS. INSTALL SEDIMENT BARRIERS AT OUTER BOUNDARIES OF THE WETLAND. INSTALL SEDIMENT BARRIERS ALONG THE EDGE OF THE SPOIL SIDE OF THE CONSTRUCTION CORRIDOR THROUGH THE WETLAND AND ALONG THE DOWNSLOPE EDGE OF THE WETLAND. IF THE DOWNSLOPE EDGE OF THE WETLAND IS THE SPOIL SIDE, THEN SEDIMENT BARRIERS ARE NOT REQUIRED ON THE WORKING SIDE OF THE CORRIDOR UNLESS EQUIPMENT TRAVERSING THROUGH THE WETLAND CAUSES SPOIL AND SEDIMENT TO EXIT THE CONSTRUCTION CORRIDOR.
5. LIMIT PULLING OF TREE STUMPS AND GRADING ACTIVITIES TO DIRECTLY OVER THE TRENCH LINE. DO NOT GRADE OR REMOVE STUMPS OR ROOT SYSTEMS FROM THE REST OF THE RIGHT-OF-WAY IN WETLANDS UNLESS THE CHIEF INSPECTOR AND COMPANY ENVIRONMENTAL INSPECTOR DETERMINE THAT SAFETY-RELATED CONSTRUCTION CONSTRAINTS REQUIRE REMOVAL OF TREE STUMPS FROM UNDER THE WORKING SIDE OF THE RIGHT-OF-WAY.
6. CONDUCT TRENCH LINE TOPSOIL STRIPPING (IF TOPSOIL IS NOT SATURATED). SALVAGE SATURATED TOPSOIL TO ACTUAL DEPTH OR A MAXIMUM DEPTH OF 12 INCHES, AS DETERMINED BY THE COMPANY ENVIRONMENTAL INSPECTOR. TOPSOIL AND SATURATED TOPSOIL SHALL BE STOCKPILED SEPARATELY. SEGREGATED TOPSOIL PILE MAY BE LOCATED ON SPOIL SIDE, AS REQUIRED. SOILS SHOULD BE PLACED ON TIMBER MATTING AND GEOTEXTILE TO PREVENT MIXING OF SOILS IF SOILS ARE UNABLE TO BE LOCATED OUTSIDE OF WETLAND.
7. TRENCHING THROUGH WETLANDS MAY PROCEED WHEN THE PIPE SECTION IS FABRICATED AND READY TO LAY. ONCE TRENCHING COMMENCES, CONSTRUCTION THROUGH THE WETLAND IS TO PROCEED CONTINUOUSLY UNTIL THE CROSSING IS COMPLETED, BACKFILLED AND RESTORED IN ORDER TO MINIMIZE THE LENGTH OF TIME THE TRENCH IS OPEN.
8. PIPE SECTION MAY BE FABRICATED WITHIN THE WETLAND ADJACENT TO PIPE TRENCH, OR IN STAGING AREA OUTSIDE THE WETLAND AND WALKED IN. NO CONCRETE COATING ACTIVITY WITHIN 100 FEET OF WETLAND BOUNDARY UNLESS APPROVED BY COMPANY ENVIRONMENTAL INSPECTOR.
9. LOWER-IN PIPE. PRIOR TO BACKFILLING TRENCH, INSTALL TRENCH PLUGS IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS.
10. RESTORE GRADE TO NEAR PRE-CONSTRUCTION TOPOGRAPHY, REPLACE SATURATED TOPSOIL AND TOPSOIL (IF NOT SATURATED) AND INSTALL PERMANENT EROSION CONTROL.
11. REMOVE EQUIPMENT MATS FROM WETLANDS UPON COMPLETION OF PROJECT ACTIVITIES.
12. SEED DISTURBED WETLANDS AREA AS DETERMINED BY THE ENVIRONMENTAL INSPECTOR AND AS SHOWN ON DRAWINGS.

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

STANDARD ENVIRONMENTAL DETAIL
(WCC.1) TYPE I "DRY WETLAND" INSTALLATION PROCEDURE



CROSS SECTION
SCALE: N.T.S.

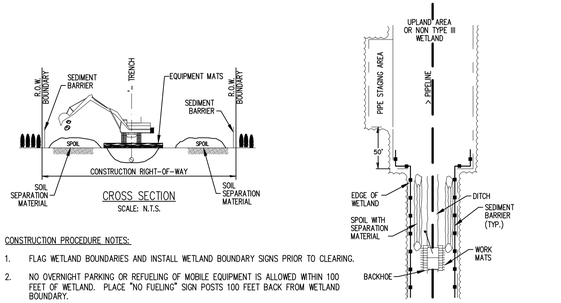
PLAN VIEW
SCALE: N.T.S.

CONSTRUCTION PROCEDURE NOTES:

1. FLAG WETLAND BOUNDARIES AND INSTALL BOUNDARY SIGNS PRIOR TO CLEARING.
2. NO OVERNIGHT PARKING OR REFUELING OF MOBILE EQUIPMENT IS ALLOWED WITHIN 100 FEET OF WETLAND. PLACE "NO FUELING" SIGN POSTS 100 FEET BACK FROM WETLAND BOUNDARY.
3. INSTALL EQUIPMENT MATS THROUGH ENTIRE WETLAND AREA ON THE WORKING SIDE OF THE CONSTRUCTION CORRIDOR.
4. AVOID ADJACENT WETLANDS. INSTALL SEDIMENT BARRIERS AT OUTER BOUNDARIES OF WETLAND AND ALONG BOTH WETLAND EDGES.
5. LIMIT PULLING OF TREE STUMPS AND GRADING ACTIVITIES TO DIRECTLY OVER THE TRENCH LINE. DO NOT GRADE OR REMOVE STUMPS OR ROOT SYSTEMS FROM THE REST OF THE RIGHT-OF-WAY IN WETLANDS UNLESS THE CHIEF INSPECTOR AND COMPANY ENVIRONMENTAL INSPECTOR DETERMINE THAT SAFETY RELATED CONSTRUCTION CONSTRAINTS REQUIRE REMOVAL OF TREE STUMPS FROM UNDER THE WORKING SIDE OF THE RIGHT-OF-WAY IN WETLANDS UNLESS THE CHIEF INSPECTOR AND COMPANY ENVIRONMENTAL INSPECTOR DETERMINE THAT SAFETY RELATED CONSTRUCTION CONSTRAINTS REQUIRE REMOVAL OF TREE STUMPS FROM UNDER THE WORKING SIDE OF THE RIGHT-OF-WAY.
6. TOPSOIL STRIPPING SHALL NOT BE REQUIRED IN SATURATED SOIL CONDITIONS. EXCAVATED SOILS SHOULD BE PLACED ON TIMBER MATTING AND GEOTEXTILE TO PREVENT MIXING OF SOILS IF SOILS ARE UNABLE TO BE LOCATED OUTSIDE OF THE WETLAND.
7. TRENCHING THROUGH WETLANDS MAY PROCEED WHEN THE PIPE SECTION IS FABRICATED AND READY TO LAY. ONCE TRENCHING COMMENCES, CONSTRUCTION THROUGH THE WETLAND IS TO PROCEED CONTINUOUSLY UNTIL THE CROSSING IS COMPLETED, BACKFILLED AND RESTORED IN ORDER TO MINIMIZE THE LENGTH OF TIME THE TRENCH IS OPEN. OPEN TRENCHES MAY BE STABILIZED USING SHEET PILING TO CREATE A STABLE AND SECURE TRAVEL LANE.
8. PIPE SECTION MAY BE FABRICATED WITHIN THE WETLAND ADJACENT TO PIPE TRENCH, OR IN STAGING AREA OUTSIDE THE WETLAND AND WALKED IN. NO CONCRETE COATING ACTIVITY WITHIN 100 FEET OF WETLAND BOUNDARY, UNLESS APPROVED BY COMPANY ENVIRONMENTAL INSPECTOR.
9. LOWER-IN PIPE. PRIOR TO BACKFILLING, INSTALL TRENCH PLUGS IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS. RESTORE GRADE TO NEAR PRE-CONSTRUCTION TOPOGRAPHY AND INSTALL PERMANENT EROSION CONTROL. REMOVE EQUIPMENT MATS FROM WETLANDS UPON COMPLETION. SEED DISTURBED WETLAND AREA AS DETERMINED BY THE ENVIRONMENTAL INSPECTOR AND AS SHOWN ON DRAWINGS.

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

STANDARD ENVIRONMENTAL DETAIL
(WCC.2) TYPE II "SATURATED WETLAND" INSTALLATION PROCEDURE



CROSS SECTION
SCALE: N.T.S.

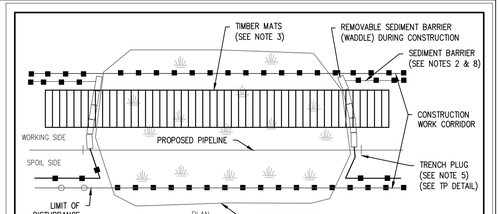
PLAN VIEW
SCALE: N.T.S.

CONSTRUCTION PROCEDURE NOTES:

1. FLAG WETLAND BOUNDARIES AND INSTALL WETLAND BOUNDARY SIGNS PRIOR TO CLEARING.
2. NO OVERNIGHT PARKING OR REFUELING OF MOBILE EQUIPMENT IS ALLOWED WITHIN 100 FEET OF WETLAND. PLACE "NO FUELING" SIGN POSTS 100 FEET BACK FROM WETLAND BOUNDARY.
3. AVOID ADJACENT WETLANDS. INSTALL SEDIMENT BARRIERS AT OUTER BOUNDARIES OF WETLAND AND ALONG BOTH WETLAND EDGES.
4. LIMIT PULLING OF TREE STUMPS AND GRADING ACTIVITIES TO DIRECTLY OVER TRENCH LINE. DO NOT GRADE OR REMOVE STUMPS OR ROOT SYSTEMS FROM THE REST OF THE RIGHT-OF-WAY IN WETLANDS UNLESS THE CHIEF INSPECTOR AND COMPANY ENVIRONMENTAL INSPECTOR DETERMINE THAT SAFETY RELATED CONSTRUCTION CONSTRAINTS REQUIRE REMOVAL OF TREE STUMPS FROM UNDER THE WORKING SIDE OF THE RIGHT-OF-WAY.
5. TOPSOIL STRIPPING SHALL NOT BE REQUIRED IN SATURATED SOIL CONDITIONS. EXCAVATED SOILS SHOULD BE PLACED ON TIMBER MATTING AND GEOTEXTILE TO PREVENT MIXING OF SOILS IF SOILS ARE UNABLE TO BE LOCATED OUTSIDE OF WETLAND.
6. UTILIZE AMPHIBIOUS EXCAVATORS (PONTOON MOUNTED BACKHOES) OR TRACKED BACKHOES SUPPORTED BY PREFABRICATED EQUIPMENT MATS OR FLOATS, TO EXCAVATE TRENCH. IF PREFABRICATED EQUIPMENT MATS ARE USED FOR STABILIZATION, THE BACKHOE SHALL GRADUALLY MOVE ACROSS THE WETLAND BY MOVING THE MATS FROM IMMEDIATELY BEHIND TO IMMEDIATELY IN FRONT OF THE BACKHOE'S PATH. OPEN TRENCHES MAY BE STABILIZED USING SHEET PILING TO CREATE A STABLE AND SECURE TRAVEL LANE.
7. FABRICATE PIPE IN A STAGING AREA OUTSIDE THE TYPE III WETLAND AS INDICATED ON THE CONSTRUCTION DRAWINGS. NO CONCRETE COATING ACTIVITY WITHIN 100 FEET OF WETLAND BOUNDARY, UNLESS APPROVED BY COMPANY ENVIRONMENTAL INSPECTOR.
8. LEAVE HARD PLUGS AT THE EDGE OF TYPE III WETLAND UNTIL JUST PRIOR TO PIPE PLACEMENT.
9. FLOAT PIPE IN PLACE, LOWER-IN, INSTALL TRENCH PLUGS IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS, AND BACKFILL.
10. RESTORE GRADE TO NEAR PRE-CONSTRUCTION TOPOGRAPHY AND INSTALL PERMANENT EROSION CONTROL. REFER TO WCC DETAIL, IF ENVIRONMENTAL RESTORATION IS IDENTIFIED ON THE PLANS.
11. REMOVE ANY MATS UTILIZED TO SUPPORT AMPHIBIOUS EQUIPMENT FROM WETLANDS UPON COMPLETION.
12. WETLANDS CROSSED USING PUSH/PULL METHOD TEND TO BE TOO WET FOR EFFECTIVE SEEDING. HOWEVER, IF THE SITE IS DRY ENOUGH AND IF DIRECTED BY THE ENVIRONMENTAL INSPECTOR, THE RIGHT-OF-WAY SHALL BE SEEDED IN ACCORDANCE WITH DRAWINGS.
13. STEEL SHEETING MAY BE USED ALONG RIGHT-OF-WAY BOUNDARY TO ACT AS A DAM TO ISOLATE THE DISTURBED PORTION OF THE WETLAND. THE TRENCH WILL BE DEWATERED THROUGH PUMPING TO FACILITATE THE INSTALLATION OF THE CROSSING.
14. TRENCHING THROUGH WETLANDS MAY PROCEED WHEN THE PIPE SECTION IS FABRICATED AND READY TO LAY. ONCE TRENCHING COMMENCES, CONSTRUCTION THROUGH THE WETLAND IS TO PROCEED CONTINUOUSLY UNTIL THE CROSSING IS COMPLETED, BACKFILLED AND RESTORED IN ORDER TO MINIMIZE THE LENGTH OF TIME THE TRENCH IS OPEN.

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

STANDARD ENVIRONMENTAL DETAIL
(WCC.3) TYPE III "FLOODED WETLAND" INSTALLATION PROCEDURE



PLAN
SCALE: N.T.S.

NOTES:

1. INSTALL COMPOST FILTER SOCKS ACROSS THE TRAVEL LANE AT BOTH WETLAND BOUNDARIES.
2. INSTALL SEDIMENT BARRIER PERPENDICULAR TO THE CONSTRUCTION EASEMENT AT WETLAND CROSSINGS PRIOR TO CLEARING AND GRUBBING (PRE-CONSTRUCTION).
3. INSTALL TIMBER MATS FOR TRAVEL LANE THROUGH WETLAND AREA AND EXTEND A MINIMUM OF 10-FEET LANDWARD FROM THE EDGE OF WETLAND. CONSTRUCTION ACTIVITIES WITHIN WETLANDS WILL BE CONDUCTED FROM TIMBER MATS. WHERE CLEARING OPERATIONS OCCUR IN WETLANDS, LOW GROUND PRESSURE EQUIPMENT WILL BE USED AND MIXING OF TOPSOIL AND SUBSOIL PREVENTED IN AREAS BEYOND THOSE PROTECTED BY TIMBER MATS.
4. WETLAND CROSSING TYPE (I, II, III) TO BE IDENTIFIED BY ENVIRONMENTAL INSPECTOR.
5. INSTALL TRENCH PLUGS AT BOTH WETLAND BOUNDARIES TO PREVENT DIVERSION OF WATER INTO UPLAND PORTIONS OF THE PIPELINE TRENCH AND TO KEEP ANY ACCUMULATED UPLAND TRENCH WATER OUT OF WETLAND.
6. NO WASTES, SPOILS, SOLIDS OR FILLS WILL BE PLACED WITHIN WETLANDS, WATERS OR RIPARIAN AREAS BEYOND THE PERMITTED DISTURBANCE LIMITS. DEWATERING SHALL BE CONDUCTED THROUGH SILT BAG.
7. FOLLOWING CONSTRUCTION, DISTURBED AREAS ASSOCIATED WITH TEMPORARY WETLAND CROSSINGS WILL BE STABILIZED WITH A NATIVE SEED MIX (SEE NATIVE WETLAND SEEDING SPECIFICATIONS). THIS SEED MIX WILL BE INSTALLED WITH A TEMPORARY GROUNDCOVER SPECIES AND WILL COVER THE DISTURBED WETLANDS AND EXTEND TEN FEET LANDWARD FROM THE JURISDICTIONAL BOUNDARY. DO NOT APPLY MULCH OR SOIL AMENDMENTS WITHIN WETLANDS.
8. RESEED DISTURBED AREAS WITH NATIVE WETLAND SEED MIX PER THE SEEDING SPECIFICATION.
9. WETLAND CROSSING INCLUDES TIMBER MAT TRAVEL LANE.
10. INSTALL THE SEDIMENT BARRIER ALONG THE WETLAND EDGES PER THE PLAN.

MAINTENANCE NOTES:

1. INSPECT SEDIMENT FENCE PER BMP INSPECTION AND MAINTENANCE SCHEDULE.
2. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN.
3. REMOVE ALL SEDIMENT FENCE AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

WETLAND CROSSING CONFIGURATION (WCC)
(TYPE I, II AND III WETLANDS)

VIRGINIA

NO.	DATE	REVISION DESCRIPTION	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE LLC
STANDARD ENVIRONMENTAL DETAIL

(WCC) WETLAND CROSSING CONFIGURATION
TYPE I, II AND III WETLANDS

_____, P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

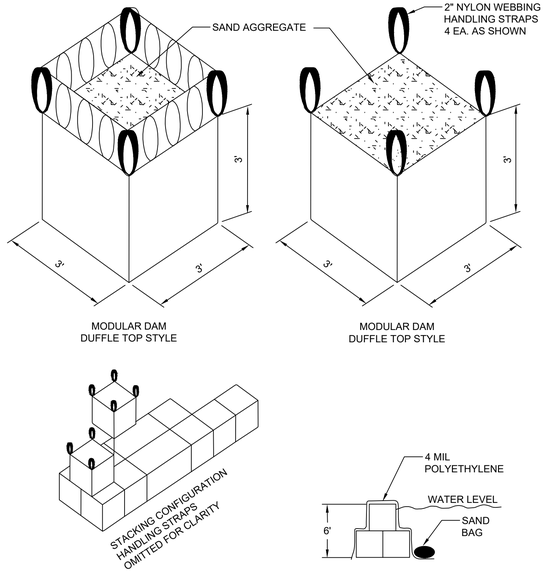
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

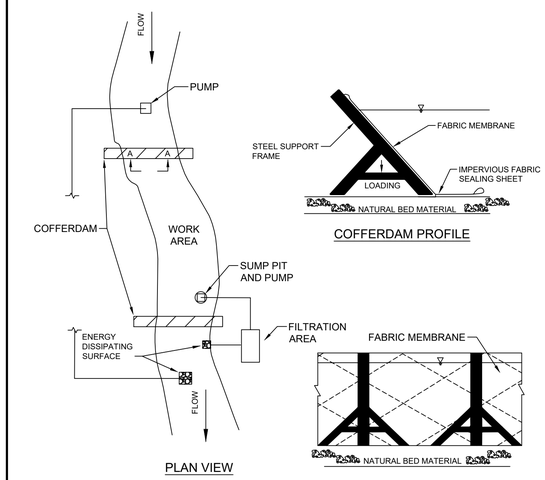
DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 085
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-085	OF 097



MODULAR DAM/BARRIER

SANDBAG TOTE DAM

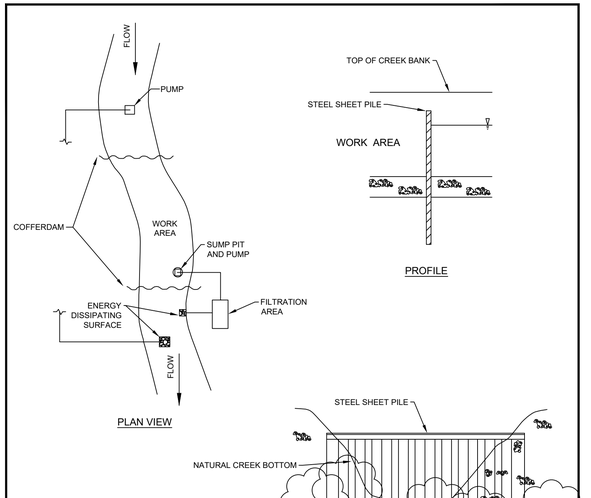
v1.1 SOURCE: VA DCR 2004 C-ENV-05-1



NOTES:
1. ALL DISCHARGES SHOULD BE ON ENERGY DISSIPATING SURFACES.
2. LOCATIONS FOR SUMP PIT. FILTRATION AREA, AND ENERGY DISSIPATING SURFACES MAY VARY DEPENDING ON SITE CONDITIONS
3. A-FRAME SHOULD BE INSTALLED ON MANUFACTURER'S SPECIFICATIONS.

A-FRAME COFFERDAM CROSSING PLAN & PROFILE

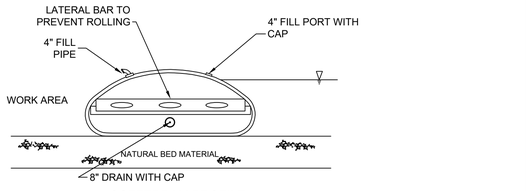
v1.1 SOURCE: ILLINOIS EPA 2020 C-ENV-05-3



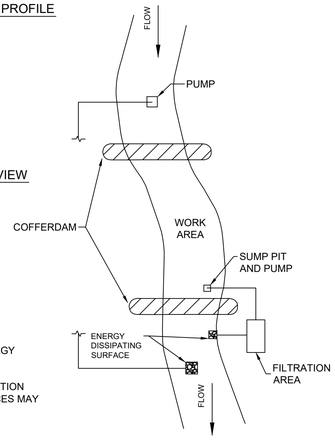
NOTES:
1. ALL DISCHARGES SHOULD BE ON ENERGY DISSIPATING SURFACES.
2. LOCATION FOR SUMP PIT, FILTRATION AREA, AND ENERGY DISSIPATING SURFACES MAY VARY DEPENDING ON SITE CONDITIONS.

STEEL SHEET COFFERDAM CROSSING PLAN & PROFILE

v1.1 SOURCE: ILLINOIS EPA 2020 C-ENV-05-5



COFFERDAM PROFILE



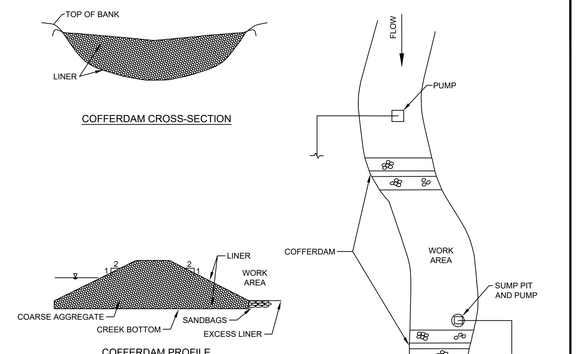
NOTES:

1. ALL DISCHARGES SHOULD BE ON ENERGY DISSIPATING SURFACES.

2. LOCATIONS FOR THE SUMP PIT, FILTRATION AREA, AND ENERGY DISSIPATING SURFACES MAY VARY DEPENDING ON SITE CONDITIONS.

INFLATABLE BLADDER COFFERDAM CROSSING PLAN & PROFILE

v1.1 SOURCE: ILLINOIS EPA 2020 C-ENV-05-2



NOTES:
1. THE LINER SHALL BE PLACED ON BOTTOM OF WATERWAY W/ EXCESS LINER EXTENDING OUT OF THE COFFERDAM AREA. ONCE STONE IS PLACED, LINER WILL BE PULLED OVER ROCK AND EXTEND BEYOND THE PILE ON THE DOWNSTREAM SIDE. SANDBAGS WILL SECURE THE EXCESS LINER AS SHOWN. REFER TO THE STANDARD FOR LINER SPECIFICATIONS.

STONE & IMPERMEABLE BARRIER COFFERDAM CROSSING PLAN & PROFILE

v1.1 SOURCE: ILLINOIS EPA 2020 C-ENV-05-4

_____ P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

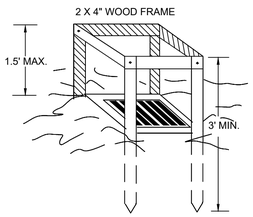
REVISIONS						
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.

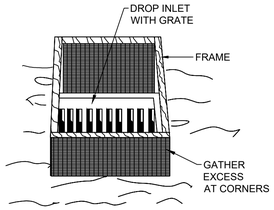
TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

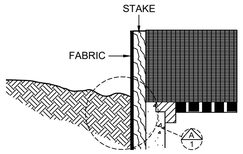
DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

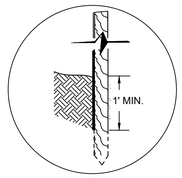
DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-086	SHEET 086 OF 097







ELEVATION OF STAKE AND FABRIC ORIENTATION



DETAIL A

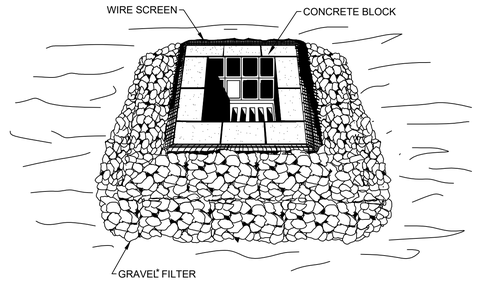
SPECIFIC APPLICATION

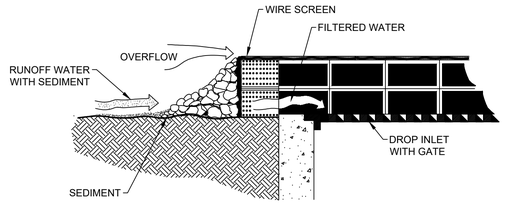
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%) WHERE THE INLET SHEET OR OVERLAND FLOWS (NOT EXCEEDING 1 C.F.S.) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

SILT FENCE DROP INLET PROTECTION

v1.1 SOURCE: NC ESC DESIGN MAN. C-SCM-04-1





SPECIFIC APPLICATION

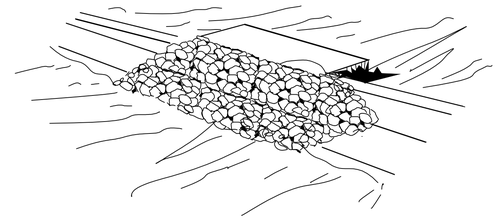
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.

