



Supply Header Project

Erosion and Sediment Control General Permit (ESCGP-2)

Registration

Westmoreland County

Prepared by:



March 2017

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DOMINION TRANSMISSION, INC.

SUPPLY HEADER PROJECT

**SECTION 1 – EROSION AND SEDIMENT CONTROL GENERAL PERMIT
REGISTRATION**

- Notice of Intent Application Form
- Notice of Intent Checklist
- Notice of Intent Violation Record
- Westmoreland Conservation District Application for Plan Review



COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF WATER MANAGEMENT
 OFFICE OF OIL AND GAS MANAGEMENT

OFFICIAL USE ONLY	
ID # _____	_____
Date Received _____	_____

**NOTICE OF INTENT (NOI) FOR COVERAGE
 UNDER THE EROSION AND SEDIMENT CONTROL GENERAL PERMIT (ESCGP-2)
 FOR EARTH DISTURBANCE ASSOCIATED WITH OIL AND GAS EXPLORATION,
 PRODUCTION, PROCESSING, OR TREATMENT OPERATIONS OR TRANSMISSION FACILITIES**

**READ THE INSTRUCTIONS PROVIDED IN THIS PERMIT APPLICATION PACKAGE BEFORE COMPLETING THIS FORM.
 PLEASE PRINT OR TYPE INFORMATION IN BLACK OR BLUE INK.**

SECTION A. APPLICANT INFORMATION

APPLICATION TYPE NEW <input checked="" type="checkbox"/> RENEWAL <input type="checkbox"/> MAJOR MODIFICATIONS <input type="checkbox"/> EXPEDITED <input type="checkbox"/> PHASED <input type="checkbox"/>				
Applicant's Last Name (If applicable) Hartz		First Name Leslie	MI	Phone (804) 771-4468
				FAX
Organization Name or Registered Fictitious Name Dominion Transmission, Inc.			Phone	
			FAX	
Mailing Address 707 W. Main Street	City Richmond	State VA	ZIP + 4 23219	
Email Address leslie.hartz@dom.com				
Co-Applicant's Last Name (If applicable)		First Name	MI	Phone
				FAX
Organization Name or Registered Fictitious Name			Phone	
			FAX	
Mailing Address	City	State	ZIP + 4	
Email Address				

SECTION B. SITE INFORMATION

Site Name Supply Header Project				
Site Location JB Tonkin Compressor Station, 4385 Hills Church Road; 3.9 miles of 30-inch pipeline				
Site Location – City Murrysville		State PA	ZIP+4 -156689300	
Detailed Written Directions to Site Directions to JB Tonkin Compressor Station: Take the PA 28-S from Waterfront Drive. Take I-579 S to Boulevard of the Allies. Take exist toward I-376 E and merge onto the I-376 E. Continue on US-22E. Take North Hills Road to Hills Church Road. JB Tonkin Compressor Station will be on the left hand side on the corner of Hills Church Road and Mamont Road.				
County Westmoreland	Municipality Murrysville	City <input type="checkbox"/>	Boro <input checked="" type="checkbox"/>	Twp. <input type="checkbox"/>

SECTION C. PROJECT INFORMATION

1. Total Project Area/Project Site (Ac):	82.5	Total Disturbed Area (Ac):	75.5
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2. Project Name Supply Header Project

3. Project Type (Check all that apply)

- Oil/Gas Well Transmission Facility Gathering Facility Processing Facility Treatment Facility
 Centralized Fresh Water Impoundment Centralized Wastewater Impoundment Water Pipeline
 Ground/Surface Water Withdrawal Site Other
 If Oil/Gas well, is the well conventional or unconventional? Conventional Unconventional

Project Description

In Westmoreland County, modifications at the JB Tonkin Compressor Station will include the addition of one new gas-driven turbine which will provide 20,500 horsepower of additional compression. The modifications will include one new compressor building and additional auxiliary structures within the existing and new chain-link security fenced-in site. Equipment at the station will include gas filter/separators, gas coolers, inlet air filters, exhaust silencers, tanks, blowdown silencers, heaters, and auxiliary generators. Workspace outside the existing fence line will be required for construction activities such as welding, coating, and storing construction materials, as well as activities associated with the new pipeline interconnects. With the exception of valves and other aboveground facilities that will be installed at the pipeline interconnects, these areas will be restored to pre-construction conditions. The proposed improvements at the JB Tonkin Compressor Station will include conversion of currently vegetated surfaces to gravel and rooftop, resulting in the addition of 0.27 acre of impervious area.

In addition, DTI will install valves and pig launcher/receiver facilities at each end of the pipeline loop. The valves, which will allow DTI to segment the pipelines for safety, operations, and maintenance purposes, will be installed below grade with aboveground valve operators, risers, blowdown valves, and crossover piping connected on each side of the valve. The pig launchers/receivers will be used to run pipeline inspection tools, called pigs, through the pipeline system. The Project includes the addition of 18 permanent access roads with 7 new access roads and the use and modification of 9 existing access roads for the construction and operation of the Project. DTI anticipates that construction in Pennsylvania will be complete and placed in service by fall 2019.

4. Please provide the latitude and longitude coordinates for the