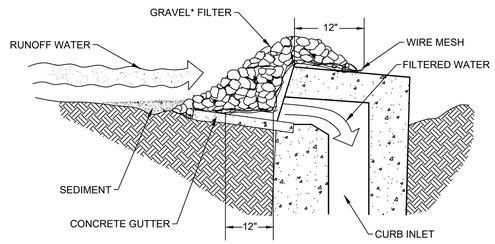
* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE.

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER

v1.1 SOURCE: VA. DSWC C-SCM-04-3





SPECIFIC APPLICATION

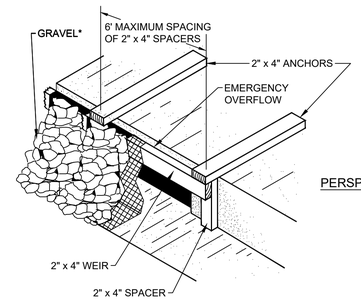
THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE PONDING IN FRONT OF THE STRUCTURE IS NOT LIKELY TO CAUSE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

* GRAVEL SHALL BE VDOT #3, #357 OR 5 COARSE AGGREGATE.

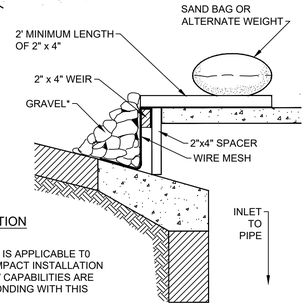
DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

GRAVEL CURB INLET SEDIMENT FILTER

v1.1 SOURCE: VA. DSWC C-SCM-04-5



PERSPECTIVE VIEW



SIDE ELEVATION

SPECIFIC APPLICATION

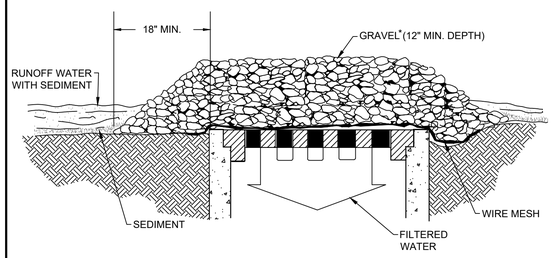
THIS METHOD OF INLET PROTECTION IS APPLICABLE T0 CURB INLETS WHERE A STURDY, COMPACT INSTALLATION IS DESIRED. EMERGENCY OVERFLOW CAPABILITIES ARE MINIMAL, SO EXPECT SIGNIFICANT PONDING WITH THIS MEASURE.

*GRAVEL SHALL BE VDOT COARSE AGGREGATE #3, #357 OR #5

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

CURB INLET PROTECTION WITH 2-INCH X 4-INCH WOODEN WEIR

v1.1 SOURCE: USDA NRCS C-SCM-04-6



SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE.

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER

v1.1 SOURCE: VA. DSWC C-SCM-04-2

_____ P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

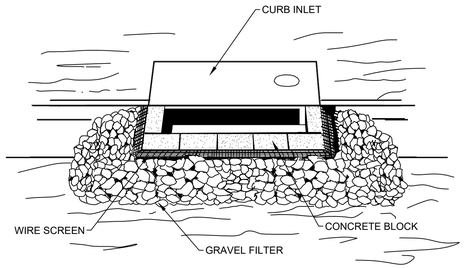
REVISIONS						
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.

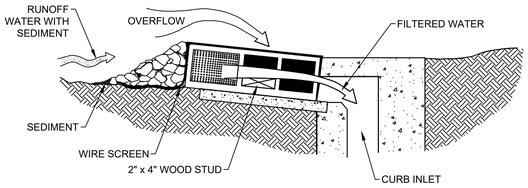
TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 087
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-087	OF 097





SPECIAL APPLICATION

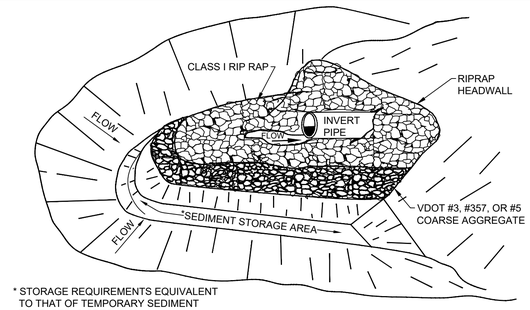
THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.

* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

BLOCK AND GRAVEL CURB INLET SEDIMENT FILTER

v1.1 SOURCE: VA. DSWC C-SCM-04-7

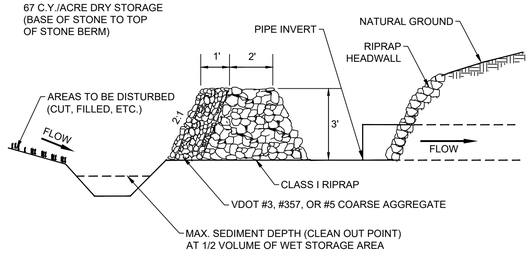


* STORAGE REQUIREMENTS EQUIVALENT TO THAT OF TEMPORARY SEDIMENT TRAP, STD. & SPEC. 3.13

67 C.Y./ACRE WET STORAGE (BELOW BASE OF STONE)

67 C.Y./ACRE DRY STORAGE (BASE OF STONE TO TOP OF STONE BERM)

PERSPECTIVE VIEW

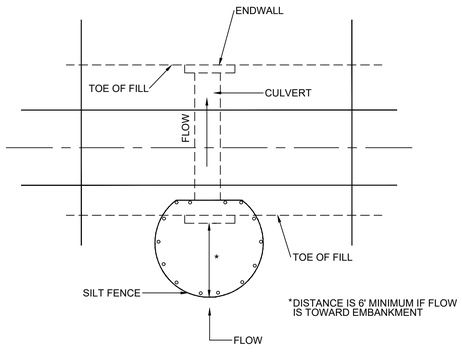


ELEVATION

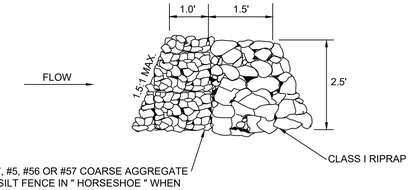
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

CULVERT INLET SEDIMENT TRAP

v1.1 SOURCE: NC SED. CONTROL COMMISS. C-SCM-05-2



OPTIONAL STONE COMBINATION **



** VDOT #3, #357, #5, #56 OR #57 COARSE AGGREGATE TO REPLACE SILT FENCE IN " HORSESHOE " WHEN HIGH VELOCITY OF FLOW IS EXPECTED

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

SILT FENCE CULVERT INLET PROTECTION

v1.1 SOURCE: VA. DSWC, VDOT C-SCM-05-1

_____ P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

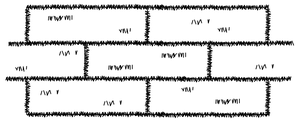
TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

Williams

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 088
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-088	OF 097

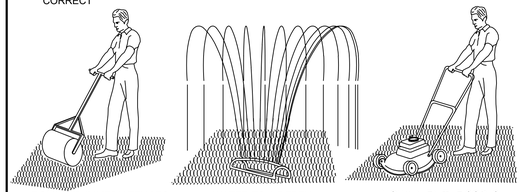


LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

INCORRECT

CORRECT

BUTTING - ANGLED ENDS CAUSED BY THE AUTO-MATIC SOD CUTTER MUST BE MATCHED CORRECTLY.

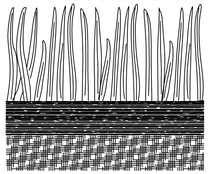


ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.

WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.

MOW WHEN THE SOD IS ESTABLISHED - IN 2-3 WEEKS. SET THE MOWER HIGH (2"-3").

APPEARANCE OF GOOD SOD



SHOOTS OR GRASS BLADES. GRASS SHOULD BE GREEN AND HEALTHY, MOWED AT A 2"-3" CUTTING HEIGHT.

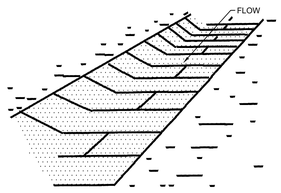
THATCH - GRASS CLIPPINGS AND DEAD LEAVES, UP TO 1/2" THICK.

ROOT ZONE - SOIL AND ROOTS. SHOULD BE 1/2"-3/4" THICK, WITH DENSE ROOT MAT FOR STRENGTH.

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

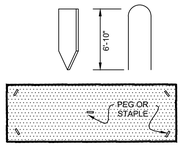
SODDING

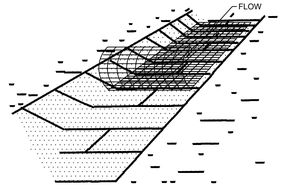
v1.1 SOURCE: VA. DSWC C-SSM-06-1



LAY SOD ACROSS THE DIRECTION OF FLOW.

USE PEGS OR STAPLES TO FASTEN SOD FIRMLY - AT THE ENDS OF STRIPS AND IN THE CENTER, OR EVERY 3-4 FEET IF THE STRIPS ARE LONG. WHEN READY TO MOW, DRIVE PEGS OR STAPLES FLUSH WITH THE GROUND.





IN CRITICAL AREAS, SECURE SOD WITH NETTING. USE STAPLES.

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

SODDING WATERWAYS

v1.1 SOURCE: VA. DSWC C-SSM-06-2

Table C-SSM-06-2 Virginia Grasses for Sodding	
Types of Sod Available in Virginia and Recommended Uses	
Kentucky Bluegrass	Adapted to the Northern Piedmont and Mountain Regions. Individual varieties selected must make up not less than 10% or more than 35% of the total mixture by weight. All varieties must be certified. Selections can be made from Category I alone or various combinations of Categories I, II, and III as noted. Category I – Recommended Kentucky bluegrass varieties 65% - 100% A-34, Abbey, Aspen, Asset, Baron, Blacksburg, Bristol, Cheri, Chateau, Classic, Coventry, Georgetown, Glade, Haga, Julia, Liberty, Loft's 1757, Merit, Midnight, Monopoly, Plush, Princeton 104, Rugby, Suffolk, Victa Category II – Special use varieties. If used, must contain at least 65% Category I varieties Shade Tolerant 10-35% Bristol, Columbia, Georgetown, Glade, Midnight Low-Maintenance Tolerant 10-35% Bristol, Columbia, Georgetown, Glade, Midnight Category III – Promising Kentucky bluegrass – Limited performance data or seed availability 10-35% Dawn, Estate, Freedom, Kelly
Tall Fescue	Adapted to the entire state. Recommended tall fescue varieties 90-100% Amigo, Apache, Bonanza, Chieftain, Finelawn 5GL, Mesa, Rebel II, Shenandoah, Tribute Promising tall fescues Certified Arriba, Austin, Avanti, Aztec, Cochise, Crossfire, Eldorado, Hubbard 87, Jaguar II, Maverick II, Monarch, Olympic II, Phoenix, Safari, Shortstop, Sundance, Taurus, Thoroughbred, Titan, Tradition, Vegas, Winchester, Wrangler 0-10% Kentucky bluegrass: Baron, Cheri, Columbia, Monopoly, Nassau, Ram I, Victa
Bermudagrass	Tufcote is adapted to the Richmond-Danville-Newport News triangle. Midiron may be used east of Roanoke and south of Charlottesville. Tifgreen and Tifway may be used to the east and south of Richmond. Vamont may be used east of Roanoke and at lower elevations in southwestern Virginia. Certified Midiron, Tifgreen#, Tifway, Tifway II, Tufcote and Vamont
Zoysiagrass	This sod performs best in southeastern Virginia. Meyer, Emerald#

Note: Common Bermudagrass is not recommended for sod production.
Only recommended in southeastern Virginia.

Table C-SSM-06-3 Sodding Maintenance
Maintenance Fertilization of Established Sod
Cool-Season Grasses
4 lbs. nitrogen per 1,000 ft2/year 1 lb. phosphorus per 1,000 ft2/year 2 lbs. potash per 1,000 ft2/year 75% of the total requirements should be applied between September 1 and December 31. The balance should be applied during the remainder of the year.
Warm-Season Grasses
Apply 4 to 5 lbs. nitrogen per 1,000 ft2 per year (between May 1 and August 15). Phosphorus and potash should only be applied according to soil test results. Maintenance fertilization should use slow-release fertilizers, which reduce the number of applications per year and subsequently reduce adverse impacts on groundwater.

Table C-SSM-09-1 Construction Specifications for Temporary Seeding	
Activity	**Notes on Proper Performance**
Plant Selection	Select plants appropriate to the season and site conditions from Table C-SSM-09-3 and Table C-SSM-09-4. Note that Table C-SSM-09-3 presents plants that can be used without extensive evaluation of site conditions; Table C-SSM-09-4 presents more in- depth information on the plant materials.
Seedbed Preparation	To control erosion on bare soil surfaces, plants must be able to germinate and grow. Good seedbed preparation is essential to successful plant establishment. A good seedbed is loose and uniform, with at least 35 percent soil-sized particles (<2mm). Where hydroseeding methods are used, the surface may be left with a more irregular surface of large clods and stones. Minimize steep slopes because steep slopes challenge seedbed preparation and increase the erosion hazard.
Liming	Determine if lime is necessary for temporary seeding. In most soils, it may take several months for a pH adjustments to fully occur following the application of lime. Therefore, it may be difficult to justify the cost of liming a temporary site, especially when the soil will later be moved and regraded. Table C-SSM-09-2 may be used to determine the actual need along with suggested application rates if the soil pH is known.
	If the pH of the soil is not known, an application of ground agricultural limestone at the rate of 1 to 1.5 tons per acre on coarse-textured soils and 2 to 3 tons per acre on fine- textured soils is usually sufficient.
	Apply limestone uniformly and incorporate into the top 4 to 6 inches of soil. Soils with a pH of 6 or higher need not be limed. However, any soil with a pH of 5.5 should receive lime application. All liming materials should be Virginia Department of Agriculture and Consumer Services (VDACS) certified agricultural limestone or other approved liming products based on their calcium carbonate equivalent.
Fertilizer	Apply fertilizer at a rate of 600 pounds per acre (14 pounds per 1,000 square feet) using 10-20-10 fertilizer or equivalent nutrients. Incorporate lime and fertilizer into the top 4 to 6 inches of the soil if possible. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before application.
Surface Roughening	If the area has been recently loosened or disturbed, no further roughening is required. When the area is compacted, crusted, or hardened, loosen the soil surface by discing, raking, harrowing, or other acceptable means according to Surface Roughening (BMP C-SSM-03).
Tracking	Tracking with bulldozer cleats is most effective on sandy soils. This practice often causes undue compaction of the soil surface, especially in clayey soils, and does not aid plant growth as effectively as other methods of surface roughening.
Seeding	Evenly apply seed with a broadcast seeder, drill, cultipacker seeder, or hydroseeder. Plant small grains no more than 1.5 inches deep. Plant small seeds, such as Kentucky Bluegrass, no more than 0.25 inch deep. Plant other grasses and legumes between
	0.25 inch to 0.5 inch deep.
Mulching	Mulch seedings made in fall for winter cover and during hot and dry summer months according to Mulching (BMP C-SSM-11) except those of hydro-mulch (fiber mulch), which are not considered adequate (>70% vegetative cover) for mid-winter or mid- summer seedings. Use straw mulch during these periods.
	Temporary seedings made under favorable soil and site conditions during optimum spring and fall seeding dates may not require mulch.
Reseeding	Areas that fail to establish vegetative cover adequate to prevent rill erosion will be reseeded as soon as such areas are identified. Do not mow. Protect from traffic as much as possible.

Table C-SSM-09-2 Liming	
Liming Requirements for Temporary Sites	
pH Test	**Recommended Application of Agricultural Limestone**
below 4.2	3 tons per acre
4.2 to 5.2	2 tons per acre
5.2 to 6	1 ton per acre
Source: Va. DSWC	

Table C-SSM-02-1 Volume (cubic yards) of Topsoil Required for Various Depths		
Depth (inches)	**Per 1,000 Square Feet**	**Per Acre**
1	3.1	134
2	6.2	268
3	9.3	403
4	12.4	537
5	15.5	672
6	18.6	806

Table C-SSM-09-3 Plant Material for Temporary Seeding		
Acceptable Temporary Seeding Plant Materials "Quick Reference for all Regions"		
Planting Dates	**Species**	**Rate (pounds per acre)**
Sept. 1 – Feb. 15	50/50 Mix of annual ryegrass (Lolium multi–florum) & cereal (winter) rye (Secale cereale)	50 – 100
Feb. 16 – Apr. 30*	Annual ryegrass (Lolium multi–florum)	60 – 100
May 1* – Aug. 31	German millet (Setaria italica)	50
* The shift date for annual rye to German millet should be April 15 for the Piedmont and Coastal Plain, rather than May 1.		

Table C-SSM-09-4 Temporary Seeding Applications									
Temporary Seeding Plant Materials, Seeding Rates, and Dates									
Species	**Seeding Rate**		**Northa**			**Southb**			**Plant Characteristics**
	lbs./ acre	lbs./ 1,000 ft2	3/1 - 4/30	5/1 - 8/15	8/15 - 11/1	2/15 - 4/30	5/1 - 9/1	9/1 - 11/15	
Oats (Avena sativa)	50 – 100	2	X	-	--	X	-	-	Use spring varieties (e.g., Noble).
Ryed (Secale cereale)	50 – 110	2.5	X	-	X	X	-	X	Use for late fall seedings, winter cover. Tolerates cold and low moisture.
German millet (Setaria italica)	50	1	-	X*	-	-	X*	-	Warm-season annual. Dies at first frost. May be added to summer mixes.
Annual ryegrassc (Lolium multi-florum)	60	1.5	X*	-	X	X*	-	X	May be added in mixes. Will mow out of most stands.
Korean Lespedezac (Lespedeza stipulacea)	25	1.5	X	X	-	X	X	-	Warm-season annual legume. Tolerates acid soils. May only be used in a mix with another grass (e.g., annual or cereal rye); it is not suitable as a pure seeding for this purpose.

a. Northern Piedmont and Mountain regions. See Figure C-ENV-01-1 and Figure C-ENV-01-2.
b. Southern Piedmont and Coastal Plain.
c. May be used as a cover crop with spring seeding.
d. May be used as a cover crop with fall seeding.
Xe. May not be planted between these dates.
-f May be planted between these dates.
* The shift date for annual rye to German millet should be April 15 for the Piedmont and Coastal Plain, rather than May 1.

P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

Williams

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 089
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-089	OF 097

PERMANENT SEEDING SPECIFICATIONS

MEADOW SEED MIX INSTRUCTIONAL NARRATIVE:

1. MEADOW TO BE ESTABLISHED BY SEEDING THE VIRGINIA SOUTHERN PIEDMONT STEEP SLOPE MIX (ERNSMX 866) IN TABLE 1. IF THE PRIMARY MEADOW MIX IS NOT AVAILABLE OR IS LIMITED IN QUANTITY, THE SECONDARY OR TERTIARY MIXES SHALL BE SELECTED. THE SEED SUPPLIER MAY SUBSTITUTE SPECIES WITHIN ANY OF THE MIXES BASED ON SEED AVAILABILITY. COORDINATE WITH SEED SUPPLIER WELL IN ADVANCE TO ENSURE AVAILABILITY AT TIME OF SEEDING. IF NECESSARY, STORE INDOORS IN A COOL AND DRY PLACE. FOLLOW SCARIFICATION AND STRATIFICATION REQUIREMENTS OF SEED SUPPLIER PRIOR TO SEEDING.

2. TEST SOIL FOR NUTRIENT AND PH LEVELS. APPLY FERTILIZER AND LIME AS RECOMMENDED BY THE SOIL TEST ANALYSIS AND ENSURE FINAL PH LEVELS ARE WITHIN THE SOIL PH TOLERANCES LISTED WITHIN THE SEED MIXES.

3. FOLLOW GUIDANCE DISTURBANCE–SITES–STEEP–SLOPES_PG.PDF, UPLAND–MEADOW–SITES_PG.PDF, FALL–VS.–SPRING–SEEDING_PG.PDF, AND OBSTACLES_SUCCESSFUL–MEADOW–ESTABLISHMENT_PG.PDF FOUND AT WWW.ERNSTSEED,COM FOR SITE PREPARATION AND GROWING SEASON MAINTENANCE. FOLLOW GUIDANCE TOOLS–AND–SEEDING–METHODS_PG.PDF FOUND AT WWW.ERNSTSEED,COM FOR SEEDING METHODS. SEE REFORESTATION PLANS FOR ADDITIONAL INFORMATION

TABLE 1: PRIMARY MEADOW SEED MIX

ERNSMX 866 Virginia Southern Piedmont Steep Slope Mix		
Scientific Name	**Common Name**	**% of Mix**
Sorghastrum nutans	Indiangrass	27.0
Schizachyrium scoparium	Little Bluestem	22.0
Elymus virginicus	Virginia Wildrye	18.0
Panicum clandestinum	Deertongue	15.0
Agrostis hyemalis	Winter Bentgrass	5.0
Agrostis perennans	Autumn Bentgrass	5.0
Tridens flavus	Purpletop	2.0
Rudbeckia hirta	Blackeyed Susan	1.2
Coreopsis lanceolata	Lanceleaf Coreopsis	1.0
Eragrostis hirsuta	Bigtop Lovegrass	1.0
Asclepias syriaca	Common Milkweed	0.5
Eupatorium coelestinum	Mistflower	0.5
Lespedeza virginica	Slender Lespedeza	0.5
Penstemon laevigatus	Appalachian Beardtongue	0.5
Chamaecrista nictitans	Sensitive Pea	0.2
Liatris spicata	Marsh Blazing Star	0.2
Solidago nemoralis	Gray Goldenrod	0.2
Landscape Settings: Pollinator friendly mix will stabilize slopes while providing food and cover for wildlife.		
Soil pH Tolerance: 4.5 - 7.8		
Seeding Rates: Apply at a rate of 45 lbs./acre with a cover crop. Use one of the following cover crops: grain oats (30 lbs./acre; 1 Jan to 30 Apri). Brown top millet (10 lbs./acre; 1 May to 31 Aug), or grain rye (30 lbs./acre; 1 Sep to 31 Dec).		

TABLE 2: SECONDARY MEADOW SEED MIX

ERNSMX 310 North Carolina Steep Slope Mix		
Scientific Name	**Common Name**	**% of Mix**
Elymus virginicus	Virginia Wildrye	22.00%
Sorghastrum nutans	Indiangrass	21.90%
Schizachyrium scoparium	Little Bluestem	19.30%
Panicum virgatum	Switchgrass	18.00%
Tridens flavus	Purpletop	15.00%
Coreopsis lanceolata	Lanceleaf Coreopsis	1.30%
Rudbeckia hirta	Blackeyed Susan	1.30%
Bidens aristosa	Showy Tickseed Sunflower	1.00%
Monarda fistulosa	Wild Bergamot	0.20%
Landscape Settings: Pollinator friendly mix will stabilize slopes while providing food and cover for wildlife.		
Soil pH Tolerance: 4.5 - 7.8		
Seeding Rates: Apply at a rate of 45 lbs./acre with a cover crop. Use one of the following cover crops: grain oats (30 lbs./acre; 1 Jan to 30 Apr), brown top millet (10 lbs./acre; 1 May to 31 Aug), or Grain Rye (30 lbs./acre; 1 Sep to 31 Dec).		

TABLE 3: TERTIARY MEADOW SEED MIX

ERNSMX 280 Eastern West Virginia Steep Slope Mix		
Scientific Name	**Common Name**	**% of Mix**
Sorghastrum nutans	Indiangrass	40.00%
Elymus virginicus	Virginia Wildrye	23.50%
Panicum clandestinum	Tioga Deertongue	17.00%
Andropogon gerardii	Big Bluestem	7.00%
Panicum virgatum	Switchgrass	4.00%
Tridens flavus	Purpletop	3.30%
Heliopsis helianthoides	Oxeye Sunflower	1.80%
Rudbeckia hirta	Blackeyed Susan	1.30%
Asclepias syriaca	Common Milkweed	0.80%
Aster laevis	Smooth Blue Aster	0.50%
Chamaecrista nictitans	Sensitive Pea	0.40%
Monarda fistulosa	Wild Bergamot	0.20%
Solidago juncea	Early Goldenrod	0.20%
Landscape Settings: Pollinator friendly mix will stabilize slopes while providing food and cover for wildlife.		
Soil pH Tolerance: 4.0 - 8.0		
Seeding Rates: Apply at a rate of at 45 lbs./acre with a cover crop. Use one of the following cover crops: grain oats (30 lbs./acre; 1 Jan to 30 Apr), brown top millet (10 lbs./acre; 1 May to 31 Aug), or Grain Rye (30 lbs./acre; 1 Sep to 31 Dec).		

NOTE:

1. PROPOSED SEED MIXES MAY BE MODIFIED FOR LANDOWNER REQUESTS/AGENCY REQUIREMENTS WITH REVIEWING AGENCY APPROVAL.

BRUSH SEED MIX INSTRUCTIONAL NARRATIVE:

1. CONTACT SEED SUPPLIERS TO INQUIRE ABOUT SPECIES AND QUANTITIES AVAILABLE.

2. CHOOSE A MINIMUM OF 10 SPECIES FOR BIODIVERSITY. MAXIMIZE BIODIVERSITY BY SELECTING AS MANY SPECIES AS POSSIBLE. USE INFORMATION PROVIDED IN COLUMNS 3, 4, AND 5 TO INFORM SELECTIONS. LARGER QUANTITIES SHOULD BE SELECTED FOR THE SMALLER PLANT SPECIES ON THE TOP OF THE LIST AND SMALLER QUANTITIES SHOULD BE SELECTED FOR THE LARGER SPECIES AND VINE AT THE BOTTOM OF THE LIST. TOTAL SF (SQUARE FEET) OF SELECTED PLANTS MUST EXCEED 24,289.06 SF PER ACRE. USE THE SPREADSHEET PROVIDED TO CALCULATE SEEDS REQUIRED PER ACRE TO MEET THE REQUIREMENTS. NOTE: PLANTS WITH AN ASTERISKS SHOULD NOT BE SEEDED WHERE BRUSH HOGGING IS ANTICIPATED.

3. CONTACT SEED SUPPLIER WELL IN ADVANCE TO ENSURE AVAILABILITY AT THE TIME OF PLANTING. IF NECESSARY, STORE INDOORS IN A COOL AND DRY PLACE. FOLLOW SCARIFICATION, STRATIFICATION, AND SEED BED PREPARATION RECOMMENDATIONS FOR OPTIMUM GERMINATION FROM THE SEED SUPPLIER PRIOR TO SEEDING.

4. PREPARE THE SITE ACCORDING TO GUIDANCE DOCUMENTS LISTED IN THE MEADOW NARRATIVE. FOLLOW GUIDANCE TOOLS–AND–SEEDING–METHODS_PG.PDF FOUND AT WWW.ERNSTSEED.COM FOR SEEDING METHODS.

5. APPLY THE BRUSH SEEDS SEPARATELY FROM THE MEADOW SEED MIX. APPLY SEEDS AT THE RATE OF TOTAL BRUSH SEEDS/ACRE OR TOTAL LBS./AC AS CALCULATED IN THE SPREADSHEET.

6. SELECT A MEADOW SEED MIX AND APPLY ACCORDING TO THE MEADOW SEED MIX INSTRUCTIONAL NARRATIVE.

7. DO NOT BRUSH HOG UNTIL THE FOURTH YEAR TO ALLOW FOR ADEQUATE ESTABLISHMENT. BRUSH HOGGING SHOULD OCCUR IN LATE WINTER (APPROXIMATELY FEBRUARY 25TH) AFTER GROUND–DWELLING BIRD NESTING SEASON AND TO ALLOW SEED AND FRUIT SET AND SEED COLD TREATMENT.

SEED SUPPLIER LEGEND

S – HTTPS://SHEFFIELDS.COM/

E – HTTPS://WWW.ERNSTSEED.COM/SEED–FINDER–TOOL/?_PRODUCT_TYPE=INDIVIDUAL–SPECIES

A – HTTPS://ARCHEWILD,COM/NATIVE–PLANT–NURSERIES/CUSTOM–GROWING/

**: SUPPLIER OF THIS SEED AS OF 4/25/2025

TABLE 4: BRUSH SEED MIX

Scientific Name	Common Name	Size Category or Mature Brush	Ideal Quantity per Acre	Estimated Size of Brush After 3 Years (sf)	Approximate Seeds/lb. (USDA)	Potential Seed Suppliers**
Gaylussacia baccata	Black Huckleberry	Small	201+	7.0700	354,000	A
Ceanothus americanus	New Jersey Tea	Small	201+	7.07	112,000	A,S
Euonymus americanus	Strawberry Bush	Small	201+	15.91	35,100	S
Hydrangea arborescens	Smooth Hydrangea	Small	201+	19.62	3,690,680	A
Vaccinium stamineum	Deerberry	Small	201+	15.91	372,280	A,S
Rosa carolina	Pasture Rose	Small	201+	15.91	50,000	S
Rhus aromatica	Fragrant Sumac	Small	201+	7.07	49,000	A,S
Rubus allegheniensis	Common Blackberry	Medium	51 to 200	63.62	262,000	E,S
Viburnum dentatum	Arrowwood Viburnum*	Medium	51 to 200	15.91	576,827	A,E,S
Rhododendron periclymenoides	Dwarf Azalea	Medium	51 to 200	15.91	4,500	S
Viburnum acerifolium	Mapleleaf Viburnum	Medium	51 to 200	7.07	13,100	A,S
Sambucus canadensis	Elderberry	Medium	51 to 200	28.27	291,590	E,S
Aronia arbutifolia	Red Chokeberry*	Large	6 to 50	15.91	256,000	A,S
Lindera benzoin	Spicebush	Large	6 to 50	7.07	4,500	E,S
Corylus americana	American Hazelnut*	Large	6 to 50	15.91	491	A,E,S
Hamamelis virginiana	Witchhazel	Large	6 to 50	7.07	11,000	A,E,S
Parthenocissus quinquefolia	Virginia Creeper	Very Large	1 to 5	78.5	18,367	E,S
* Plants should not be seeded where brush hogging is anticipated.						

WOODS INSTRUCTIONAL NARRATIVE:

1. BARE ROOT WOODY STOCK TREE WHIPS, 2–3 YEAR OLD SEEDLINGS SHALL BE APPROXIMATELY 6" TO 18" DEPENDING ON SPECIES. CONTACT SEEDLING SUPPLIERS TO INQUIRE ABOUT SPECIES AND QUANTITIES AVAILABLE.

2. SELECT TREE SPECIES TOTALING 300 SEEDLINGS PER ACRE IN ACCORDANCE WITH TABLE 3 ON PAGE 13 OF THE USDA VIRGINIA TECHNICAL NOTES FORESTRY #3, DATED OCTOBER 2021. SELECT A MINIMUM OF 3 SPECIES PER CATEGORY (COLUMN 3).

3. MEET THE REQUIRED PERCENTAGES (COLUMN 4) FOR EACH CATEGORY (COLUMN 3). MAXIMIZE BIODIVERSITY BY SELECTING AS MAN SPECIES AS POSSIBLE.

4. SELECT A MEADOW SEED MIX AND APPLY ACCORDING TO THE MEADOW SEED MIX INSTRUCTIONAL NARRATIVE.

5. APPLY BRUSH SEED MIX ACCORDING TO THE BRUSH SEED MIX INSTRUCTIONAL NARRATIVE.

6. PLANT WHIPS 12' APART AND IN ACCORDANCE WITH LANDSCAPE INDUSTRY STANDARD PRACTICES.

7. BRUSH/WOODS HABITAT SHOULD NOT BE BRUSH HOGGED, BUT ALLOWED TO BECOME FOREST OVER TIME.

TABLE 5: WOODS

Scientific name (Genus, species)	Common Name	Category	Required % per Acre by Category
Quercus alba	White Oak	Oak	40%
Quercus coccinea	Scarlet Oak		
Quercus falcata	Southern Red Oak		
Quercus montana	Chestnut Oak		
Quercus rubra	Northern Red Oak		
Quercus stellata	Post Oak		
Quercus velutina	Black Oak		
Carya alba	Pignut Hickory	Hickory	30%
Carya tomentosa	Mockernut Hickory		
Carya ovalis	Red Hickory		
Carya ovata	Shagbark Hickory		
Pinus echinata strobus	Shortleaf Pine	Pine	15%
Pinus strobus	White Pine		
Pinus taeda	Loblolly Pine		
Pinus virginiana	Virginia Pine		
Acer rubrum	Red Maple	Other Overstory	10%
Liriodendeon tulipifera	Yellow Poplar		
Liquidambar styraciflua	Sweetgum		
Nyssa sylvatica	Black Gum		
Cercis canadensis	Eastern Redbud	Understory	5%
Cornus florida	Flowering Dogwood		
Sassafras albidum	Sassafras		
Ostrya virginiana	Eastern Hop-hornbeam		

_____, P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25	DRAWING NUMBER: VA-EDEN-ES-090	SHEET 090 OF 097
WO: C1009554	RID: 500		

Table C-SSM-10-2 Construction Specifications for Permanent Seeding

Parameter	Notes on Execution
Selection of Plant Materials	Selection of plant materials is based on climate, topography, soils, land use, and planting season. To determine which plant materials are best adapted to a specific site, use Table C-SSM-10-4 and Table C-SSM-10-5, which describe plant characteristics and list recommended varieties. The species listed in Table C-SSM-10-4 to C-SSM-10-8 are not exclusive and other species and varieties may be suitable for use in Virginia based on emerging research by VDOT and the revegetation industry. However, use of aggressive or invasive species as identified by VA DCR where viable native substitutes are available is discouraged. Information about invasive species is available on the DCR website. (See DCR 2022) Suggested basic seeding mixtures for site conditions in Virginia are provided in Tables C-SSM-10-6, C-SSM-10-7, and C-SSM-10-8. These mixtures are designed for general use and have proven to be successful over time on typical sites. See Tables CSSM- 10-4 and C-SSM-10-5 for recommended varieties. However, it is strongly suggested that all low maintenance seed mixtures contain at least two different species of both grasses and legumes in addition to an appropriate seasonal cover species. More extensive descriptions of plant materials (grasses and legumes), their usage, and pictorial representations are provided in Table C-SSM-10-1. When using some varieties of turf grasses, the Virginia Crop Improvement Association (VCIA) recommends that turf grass mixtures may also be used. Consumer protection programs have been devised to identify quality seed of the varieties recommended by the Virginia Cooperative Extension Service. These will bear a label indicating that they are approved by the Association. Mixtures may be designed for a specific physiographic region or based on intended use. Special consideration is given to plant characteristics, performance, and other attributes. Site planners and designers should refer to the DCR invasive species list as part of the process of selecting plant materials for a site. (See DCR 2022). This serves two purposes: to avoid use of invasive species to the extent possible; and to ensure plant selection is based on the most current information available.
Seed Quality Criteria	Where certified seed is not available, use grass and legume seed in vegetative establishment that meets the minimum requirements as provided below: Ensure all tags on containers of seed are labeled to meet the requirements of the state seed law. Ensure all seed is subject to re-testing by a recognized seed laboratory that employs a registered seed technologist or by a state seed lab. Ensure all seed used has been tested within 12 months. Ensure the inoculant added to legume seed in the seed mixtures is a pure culture of nitrogen-fixing bacteria prepared for the species. Do not use inoculants after the date indicated on the container. Use twice the supplier's recommended rate of inoculant on dry seedings; five times the recommended rate if hydroseeded. Delay addition of the inoculant until no more than 30 minutes prior to hydroseeding to avoid loss of viability Ensure the quality of the seed used is shown on the bag tags to conform to the guidelines documented in Table C-SSM-10-9. All seeding rates shown in Tables C-SSM-10-4 to C-SSM-10-9 should be applied on a "pure live seed" (PLS) basis calculated as the sum of readily germinable and hard seed, but not inert matter or other weedy species.
Seedbed Requirements	Do not establish vegetation on slopes that are unsuitable due to inappropriate soil texture, poor internal structure or internal drainage, volume of overland flow, or excessive steepness until these problems have been corrected. To maintain a good stand of vegetation, ensure the soil meets the following minimum requirements as a growth medium: Sufficient fine grained soil material (> 25% < 2 mm) to maintain adequate soil moisture and nutrient supply. Areas that do not meet this requirement will require topsoiling (C-SSM-02) or application of compost and/or manufactured soil materials to be viable; Sufficient pore space to permit root penetration. An in situ surface soil bulk density of between 1.35 g/cm3 (clayey soils) and 1.75 g/cm3 (sandy soils) following site preparation and soil amendment indicates sufficient pore space for water holding and enhanced infiltration.; Sufficient soil depth to provide an adequate root zone. Ensure the depth to rock or impermeable layers (such as hardpans) is a minimum of 12 inches, except on slopes steeper than 2H:1V, where the addition of soil is not feasible; A favorable pH range for plant growth. If the soil is so acidic that a pH range of 6.0 to 7.0 cannot be attained by addition of pH-modifying materials, then the soil is considered an unsuitable environment for plant roots, and further soil modification is required; Free from toxic amounts of materials harmful to plant growth; and Free from excessive quantities of roots, branches, large stones, large clods of earth, or trash of any kind. Clods and stones may be left on slopes steeper than 3H:1V if they do not significantly impede good seed-to-soil contact. If any of these criteria cannot be met (i.e., if the existing soil is too coarse, dense, shallow, acidic, or contaminated to foster vegetation), apply topsoil in accordance with Topsoiling (C-SSM-02). Install the necessary structural erosion and sediment control practices before seeding. Carry out grading according to the approved plan. Roughen surfaces in accordance with Surface Roughening (C-SSM-03).
Soil Conditioners and Amendments at Seeding	To modify the texture, structure, or drainage characteristics of a soil, the following materials may be added. Any product labeled as a soil conditioner, horticultural growing medium, liming material or fertilizer in VA must be approved by VDACS. Peat: Peat is a very costly conditioner but works well. If added, use sphagnum moss peat, hypnum moss peat, reed-sedge peat, or peat humus from freshwater sources. Shred and condition peat in storage piles for at least 6 months after excavation. Use a wetting agent unless aged peat is available. Sand: Use sand that is clean and free of toxic materials. Sand modification is ineffective unless added at a rate of 80 to 90 percent by volume, which is extremely difficult to achieve onsite. If this practice is considered, consult a professional authority to ensure that it is conducted properly. Animal Manure: Any application of animal manures must follow applicable VDEQ waste management regulations and may be subject to VA DCR nutrient management planning (NMP) guidance. Fully composted (per criteria in C-SSM-04) manure products can be utilized as soil conditioners with input from a waste management professional. Rotted Sawdust or Wood Waste Materials: Thoroughly rotted sawdust or stabilized wood waste materials that is free of sticks, stones and toxic materials may be used as a soil conditioner, but may require additional N fertilizer to offset high C:N ratio limitations based on input from a waste management professional. Biosolids: Utilization of biosolids (treated sewage sludge) is a proven beneficial practice for a wide range of agricultural and disturbed land remediation and revegetation practices. All land application of biosolids is regulated by VDEQ on a producer x site-specific application basis in conformance with USEPA Part 503 regulations. Conformance with DCR Nutrient Management Planning (NMP) criteria is also generally required. Certain biosolids products (Class A; EQ) have been treated, processed and tested to an extent that they are available for general use without a site-specific permit. Biosolids are an effective soil amendment that can supply organic matter and essential macro/micronutrients when applied and utilized properly. Application rates may vary from < 5 to 35 dry tons per acre per depending on site-specific soil conditions and nutrient management/loss considerations. Certain composted products also contain biosolids and are available for use as a revegetation soil amendment.
Lime	Determine lime needs by soil tests, which may be performed by the Cooperative Extension Service Soil Testing Laboratory at Virginia Polytechnic Institute and State University (VPI&SU) or by a reputable commercial laboratory. Information concerning the State Soil Testing Laboratory is available from county extension agents. Reference Table C-SSM-10-10 for liming applications needed to correct undesirable pH for various soil types. Under unusual conditions, where it is not possible to obtain a soil test, apply an agricultural grade of limestone at the following rates. Coastal Plain — 2 tons/acre (90 lbs./1,000 ft2) Piedmont and Appalachian Region — 2 tons/acre (90 lbs./1,000 ft2) Liming materials should be labeled and approved by VDACS.
Fertilizer	Determine fertilizer needs by soil tests, which may be performed by the Cooperative Extension Service Soil Testing Laboratory at VPI&SU (https://www.soiltest.vt.edu/) or by a reputable commercial laboratory. Information concerning the Soil Testing Laboratory is available from county extension agents. All fertilizer materials should be VDACS approved and labeled. Under unusual conditions, where it is not possible to obtain a soil test, apply a fertilizer at the following rates. Mixed Grasses & Legumes: 1,000 lbs./acre (23 lbs./1,000 ft2) of 10-20-10 (N-P2O5-K2O) or equal. These rates apply to establishment needs only and subsequent post-establishment fertilization with N will be required for pure grass stands or stands where at least a 25% legume component does not persist. Follow-up applications of P2O5 may also be required for exposed fine-textured, acidic and high clay subsoil materials. These subsoils are typically red to reddish yellow in color. Additional K2O is also required for frequently mowed stands or on very sandy soils. All fertilizer application should be based on soil testing by the Virginia Tech Soil Testing Laboratory or another DCR approved laboratory. Legume Stands Only: 1,000 lbs./acre (23 lbs./ 1,000 ft2) of 5-20-10 is preferred 1,000 lbs./acre (23 lbs./ 1,000 ft2) of 10-20-10 or equal Grass Stands Only: 1,000 lbs./acre (23 lbs./1,000 ft2) of 10-20-10 or equal Use other fertilizer formulations, including slow-release sources of nitrogen (preferred from a water quality standpoint), provided these fertilizers can supply the same amounts and proportions of plant nutrients.
Incorporation	Incorporate lime and fertilizer into the top 4 to 6 inches of the soil by discing or other means whenever possible. For erosion control, when applying lime and fertilizer with a hydroseeder, apply to a rough, loose surface.
Seeding	Certified Seed: use certified seed for all permanent seeding whenever possible. Certified seed is inspected by the VCIA or the certifying agency in other states. Use seed that meets the published state standards and bears an official "Certified Seed" label (see Seed Quality Criteria in row 2 of this table). Legume Seed: Use legume seed inoculated with the inoculant appropriate to the species. Scarify seed of the lespedezas and the clovers species to promote uniform germination. Application: Apply seed uniformly with a broadcast seeder, drill, cultı-packer seeder, or hydroseeder on a firm, friable seedbed. Ensure the seeding depth is between 0.25 to 0.5 inch. Hydroseeding: To avoid poor germination rates because of seed damage during hydroseeding, add 50 percent more seed to the tank if machinery breaks down for 30 minutes to 2 hours based on the proportion of the slurry remaining in the tank. Beyond 2 hours, a full rate of new seed may be necessary. Often, hydroseeding contractors prefer not to apply lime in their rigs, as it is abrasive. In inaccessible areas, apply lime separately in pelletized or liquid form. Surface roughening is particularly important when hydroseeding, as a roughened slope will provide some natural coverage of lime, fertilizer, and seed. Apply inoculants at five times the recommended rate when inoculant is included in the hydroseeder slurry.
Mulching	Mulch all permanent seeding immediately upon completion of seed application in accordance with Mulching (C-SSM-11).
Maintenance of New Seedings	In general, a stand of vegetation cannot be determined to be fully established until it has been maintained for 1 full year after planting.
Irrigation	Supply new seedings with adequate moisture. Supply water as needed, especially late in the season, in abnormally hot or dry weather, or on adverse sites. Control water application rates to prevent excessive runoff. Inadequate amounts of water may be more harmful than no water.
Reseeding	Inspect seeded areas for failure and make necessary repairs and reseedings within the same season if possible. If vegetative cover is inadequate to prevent rill erosion, over-seed and fertilize in accordance with soil test results. If a stand has less than 40 percent cover, re-evaluate choice of plant materials and quantities of lime and fertilizer. Test the soil to determine if acidity or nutrient imbalances are responsible. Re-establish the stand following seedbed preparation and seeding recommendations.
Post-Establishment Fertilization	Begin fertilization of intensively managed/mowed cool-season grasses 90 days after planting to ensure proper stand and density. Begin fertilization of intensively managed/mowed warm-season grasses at 30 days after planting. Apply maintenance levels of fertilizer as determined by soil test. In the absence of a soil test, conduct fertilization as follows: Cool-Season Grasses 4 lbs. nitrogen per 1,000 ft2 per year 1 lb. phosphorus per 1,000 ft2 per year 2 lbs. potash per 1,000 ft2 per year Apply 75 percent of the total requirements between September 1 and December 31. Apply the balance during the remainder of the year. Do not apply more than 1 lb. of soluble nitrogen per 1,000 ft2 at any one time. Warm-Season Grasses Apply 4 to 5 lbs. nitrogen per 1,000 ft2 per year between May 1 and August 15. Apply phosphorus and potash according to soil test. Note: The use of slow-release fertilizer formulations for maintenance of turf is encouraged to reduce the number of applications and the impact on groundwater. Less intensive post-establishment fertilizer applications may be required for low-intensity un-mowed stands, particularly when at least 25% legumes are present. However, stand density and vigor should be evaluated periodically if lower fertilization rates are employed. Soil testing should be utilized for routine P and K prescriptions over time, but not for N recommendations. Maintenance of pH > 5.5 is essential for both grass and legume persistence in permanent seedings.
Other Additives	A wide range of other soil amendments including byproduct limes, digestates, biochar, and various processed animal manure products are available for utilization in permanent seeding applications. However, users should ensure that any soil bulk soil amendment has been approved for such use by VDACS, VDEQ or DCR and that application complies with appropriate labeling or NMP limitations.

Table C-SSM-11-1 Design Considerations for Organic Mulches

Mulch	Notes on Proper Use
Straw	Straw is most used in conjunction with seeding. Use straw that comes from wheat or oats (free of troublesome weed seeds) and spread by hand or machine. Anchor down straw by an acceptable method, as the straw can be windblown.
Hay	Hay may be used in lieu of straw where volunteer germination will not present a problem and may be spread by hand or machine. Anchor or tack down hay that can be windblown.
Corn Stalks	Shred corn stalks into 4- to 6-inch lengths. Stalks decompose slowly and are resistant to displacement.
Wood Chips	Wood chips are suitable for areas that will not be closely mowed and around ornamental plantings. Place wood chips at 2 to 7 inches of depth. Chips decompose slowly and do not require tacking. Treat wood chips with 12 pounds of nitrogen per ton to prevent nutrient deficiency in plants; however, wood chips can be a very inexpensive mulch if obtained from trees cleared on the site.
Bark Chips, Shredded Bark	Bark chips and shredded bark are by-products of timber processing used in landscaped plantings. Bark is also a suitable mulch for areas planted with grasses and not closely mowed. Bark may be applied by hand or mechanically and is not usually toxic to grasses or legumes; additional nitrogen fertilizer is not required. Place bark at a rate of 35 cubic yards per acre.
Fiber Mulch	Fiber mulch is used in hydroseeding operations and applied as part of the slurry. It creates the best seed-soil contact when applied atop (as a separate operation) newly seeded areas. These fibers do not require tacking, although tacking agents or binders are sometimes used in conjunction with the application of fiber mulch. This form of mulch does not sufficiently protect highly erodible soils. Additionally, fiber mulch is not adequate when used during the dry summer months or when used for late fall mulch cover. Use straw mulch during these periods. Fiber mulch may be used to tack (anchor) straw mulch. This treatment is well suited for steep slopes, critical areas, and areas susceptible to displacement. Apply fiber at a maximum of rate 2,000 pounds per acre.
Other Organic Materials	There are other organic materials that make excellent mulches but are only available locally or seasonally. Creative use of these materials can reduce costs.
Chemical Mulches and Soil Binders	A wide range of synthetic, spray-on materials is marketed to stabilize and protect the soil surface. These include emulsions or dispersions of vinyl compounds, rubber, or other substances mixed with water and applied to the soil. These materials may be used alone in some cases as temporary stabilizers or in conjunction with fiber mulches or straw. When used alone, chemical mulches are not capable of insulating the soil or retaining soil moisture like organic mulches and do not have good characteristics for an aid in seeding establishment. This soil protection is also easily damaged by traffic. Application of these mulches is usually more expensive than organic mulching, and the mulches decompose in 60 to 90 days. Check labels on chemical mulches and binders for environmental concerns. Take precautions to avoid damage to fish, wildlife, and water resources.
Netting, Blanket, and Mats	Netting is very effective at holding mulch in place on waterways and slopes before grass can be established. Field experience has shown that plastic netting, when used alone, does not retain soil moisture or modify soil temperature. In some cases, netting may stabilize the soil surface while grasses are establishing but is primarily used in grassed waterways and on slopes to hold straw or similar mulch in place. Jute mesh and other soil stabilization blankets are good choices for mulching on difficult slopes and in minor drainage swales. Most of the soil stabilization mattings (used to create a permanent matrix for root growth within the soil) must be mulched to properly stabilize an area. Notably, some manufacturers have recently developed permanent mattings that include self-contained, temporary mulching materials; however, these measures will have to meet the requirements noted in Soil Stabilization Blankets and Matting (BMP C-SSM-05) before they can be recommended for use on steep slopes and in channel flow situations. The most critical aspect of installing blankets and mats is obtaining firm, continuous contact between the material and the soil. Without such contact, the material may fail and allow erosion to occur. It is important to use an adequate number of staples and make sure the material is installed properly to maximize soil protection. These products are discussed in more detail in Soil Stabilization Blankets and Matting (BMP C-SSM-05).

Table C-SSM-11-2 Construction Specifications for Organic Mulches

Parameter	Instructions
Criteria	Organic mulches may be used in any area where mulch is required, subject to the restrictions noted in Table C-SSM-11-5. Organic mulches are effective where they can be tacked securely to the surface of the soil.
Materials	Select materials based on site requirements, availability of materials, and availability of labor and equipment. Table C-SSM-11-5 lists the most used organic mulches. Other materials, such as peanut hulls and cotton burs, may be used with the permission of the certified plan reviewer.
Prior to Mulching	Before mulching, complete the required grading and install necessary sediment control practices. Apply lime and fertilizer seed and complete surface roughening as needed before mulching except in the following circumstances. Seed is applied as part of a hydroseeder slurry containing wood fiber mulch. A hydroseeder slurry is applied over straw.
Application	Spread mulch materials uniformly by hand or machine. When spreading straw mulch by hand, divide the area to be mulched into approximately 1,000-square-foot sections and place 70 to 90 pounds (1.5 to 2 bales) of straw in each section to facilitate uniform distribution. After spreading mulch, ensure no more than 25% of the ground is visible. When using a hydroseeder, confirm the use of a green dye to ensure the seed is spread uniformly across the ground.

Table C-SSM-11-3 Mulch Anchoring Specifications

Method	Notes on Proper Use
Mulch Anchoring Tool	A tractor-drawn implement designed to punch mulch into the soil surface, often referred to as a Krimper or Krimper tool. This method provides good erosion control with straw. It is limited to use on slopes no steeper than 3H:1V, where equipment can operate safely. Operate machinery along the contour.
Fiber Mulch	A very common practice with widespread use today. Apply fiber mulch by means of a hydroseeder at a rate of 500 to 750 pounds per acre atop straw mulch or hay. Fiber mulch has an added benefit of providing additional mulch to the newly seeded area.
Mulch Nettings	Lightweight plastic, cotton, or paper nets may be stapled over the mulch according to manufacturer's recommendations.
Peg and Twine	Because it is labor-intensive, this method is feasible only in small areas where other methods cannot be used. Drive 8- to 10-inch wooden pegs 3 inches into the soil surface every 4 feet in all directions. Stakes may be driven before or after straw is spread. Secure mulch by stretching twine between pegs in a crisscross-within-a square pattern. Turn twine two or more times around each peg.
Vegetation	Rye (grain) may be used to anchor the mulch in fall plantings and German millet in the spring. Broadcast at 15 pounds per acre before applying mulch.
Liquid Mulch Binders	Ensure application of liquid mulch binders and tackifiers is heaviest at edges of mulched areas and at crests of ridges and banks to prevent displacement. Uniformly apply the binder to the remainder of the area. Binders may be applied after mulch is spread or may be sprayed into the mulch as it is being blown onto the soil. Straw and binder together are noted as the most effective method. The following types of binders may be used: Synthetic Binders: Formulated binders or organically formulated products may be used as recommended by the manufacturer to anchor mulch. Asphalt: Any type of asphalt thin enough to be blown from spray equipment is satisfactory. Use rapid-curing (RC-70, RC-250, RC-800), medium-curing (MC-250, MC- 800), and emulsified asphalt (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1, and CRS-2). Apply asphalt at 0.1 gallon per square yard (10 gal./1000 sq. ft. or 430 gal./acre). Do not use heavier applications, as it may cause the straw to "perch" over rills. All asphalt designations are from the Asphalt Institute Specifications. In traffic areas, uncured asphalt can be picked up on shoes and cause damage to the indoors of buildings/houses. Use RS or CRS types to minimize any potential risk. *Note: This method is not used as commonly as it once was. The development of hydraulic seeding equipment has encouraged the industry to turn to synthetic or organically based binders and tackifiers. When this method is used, environmental concerns should be addressed to ensure that petroleum-based products do not enter water supplies. Avoid applications into waterways or channels.

Table C-SSM-11-4 Chemical Mulch Specifications

Mulch Type	Notes on Proper Use
Chemical Mulches	Chemical mulches* may be used alone only in the following situations: Where no other mulching material is available. In conjunction with temporary seeding when mulch is not required for that practice. From March 15 to May 1 and August 15 to September 30, provided they are used on areas with slopes no steeper than 4H:1V that have been roughened in accordance with Surface Roughening (C-SSM-03). If rill erosion occurs, another mulch material will be applied immediately. *Note: Chemical mulches may be used to bind other mulches or with fiber mulch in a hydroseeded slurry at any time. Manufacturer's recommendations for application of chemical mulches will be followed.

Table C-SSM-11-5 Organic Mulch Materials and Application Rates

Mulches	Rates		Notes
	Per Acre	Per 1,000 ft2	
Straw or Hay	1.5 to 2 tons	70 to 90 lbs.	Free from weeds and coarse matter. Must be anchored. Spread with mulch blower or by hand. Use a minimum of 2 tons per acre for winter cover.
Fiber Mulch	1500 lbs	35 lbs.	Do not use as mulch for winter cover or during hot, dry periods. Apply as slurry. When fiber mulch is the only available mulch during periods when straw should be used, apply at a minimum rate of 2000 lbs./acre or 45 lbs./1,000 ft2.
Corn Stalks	4 to 6 tons	185 to 275 lbs	Cut or shredded in 4- to 6-inch lengths. Air-dried. Do not use in fine turf areas. Apply with mulch blower or by hand.
Wood Chips	4 to 6 tons	185 to 275 lbs.	Free of coarse matter. Air-dried. Treat with 12 lbs. nitrogen per ton. Do not use in fine turf areas. Apply with mulch blower, chip handler, or by hand.
Bark Chips or Shredded Bark	50 to 70 cy	1 to 2 cy	Free of coarse matter. Air-dried. Do not use in fine turf areas. Apply with mulch blower, chip handler, or by hand.

Source: Va. DSWC

Table C-SSM-10-10 Ground Agricultural Limestone* (lbs./1,000 ft²) needed to Correct pH Level of Acid Soils to 6.5

Existing pH	Soil Texture		
	Sandy Loam	Loam	Clay Loam
6.2	20	35	40
6.0	40	55	70
5.8	55	65	85
5.6	70	80	105
5.4	90	100	125
5.2	105	120	140
5.0	120	140	160
4.8	125	180	205
4.6	155	210	230
4.0	200	250	300

* Apply lime in accordance with the results of a soil test, such as may be obtained through the soil testing laboratory at Virginia Tech or through a reputable commercial laboratory.

P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25	DRAWING NUMBER: VA-EDEN-ES-091	SHEET 091 OF 097
WO: C1009554	RID: 500		

TABLE 1: PFO PERMANENT SEED MIX SPECIES LIST

SPECIES	COMMON NAME	CATEGORY	SEED RATE (LBS/AC)
Lolium multiflorum	Annual Ryegrass	E&S	45
Setaria Italica	Foxtail Millet	E&S	45
Carex lurida	Shallow Sedge	Grasses, Sedges, Rushes	0.3
Carex intumescens	Greater Bladder Sedge	Grasses, Sedges, Rushes	0.1
Carex vulpinoidea	Fox Sedge	Grasses, Sedges, Rushes	0.5
Dicanthelium clandestinum	Deer Tongue Grass	Grasses, Sedges, Rushes	6
Elymus riparius	Riverbank Wildrye	Grasses, Sedges, Rushes	6
Elymus virginicus	Virginia Wildrye	Grasses, Sedges, Rushes	6
Juncus effusus	Soft Rush	Grasses, Sedges, Rushes	0.5
Scirpus atrovirens	Green Bulrush	Grasses, Sedges, Rushes	0.3
Bidens frondosa	Beggar Ticks	Forbs	0.1
Eupatorium perfoliatum	Boneset	Forbs	0.1
Eutrochium fistulosum	Joe Pye Weed	Forbs	0.1
Helenium autumnale	Common Sneezeweed	Forbs	0.1
Ludwigia alternifolia	Bushy Seedbox	Forbs	0.1
Onoclea sensibilis	Sensitive Fern	Forbs	0.1
Polygonum pensylvanicum	Pennsylvania Smartweed	Forbs	0.3
Symphyotrichum novae-angliae	New England Aster	Forbs	0.1
Symphyotrichum puniceum	Purple-stemmed Aster	Forbs	0.1
Verbena hastata	Blue Vervain	Forbs	0.3
Vernonia noveboracensis	New York Ironweed	Forbs	0.1
Cephalanthus occidentalis	Buttonbush	Shrubs	0.3
Cornus amomum	Silky Dogwood	Shrubs	0.3
Ilex verticillata	Winterberry	Shrubs	0.3
Sambucus canadensis	American Black Elderberry	Shrubs	0.3
Viburnum dentatum	Southern Arrowwood	Shrubs	0.3
Acer negundo	Boxelder	Trees	0.3
Acer rubrum	Red Maple	Trees	0.3
Nyassa sylvatica	Black Gum	Trees	0.3
Platanus occidentalis	American Sycamore	Trees	0.3

PERMANENT SEEDING SPECIFICATIONS: PALUSTRINE FORESTED WETLAND (PFO)

PFO PERMANENT SEED MIX INSTRUCTIONAL NARRATIVE

1. PFO TO BE ESTABLISHED BY SEEDING THE PFO PERMANENT SEED MIX IN TABLE 1.
2. OAK AND HICKORY SPECIES TO BE PLANTED AS BARE ROOT SEEDLINGS IN ADDITION TO THIS MIX.
3. TO ENSURE AVAILABILITY, CONTACT SEED SUPPLIER WELL IN ADVANCE OF TIME OF PLANTING. REFER TO THE BARE ROOT PLANTING SPECIFICATION FOR SPECIES AND PLANTING INFORMATION. ENSURE THAT SPECIES REQUIREMENTS PER THE SEED SUPLIER ARE FOLLOWED PRIOR TO SEEDING.
4. IT IS EXPECTED AND PREFERRED THAT ALL SPECIES LISTED IN TABLE 1 ARE PLANTED. AT A MINIMUM, CONTRACTOR TO PROVIDE AT LEAST THE FOLLOWING:
   - ALL OF THE E&S SPECIES
   - 5 OF THE 8 GRASS, SEDGE, RUSH SPECIES
   - 7 OF THE 11 FORB SPECIES
   - 3 OF THE 5 SHRUB SPECIES
   - 2 OF THE 4 TREE SPECIES
5. SEED RATE MUST BE INCREASED TO ACCOUNT FOR THE NUMBER OF SPECIES REDUCED.
6. SUBSTITUTIONS FOR SELECTED SPECIES BASED UPON AVAILABILITY SHALL BE REQUESTED IN WRITING TO ENGINEER, DOCUMENTING THE LACK OF AVAILABILITY. IF THE FLEXIBILITY INHERENT IN TABLE 1 STILL IS NOT SUFFICIENT, ENGINEER IS UNDER NO OBLIGATION TO APPROVE SUBSTITUTIONS.
7. ALL SEEDING RATES ARE EXPRESSED IN POUNDS OF PURE LIVE SEED (PLS).

NOTE:

1. PROPOSED SEED MIXES MAY BE MODIFIED FOR LANDOWNER REQUESTS/AGENCY REQUIREMENTS WITH REVIEWING AGENCY APPROVAL.

TABLE 2: PSS PERMANENT SEED MIX SPECIES LIST

SPECIES	COMMON NAME	CATEGORY	SEED RATE (LBS/AC)
Lolium multiflorum	Annual Ryegrass	E&S	45
Setaria Italica	Foxtail Millet	E&S	45
Carex lurida	Shallow Sedge	Grasses, Sedges, Rushes	0.3
Carex intumescens	Greater Bladder Sedge	Grasses, Sedges, Rushes	0.1
Carex vulpinoidea	Fox Sedge	Grasses, Sedges, Rushes	0.5
Dicanthelium clandestinum	Deer Tongue Grass	Grasses, Sedges, Rushes	6
Elymus riparius	Riverbank Wildrye	Grasses, Sedges, Rushes	6
Elymus virginicus	Virginia Wildrye	Grasses, Sedges, Rushes	6
Juncus effusus	Soft Rush	Grasses, Sedges, Rushes	0.5
Scirpus atrovirens	Green Bulrush	Grasses, Sedges, Rushes	0.3
Ascelpias incarnata	Swamp Milkweed	Forbs	0.1
Eupatorium perfoliatum	Boneset	Forbs	0.1
Eutrochium fistulosum	Joe Pye Weed	Forbs	0.1
Helenium autumnale	Common Sneezeweed	Forbs	0.1
Ludwigia alternifolia	Bushy Seedbox	Forbs	0.1
Polygonum pennsylvanicum	Pennsylvania Smartweed	Forbs	0.3
Symphyotrichum novae-angliae	New England Aster	Forbs	0.1
Symphyotrichum puniceum	Purple-stemmed Aster	Forbs	0.1
Verbena hastata	Blue Vervain	Forbs	0.3
Verbesina alternifolia	Wingstem	Forbs	0.1
Vernonia Noveboracensis	New York Ironweed	Forbs	0.1
Cephalanthus occidentalis	Buttonbush	Shrubs	0.3
Cornus amomum	Silky Dogwood	Shrubs	0.3
Ilex verticillata	Winterberry	Shrubs	0.3
Rosa palustris	Swamp Rose	Shrubs	0.3
Sambucus canadensis	American Black Elderberry	Shrubs	0.3
Viburnum dentatum	Southern Arrowwood	Shrubs	0.3

PERMANENT SEEDING SPECIFICATIONS: PALUSTRINE SCRUB SHRUB WETLAND (PSS)

PSS PERMANENT SEED MIX INSTRUCTIONAL NARRATIVE

1. PSS TO BE ESTABLISHED BY SEEDING THE PSS PERMANENT SEED MIX IN TABLE 2.
2. TO ENSURE AVAILABILITY, CONTACT SEED SUPPLIER WELL IN ADVANCE OF TIME OF PLANTING. REFER TO THE BARE ROOT PLANTING SPECIFICATION FOR SPECIES AND PLANTING INFORMATION. ENSURE THAT SPECIES REQUIREMENTS PER THE SEED SUPLIER ARE FOLLOWED PRIOR TO SEEDING.
3. IT IS EXPECTED AND PREFERRED THAT ALL SPECIES LISTED IN TABLE 2 ARE PLANTED. AT A MINIMUM, CONTRACTOR TO PROVIDE AT LEAST THE FOLLOWING:
   - ALL OF THE E&S SPECIES
   - 5 OF THE 8 GRASS, SEDGE, RUSH SPECIES
   - 7 OF THE 11 FORB SPECIES
   - 3 OF THE 6 SHRUB SPECIES
4. SEED RATE MUST BE INCREASED TO ACCOUNT FOR THE NUMBER OF SPECIES REDUCED.
5. SUBSTITUTIONS FOR SELECTED SPECIES BASED UPON AVAILABILITY SHALL BE REQUESTED IN WRITING TO ENGINEER, DOCUMENTING THE LACK OF AVAILABILITY. IF THE FLEXIBILITY INHERENT IN TABLE 2 STILL IS NOT SUFFICIENT, ENGINEER IS UNDER NO OBLIGATION TO APPROVE SUBSTITUTIONS.
6. ALL SEEDING RATES ARE EXPRESSED IN POUNDS OF PURE LIVE SEED (PLS).

TABLE 3: PEM PERMANENT SEED MIX SPECIES LIST

SPECIES	COMMON NAME	CATEGORY	SEED RATE (LBS/AC)
Lolium multiflorum	Annual Ryegrass	E&S	45
Setaria Italica	Foxtail Millet	E&S	45
Carex comosa	Beared Sedge	Grasses, Sedges, Rushes	0.1
Carex lurida	Shallow Sedge	Grasses, Sedges, Rushes	0.5
Carex vulpinoidea	Fox Sedge	Grasses, Sedges, Rushes	1
Elymus riparius	Riverbank Wildrye	Grasses, Sedges, Rushes	6
Elymus virginicus	Virginia Wildrye	Grasses, Sedges, Rushes	6
Juncus effusus	Soft Rush	Grasses, Sedges, Rushes	1
Juncus tenuis	Path Rush	Grasses, Sedges, Rushes	0.5
Scirpus atrovirens	Green Bulrush	Grasses, Sedges, Rushes	0.5
Asclepias incarnata	Swamp Milkweed	Forbs	0.1
Bidens cernua	Nodding Beggar Ticks	Forbs	0.1
Bidens frondosa	Beggar Ticks	Forbs	0.1
Eupatorium perfoliatum	Boneset	Forbs	0.1
Eutrochium fistulosum	Joe Pye Weed	Forbs	0.1
Eutrochium maculatum	Spotted Joe Pye Weed	Forbs	0.1
Euthamia graminifolia	Grassleaf Goldenrod	Forbs	0.1
Ludwigia alternifolia	Bushy Seedbox	Forbs	0.1
Polygonum pennsylvanicum	Pennsylvania Smartweed	Forbs	0.3
Polygonum saggitatum	Arrow-leaved Tearthumb	Forbs	0.3
Solidago rugosa	Wrinkled Goldenrod	Forbs	0.1
Symphyotrichum novae-angliae	New England Aster	Forbs	0.1
Symphyotrichum puniceum	Purple-stemmed Aster	Forbs	0.1
Verbena hastata	Blue Vervain	Forbs	0.3
Vernonia Noveboracensis	New York Ironweed	Forbs	0.1

PERMANENT SEEDING SPECIFICATIONS: PALLISTRINE EMERGENT WETLAND (PEM)

PEM PERMANENT SEED MIX INSTRUCTIONAL NARRATIVE

1. PEM TO BE ESTABLISHED BY SEEDING THE PEM PERMANENT SEED MIX IN TABLE 3.
2. TO ENSURE AVAILABILITY, CONTACT SEED SUPPLIER WELL IN ADVANCE OF TIME OF PLANTING. REFER TO THE BARE ROOT PLANTING SPECIFICATION FOR SPECIES AND PLANTING INFORMATION. ENSURE THAT SPECIES REQUIREMENTS PER THE SEED SUPLIER ARE FOLLOWED PRIOR TO SEEDING.
3. IT IS EXPECTED AND PREFERRED THAT ALL SPECIES LISTED IN TABLE 3 ARE PLANTED. AT A MINIMUM, CONTRACTOR TO PROVIDE AT LEAST THE FOLLOWING:
   - ALL OF THE E&S SPECIES
   - 5 OF THE 8 GRASS, SEDGE, RUSH SPECIES
   - 10 OF THE 15 FORB SPECIES
4. SEED RATE MUST BE INCREASED TO ACCOUNT FOR THE NUMBER OF SPECIES REDUCED.
5. SUBSTITUTIONS FOR SELECTED SPECIES BASED UPON AVAILABILITY SHALL BE REQUESTED IN WRITING TO ENGINEER, DOCUMENTING THE LACK OF AVAILABILITY. IF THE FLEXIBILITY INHERENT IN TABLE 3 STILL IS NOT SUFFICIENT, ENGINEER IS UNDER NO OBLIGATION TO APPROVE SUBSTITUTIONS.
6. ALL SEEDING RATES ARE EXPRESSED IN POUNDS OF PURE LIVE SEED (PLS).

_____ P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25	DRAWING NUMBER: VA-EDEN-ES-092	SHEET 092 OF 097
WO: C1009554	RID: 500		

BMP Inspection and Maintenance Schedule	
Stone Construction Entrance	
Inspection Schedule:	Stone Construction Entrances (SCEs) shall be inspected daily as necessary.
Maintenance:	SCE thickness shall be constantly maintained to the specified dimensions by adding rock. If the entrance becomes too clogged it must be repaired or replaced.
Perimeter Controls (CFS/SF/RSF/SSF)	
Inspection Schedule:	Controls shall be inspected once every four days.
Maintenance:	Damaged controls shall be repaired according to manufacturer's specifications or replaced within 5 business days of inspection. Biodegradable filter socks shall be replaced after 6 months; photodegradable socks after 1 year. Polypropylene socks shall be replaced according to manufacturer's recommendations. Sediment shall be removed when it reaches half the above-ground height of the perimeter control.
Rock Filter Outlet	
Inspection Schedule:	Controls shall be inspected once every four days.
Maintenance:	Sediment shall be removed when accumulations reach 1/3 the height of the outlet.
Pumped Water Filter Bag	
Inspection Schedule:	Filter Bags shall be inspected daily.
Maintenance:	If any problem is detected, pumping shall cease immediately and not resume until the problem is corrected. Filter bags shall be replaced when they become one-half full of sediment.
Soil Stabilization Blanket	
Inspection Schedule:	Controls shall be inspected once every four days.
Maintenance:	Damaged or displaced blankets shall be restored or replaced as soon as practicable.
Temporary Access Road	
Inspection Schedule:	Controls shall be inspected once every four days.
Maintenance:	Damaged roadways, ditches, or cross drains shall be repaired as soon as practicable.
Waterbars	
Inspection Schedule:	Controls shall be inspected once every four days.
Maintenance:	Damaged or eroded waterbars shall be restored to original dimensions within 5 business days of inspection. Maintenance of waterbars shall be provided until roadway, skidtrail, or right-of-way has achieved permanent stabilization.
Temporary Cofferdam, Flume Pipe, or Pump Bypass	
Inspection Schedule:	Temporary stream crossings shall be inspected daily.
Maintenance:	Damaged crossings shall be repaired within 5 business days of the inspection and before any subsequent use. Sediment deposits on the crossing or its approaches shall be removed as soon as practicable on the EI punchlist of the inspection.
Clean Water Diversion Dike	
Inspection Schedule:	Controls shall be inspected once every four days.
Maintenance:	Damaged diversion dikes shall be repaired as soon as practicable.
Clean Water Diversion Slope Drain	
Inspection Schedule:	Controls shall be inspected once every four days.
Maintenance:	Damanaged diversion pipes shall be repaired as soon as practicable.

Plunge Pool	
Inspection Schedule:	Controls shall be inspected once every four days.
Maintenance:	Damaged plunge pools should be repaired as soon as practicable, and accumalted sediment removed.
Rock Check Dam	
Inspection Schedule:	Controls shall be inspected once every four days.
Maintenance:	If any problem is detected, the check dam shall be repaired as soon as practicable. Sediment is to be removed when it reaches 1/2 of the original height of the measure.
Compost Sock Sediment Trap	
Inspection Schedule:	Controls shall be inspected once every four days.
Maintenance:	Sediment shall be removed when it reaches 1/3 the height of the socks.

ACCESS ROAD RESTORATION

ACCESS ROAD TYPES:

TYPE 1 - EXISTING GRAVEL ROAD TO BE MAINTAINED. NO WIDENING PROPOSED. NO PERIMETER BMP`S PROPOSED.

TYPE 2 - EXISTING GRAVEL ROAD TO BE WIDENED AND THEN RESTORED TO PRE-CONSTRUCTION WIDTH AND CONDITIONS UPON RESTORATION. PERIMETER BMP`S NEAR WETLANDS AND STREAMS PROPOSED.

TYPE 3 - NEW TEMPORARY GRAVEL ROAD TO BE RESTORED TO PRE-CONSTRUCTION CONDITIONS UPON RESTORATION. PERIMETER BMP`S PROPOSED.

TYPE 4 - EXISTING PAVED ROAD. NO MAINTENANCE OR BMP`S PROPOSED.

APPROXIMATE MILEPOST	ACCESS ROAD ID	CATEGORY TYPE (1, 2, 3, 4)	PROPOSED WIDTH (FEET)
1387.9	TAR-VA-MAIN-1387-1	2	14
1387.9	TAR-VA-MAIN-1387-2	3	14
1388.4	TAR-VA-MAIN-1388-1	2	14
1392.6	TAR-VA-MAIN-1392-1	2	14
1395.7	TAR-VA-MAIN-1395-1	3	20
1402.6	TAR-VA-MAIN-1402-3	2	14
1403.4	TAR-VA-MAIN-1403-1	2	14
1405.3	TAR-VA-MAIN-1405-1	2	14
1406.8	TAR-VA-MAIN-1406-2	3	14
1407.2	TAR-VA-MAIN-1406-3	3	14
1408.0	TAR-VA-MAIN-1408-1	3	14
1408.4	TAR-VA-MAIN-1408-2	3	20
1409.4	TAR-VA-MAIN-1409-2	2	14
1411.0	TAR-VA-MAIN-1411-1	2	14
1411.6	TAR-VA-MAIN-1411-2	3	14
1412.7	TAR-VA-MAIN-1412-1	3	14

ALL EXISTING GRAVEL ROADS WIDTHS TO BE DOCUMENTED BY CONTRACTOR AND PROVIDED TO DEQ PRIOR TO CONSTRUCTION. EXISTING ACCESS ROADS WILL BE UTILIZED IN THEIR CURRENT CONFIGURATION WITH NO ADDITIONAL DISTURBANCE BEYOND EXISTING LIMITS UNLESS OTHERWISE SPECIFIED IN THIS PLAN. ALL ACCESS ROADS TO BE RETURNED TO DOCUMENTED PRE-CONSTRUCTION CONDITIONS.

CONSTRUCTION SEQUENCE RESTORATION OF TYPE 2 AND TYPE 3 ACCESS ROADS:

1. REMOVE GRAVEL TO PRE-CONSTRUCTION WIDTH AND CONDITION. HEAVY VEHICULAR AND FOOT TRAFFIC SHALL BE KEPT OUT OF ALL RESTORED PERVIOUS AREA AFTER CONSTRUCTION.
2. DECOMPACT SOIL TO A DEPTH OF 12-INCHES. APPLY A 2-INCH LAYER OF TOPSOIL AS NEEDED.
3. INSTALL SOIL STABILIZATION BLANKET AS SHOWN ON THE PLANS. PERMANENT SEEDING OR SODDING, AS DETERMINED BY THE ENVIRONMENTAL INSPECTOR, SHALL FOLLOW IMMEDIATELY UPON COMPLETION OF SOIL RESTORATION.

SITE RESTORATION

REFER TO THE POST CONSTRUCTION STORMWATER MANAGEMENT/WATER QUANTITY LAND COVER PLAN FOR SITE RESTORATION REQUIREMENTS.

_____, P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041896
05/30/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

DETAILS

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 093
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-093	OF 097

EROSION AND SEDIMENT CONTROL NARRATIVE

1. PROJECT DESCRIPTION:

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC (TRANSCO), AN INDIRECT, WHOLLY OWNED SUBSIDIARY OF THE WILLIAMS COMPANIES, INC. (WILLIAMS), IS SEEKING AUTHORIZATION FROM THE FEDERAL ENERGY REGULATORY COMMISSION (FERC OR COMMISSION) UNDER SECTIONS 7(B) AND 7(C) OF THE NATURAL GAS ACT FOR APPROPRIATE ABANDONMENT AUTHORITY AND A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY (CERTIFICATE) TO CONSTRUCT, OWN, OPERATE, AND MAINTAIN THE PROPOSED PROJECT FACILITIES.

THE PROJECT IS AN EXPANSION OF TRANSCO'S EXISTING NATURAL GAS TRANSMISSION SYSTEM THAT WILL ENABLE TRANSCO TO PROVIDE 1,596,900 DEKATHERMS PER DAY (DTH/D) OF INCREMENTAL FIRM TRANSPORTATION CAPACITY TO REMOVE PIPELINE CAPACITY CONSTRAINTS IN ZONES 4 AND 5 AND MEET GROWING NATURAL GAS-FIRED POWER GENERATION, COMMERCIAL, RESIDENTIAL, AND INDUSTRIAL DEMAND IN THE SOUTHEAST UNITED STATES. TRANSCO IS PROPOSING TO COLLOCATE THE PROPOSED PROJECT WITHIN OR ADJACENT TO THE EXISTING TRANSCO MAINLINE SYSTEM TO THE EXTENT PRACTICABLE. THIS COLLOCATION DESIGN WILL HELP REDUCE THE OVERALL OPERATIONAL FOOTPRINT OF THE PROJECT, MINIMIZING NEW DISTURBANCES TO THE EXTENT PRACTICABLE. THE PROJECT WILL CONSIST OF THE FOLLOWING COMPONENTS

PIPELINE FACILITIES

APPROXIMATELY 26.8 MILES OF THE 42-INCH-DIAMETER PIPELINE IN PITTSYLVANIA COUNTY, VIRGINIA (VA), DESIGNATED AS THE EDEN LOOP.

COMPRESSION FACILITIES (UNDER SEPARATE COVER)

THE ADDITION OF TWO [33,000 HORSEPOWER (HP) EACH] ELECTRIC MOTOR-DRIVEN (EMD) COMPRESSOR UNITS AT TRANSCO'S EXISTING COMPRESSOR STATION 165 LOCATED IN PITTSYLVANIA COUNTY, VA. COMPRESSOR STATION 165 WILL BE LIMITED TO A TOTAL INCREMENTAL OUTPUT OF 45,000 HP, THEREBY INCREASING THE TOTAL CERTIFICATED STATION OUTPUT TO 96,930 HP.

THE USE OF EXISTING, IMPROVED, AND NEW ACCESS ROADS, AND CONTRACTOR YARDS WILL ALSO BE REQUIRED FOR THE PROJECT. ADDITIONAL ANCILLARY FACILITIES AND PIPING, SUCH AS MAIN LINE VALVES (MLVS), CATHODIC PROTECTION, COMMUNICATION FACILITIES, AND INTERNAL INSPECTION DEVICES (E.G., PIG LAUNCHERS AND RECEIVERS) WILL BE NECESSARY TO SUPPORT THE PROJECT.

SUBJECT TO FERC'S CERTIFICATION OF THE PROJECT AND RECEIPT OF OTHER NECESSARY PERMITS AND AUTHORIZATIONS, TRANSCO ANTICIPATES CONSTRUCTION OF THE PROJECT WOULD COMMENCE IN MARCH 2026 TO MEET A PROPOSED PARTIAL IN-SERVICE DATE FOR THE PIPELINE COMPONENTS IN DECEMBER 2026 WITH A FULL PROJECT PROPOSED IN SERVICE DATE OF NOVEMBER 1, 2027.

EDEN LOOP

TRANSCO PROPOSES TO INSTALL APPROXIMATELY 31.2 MILES OF NEW 42-INCH-DIAMETER MAINLINE 'E' LOOP IN PITTSYLVANIA COUNTY, VA AND ROCKINGHAM COUNTY, NC, WITH A MAXIMUM ALLOWABLE OPERATING PRESSURE (MAOP) OF 1,480 POUNDS PER SQUARE INCH GAUGE (PSIG). TRANSCO WILL REFER TO THIS PIPELINE LOOP AS THE EDEN LOOP. TRANSCO DEVELOPED THE PROPOSED ALIGNMENT OF THE EDEN LOOP TO COLLOCATE WITH ITS EXISTING MAINLINE SYSTEM TO THE EXTENT PRACTICABLE TO MINIMIZE OVERALL IMPACTS. WHERE FEASIBLE, THE EDEN LOOP WILL BE COLLOCATED WITH THE EXISTING TRANSCO MAINLINES BETWEEN MP 1382.53 AND MP 1413.29, WITH A NOMINAL OFFSET OF APPROXIMATELY 25 FEET FROM THE EXISTING PIPELINES.

ALL EROSION AND SEDIMENT CONTROLS AND PRACTICES DESCRIBED IN THIS DOCUMENT SHALL BE IMPLEMENTED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL PERMIT CONDITIONS AND REGULATIONS.

2. EXISTING CONDITIONS

EXISTING TOPOGRAPHY INCLUDES VARYING SLOPES. EXISTING LAND COVER INCLUDES FOREST, PASTURE, AGRICULTURAL, AND EXISTING VEGETATED RIGHT-OF-WAY (ROW).

3. ADJACENT AREAS:

ADJACENT AREAS INCLUDE OTHER FORESTED AREAS, SINGLE-FAMILY HOMES, AND AGRICULTURAL ACTIVITIES.

4. OFF-SITE AREAS:

NO OFF-SITE LAND DISTURBING ACTIVITIES ARE PROPOSED. ANY OFF-SITE LAND DISTURBING ACTIVITY ASSOCIATED WITH THE PROJECT MUST HAVE AN APPROVED ESCP.

5. SOILS:

SOILS DISTURBED DURING CONSTRUCTION ACTIVITIES WILL BE GRADED WITHIN THE PROJECT AREA. IF NECESSARY, ADDITIONAL SOIL WILL BE BROUGHT TO THE SITE TO RETURN CONTOURS TO AS CLOSE TO ORIGINAL ELEVATION. DISTURBED AREAS WILL BE REVEGETATED OR STABILIZED DURING EARTH DISTURBANCE ACTIVITIES ASSOCIATED WITH THE PROJECT INCLUDING THE USE OF TEMPORARY BMPS.

THE USDA-NRCS IDENTIFIED SOIL CONTAINED WITHIN THE PROJECT AREA INCLUDE THE FOLLOWING SOIL TYPES LISTED BELOW:

1B--NATHALIE SANDY LOAM, 1C--NATHALIE SANDY LOAM, 3B--DELANCO FINE SANDY LOAM, 4B--CLIFFORD SANDY LOAM, 4C--CLIFFORD SANDY LOAM, 5B3--CLIFFORD SANDY CLAY LOAM, 5C3--CLIFFORD SANDY CLAY LOAM, 7A--CODORUS LOAM, 8A--CODORUS-COMUS COMPLEX, 9B--LACKSTOWN FINE SANDY LOAM, 9C--LACKSTOWN FINE SANDY LOAM, 11B3--MINNIEVILLE CLAY LOAM, 11C3--MINNIEVILLE CLAY LOAM, 17B--YADKIN LOAM, 18C3--YADKIN CLAY LOAM, 21D--POPLAR FOREST FINE SANDY LOAM, 21E--POPLAR FOREST FINE SANDY LOAM, 22B--BENTLEY SANDY LOAM, 23B--CLOVER FINE SANDY LOAM, 23C--CLOVER FINE SANDY LOAM, 23D--CLOVER FINE SANDY LOAM, 28C--PINKSTON COBBLY SANDY LOAM, 29C--PINKSTON-CLOVER COMPLEX, 29D--PINKSTON-CLOVER COMPLEX, 29E--PINKSTON-CLOVER COMPLEX, 34B--SHEVA FINE SANDY LOAM, 39--UDORTHENTS, 41A--HATBORO SILT LOAM

6. CRITICAL AREAS:

THERE ARE WETLAND AND WATERBODY CROSSINGS ALONG THE PIPELINE ROUTE, AS WELL AS WETLANDS AND STREAMS ADJACENT TO THE LOD. CONSISTENT WITH APPLICABLE FEDERAL AND STATE AUTHORIZATIONS, PRIOR TO GRADING ACTIVITIES, SEDIMENT BARRIERS WILL BE INSTALLED ACROSS THE CONSTRUCTION AREA AT THE EDGE OF THE WATER OR THE EDGE OF THE WETLAND, AND ALONG THE SIDES OF THE CONSTRUCTION WORK AREA AS NEEDED TO PREVENT THE FLOW OF SPOIL INTO THE WATERBODY OR WETLAND. SEDIMENT BARRIERS WILL BE PROPERLY MAINTAINED THROUGHOUT CONSTRUCTION AND REINSTALLED AS NECESSARY UNTIL REPLACED BY PERMANENT EROSION CONTROLS OR RESTORATION OF DISTURBED ADJACENT UPLAND AREAS IS COMPLETE. AT WETLAND AND STREAM CROSSINGS, THE CONSTRUCTION LOD HAS BEEN REDUCED FROM TO MINIMIZE IMPACTS. THE PRINCIPAL CROSSING METHOD WILL BE OPEN-CUT DRY-DITCH, INCLUDING FLUME PIPE CROSSING, COFFERDAM CROSSING AND DAM AND PUMP. WATERBODY AND WETLAND CROSSINGS WILL BE CLEARLY MARKED IN THE FIELD PRIOR TO THE START OF TREE CLEARING ACTIVITIES. TRENCH PLUGS WILL BE USED AT ALL WATERBODY CROSSINGS TO PREVENT DIVERSION OF WATER INTO UPLAND PORTIONS OF THE PIPELINE TRENCH AND TO KEEP ANY ACCUMULATED TRENCH WATER OUT OF THE WATERBODY. FINAL GRADING WILL BEGIN PROMPTLY AFTER BACKFILLING IS COMPLETED AND THEN STABILIZED IMMEDIATELY. WHEN TIMBER MATS ARE USED FOR WETLAND AND WATERBODY CROSSINGS, THE BRIDGE ENTRANCE AND EXIT ARE PROTECTED WITH BMPS (TYPICALLY COMPOST FILTER SOCK, OR EQUIVALENT SEDIMENT STOPPING DEVICE) ALONG WITH GEOTEXTILE LAYERED BETWEEN THE TIMBER MATS. THE SIDES OF THE BRIDGE ARE PROTECTED WITH SIDE BOARDS,WEDGES, OR EQUIVALENT SEDIMENT STOPPING DEVICE TO PROTECT THE WATERBODY FROM SPOIL SLOUGHING OFF THE TIMBERMATS INTO THE WATERBODY. TO FURTHER PROTECT WATERS FROM SEDIMENT TRACKED ONTO THE TIMBER MATS, ADDITIONAL CONTROLS WILL BE ADDED IN THE FIELD AS NECESSARY UNDER THE DIRECT SUPERVISION OF THE TRANSCO ENVIRONMENTAL INSPECTOR. TIMBER MATS WILL BE CLEARED OF SOIL/ROCK MUD ACCUMULATION AT THE END OF EACH DAY.

LANDSLIDE SUSCEPTIBLE AREAS ARE PRIMARILY LOCATED ON STEEP SLOPES AND OCCUR IN WEATHERED BEDROCK OR COLLUVIAL SOIL AND WITHIN OLD LANDSLIDE DEBRIS.WHERE THE PIPELINE ROUTE CROSSES LANDSLIDE SUSCEPTIBLE AREAS. REFER TO THE GEOTECHNICAL ENGINEERING REPORT DATED MAY 2025.

ACIDIC SOILS AREAS ARE KNOWN TO OCCUR IN PORTIONS OF THE PROJECT AREA, REFER TO THE PROJECT SPECIFIC STANDARDS AND SPECIFICATIONS FOR VIRGINIA FOR THE ACID FORMING MATERIALS IDENTIFICATION AND TESTING WORK PLAN.

IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING REPORT, NO KARST FEATURES WERE IDENTIFIED WITHIN THE PROJECT AREA.

7. EROSION AND SEDIMENT CONTROL MEASURES:

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, VERSION 1.1, 2024, AS WELL AS ANY ADDITIONAL MEASURES REQUIRED BY APPLICABLE LOCAL, STATE AND FEDERAL PERMIT CONDITIONS AND REGULATIONS. TEMPORARY E&SCS PROPOSED FOR THE PROJECT INCLUDE:

WATERBARS (C-ECM-08, C-ECM-17), STONE CONSTRUCTION ENTRANCE (C-SCM-03), COMPOST FILTER SOCK (C-PCM-05), SILT FENCE (C-PCM-04), SAFETY FENCE (C-PCM-01), BROAD BASED DIP (C-ECM-08), TRENCH PLUGS, CLEAN WATER DIVERSION, RIPRAP (C-ECM-13), OUTLET PROTECTION (C-ECM-15), TEMPORARY VEHICULAR STREAM CROSSING (C-ENV-03), UTILITY STREAM CROSSING (C-ENV-04), COFFERDAM CROSSING (C-ENV-05), WETLAND CROSSING (C-ENV-06), PUMP AROUND DIVERSION (C-ENV-08), ROCK CHECK DAMS (C-SCM-07), ROCK FILTER OUTLET (C-SCM-08), DEWATERING STRUCTURE (C-SCM-10), TEMPORARY SEDIMENT TRAP (C-SCM-11), CONCRETE WASH PIT (C-SCM-13), TOPSOILING (C-SSM-02), SURFACE ROUGHENING (C-SSM-03), TEMPORARY SEEDING (C-SSM-09), MULCHING (C-SSM-11), FILTER BAG (C-SCM-10-4), AND SOIL STABILIZATION BLANKET.

8. PERMANENT STABILIZATION:

ALL DISTURBED AREAS SHALL BE STABILIZED WITH PERMANENT SEEDING WITHIN SEVEN WORKING DAYS OF FINAL GRADING, WEATHER AND SOIL CONDITIONS PERMITTING, AS SPECIFIED IN THE PROJECT SPECIFIC STANDARDS AND SPECIFICATIONS FOR VIRGINIA.

9. STORMWATER RUNOFF CONSIDERATIONS:

CONCENTRATED STORWMATER FLOW SHALL BE RELEASED TO NATURAL STORMWATER CONVEYANCE SYSTEMS. CHANNEL PROTECTION REQUIREMENTS WILL BE MET VIA THE ENERGY BALANCE METHOD. IF NECESSARY TO DISSIPATE CONCENTRATED FLOW INTO SHEET FLOW, LEVEL SPREADERS WILL BE DESIGNED PER VIRGINIA DEQ STORMWATER DESIGN SPECIFICATIONS.

FLOOD PROTECTION WILL BE MET BY DISCHARGING CONCENTRATED STORMWATER FLOW TO STORMWATER CONVEYANCE SYSTEMS THAT DO NOT EXPERIENCE LOCALIZED FLOODING DURING THE 10-YEAR 24-HOUR STORM EVENT AND THE 10-YEAR 24-HOUR POST-DEVELOPMENT PEAK FLOW RATE IS CONFINED WITHIN THE STORMWATER CONVEYANCE SYSTEM, OR DEMONSTRATING A REDUCTION IN THE 10-YEAR 24-HOUR STORM EVENT PEAK FLOW RATE.

10. MAINTENANCE:

TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMPS SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL PERMIT CONDITIONS AND THE APPROVED PROJECT SPECIFIC STANDARDS AND SPECIFICATIONS.

ALL EXISTING GRAVEL ROAD WIDTHS TO BE DOCUMENTED BY CONTRACTOR AND PROVIDED TO DEQ PRIOR TO CONSTRUCTION. EXISTING ACCESS ROADS WILL BE UTILIZED IN THEIR CURRENT CONFIGURATION WITH NO ADDITIONAL DISTURBANCE BEYOND EXISTING LIMITS UNLESS OTHERWISE SPECIFIED IN THIS PLAN. ALL ACCESS ROADS SHALL BE RETURNED TO DOCUMENTED PRE-CONSTRUCTION CONDITIONS.

CONDUCTING INSPECTIONS OF TEMPORARY ESC CONTROLS AND SWM BMPS AT LEAST ONCE EVERY FOUR BUSINESS DAYS.

REPAIR OF ALL INEFFECTIVE TEMPORARY ESC MEASURES SHALL OCCUR AS SOON AS PRACTICABLE, BUT NO LATER THAN FIVE BUSINESS DAYS, OR AS SOON AS CONDITIONS ALLOW IF COMPLIANCE WITH THIS TIME FRAME WOULD RESULT IN GREATER ENVIRONMENTAL IMPACTS.

11. CALCULATIONS:

BMP SIZING AND INSTALLATION HAS BEEN BASED ON THE FOLLOWING CRITERIA INCLUDED BY REFERENCE IN THE DETAILS INCLUDED WITH THE ESCP:

COMPOST FILTER SOCK (C-PCM-05), SILT FENCE (C-PCM-04), WATERBARS (C-ECM-08), SEDIMENT TRAP (C-SCM-11), TRENCH BREAKERS, CLEAN WATER DIVERSIONS, AND OUTLET PROTECTION.

12. MINIMUM STANDARDS:

ALL LAND DISTURBING ACTIVITIES UNDERTAKEN ON PRIVATE AND PUBLIC LANDS IN THE COMMONWEALTH OF VIRGINIA MUST MEET THE 19 "MINIMUM STANDARDS" FOR ESC IN SECTION 4VAC50-30-40 OF THE VIRGINIA ESC REGULATIONS. THE APPLICANT WHO SUBMITS THE ESC PLAN TO THE PROGRAM AUTHORITY FOR APPROVAL IS RESPONSIBLE FOR ENSURING COMPLIANCE WITH THE MINIMUM STANDARDS THAT APPLY TO HIS/HER ACTIVITIES.

MS-1 SOIL STABILIZATION. PERMANENT OR TEMPORARY STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN 7 DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR. IF FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE, VEGETATION MUST BE ESTABLISHED TO PREVENT EROSION. BECAUSE GROUND COVER CAN REDUCE EROSION POTENTIAL BY MORE THAN 90%, TEMPORARY SEEDING MUST BE APPLIED IF ANY PORTION OF THE SITE WILL REMAIN DORMANT FOR MORE THAN 14 DAYS.

MS-2 SOIL STOCKPILE STABILIZATION. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS WILL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ONSITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE LOCATIONS OF STOCKPILES AND BORROW PITS SHOULD BE IDENTIFIED ON SITE PLANS, AND STOCKPILES SHOULD HAVE PERIMETER EROSION AND SEDIMENT CONTROL MEASURES INSTALLED AS WELL AS LOCATED WITH ENOUGH SETBACK DISTANCE FROM STREAMS, WATERWAYS, AND ENTRANCES/LINE OF SIGHT. SOIL STOCKPILE SLOPES SHOULD NOT EXCEED 2:1 (HORIZONTAL: VERTICAL).MS-3 PERMANENT STABILIZATION. PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE, AND WILL INHIBIT EROSION.

PER MS-1, APPLY TEMPORARY SOIL STABILIZATION (I.E., MULCH, MATTING OR ANNUAL VEGETATION) TO A STOCKPILE WITHIN 7 DAYS IF IT WILL REMAIN DORMANT FOR MORE THAN 14 DAYS. IF THE STOCKPILE WILL REMAIN ONSITE FOR MORE THAN 1 YEAR, STABILIZE IT USING PERMANENT STABILIZATION (I.E., PERMANENT SEEDING MIXES. LANDSCAPING, STONE, TREES). THIS ALSO APPLIES TO OFFSITE BORROW AND SPOIL AREAS.

MS-3 PERMANENT VEGETATION. A PERMANENT VEGETATIVE COVER WILL BE ESTABLISHED ON DENUDED AREAS THAT ARE NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION WILL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE, AND WILL INHIBIT EROSION. SEE C-SSM-10 FOR REQUIREMENTS TO CONSIDER TURF ESTABLISHED.

VESCP AND VESMP AUTHORITIES SHOULD VERIFY COMPLIANCE WITH MS-3 BEFORE RELEASING A SITE'S BONDS OR SURETY.

MS-4 SEDIMENT BASINS & TRAPS. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS, AND OTHER MEASURES INTENDED TO TRAP SEDIMENT WILL BE CONSTRUCTED AS A FIRST STEP IN ANY LDA AND WILL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.

THIS MS IS MEANT TO ENSURE THAT SEDIMENT DOES NOT LEAVE THE PERIMETER OF THE LDA ONCE SITE CLEARING, GRADING, AND CONSTRUCTION COMMENCES.

A CERTAIN AMOUNT OF INITIAL LAND DISTURBANCE MAY BE REQUIRED TO PROVIDE ACCESS FOR EQUIPMENT TO INSTALL THE PERIMETER CONTROLS, BUT SITE CLEARING AND GRADING SHOULD BE KEPT TO A MINIMUM UNTIL THE PERIMETER CONTROLS ARE IN PLACE.

MS-5 STABILIZATION OF EARTHEN STRUCTURES. STABILIZATION MEASURES WILL BE APPLIED TO EARTHEN STRUCTURES, SUCH AS DAMS, DIKES, CHANNELS, AND DIVERSIONS, IMMEDIATELY AFTER INSTALLATION.

IN THIS CASE, IMMEDIATE STABILIZATION IS REQUIRED SO THAT THE EARTHEN EROSION AND SEDIMENT CONTROL STRUCTURES THAT WERE INSTALLED DO NOT BECOME A SOURCE OF SEDIMENT. EARTHEN STRUCTURES ARE GENERALLY INTENDED TO IMPOUND, CONVEY, OR DIVERT WATER; THEREFORE, IMMEDIATE STABILIZATION IS NEEDED TO PREVENT DAMAGE OR FAILURE OF THE STRUCTURE.

MS-6 SEDIMENT TRAPS & SEDIMENT BASINS. SEDIMENT TRAPS AND SEDIMENT BASINS WILL BE DESIGNED AND CONSTRUCTED BASED ON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN. SEDIMENT TRAPS SHOULD BE NOT USED FOR MORE THAN 18 MONTHS UNLESS THEY ARE DESIGNED AS A PERMANENT IMPOUNDMENT.

THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP WILL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA (134 CUBIC YARDS PER ACRE IS EQUIVALENT TO 1 INCH OF RUNOFF), AND THE TRAP WILL ONLY CONTROL DRAINAGE AREAS LESS THAN 3 ACRES.

PROVIDE A COMBINATION OF MAN-MADE STORMWATER CONVEYANCE SYSTEM IMPROVEMENT, STORMWATER DETENTION, OR OTHER MEASURES THAT IS SATISFACTORY TO THE VESMP OR VESCP AUTHORITY. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPOSED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO 3 ACRES WILL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN WILL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. TEMPORARY SEDIMENT BASINS SHOULD BE DESIGNED AND CONSTRUCTED BASED ON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE SEDIMENT BASIN. THE MAXIMUM TOTAL DRAINAGE AREA TO BE SERVED BY A TEMPORARY SEDIMENT BASIN SHOULD BE 100 ACRES. THE OUTFALL SYSTEM WILL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A 25-YEAR STORM OF 24-HOUR DURATION. RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS WILL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST WHILE THE SEDIMENT BASIN IS USED.

THE MINIMUM STORAGE CAPACITY OF A TEMPORARY SEDIMENT TRAP SHOULD BE 134 CUBIC YARDS PER ACRE OF TOTAL DRAINAGE AREA, HALF OF WHICH SHOULD BE IN THE FORM OF A PERMANENT POOL OR WET STORAGE TO PROVIDE A STABLE SETTLING MEDIUM. THE REMAINING HALF SHOULD BE IN THE FORM OF A DRAWDOWN OR DRY STORAGE TO PROVIDE EXTENDED SETTLING TIME DURING LESS FREQUENT, LARGER STORM EVENTS. CONCENTRATED STORMWATER FLOW FROM A TEMPORARY SEDIMENT BASIN SHOULD BE RELEASED INTO AN ADEQUATE STORMWATER CONVEYANCE SYSTEM. DEMONSTRATE THAT THE TOTAL DRAINAGE AREA AT THE POINT OF DISCHARGE WITHIN THE STORMWATER CONVEYANCE SYSTEM IS AT LEAST 100 TIMES GREATER THAN THE DRAINAGE AREA SERVED BY THE TEMPORARY SEDIMENT BASIN IN QUESTION.

SEDIMENT TRAPPING DEVICES SHOULD BE:

- PLACED AT, OR AS NEAR AS POSSIBLE TO, THE LOWEST DRAINAGE POINTS WITHIN THE DISTURBED AREA AND/OR WHERE THERE IS A CONNECTION TO AN OFFSITE SYSTEM;
- INSTALLED AS A FIRST-STEP MEASURE (MS-4);
- STABILIZED IMMEDIATELY (MS-5); AND
- DESIGNED TO INCLUDED OUTLET PROTECTION FOR BASINS (MS-11)

MS-7 CUT AND FILL SLOPES. CUT AND FILL SLOPES WILL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN 1 YEAR OF PERMANENT STABILIZATION WILL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

CUT AND FILL SLOPES ARE SUSCEPTIBLE TO EROSION DUE TO INCREASED RUNOFF FLOW VELOCITY, SO THEY MUST BE CONSTRUCTED IN THE BEST WAY POSSIBLE TO DECREASE EROSION BY REDUCING SLOPE LENGTH AND GRADE. PLANS MUST CLEARLY SHOW SLOPE LENGTH AND GRADES THAT WILL REMAIN STABLE. IT IS IMPORTANT THAT SLOPES ARE PROPERLY SEEDED AND MULCHED TO ESTABLISH PERMANENT VEGETATION SO EROSION BY CONCENTRATED FLOW DOES NOT OCCUR.

ROUGHENING THE SURFACE OF THE SLOPE CAN ALSO HELP DECREASE RUNOFF BY LOWERING THE VELOCITY OF FLOW AND INCREASING WATER RETENTION, WHICH LEADS TO BETTER SEED GERMINATION. THIS PRACTICE SHOULD GENERALLY BE IMPLEMENTED UNLESS THE SLOPE WILL REQUIRE A HIGH DEGREE OF MAINTENANCE MOWING AFTER VEGETATIVE ESTABLISHMENT.

MS-8 CONCENTRATED RUNOFF. CONCENTRATED RUNOFF WILL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME, OR SLOPE DRAIN STRUCTURE.

CONCENTRATED RUNOFF FLOWING DOWN A CUT OR FILL SLOPE WILL CAUSE EROSION; THEREFORE, CONCENTRATED FLOW MUST BE CONTROLLED AT THE OUTLET AND DOWN THE SLOPE THROUGH A TEMPORARY OR PERMANENT CHANNEL, FLUME, OR SLOPE DRAIN.

THE ENDS OF THESE SLOPE DRAINS NEED OUTLET PROTECTION TO PREVENT EROSION FROM CONCENTRATED FLOWS. CHECK DAMS IN STORMWATER CONVEYANCES ON CUT/FILL SLOPES SHOULD BE USED AT THE TOP AND BOTTOM OF THE SLOPE AND AS NEEDED ALONG THE LENGTH OF THE CHANNEL.

MS-9 WATER SEEPS. WHEN WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION WILL BE PROVIDED.

CUT AND FILL OPERATIONS MAY EXPOSE SHALLOW AQUIFERS, PERCHED AQUIFERS, OR GROUNDWATER TABLES FROM WHICH WATER MAY SEEP THROUGH THE SIDE OF A SLOPE. THE WATER SEEPS CAN CAUSE SLOPES TO ERODE, OR SLOUGH, FROM THE SOIL'S WEIGHT. INTERCEPTION DRAINS SHOULD BE USED TO COLLECT AND SAFELY CONVEY GROUNDWATER AWAY FROM UNSTABLE SLOPES. RIPRAP REVETMENTS OR RETAINING WALL MAY BE USED ON STEEPER SLOPES. THESE AREAS SHOULD BE CLEARLY SHOWN ON THE PLANS AND THE SWPPP.

MS-10 INLET PROTECTION. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION WILL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.

STORM SEWERS ARE DESIGNED TO EFFICIENTLY TRANSPORT STORMWATER. WHEN SEDIMENTS ENTER THE STORM SEWERS, THE FOLLOWING COULD OCCUR:

- WHEN THE VELOCITY OF FLOW IS HIGH, MUCH OF THE SEDIMENT WILL BE QUICKLY TRANSPORTED TO THE NEAREST RECEIVING CHANNEL OR
- WHEN THE VELOCITY OF THE FLOW IS LOW, THE SEDIMENT WILL DEPOSIT IN THE PIPES, RESULTING IN CLOGGING AND POTENTIAL FLOODING OF A SITE DURING STORM EVENTS.

EITHER OF THESE SCENARIOS CAN CAUSE DETRIMENTAL IMPACTS TO RECEIVING CHANNELS AND AREAS TRIBUTARY TO THE CHANNELS. PROPER INLET PROTECTION SHOULD BE PLACED AND MAINTAINED DURING ALL LDAs.

INLET PROTECTION MAY BE THE OUTFALL FOR THE SITE, AND ADDITIONAL SEDIMENT TRAPPING MEASURES MAY BE NEEDED. INLET PROTECTION CAN BE PROVIDED IN SEVERAL DIFFERENT CONFIGURATIONS. THESE SHOULD BE CLEARLY SHOWN ON THE PLANS AND DESCRIBED IN THE SWPPP.

MS-11 OUTLET PROTECTION. BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING WILL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.

OUTLET PROTECTION AND CHANNEL LINING IS A COMPONENT OF MS-5 AS WELL. THESE SHOULD BE CLEARLY SHOWN ON THE PLANS AND DESCRIBED IN THE SWPPP. OUTLET PROTECTION PROVIDES ENERGY DISSIPATION OF THE CONCENTRATED DISCHARGE FROM A PIPE OR CHANNEL TO PREVENT EROSION AND PROVIDE A STABLE TRANSITION. TEMPORARY OR PERMANENT CHANNEL LINING HELPS TO ENSURE THAT THE CHANNEL ITSELF WILL NOT ERODE ONCE WATER IS FLOWING THROUGH IT.

MS-12 WATERCOURSE CONSTRUCTION. WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS WILL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT, AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NON-ERODIBLE MATERIAL WILL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF THEY ARE ARMORED BY NON-ERODIBLE COVER MATERIALS. CHECK DAMS, SILT FENCE, AND OTHER PERIMETER CONTROLS SHOULD NOT BE PLACED ACROSS A LIVE WATERCOURSE. ENSURE THAT PROPER PERMITS (SEE MS-14) ARE INCLUDED IN THE SWPPP.

MS-13 TEMPORARY VEHICULAR STREAM CROSSING. WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY 6-MONTH PERIOD, A TEMPORARY

_____ P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C MURPHY
Lic. No. 041898
06/06/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

NARRATIVE

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25	DRAWING NUMBER: VA-EDEN-ES-094	SHEET 094 OF 097
WO: C1009554	RID: 500		

VEHICULAR STREAM CROSSING CONSTRUCTED OF NON-ERODIBLE MATERIAL WILL BE PROVIDED.

WHEN TWO DIFFERENT CONSTRUCTION VEHICLES CROSS A STREAM, ONE RIGHT AFTER THE OTHER, THE STREAM HAS NOW BEEN CROSSED TWICE AND CAN NO LONGER BE CROSSED WITHIN THE NEXT 6 MONTHS WITHOUT VIOLATING THIS MINIMUM STANDARD.

THIS MINIMUM STANDARD ALLOWS ONE CONSTRUCTION VEHICLE TO CROSS A STREAM, THEN RETURN WITHIN ANY 6-MONTH PERIOD WITHOUT FURTHER TREATMENT; OTHERWISE, A TEMPORARY STREAM CROSSING MUST BE CONSTRUCTED. TEMPORARY VEHICLE CROSSINGS NEED TO BE PROPERLY PERMITTED PER MS-14. TEMPORARY CULVERTS NEED TO BE PROPERLY SIZED PER MS-19.

MS-14 OTHER WATERCOURSE REGULATIONS. ALL APPLICABLE FEDERAL, STATE, AND LOCAL REQUIREMENTS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES WILL BE MET.

ACTIVITIES IN LIVE WATERCOURSES USUALLY FALL UNDER THE JURISDICTION OF OTHER AGENCIES AND/OR REGULATIONS INCLUDING:

- U.S. ARMY CORPS OF ENGINEERS (404 PERMIT);
- VDEQ'S 401 PERMITTING REGULATIONS;
- VIRGINIA MARINE RESOURCES COMMISSION (VMRC); AND
- DEPARTMENT OF GAME AND INLAND FISHERIES (DGIF) OR LOCAL WETLAND BOARD TIME OF YEAR RESTRICTIONS.

ALL APPLICABLE PERMITS NEED TO BE OBTAINED AND AVAILABLE ONSITE BEFORE CONSTRUCTION IN LIVE WATERCOURSES MAY START.

WATER BODIES MAY BE IDENTIFIED THROUGH WETLAND DELINEATION FOLLOWED BY A JURISDICTIONAL DETERMINATION BY THE U.S. ARMY CORPS OF ENGINEERS. WETLANDS, STREAMS, AND OTHER WATER BODIES AND THE IMPACT ON THESE WATER BODIES ARE USUALLY INDICATED ON PLANS AND SOMETIMES INCLUDE PERMIT NUMBERS.

MS-15 BED AND BANK STABILIZATION. THE BED AND BANKS OF A WATERCOURSE WILL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.

STABILIZATION AT THE END OF EACH DAY OR IMMEDIATELY AFTER WORK IS COMPLETED WILL ENSURE THAT SEDIMENT IS NOT IMPACTING OTHER PARTS OF THE WATERCOURSE. PROTECTIVE MEASURES WILL BE NEEDED WHEN WORK CANNOT BE COMPLETED IN A DAY.

WHEN WORKING IN WATER, THE SAFETY OF THE WORKERS AND EQUIPMENT IS IMPORTANT. THE WEATHER ALSO FACTORS IN HEAVILY WHEN DECIDING TO CONTINUE WORKING IN A WATERCOURSE DUE TO POTENTIALLY HIGH FLOWS OF WATER. STABILIZATION MATTING OR ROCK REVETMENT SHOULD BE USED FROM THE WATER LINE TO THE BANK FULL ELEVATION, AND ADDITIONAL MEASURES MAY BE NECESSARY UP TO THE 10-YEAR WATER SURFACE ELEVATION. ANY WORK WITHIN A RESOURCES PROTECTION AREA REQUIRES LOCAL APPROVAL.

MS-16 UTILITY CONSTRUCTION. UNDERGROUND UTILITY LINES WILL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:

1.NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.

2.EXCAVATED MATERIAL WILL BE PLACED ON THE UPHILL SIDES OF TRENCHES.

3.EFFLUENT FROM DEWATERING OPERATIONS WILL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE (OR BOTH) BEFORE BEING DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFFSITE PROPERTY.

4.MATERIAL USED FOR BACKFILLING TRENCHES WILL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.

5.RE-STABILIZATION WILL BE ACCOMPLISHED IN ACCORDANCE WITH PART V OF THE REGULATION, 9VAC25-875-470 ET SEQ.

6.APPLICABLE SAFETY REQUIREMENTS WILL BE MET.

THE BASIC PRINCIPLE OF CONTROLLING EROSION AND SEDIMENTATION ON UTILITY PROJECTS IS TO HAVE THE TRENCH BACKFILLED AND STABILIZED AS SOON AS POSSIBLE.

GREATER OPEN TRENCH LENGTHS ARE ALLOWED IF THE PROFESSIONAL ENGINEER SEALS THE DRAWINGS AND PROVIDES A WRITTEN NARRATIVE DESCRIPTION AND GRAPHICAL DEPICTION OF THE INSTALLATION PROCESS THAT EXPLAINS WHY A LARGER OPEN TRENCH LENGTH IS NECESSARY BASED UPON INSTALLATION PROCESS, PIPE MATERIAL, PIPE DIAMETER, AND SOIL AND SLOPE CHARACTERISTICS. THE PURPOSE IS TO DEMONSTRATE THE MAXIMUM PRACTICABLE OPEN TRENCH LENGTH PER INSTALLATION SPREAD (I.E., LENGTH OF A LINEAR UTILITY BEING INSTALLED BY ONE CREW). LARGE PROJECTS MAY HAVE MULTIPLE “SPREADS” UNDER CONSTRUCTION AT ONE TIME.

MS-17 VEHICULAR TRACKING AND CONSTRUCTION ENTRANCES. WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS WILL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE WILL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT WILL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING WILL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION WILL APPLY TO INDIVIDUAL DEVELOPMENT LOTS AS WELL AS TO LARGER LDAs.

DURING WET WEATHER, CONSTRUCTION TRAFFIC CAN TRANSPORT A SIGNIFICANT AMOUNT OF SEDIMENT (I.E., MUD) ONTO PAVED PUBLIC ROADS, CREATING NOT ONLY A SEDIMENTATION PROBLEM BUT ALSO A SAFETY HAZARD AND PUBLIC NUISANCE. MANY JURISDICTIONS HAVE LOCAL ORDINANCES REQUIRING PUBLIC ROADS TO BE KEPT CLEAN, REGARDLESS OF THE APPLICABILITY OF THE EROSION AND SEDIMENT CONTROL REGULATIONS.

THE OPERATOR IS RESPONSIBLE FOR KEEPING PUBLIC ROADS ADJACENT TO THEIR PROJECT CLEAN.

MUD SHOULD BE SWEPT OR SHOVELED OFF THE ROAD AND DEPOSITED ON AREAS WHERE IT WILL NOT CAUSE ANOTHER SEDIMENTATION PROBLEM. CONSTRUCTION ROAD STABILIZATION ACCESSING STAGING AREAS AND STOCKPILES WILL HELP MINIMIZE SEDIMENT TRANSPORT.

MS-18 TEMPORARY CONTROL REMOVAL. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WILL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE VESMP OR VESCP AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES WILL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES CAN BECOME A PROBLEM IF LEFT IN PLACE BEYOND THEIR USEFUL LIFE.

- SEDIMENT FENCES CAN TRAP WILDLIFE AND SMALL ANIMALS.
- SEDIMENT BASINS CAN BECOME DROWNING HAZARDS OR SOURCES OF SEDIMENT IN CASES OF FAILURE, AND THEY BECOME UNSIGHTLY.

TEMPORARY CONTROL MEASURES SHOULD BE REMOVED AS SOON AS THEIR FUNCTION HAS BEEN COMPLETED, AND THE AREA SHOULD BE STABILIZED.

MS-19 ADEQUATE STORMWATER CONVEYANCE TO ADEQUATE STORMWATER OUTFALL. PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES WILL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION, AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY, AND PEAK FLOWRATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION.

MS-19 OF THE VIRGINIA EROSION AND STORMWATER MANAGEMENT REGULATION (9VAC25-875-560) REQUIRES DESIGNERS TO EVALUATE THE ADEQUACY OF THE DOWNSTREAM ARTIFICIAL AND/OR NATURAL CHANNELS TO SAFELY CONVEY THE DEVELOPED CONDITION RUNOFF. SEE SECTION 5.3.2.1 FOR MORE DETAILED INFORMATION ON HOW MS-19 INTERACTS WITH THE STORMWATER QUANTITY REQUIREMENTS.

TEMPORARY SEDIMENT BASINS AND TRAPS SHOULD BE DESIGNED TO DISCHARGE TO A CHANNEL AFTER OUTFALL.

a. CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE NATURAL OR MANMADE RECEIVING CHANNEL, PIPE, OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED.

b. ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER:

(1) THE APPLICANT SHALL DEMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHANNEL IS 100 TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION; OR

(2) (A) NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE EROSION OF CHANNEL BED OR BANKS.

(b) ALL PREVIOUSLY CONSTRUCTED MANMADE CHANNELS SHALL BE ANALYZED BY THE USE OF A 10-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP THE STORMWATER'S BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND

(c) PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A 10-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM.

c. IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MANMADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL:

(1) IMPROVE THE CHANNELS TO A CONDITION WHERE A 10-YEAR STORM WILL NOT OVERTOP THE BANKS AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE CHANNEL, THE BED, OR THE BANKS;

(2) IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE 10-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES;

(3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PREDEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PREDEVELOPMENT PEAK RUNOFF RATE FROM A 10-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MANMADE CHANNEL; OR

(4) PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION, OR OTHER MEASURES THAT IS SATISFACTORY TO THE VESCP OR VESMP AUTHORITY TO PREVENT DOWNSTREAM EROSION.

d. THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS.

e. ALL HYDROLOGIC ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT CONDITION OF THE SUBJECT PROJECT.

f. IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION, THE APPLICANT SHALL OBTAIN APPROVAL FROM THE VESCP OR VESMP AUTHORITY FOR A PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE.

g. OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATORS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL.

h. ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE.

i. INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE, OR PIPE SYSTEM OR TO A DETENTION FACILITY.

j. IN APPLYING THESE STORMWATER MANAGEMENT CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL, OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITION SHALL BE USED IN ALL ENGINEERING CALCULATIONS.

k. ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER THAT MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL, AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS, AND OTHER WATERS OF THE STATE.

l. ANY PLAN APPROVED PRIOR TO JULY 1, 2014, THAT PROVIDES FOR STORMWATER MANAGEMENT THAT ADDRESSES ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MANMADE CHANNELS SHALL SATISFY THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MANMADE CHANNELS IF THE PRACTICES ARE DESIGNED TO (I) DETAIN THE WATER QUALITY VOLUME AND TO RELEASE IT OVER 48 HOURS; (II) DETAIN AND RELEASE OVER A 24-HOUR PERIOD THE EXPECTED RAINFALL RESULTING FROM THE ONE YEAR, 24-HOUR STORM; AND (III) REDUCE THE ALLOWABLE PEAK FLOW RATE RESULTING FROM THE 1.5-YEAR, TWO-YEAR, AND 10-YEAR 24-HOUR STORMS TO A LEVEL THAT IS LESS THAN OR EQUAL TO THE PEAK FLOW RATE FROM THE SITE ASSUMING THE SITE WAS IN A GOOD FORESTED CONDITION, ACHIEVED THROUGH MULTIPLICATION OF THE FORESTED PEAK FLOW RATE BY A REDUCTION FACTOR THAT IS EQUAL TO THE RUNOFF VOLUME FROM THE SITE WHEN THE SITE WAS IN A GOOD FORESTED CONDITION DIVIDED BY THE RUNOFF VOLUME FROM THE SITE IN THE SITE'S PROPOSED CONDITION, AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MANMADE CHANNELS AS DEFINED IN ANY REGULATIONS PROMULGATED PURSUANT TO § 62.1-44.15:28 OF THE CODE OF VIRGINIA (VESMA) OR § 62.1-44.15:54 OR 62.1-44.15:65 OF THE CODE OF VIRGINIA (ESCL).

m. FOR PLANS APPROVED ON AND AFTER JULY 1, 2014, THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF § 62.1-44.15:52 A OF THE CODE OF VIRGINIA (ESCL) AND THIS SUBDIVISION 19 SHALL BE SATISFIED BY COMPLIANCE WITH WATER QUANTITY REQUIREMENTS IN THE VESMA AND ATTENDANT REGULATIONS, UNLESS SUCH LAND-DISTURBING ACTIVITIES (I) ARE IN ACCORDANCE WITH PROVISIONS FOR TIME LIMITS ON APPLICABILITY OF APPROVED DESIGN CRITERIA IN 9VAC25-875-480 OR GRANDFATHERING IN 9VAC25-875-490, IN WHICH CASE THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF § 62.1-44.15:52 A OF THE CODE OF VIRGINIA (ESCL) SHALL APPLY; OR (II) ARE EXEMPT PURSUANT TO § 62.1-44.15:34 G 2 OF THE CODE OF VIRGINIA (VESMA).

n. COMPLIANCE WITH THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 9VAC25-875-600 SHALL BE DEEMED TO SATISFY THE REQUIREMENTS OF THIS SUBDIVISION 19.

13. BEST MANAGEMENT PRACTICES INSTALLATION AND REMOVAL NOTES:

TEMPORARY AND PERMANENT BMPS WILL BE USED DURING CONSTRUCTION ACTIVITIES TO AVOID AND/OR MINIMIZE ADVERSE ENVIRONMENTAL EFFECTS OF CONSTRUCTION ACTIVITIES.

THE FOLLOWING ARE GENERAL BMP INSTALLATION NOTES FOR PIPELINE CONSTRUCTION ACTIVITIES.

- A STONE CONSTRUCTION ENTRANCE SHALL BE PROVIDED AT ALL LOCATIONS WHERE CONSTRUCTION TRAFFIC WILL BE ACCESSING A PAVED ROAD DIRECTLY FROM A DISTURBED AREA.
- SOIL STOCKPILES WILL BE STABILIZED OR PROTECTED WITH TEMPORARY SEDIMENT BARRIERS, INCLUDING APPROPRIATELY SIZED SILT FENCE OR COMPOST FILTER SOCK, AS NEEDED.
- TEMPORARY SEDIMENT BARRIERS, INCLUDING APPROPRIATE SIZED SILT FENCE OR COMPOST FILTER SOCK WILL BE PLACED AROUND WETLANDS AND WATERBODIES IN AND ADJACENT TO THE WORK AREA PRIOR TO ANY TRENCHING ACTIVITIES. COMPOST FILTER SOCK HAS BEEN SIZED PER C-PCM-05 AND THE SIZE IS SPECIFIED ON THE PLAN SETS UTILIZING THE LINE TYPES CONTAINED IN THE LEGEND ON EACH SHEET.
- STOCKPILE SLOPES WILL BE 2:1 OR FLATTER, AND STOCKPILES WILL NOT EXCEED 35 FEET IN HEIGHT.
- TEMPORARY STREAM CROSSINGS SHALL BE INSTALLED AS INDICATED ON THE E&S PLAN SHEETS AND AS PER THE E&S DETAIL SHEETS.
- TEMPORARY GRADING IS ANTICIPATED WITHIN THE LOD. GRADED AND/OR EXCAVATED TRENCH SPOIL MATERIAL WILL BE USED FOR TEMPORARY CLEAN WATER DIVERSIONS AS SHOWN IN THE DETAIL AT THE LOCATIONS INDICATED ON THE PLAN SHEETS.
- TEMPORARY WATERBARS WILL BE INSTALLED IMMEDIATELY AFTER INITIAL DISTURBANCE OF THE SOIL IN ACCORDANCE WITH THE SPACING AND SIZING REQUIREMENTS SHOWN ON PLAN AND DETAIL SHEETS. TEMPORARY WATERBARS WILL BE CONSTRUCTED OF SOIL TO REDUCE RUNOFF VELOCITY AND DIVERT WATER OFF THE PIPELINE ROW.
- TRENCH DEWATERING, IF NEEDED, WILL BE CONDUCTED USING A PUMP AND HOSE AS SHOWN ON THE DETAIL SHEET. WATER WILL BE RELEASED INTO A FILTER BAG OR ADEQUATE DEWATERING DEVICE THAT WILL BE LOCATED DIRECTLY ADJACENT TO THE OUTSIDE EDGE OF TEMPORARY WORKSPACE IN A WELL-VEGETATED UPLAND AREA AS TO DIRECT WATER AWAY FROM THE WORK AREA.
- TRENCH BREAKERS/PLUGS WILL BE INSTALLED ON SLOPES ADJACENT TO STREAMS, WETLANDS, AND ROAD CROSSINGS TO PREVENT SUBSURFACE EROSION. TRENCH BREAKERS/PLUGS WILL BE INSTALLED AS SHOWN ON THE DETAILS.
- THE WORK AREA WILL BE BACKFILLED FOLLOWING PIPELINE INSTALLATION OR OTHER EXCAVATION WORK. IN AREAS WHERE TOPSOIL HAS BEEN SEGREGATED, THE SUBSOIL WILL BE REPLACED FIRST, AND THEN THE TOPSOIL WILL BE SPREAD OVER THE AREA FROM WHICH IT WAS REMOVED. DISTURBED AREAS WILL BE RESTORED TO THEIR ORIGINAL TOPOGRAPHIC CONTOURS.
- THE PERMANENT WATERBARS WILL BE CONSTRUCTED WITH A THREE PERCENT (MAXIMUM) OUTSLOPE TO DIVERT SURFACE FLOW TO A WELL-VEGETATED STABLE AREA.
- IMMEDIATELY FOLLOWING BACKFILLING, ALL DISTURBED AREAS WILL BE GRADED IN PREPARATION FOR SEEDING AND MULCHING. THE CONSTRUCTION SITE SHOULD BE STABILIZED AS SOON AS POSSIBLE AFTER COMPLETION. SOIL STABILIZATION BLANKET IS TO BE INSTALLED ON SLOPES 3:1 OR STEEPER, AND WITHIN 50 FEET OF ALL STREAMS AND WETLANDS. ESTABLISHMENT OF FINAL COVER MUST BE INITIATED NO LATER THAN 7 DAYS AFTER REACHING FINAL GRADE. REFER TO THE DETAILS FOR TEMPORARY AND PERMANENT SEEDING SPECIFICATIONS.
- TEMPORARY SEDIMENT BARRIERS WILL BE MAINTAINED UNTIL VEGETATION HAS BECOME ESTABLISHED WITH A GROUND COVER THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION. ONCE THIS COVERAGE HAS BEEN OBTAINED, APPROPRIATE CONTROLS WILL BE REMOVED FROM THE WORK AREA. AREAS DISTURBED DURING THE REMOVAL OF THE EROSION CONTROLS WILL BE STABILIZED IMMEDIATELY.
- ALL WASTE MATERIAL WILL BE TRANSPORTED OFFSITE FOR RECYCLING AND/OR DISPOSAL AT A FACILITY APPROVED TO RECEIVE THE MATERIAL.

14. GENERAL CONSTRUCTION SEQUENCE:

THE FOLLOWING IS A GENERAL SEQUENCE FOR EARTHMOVING ACTIVITIES ASSOCIATED WITH CONSTRUCTION OF THE PIPELINE:

1. BEFORE THE START OF CONSTRUCTION, LOCATE THE PROJECT LIMIT OF DISTURBANCE (LOD), CENTERLINE OF PIPELINE AND CONSTRUCTION WORKSPACES.

2. PRIOR TO COMMENCEMENT OF ANY EARTH DISTURBANCE ACTIVITY, CLEARLY DELINEATE THE PROJECT LOD, THE LIMITS OF CLEARING, TREES TO BE CONSERVED WITHIN THE PROJECT SITE, INSTALL APPROPRIATE SIGNAGE OR BARRIERS WHERE EQUIPMENT MAY NOT BE PARKED/STAGED, REFUELED, OPERATED, OR MAINTAINED FOR ANY PURPOSE, IN ANY SENSITIVE AREAS, STEEP SLOPES, STREAMS, WETLANDS, FLOODPLAINS, ETC.

3. STONE CONSTRUCTION ENTRANCES (SCE'S) ARE TO BE PROVIDED AT ALL LOCATIONS WHERE ACCESS ROADS AND PIPELINES WILL BE ACCESSING OR CROSSING A PUBLIC ROADWAY. AT THIS TIME, ANY PROPOSED TEMPORARY ACCESS ROADS WITHIN THE LOD ALONG WITH THEIR APPROPRIATE BEST MANAGEMENT PRACTICES (BMPS), INCLUDING ROADWAY DRAINAGE STRUCTURES IF WARRANTED BASED ON FIELD CONDITIONS, SHOULD BE INSTALLED. IF ANY STREAMS OR WETLANDS ARE ENCOUNTERED, TEMPORARY STREAM OR WETLAND CROSSING STRUCTURES SHOULD BE INSTALLED AT THIS TIME IN ACCORDANCE WITH THE DETAILS. WHEN A SCE IS INSTALLED OVER A ROADSIDE DITCH, INSTALL A ROCK CHECK DAM WITHIN THE ROADSIDE DITCH ON THE DOWNSLOPE SIDE OF THE LOD. PERIMETER CONTROLS (CFS) SHALL BE INSTALLED ON THE UPSLOPE (AWAY FROM THE ROAD) SIDE OF THE DRAINAGE DITCH.

4. INSTALL TEMPORARY EROSION AND SEDIMENT CONTROLS (E&SCS) PRIOR TO EARTH DISTURBANCE. IN AREAS WHERE CLEARING ACTIVITIES ARE REQUIRED AS A FIRST STEP, PERFORM CLEARING AT CONDENSED INTERVALS AS DIRECTED BY THE TRANSCO ENVIRONMENTAL INSPECTOR, AND INSTALL E&SCS PRIOR TO CONCLUSION OF WORKDAY ACTIVITIES OR PRIOR TO THE NEXT ANTICIPATED MEASURABLE STORM EVENT. AT A MINIMUM, APPROPRIATE BMPS SHOULD BE PLACED AROUND SENSITIVE AREAS PRIOR TO EARTH DISTURBANCE. REFER TO BMP INSTALLATION AND REMOVAL NOTES.

5. INSTALL TEMPORARY E&SCS FOR STREAM CROSSINGS AT LOCATIONS SHOWN ON THE E&S PLAN SHEETS. NO EARTH DISTURBANCE ACTIVITIES WITHIN 50 FEET OF STREAM CHANNELS WILL BE PERFORMED UNTIL MATERIALS NEEDED TO COMPLETE THE CROSSING ARE AT THE NEAREST AVAILABLE LOCATION.

6. GENERAL CLEARING AND GRUBBING OF THE TREES AND BRUSH ALONG THE RIGHT-OF-WAY (ROW) FOR PIPELINE TRENCHING MAY COMMENCE TO THE WIDTH SPECIFIED IN THE ROW AGREEMENTS OR CONSTRUCTION ALIGNMENT SHEETS, WHICHEVER IS LESS. SMALLER DEBRIS, SUCH AS SHRUBS OR LIMBS, CAN BE CHIPPED AND UTILIZED ON-SITE AS PART OF THE SOIL STABILIZATION IF ELECTED AS PATH FORWARD BY TRANSCO. WHERE CHIPPED MATERIAL IS USED AS MULCH, SPREAD AT A RATE NOT TO EXCEED ONE TON/ACRE. UNLESS OTHERWISE DIRECTED BY THE LANDOWNER, LOGS WILL EITHER BE HAULED OFF-SITE OR GIVEN TO THE LANDOWNER UPON THEIR REQUEST; STUMPS AND/OR LOGS WILL BE GROUND, CHIPPED, WINDROWED, OR HAULED OFF-SITE AS DIRECTED BY TRANSCO.

7. INSTALL CLEAN WATER DIVERSIONS AND CLEAN WATER DIVERSION PIPES IN ACCORDANCE WITH THE DETAILS. IN ADDITION, INSTALL OUTLET STRUCTURES FOR CLEAN WATER PIPES IN ACCORDANCE WITH THE DETAILS. FOLLOWING INSTALLATION OF CLEAN WATER DIVERSION BERMS, STABILIZE THE UPHILL SIDE OF THE BERM USING TEMPORARY SEED, AND EROSION CONTROL MATTING. FINALLY, INSTALL ROCK CHECK DAMS IN ACCORDANCE WITH THE DETAILS.

8. INSTALL TEMPORARY AND PERMANENT WATERBARS AS SOON AS FEASIBLE AFTER INITIAL DISTURBANCE OF THE SOIL IN ACCORDANCE WITH THE WATERBAR SPACING AND SIZING REQUIREMENTS SHOWN ON THE PLAN AND DETAIL SHEETS. WATERBARS WILL BE CONSTRUCTED OF SOIL AND USED TO REDUCE RUNOFF VELOCITY AND DIVERT WATER OFF THE PIPELINE ROW. WATERBARS ARE TO BE INSTALLED WITH A TEMPORARY OUTLET STRUCTURE AT THE DISCHARGE END PER THE DETAILS. EXISTING WATERBARS WITHIN THE PROJECT LOD WILL ALSO BE REMOVED AT THIS TIME.

10. PIPELINE JOINTS WILL BE TRANSPORTED TO THE WORK AREA AND STRUNG ALONG THE WORKING SIDE OF THE ROW PARALLEL TO THE PROPOSED TRENCH LINE. IN SOME CIRCUMSTANCES, PRIMARILY TIE-INS, PIPE FABRICATION WILL OCCUR AHEAD OF TRENCHING AND WELDING CAN OCCUR INSIDE OF THE TRENCH. THE PIPELINE WILL BE BENT TO CONFORM TO THE TRENCH CONTOUR, ALIGN WELDED AND PLACED ON TEMPORARY SUPPORTS ALONGSIDE THE TRENCH. WELDS WILL BE VISUALLY AND RADIO-GRAPHICALLY INSPECTED AND REPAIRED AS NECESSARY. EXCAVATE PIPELINE TRENCH, EXCEPT IN AREAS WHERE BORING TECHNIQUES ARE TO BE UTILIZED, AND BEGIN GRADING/EXCAVATION OF PROPOSED VALVE SITES. THE PROPOSED CONSTRUCTION ROW AND EXTRA WORKSPACES ARE TO BE USED AS WORK AREAS FOR TRENCH EXCAVATION, EQUIPMENT MOVEMENT AND THE TEMPORARY STORAGE OF SOIL STOCKPILES, AS NEEDED. EQUIPMENT, SOIL STOCKPILES, AND OTHER MATERIAL ARE TO REMAIN UPSLOPE OF BMPS DURING CONSTRUCTION ACTIVITIES. REFER TO BMP INSTALLATION AND REMOVAL SEQUENCE FOR THE BMPS TO BE USED FOR PROTECTION DURING TRENCH EXCAVATION AND AROUND TEMPORARY SOIL STOCKPILES. STOCKPILES AND NON-WORK AREA SLOPES WILL BE STABILIZED THROUGH AN APPLICATION OF EITHER MULCH (ORGANIC, EROSION CONTROL BLANKET) OR TEMPORARY SEED. SEGREGATION OF TOPSOIL AND SUBSOIL WILL BE PERFORMED WHERE TRENCH EXCAVATION TAKES PLACE IN AN AGRICULTURAL, WETLAND, OR RESIDENTIAL AREA. THE PIPE SECTIONS WILL BE LOWERED INTO THE TRENCH AND PLACED ON PADDING MATERIAL LAID ON THE TRENCH BOTTOM TO PROTECT THE PIPE COATING. ANY WETNESS (I.E. ACCUMULATED TRENCH WATER) ENCOUNTERED DURING CONSTRUCTION WORK WILL BE DEWATERED BY USING PUMPS, HOSES, CLAMPS AND FILTER BAGS OR ADEQUATE DEWATERING DEVICE, AND WILL BE DISCHARGED TO A WELL VEGETATED AREA.

11. STREAM PIPELINE CROSSING CONSTRUCTION METHODS WILL BE INSTALLED AT LOCATIONS SHOWN ON THE E&S PLAN AND AS SPECIFIED IN THE DETAILS. STREAM BANK STABILIZATION WILL BE INSTALLED AS SOON AS FEASIBLE FOLLOWING COMPLETION OF PIPELINE INSTALLATION AS SHOWN IN THE DETAILS.

12. INSTALL TRENCH BREAKERS AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY TRANSCO AND AS SPECIFIED IN THE DETAILS.

13. THE TRENCH WILL SUBSEQUENTLY BE BACKFILLED WITH SUITABLE EXCAVATED MATERIAL. THE BACKFILL MATERIAL WILL BE SLIGHTLY CROWNED IN UPLAND AREAS TO ALLOW FOR SETTLEMENT THAT MAY OCCUR. CROWNING THE SOIL SLIGHTLY OVER THE PIPELINE WILL HELP PREVENT FUTURE STORM WATER-RELATED PROBLEMS FROM SETTLING OF THE BACKFILLED AREA.

_____, P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

NARRATIVE

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 095
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-095	OF 097

NO CROWNING OF SOILS WILL TAKE PLACE IN WETLANDS, STREAMS, OR FLOODPLAINS. WATERBARS WILL HAVE TO BE CUT THROUGH THE CROWNED SOIL TO PREVENT THE TRAPPING OF RUNOFF ALONG THE PERMANENT ROW. IN AREAS WHERE TOPSOIL HAS BEEN SEGREGATED, THE SUBSOIL WILL BE REPLACED FIRST, AND THEN THE TOPSOIL WILL BE SPREAD OVER THE AREA FROM WHICH IT WAS REMOVED. DISTURBED AREAS WILL BE RESTORED TO THEIR APPROXIMATE ORIGINAL TOPOGRAPHIC CONTOURS.

14. REMOVE CLEAN WATER DIVERSIONS DURING CLEANUP ACTIVITIES AND REPLACE WITH 18" CFS OR EQUIVALENT MEASURE.

15. PERMANENT WATERBARS WILL BE INSTALLED ACROSS THE FULL WIDTH OF DISTURBANCE DURING CLEANUP AND SHALL REMAIN. THE TEMPORARY WATERBARS AND OUTLETS SHALL BE REMOVED. THE PERMANENT WATERBAR WILL HAVE A J-HOOK END TREATMENT INSTALLED AT THE WATERBAR OUTLET WITHIN THE WORK CORRIDOR IN ACCORDANCE WITH THE DETAILS AND LATER REMOVED ONCE PERMANENT STABILIZATION IS ACHIEVED. TEMPORARY WATERBARS WILL BE REPLACED WITH 18-INCH OR 24-INCH CFS PER THE PLANS.

16. STABILIZE EXPOSED AND UNWORKED SOILS BY APPLICATION OF EFFECTIVE BMPS THAT PROTECT THE SOIL FROM THE EROSIVE FORCES OF RAINDROPS, FLOWING WATER, AND WIND. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. WHERE A DENUDED AREA WILL REMAIN IDLE FOR MORE THAN SEVEN CALENDAR DAYS, TEMPORARY SEEDING WILL BE APPLIED TO THE ROUGH GRADED AREA. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

17. TEMPORARY STREAM AND WETLAND CROSSINGS (BEC/WEC) SHALL BE REMOVED ONCE THEY ARE NO LONGER NEEDED AND E&S BMPS ADJUSTED IN ACCORDANCE WITH THE DETAILS TO PROTECT THE RESOURCES UNTIL UPSLOPE AREAS ACHIEVE PERMANENT STABILIZATION.

18. IN THE UNLIKELY EVENT THAT THERE ARE EXCESS EXCAVATED MATERIALS REMAINING AFTER THE TRENCH HAS BEEN BACKFILLED, THE MATERIAL IS TO BE DISPOSED OF WITHIN THE EXISTING ROW IN AN UPLAND AREA OUTSIDE OF THE 100-YEAR FLOODPLAIN. MATERIAL WILL BE SPREAD IN A THIN LAYER AND TIED INTO EXISTING CONTOURS TO CREATE POSITIVE DRAINAGE FOR STORMWATER RUNOFF.

19. PERFORM HYDROSTATIC PRESSURE TEST OF PIPELINE.

20. DEWATER PIPELINE UTILIZING APPROPRIATE BMPS AS DIRECTED BY TRANSCO ENVIRONMENTAL INSPECTOR, AND COMPLETE FINAL TIE-INS.

21. PRIOR TO SEEDING, DISC AREAS TO A DEPTH OF 4-6" TO FACILITATE REVEGETATION. DISCING WILL BE PERFORMED ON SUBSOILS TO A DEPTH OF 4-6" AND AGAIN FOLLOWING TOPSOILING.

22. REVEGETATE IN ACCORDANCE WITH THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN.

23. TEMPORARY ACCESS ROADS MUST BE REMOVED OR RESTORED TO PRE-CONSTRUCTION CONDITIONS AND DIMENSIONS ONCE ACCESS TO THE PROJECT SITE IS NO LONGER NECESSARY. THE AREA SHALL BE GRADED TO EXISTING CONTOURS AND REVEGETATED.

24. RE-ESTABLISH APPROPRIATE DRAINAGE IN EXISTING ROAD CHANNELS PRIOR TO SEEDING AND MULCHING.

25. CONDUCT INSPECTIONS OF TEMPORARY E&SCS AND STORMWATER MANAGEMENT BMPS ONCE EVERY FOUR DAYS.

26. ALL POLLUTANTS, INCLUDING WASTE MATERIALS AND DEMOLITION DEBRIS THAT OCCUR ON SITE DURING CONSTRUCTION SHALL BE HANDLED AND LEGALLY DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF SURFACE WATERS. WOODY DEBRIS MAY BE CHIPPED AND SPREAD ON-SITE.

27. TEMPORARY BMPS SHALL BE IMPLEMENTED AND MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED. A PERMANENT VEGETATIVE COVER WILL BE ESTABLISHED ON DENUDED AREAS THAT ARE NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION WILL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE, AND WILL INHIBIT EROSION. THIS WILL BE CONFIRMED BY THE TRANSCO ENVIRONMENTAL INSPECTOR SO THAT REMOVAL OF TEMPORARY BMPS CAN PROCEED. AREAS DISTURBED DURING THE REMOVAL OF THE TEMPORARY BMPS WILL BE STABILIZED IMMEDIATELY.

FOR STREAM CROSSINGS, REFER TO THE FOLLOWING STEPS:

1. INSTALL TEMPORARY EQUIPMENT BRIDGE, BYPASS HOSE, FLUME, PUMP, OR COFFERDAM AS DESCRIBED IN STREAM CROSSING DETAILS AROUND THE WORK AREA.

2. DEWATER WORK AREA UTILIZING PUMP WATER FILTER BAGS OR ADEQUATE DEWATERING DEVICE. WHERE POSSIBLE, EXCAVATION WILL BE FROM THE TOP OF THE STREAM BANK.

3. INSTALL TRENCH PLUGS, PIPE, AND BACKFILL.

4. STABILIZE CHANNEL EXCAVATION AND STREAM BANKS PRIOR TO RETURNING STREAM FLOW.

5. REMOVE BYPASS HOSE, FLUME, PUMP, AND TEMPORARY DAM AS NEEDED.

FOR STREAM CROSSINGS WHERE CONVENTIONAL BORE TECHNIQUE IS PROPOSED, REFER TO THE FOLLOWING STEPS:

1. INSTALL TEMPORARY EQUIPMENT BRIDGE, BYPASS HOSE, FLUME, PUMP, OR COFFERDAM AS DESCRIBED IN STREAM CROSSING DETAILS AROUND THE WORK AREA.

2. DEWATER WORK AREA UTILIZING PUMP WATER FILTER BAGS.

3. EXCAVATE LAUNCHING AND RECEIVING PITS LOCATED IN WORKSPACE ON EACH SIDE OF THE FEATURE BEING CROSSED.

4. STABILIZE AND/OR PROVIDE APPROPRIATE E&S CONTROLS AROUND THE RESULTING SPOIL PILES IN ACCORDANCE WITH THE REQUIREMENTS APPLICABLE TO SOIL STOCKPILES.

5. LOWER BORING MACHINE INTO LAUNCHING PIT AND BORE HORIZONTAL HOLE TO A DIAMETER EQUAL TO THE DIAMETER OF THE PIPE (OR CASING, IF REQUIRED) AT THE DEPTH OF THE PIPELINE INSTALLATION.

6. PUSH THE PIPELINE SECTION AND/OR CASING THROUGH THE BORE FROM THE LAUNCHING PIT TO THE RECEIVING PIT. IF ADDITIONAL PIPELINE SECTIONS ARE REQUIRED TO SPAN THE LENGTH OF THE BORE, THEY WILL BE WELDED TO THE FIRST SECTION OF THE PIPELINE IN THE LAUNCHING PIT BEFORE BEING PUSHED THROUGH THE BORE.

7. DEWATER LAUNCHING AND RECEIVING PITS UTILIZING PUMP WATER FILTER BAGS OR ADEQUATE DEWATERING DEVICE AS NEEDED DURING BORE OPERATIONS.

8. BACKFILL AND STABILIZE (AS APPROPRIATE) LAUNCHING AND RECEIVING PITS UPON COMPLETION OF THE BORE.

IF WORKING WITHIN A WETLAND AREA, FOLLOW THE GENERALIZED CONSTRUCTION SEQUENCE BELOW:

1. INSTALL SILT FENCE OR CFS ALONG THE PERIMETER OF THE SITE AS SHOWN ON THE E&S PLANS.

2. TIMBER MATS, PADS, OR SIMILAR DEVICES WILL BE USED DURING THE CROSSINGS OF WETLANDS. ORIGINAL GRADES THROUGH WETLANDS MUST BE RESTORED AFTER TRENCHING AND BACKFILLING. ANY EXCESS FILL MATERIALS MUST BE REMOVED FROM THE WETLAND AND NOT SPREAD WITHIN WETLANDS.

3. SOIL EXCAVATED FROM WETLAND AREAS WILL BE CAREFULLY REMOVED WITH THE ROOTS INTACT, WHERE FEASIBLE. THIS SOIL WILL BE PLACED IN A SEPARATE STOCKPILE, AND SEPARATED FROM EXISTING GROUND WITH A GEOTEXTILE FABRIC, TO BE REUSED DURING THE WETLAND SURFACE RESTITUTION.

4. DEWATER WORK AREA UTILIZING PUMPED WATER FILTER BAGS OR ADEQUATE DEWATERING DEVICE.

5. INSTALL PIPELINE.

6. INSTALL TRENCH PLUGS AS SHOWN IN THE DRAWINGS IN WETLAND AREAS TO PREVENT THE TRENCH FROM DRAINING THE WETLAND OR CHANGING ITS HYDROLOGY.

7. BACKFILL PIPE TRENCH. BACKFILL THE TOP 12 INCHES OF THE EXCAVATED TRENCH WITH THE STOCKPILED WETLAND SOIL TO MATCH ORIGINAL SURFACE GRADES.

8. COMPACT BACKFILL AND GRADE THE SURFACE OF THE TRENCH AREA TO ALLOW FOR POSITIVE DRAINAGE TO SOIL E&SCS AND TO PREPARE DISTURBED AREAS FOR PERMANENT TRENCH RESTORATION.

9. MAINTAIN ALL E&SCS DEVICES UNTIL SITE WORK IS COMPLETE AND A GROUND COVER IS ACHIEVED THAT IS UNIFORM AND MATURE ENOUGH TO SURVIVE AND INHIBIT EROSION.

10. REMOVE ALL SOIL AND E&SC MEASURES UPON ESTABLISHMENT OF A GROUND COVER THAT IS UNIFORM AND MATURE ENOUGH TO SURVIVE AND INHIBIT EROSION. RE-GRADE AND REVEGETATE AREAS DISTURBED DURING THE REMOVAL OF THE SOIL E&SCS.

FOR TREE FELLING:

PHASE I ESC SEQUENCE OF CONSTRUCTION

STEP 1: CONDUCT TREE HAND FELLING OPERATIONS - ALL TREES REMOVAL ACTIVITIES WILL BE CARRIED OUT EXCLUSIVELY THROUGH HAND FELLING METHODS, ENSURING THAT NO MECHANIZED EQUIPMENT IS EMPLOYED DURING THE FELLING PROCESS.

STEP 2: INITIATE TREE REMOVAL, CLEARING, AND GRUBBING ACTIVITIES TO FACILITATE INSTALLATION OF PHASE 1 ESC CONTROLS (MINIMUM STANDARD 4) - FOLLOWING THE COMPLETION OF NON-MECHANIZED TREE FELLING, INITIATE THE PROCESS OF TREE REMOVAL, CLEARING, AND GRUBBING IN A MANNER THAT SUPPORTS INSTALLATION OF PHASE 1 EROSION AND SEDIMENT CONTROLS. AT A MINIMUM, PHASE I ESC CONTROLS WILL BE INSTALLED BY THE END OF EACH WORK DAY, OR SOONER, IF A RAIN EVENT IS EMINENT. THESE ACTIVITIES SHOULD BE CONDUCTED SYSTEMATICALLY ALONG THE LINEAR PROJECT ALIGNMENT, AS WORK PROGRESSES, TO LIMIT THE POTENTIAL FOR EROSION AND SEDIMENT TRANSPORT. THESE OPERATIONS WILL BE CLOSELY COORDINATED WITH TRANSCO ENVIRONMENTAL INSPECTORS.

15. <u>BEST MANAGEMENT PRACTICES INSTALLATION AND REMOVAL NOTES:</u>

- TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMPS SHALL BE MAINTAINED AND REPAIRED AS NEEDED AND AS DIRECTED BY TRANSCO ENVIRONMENTAL INSPECTOR TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE WITH THE APPROVED STANDARDS AND SPECIFICATIONS.

- IN NON-AGRICULTURAL AREAS THE VISUAL SURVEY SHALL BE COMPARED TO THE DENSITY AND COVER OF ADJACENT UNDISTURBED LANDS. IN AGRICULTURAL AREAS, THE VISUAL SURVEY SHALL BE COMPARED TO THE ADJACENT UNDISTURBED PORTIONS OF THE SAME FIELD, UNLESS THE EASEMENT AGREEMENT SPECIFIES OTHERWISE.

- WETLANDS ALONG THE PROPOSED PIPELINE ARE EXPECTED TO EXHIBIT VARYING DEGREES OF SATURATION AND WATER ELEVATION, REQUIRING A VARIETY OF PLANT SPECIES TO BE RE-ESTABLISHED. IN UNSATURATED WETLANDS, MOST VEGETATION WILL BE REPLACED BY SEEDING. SATURATED WETLANDS WILL TYPICALLY BE ALLOWED TO RE-VEGETATE NATURALLY. WETLAND REVEGETATION WILL BE CONSIDERED SUCCESSFUL WHEN THE COVER OF HERBACEOUS SPECIES IS AT LEAST 80 PERCENT OF THE TYPE, DENSITY, AND DISTRIBUTION OF THE VEGETATION IN ADJACENT WETLAND AREAS THAT WERE NOT DISTURBED BY CONSTRUCTION. REVEGETATION EFFORTS WILL CONTINUE UNTIL WETLAND REVEGETATION IS SUCCESSFUL.

- CONDUCTING INSPECTIONS OF TEMPORARY ESC CONTROLS AND SWM BMPS AT LEAST ONCE EVERY FOUR BUSINESS DAYS.

- TEMPORARY BMPS WILL BE REMOVED UPON ACHIEVING VEGETATIVE STABILIZATION AS DIRECTED BY THE TRANSCO ENVIRONMENTAL INSPECTOR, WHICH IS DEFINED AS "A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION". DISTURBED AREAS NOT ATTAINING AN ACCEPTABLE VEGETATIVE COVER SHALL BE RESEEDED AS NEEDED UNTIL THE ENDPOINT IS ACHIEVED.

- TEMPORARY EROSION AND SEDIMENT CONTROL BMPS SHOULD BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMPS ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL RESULTING FROM REMOVAL OF BMPS OR VEGETATION SHALL BE PERMANENTLY STABILIZED.

THE FOLLOWING IS THE SEQUENCE OF EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE REMOVAL AND INSTALLATION RELATED TO RESTORATION ACTIVITIES. THIS WORK WILL OCCUR BETWEEN RESTORATION OF PIPELINE LIMIT OF DISTURBANCE TO PRE-CONSTRUCTION GRADES AND FINAL CLOSURE OF THE PROJECT DEFINED AS "ACHIEVING VEGETATIVE STABILIZATION". THE SEQUENCE IS:

1. REMOVE AND GRADE OUT THE CLEAN WATER DIVERSION DIKE, AND REPLACE WITH 18-INCH MIN. CFS OR EQUIVALENT MEASURE.

2. REMOVE TEMPORARY WATERBARS AND OUTLET STRUCTURES. REPLACE WITH 18-INCH MIN. CFS OR EQUIVALENT MEASURE.

3. APPLY SPECIALTY SEEDS AS REQUIRED THAT WILL NOT BE HANDLED IN THE MULCH PHASE (STEP 5), SEED THE AREA USING THE SEED MIXES AND RATES SPECIFIED IN THE DETAILS.

4. APPLY MULCH IN THE FORM OF ORGANIC MULCH, SOIL STABILIZATION MATTING, OR HYDRAULIC EROSION CONTROL PRODUCT.

5. FOLLOWING A DETERMINATION THAT THE SITE HAS ACHIEVED VEGETATIVE STABILIZATION, THE COMPOST FILTER SOCK WILL BE "OPENED" AND THE MULCH CONTAINED WITHIN WILL BE SPREAD WITHIN THE LIMITS OF DISTURBANCE (LOD) AT THE DIRECTION OF THE TRANSCO ENVIRONMENTAL INSPECTOR.

_____ P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
06/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

NARRATIVE

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY:RCM	DATE: 5-30-25	DRAWING NUMBER: VA-EDEN-ES-096	SHEET 096 OF 097
WO: C1009554	RID: 500		

POLLUTION PREVENTION

POTENTIAL SOURCES OF POLLUTION

LAND DISTURBING ACTIVITIES ASSOCIATED WITH THE PROJECT HAVE THE POTENTIAL TO AFFECT THE QUALITY OF STORMWATER RUNOFF. THEREFORE, PROPER EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED PRIOR TO CONSTRUCTION TO MANAGE STORMWATER AND SEDIMENT. THE PROJECT PLANS ARE TO BE UPDATED AS ADDITIONAL POLLUTANT SOURCES ARE ADDED TO OR REMOVED FROM THE PROJECT.

DUST CONTROL, IF NECESSARY, WILL BE APPLIED WHEN AND WHERE THE TRANSCO ENVIRONMENTAL INSPECTOR DEEMS IT NECESSARY TO CONTROL AIRBORNE PARTICLES DURING THE CONSTRUCTION PROCESS. IN ADDITION, THE TRANSCO ENVIRONMENTAL INSPECTOR WILL DETERMINE, IF NECESSARY, WHERE AND WHEN VEHICLE WASHING WILL BE REQUIRED IN ORDER TO ENSURE SEDIMENT DOES NOT LEAVE THE LOD AND MAKE ITS WAY INTO A WATERCOURSE OR ONTO A PUBLIC ROADWAY.

Pollutant-Generating Activity	Pollutants or Pollutant Constituents (that have the potential to be exposed to stormwater)								
	Sediment	Oils, Fuels, Grease	Nutrients	Heavy Metals	pH	Pesticides and Herbicides	Trash, Debris, Solids	Bacteria and Viruses	Other Toxic Chemicals
Clearing, grading, excavating	X						X		
Vehicle/equipment fueling		X					X		X
Sanitary waste			X				X		X
Concrete washout				X	X		X		
Solid waste disposal				X			X		X
Used oil storage		X							
Vehicle washing	X	X							
Vehicle/equipment maintenance		X							
Site stabilization/ Landscaping	X		X		X	X			
Material delivery and storage	X	X	X	X			X		X
Structure construction, painting, cleaning				X			X		X
Demolition and debris disposal	X			X			X		
Dewatering operations	X		X				X		

POLICIES AND PROCEDURES

THE OPERATOR SHOULD ASSURE THAT EMPLOYEES ARE AWARE OF ALL APPLICABLE WASTES, INCLUDING WASH WATER AND CONCRETE WASHOUT WATER, DISPOSAL PRACTICES, AND APPLICABLE DISPOSAL LOCATIONS OF SUCH WASTES, IN ORDER TO COMPLY WITH THE CONDITIONS OF THE CONSTRUCTION GENERAL PERMIT (CGP). PERSONNEL SHOULD BE EDUCATED IN SPILL PREVENTION, AREAS OF POSSIBLE POLLUTION, AND SPILL RESPONSE PROCEDURES.

SPILL PREVENTION AND RESPONSE

THE FOLLOWING PRACTICES WILL BE IMPLEMENTED FOR SPILL PREVENTION AND CLEANUP:

- PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL, WHERE POSSIBLE, UNLESS THEY ARE NOT RE-SEALABLE.
- ORIGINAL SPECIMEN LABELS AND SAFETY DATA SHEETS WILL BE KEPT ON FILE, AS THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
- MATERIALS STORED ON-SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS. MATERIALS THAT HAVE THE POTENTIAL FOR CONTAMINATING RUNOFF DURING STORM EVENTS WILL BE STORED IN THEIR APPROPRIATE WATERTIGHT CONTAINERS, UNDER A CANOPY, TARPAULIN, SHRINK-WRAPPED, OR OTHERWISE PRECLUDED FROM DIRECT EXPOSURE TO PRECIPITATION.
- WASTE CONTAINERS WILL BE CLOSED OR COVERED DURING PRECIPITATION EVENTS AND AT THE END OF THE BUSINESS DAY, OR BY IMPLEMENTING OTHER SIMILARLY EFFECTIVE PRACTICES, TO MINIMIZE THE EXPOSURE OF WASTE MATERIALS TO PRECIPITATION EVENTS.
- WHENEVER POSSIBLE, THE ENTIRE PRODUCT WILL BE USED BEFORE DISPOSING OF THE CONTAINER. IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURERS' AND/OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.
- MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
- SITE PERSONNEL RESPONSIBLE FOR SPILL CLEANUP WILL RECEIVE POLLUTION PREVENTION AWARENESS SPECIFIC TO THE TYPE AND MATERIAL STORED OR USED ON SITE.
- MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE AVAILABLE ON-SITE. EQUIPMENT AND MATERIALS MAY INCLUDE, BUT NOT BE LIMITED TO, CLEANUP KITS, BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, DIRT TO CONTAIN SPILLS, CONTAINMENT BOOM, ABSORBENT MATERIAL (E.G., HAY, KITTY LITTER, SAND, SAWDUST), AND PLASTIC AND METAL TRASH CONTAINERS.
- SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY, IF SAFE TO DO SO.
- IN THE EVENT OF A DISCHARGE OF A POTENTIAL POLLUTANT OR SPILL OF A HAZARDOUS SUBSTANCE, THE FOLLOWING STEPS SHOULD BE TAKEN:

1. ELIMINATE POTENTIAL SPARK SOURCES.
2. IF POSSIBLE AND SAFE TO DO SO, IDENTIFY AND SHUT DOWN THE SOURCE OF THE DISCHARGE TO STOP THE FLOW.
3. CONTAIN THE DISCHARGE WITH SORBENT, BERMS, FENCES, TRENCHES, SANDBAGS, OR OTHER MATERIAL AND ENSURE THE AREA WILL BE KEPT WELL VENTILATED. PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE DURING CLEANUP OPERATIONS.
4. CONTACT THE SWPPP COORDINATOR OR HIS/HER DESIGNEE (DIVISION MANAGER) OR HIS/HER ALTERNATE.
5. CONTACT REGULATORY AUTHORITIES AND THE RESPONSE ORGANIZATION, AS APPLICABLE.
6. CONTAINERIZE AND DISPOSE OF RECOVERED PRODUCTS ACCORDING TO APPLICABLE REGULATIONS.

- SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE AND LOCAL GOVERNMENT AGENCIES, AS REQUIRED.
- THE SPILL PREVENTION AND CONTROL PROCEDURES WILL BE IMPLEMENTED ONCE CONSTRUCTION BEGINS ON-SITE. ADDITIONAL CONSIDERATIONS RELATED TO SPILL PREVENTION ARE NOTED IN THE TABLE THAT FOLLOWS.

Prevention - Stopping - Containing - Cleanup - Reporting A spill is reportable if it; causes a sheen (the sheen rule), creates discoloration/emulsion on surface waters, or reaches storm drains. Any Fish Kills must be reported. Reporting information regarding specific substances can be found below		
Potential Pollution Generating Activities:		**Prevention/Response Quick Reference Chart**
Hazardous Materials	Fuels, Hydraulic Oils and Vehicle Maintenance	Vehicle refueling and maintenance operations will be conducted in a dedicated location away from surface waters. Secondary containment (berms), readily available spill kits and cover will be provided where appropriate.
	Soaps, Solvents, Detergents & Wash Water	Chemicals will be safely stored in sealed containers when not in use. Clean-up and disposal will be done in a manner to prevent contact with stormwater, utilizing; tarps, buckets, and proper disposal techniques.
	Hazardous or Toxic Chemicals	Chemicals will be stored in sealed containers in a safe location. Likely chemicals on site include: asphalt sealants, adhesives, concrete admixtures, paints, coatings, pesticides, herbicides, insecticides, fertilizers, pressurized gasses, welding rods and landscape materials. All paint, pipe coating containers and curing compounds will be tightly sealed and stored when not required for use. Excess paint, and pipe coatings will not be discharged to the storm sewers, but will be properly disposed of according to the manufacturer's instructions and in compliance with the applicable safety data sheets. Spray guns will be cleaned on a removable tarp. Areas where pipe coatings are used and applied will have temporary tarping or equivalent in place to capture any overspray or excess material from migrating away from the work area.
	Fertilizers	Fertilizers will be applied per manufactures recommendations and not during rainfall events.
	Sanitary Wastes	On site portable lavatories must be located away from surface waters and storm drains. Any spills must be cleaned according to federal, state and local regulations.
Non-Stormwater Discharges *(Examples listed in Sect 2. B. 10)*	Wash Water without Soaps	Wash water will be directed to sediment basins or traps, using filtration devices such as filter bags or sand filters, or similarly effective controls.
	Site Excavation Dewatering	Must pass through a sediment trapping device and be released onto a stabilized surface. Conveyance channels must be stabilized
	Utility Flushing	Energy from clean water releases must be appropriately dissipated in a stabilized area.
Managing Waste	Concrete Waste & Wash Water	Concrete wash water will be directed into a leak-proof settling basin or container. The container or basin shall be designed so that no overflows can occur due to inadequate sizing or precipitation. Hardened concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wastes. Liquid concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wash waters and shall not be discharged to surface waters.
	Solid Waste	All solid waste and debris must be deposited in dumpsters and kept out of surface waters

WHEN A SPILL OCCURS, THE INDIVIDUALS/AGENCIES IN THE TABLE BELOW SHALL BE CONSIDERED FOR NOTIFICATION.

Agency	Contact Information
National Response Center	**(800) 424-8802**
DEQ Central Office **Statewide main office**	**1111 East Main Street Richmond, VA 23219** **General:** **(804) 698-4000**
DEQ Blue Ridge Regional Office **Alleghany, Amherst, Appomattox, Bedford, Botetourt, Campbell, Charlotte, Craig, Cumberland, Floyd, Franklin, Giles, Halifax, Henry, Montgomery, Patrick, Pittsylvania Pulaski, and Roanoke; and the cities of Bedford, Clifton Forge, Danville, Covington, Lynchburg, Martinsville, Radford, Roanoke, and Salem**	3019 Peters Creek Road Roanoke, VA 24019 **General: (540) 562-6700 Roanoke** **Pollution Response Program** **(540) 562-6814 Roanoke**
VA Department of Emergency Management (DEM)	**1-800-468-8892 (24 hour #)**
Local Emergency Response	**911 (24 hour #)**

SPILL REPORTING

REPORTS OF UNAUTHORIZED DISCHARGES

ANY OPERATOR WHO DISCHARGES OR CAUSES OR ALLOWS A DISCHARGE OF SEWAGE, INDUSTRIAL WASTE, OTHER WASTES, OR ANY NOXIOUS OR DELETERIOUS SUBSTANCE OR A HAZARDOUS SUBSTANCE OR OIL IN AN AMOUNT EQUAL TO OR IN EXCESS OF A REPORTABLE QUANTITY ESTABLISHED UNDER EITHER 40 CFR PART 110 (DISCHARGE OF OIL), 40 CFR PART 117 (REPORTABLE QUANTITIES OF HAZARDOUS SUBSTANCES), 40 CFR PART 302 (REPORTING REPORTABLE QUANTITIES), OR § 62.1-44.34:19 (REPORTING OF DISCHARGE) OF THE CODE OF VIRGINIA THAT OCCURS DURING A 24-HOUR PERIOD INTO OR UPON SURFACE WATERS OR WHO DISCHARGES OR CAUSES OR ALLOWS A DISCHARGE THAT MAY REASONABLY BE EXPECTED TO ENTER SURFACE WATERS, SHALL NOTIFY THE DEQ OF THE DISCHARGE IMMEDIATELY UPON DISCOVERY OF THE DISCHARGE, BUT IN NO CASE LATER THAN WITHIN 24 HOURS AFTER SAID DISCOVERY.

A WRITTEN REPORT OF THE UNAUTHORIZED DISCHARGE SHALL BE SUBMITTED TO THE DEQ AND THE VESMP AUTHORITY WITHIN FIVE (5) CALENDAR DAYS OF DISCOVERY OF THE DISCHARGE, AND SHALL CONTAIN THE INFORMATION LISTED IN PART III G (REPORTS OF UNAUTHORIZED DISCHARGES) OF THE CGP. SPILL NOTIFICATION PROCEDURES WILL BE REVIEWED BY ALL KEY PERSONNEL DURING THE TRANSITION PROCESS.

REPORTS OF UNUSUAL OR EXTRAORDINARY DISCHARGES

IF ANY UNUSUAL OR EXTRAORDINARY DISCHARGE INCLUDING A "BYPASS" OR "UPSET", AS DEFINED IN THE PERMIT, SHOULD OCCUR FROM A FACILITY AND THE DISCHARGE ENTERS OR COULD BE EXPECTED TO ENTER SURFACE WATERS, THE OPERATOR SHALL PROMPTLY NOTIFY, IN NO CASE LATER THAN WITHIN 24 HOURS, THE DEQ AND THE VESMP AUTHORITY BY TELEPHONE AFTER THE DISCOVERY OF THE DISCHARGE. THIS NOTIFICATION SHALL PROVIDE ALL AVAILABLE DETAILS OF THE INCIDENT, INCLUDING ANY ADVERSE EFFECTS ON AQUATIC LIFE AND THE KNOWN NUMBER OF FISH KILLED. THE OPERATOR SHALL REDUCE THE REPORT TO WRITING AND SHALL SUBMIT IT TO THE DEQ AND THE VESMP AUTHORITY WITHIN FIVE DAYS OF DISCOVERY OF THE DISCHARGE IN ACCORDANCE WITH PART III I.2 OF THE CGP. UNUSUAL AND EXTRAORDINARY DISCHARGES INCLUDE BUT ARE NOT LIMITED TO ANY DISCHARGE RESULTING FROM:

- UNUSUAL SPILLAGE OF MATERIALS RESULTING DIRECTLY OR INDIRECTLY FROM PROCESSING OPERATIONS;
- BREAKDOWN OF PROCESSING OR ACCESSORY EQUIPMENT;
- FAILURE OR TAKING OUT OF SERVICE OF SOME OR ALL OF THE FACILITIES; AND
- FLOODING OR OTHER ACTS OF NATURE.

REPORTS OF NONCOMPLIANCE

THE OPERATOR SHALL REPORT ANY NONCOMPLIANCE THAT MAY ADVERSELY AFFECT SURFACE WATERS OR ENDANGER PUBLIC HEALTH.

- A REPORT TO THE DEQ AND THE VESMP AUTHORITY SHALL BE PROVIDED WITHIN 24 HOURS FROM THE TIME THE OPERATOR BECOMES AWARE OF THE CIRCUMSTANCES. THE ORAL REPORT SHALL CONTAIN THE INFORMATION SPECIFIED IN PART III I.1 OF THE PERMIT.
- A WRITTEN REPORT SHALL BE SUBMITTED WITHIN FIVE (5) CALENDAR DAYS AND SHALL CONTAIN THE INFORMATION SPECIFIED IN PART III I.2 OF THE PERMIT. THE DEQ MAY WAIVE THE WRITTEN REPORT ON A CASE-BY-CASE BASIS FOR REPORTS OF NONCOMPLIANCE UNDER PART III I (REPORTS OF NONCOMPLIANCE) OF THE PERMIT IF THE ORAL REPORT HAS BEEN RECEIVED WITHIN 24 HOURS AND NO ADVERSE IMPACT ON SURFACE WATERS HAS BEEN REPORTED.
- THE OPERATOR SHALL REPORT INSTANCES OF NONCOMPLIANCE NOT REPORTED UNDER PART III I.1 OR I.2 OF THE PERMIT IN WRITING AS PART OF THE SWPPP. THE REPORTS SHALL CONTAIN THE INFORMATION LISTED IN PART III I.2 OF THE PERMIT.
- WHERE THE OPERATOR BECOMES AWARE OF A FAILURE TO SUBMIT ANY RELEVANT FACTS, OR SUBMITTAL OF INCORRECT INFORMATION IN ANY REPORT, INCLUDING A REGISTRATION STATEMENT, TO THE DEQ OR THE VESMP AUTHORITY, THE OPERATOR SHALL PROMPTLY SUBMIT SUCH FACTS OR CORRECT INFORMATION.

NOTE: THE IMMEDIATE (WITHIN 24 HOURS) REPORTS REQUIRED IN PARTS III G (REPORTS OF UNAUTHORIZED DISCHARGES), H (REPORTS OF UNUSUAL OR EXTRAORDINARY DISCHARGES), AND I (REPORTS OF NONCOMPLIANCE) OF THE CGP MAY BE MADE TO THE DEQ AND THE VESMP AUTHORITY. REPORTS MAY BE MADE BY TELEPHONE, EMAIL, OR ONLINE AT HTTPS://WWW.DEQ.VIRGINIA.GOV/OUR-PROGRAMS/POLLUTION-RESPONSE. FOR REPORTS OUTSIDE NORMAL WORKING HOURS, LEAVING A RECORDED MESSAGE SHALL FULFILL THE IMMEDIATE REPORTING REQUIREMENT. FOR EMERGENCIES, THE VIRGINIA DEPARTMENT OF EMERGENCY MANAGEMENT MAINTAINS A 24-HOUR TELEPHONE SERVICE AT 1-800-468-8892.

FUELING AND MAINTENANCE OF EQUIPMENT OR VEHICLES

- ON-SITE CONSTRUCTION VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE.
- REFUELING, REPAIRS, AND CHANGING OF EQUIPMENT AND VEHICLE FLUIDS WILL BE CONDUCTED IN A MANNER TO REDUCE THE POTENTIAL FOR CONTAMINATION. CARE SHOULD BE TAKEN, WHERE FEASIBLE, TO AVOID ACTIVITIES WITHIN 100 FEET OF STORM DRAINS, WETLANDS, STREAMS, WATER BODIES, TREE PRESERVATION AREAS, OR ANY OTHER ENVIRONMENTALLY SENSITIVE AREAS.
- SECONDARY CONTAINMENT AND SPILL RESPONSE KITS SHALL BE PROVIDED ONSITE AND AS REQUESTED BY THE TRANSCO ENVIRONMENTAL INSPECTOR.
- THESE POLLUTION PREVENTION PRACTICES AND PROCEDURES SHOULD BE IMPLEMENTED TO PREVENT THE DISCHARGE OF SPILLED AND LEAKED FUELS AND CHEMICALS FROM VEHICLE FUELING AND MAINTENANCE ACTIVITIES (E.G., PROVIDING SECONDARY CONTAINMENT SUCH AS SPILL BERMS, DECKS, SPILL CONTAINMENT PALLETS, PROVIDING COVER WHERE APPROPRIATE, AND HAVING SPILL KITS READILY AVAILABLE).
- PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS THAT ARE CLEARLY LABELED.
- ANY ASPHALT SUBSTANCES USED ON-SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
- THE CONTRACTOR WILL REGULARLY INSPECT THE SITE TO ENSURE THAT PROPER DISPOSAL METHODS OF USED ANTIFREEZE, OILS, FILTERS, AND OTHER HAZARDOUS MATERIALS ARE FOLLOWED.

WASHING OF EQUIPMENT AND VEHICLES

- VEHICLE WASHING SHOULD ONLY TAKE PLACE WHEN SOAPS, SOLVENTS, OR DETERGENTS HAVE NOT BEEN USED.
- CONSTRUCTION VEHICLE WASHING WILL ONLY OCCUR AT APPROVED LOCATIONS, IDENTIFIED BY THE TRANSCO ENVIRONMENTAL INSPECTOR, IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
- TIRE WASHING MAY BE NECESSARY AS PART OF THE SITE'S CONSTRUCTION ENTRANCE IN ORDER TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRAFFIC ONTO A PAVED SURFACE. IF WASHING IS NECESSARY, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT SO IT CAN BE COLLECTED AND STABILIZED. WASH WATER MUST BE CARRIED AWAY FROM THE CONSTRUCTION ENTRANCE TO AN APPROVED AREA TO REMOVE SEDIMENT.
- POLLUTION PREVENTION PRACTICES AND PROCEDURES SHOULD BE IMPLEMENTED THAT WILL MINIMIZE THE DISCHARGE OF POLLUTANTS FROM VEHICLE AND EQUIPMENT WASHING, WHEEL WASH WATER, AND OTHER TYPES OF WASHING (E.G., LOCATING ACTIVITIES AWAY FROM SURFACE WATERS AND STORMWATER INLETS OR CONVEYANCE AND DIRECTING WASH WATERS TO SEDIMENT BASINS OR TRAPS, USING FILTRATION DEVICES SUCH AS FILTER BAGS OR SAND FILTERS, OR USING SIMILARLY EFFECTIVE CONTROLS) SHOULD BE MINIMIZED AND THE WASH WATER HAS BEEN FILTERED, SETTLED, OR SIMILARLY TREATED PRIOR TO DISCHARGE.
- PHYSICAL SEPARATION SHOULD BE PROVIDED BETWEEN SURFACE WATERS AND INLETS.

STORAGE, HANDLING, AND DISPOSAL OF CONSTRUCTION PRODUCTS, MATERIALS AND WASTES

IN ADDITION TO THE PRACTICES LISTED BELOW, ALL PRACTICES IN THE SPILL PREVENTION AND RESPONSE SECTION, ALSO APPLY TO THE STORAGE, HANDLING, AND DISPOSAL OF CONSTRUCTION PRODUCTS, MATERIALS, AND WASTES. EXAMPLES OF THESE ITEMS INCLUDE ASPHALT SEALANTS, COPPER FLASHING, SCRAP BUILDING MATERIALS, ADHESIVES, CONCRETE ADMIXTURES, PESTICIDES, HERBICIDES, FERTILIZERS, LANDSCAPE MATERIALS, TIMBER, PIPE AND ELECTRICAL CUTTINGS, DIESEL FUEL, OIL AND HYDRAULIC FLUIDS, AS WELL AS PAINTS/COATINGS AND OTHER PETROLEUM PRODUCTS.

- ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A PROPER RECEPTACLE IN ACCORDANCE WITH ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN DUMPSTERS. THE CONTRACTOR SHALL DOCUMENT THE LOCATIONS OF ALL DUMPSTERS IN THE SWPPP ONCE DETERMINED IN THE FIELD. THESE LOCATIONS WILL BE ANNOTATED ON THE E&SC PLANS. THE TRASH WILL BE HAULED TO AN APPROPRIATE WASTE DISPOSAL SITE. NO CONSTRUCTION WASTE MATERIALS WILL BE BURIED ONSITE. ALL PROJECT PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL.
- CHEMICAL OR PETROLEUM PRODUCTS WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
- ALL ONSITE EQUIPMENT WILL BE CHECKED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE.
- ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY THE MANUFACTURER AND AS REQUIRED BY LOCAL OR STATE REGULATION. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES PER GUIDANCE PROVIDED BY THE COMPANY ENVIRONMENTAL SPECIALIST.
- PORTABLE SANITARY UNITS MAY BE UTILIZED AT VARIOUS LOCATIONS AT THE PROJECT SITE. THE CONTRACTOR SHALL DOCUMENT THE LOCATIONS OF ALL PORTABLE SANITARY UNITS IN THE SWPPP ONCE DETERMINED IN THE FIELD. AS (OR IF) THE UNITS MOVE, THE MOVEMENT OF THE FACILITIES SHALL BE DOCUMENTED IN THE SWPPP WITH INITIALS OF THE INDIVIDUAL AUTHORIZING THE MOVEMENT AND A CORRESPONDING DATE. THESE LOCATIONS WILL BE ANNOTATED ON THE E&SC PLANS. ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS REQUIRED BY LOCAL AND STATE REGULATION.
- PORTABLE SANITARY UNITS SHOULD NOT BE LOCATED WITHIN 100-FEET OF STREAMS OR WETLANDS OR ADJACENT TO DROP INLETS, FLOWPATHS AND FLOODPLAINS.

WASHING OF CONCRETE OR OTHER MATERIALS

- CONCRETE TRUCKS WILL ONLY WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER AT THE TRANSCO ENVIRONMENTAL INSPECTOR'S APPROVED LOCATIONS IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
- THE DISCHARGE OF WASTEWATER FROM WASHOUT OF CONCRETE IS PROHIBITED.
- DIRECT CONCRETE WASH WATER INTO A LEAK-PROOF CONTAINER OR LEAK-PROOF SETTLING BASIN. THE CONTAINER OR BASIN SHALL BE DESIGNED SO THAT NO OVERFLOWS CAN OCCUR DUE TO INADEQUATE SIZING OR PRECIPITATION. HARDENED CONCRETE WASTES SHALL BE REMOVED AND DISPOSED OF IN A MANNER CONSISTENT WITH THE HANDLING OF OTHER CONSTRUCTION WASTES. LIQUID CONCRETE WASTES SHALL BE REMOVED AND DISPOSED OF IN A MANNER CONSISTENT WITH THE HANDLING OF OTHER CONSTRUCTION WASH WATERS AND SHALL NOT BE DISCHARGED TO SURFACE WATERS.
- SEE ENVIRONMENTAL PROTECTION AGENCY (EPA) FACT SHEET FOR CONCRETE WASHOUT AT HTTPS://WWW3.EPA.GOV/NPDES/PUBS/CONCRETEWASHOUT.PDF
- IN THE EVENT THAT CONCRETE VEHICLE WASHING IS REQUIRED, IT SHALL TAKE PLACE AT DESIGNATED LOCATIONS, APPROVED BY THE TRANSCO ENVIRONMENTAL INSPECTOR. THE CONTRACTOR SHALL DOCUMENT THE LOCATIONS OF ALL VEHICLE WASH AREAS AND CONCRETE WASHOUT AREAS IN THE SWPPP ONCE DETERMINED IN THE FIELD. THESE LOCATIONS SHOULD BE IDENTIFIED ON THE EROSION AND SEDIMENT CONTROL PLANS IN THE SWPPP.

P.E.

COMMONWEALTH OF VIRGINIA
RICHARD C. MURPHY
Lic. No. 041898
05/05/25
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

REVISIONS

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

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
SOUTHEAST SUPPLY ENHANCEMENT PROJECT
EDEN LOOP
SOIL EROSION & SEDIMENT CONTROL PLAN

NARRATIVE

PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY: CMK	DATE: 5-30-25	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: JML	DATE: 5-30-25	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: RCM	DATE: 5-30-25		SHEET 097
WO: C1009554	RID: 500	DRAWING NUMBER: VA-EDEN-ES-097	OF 097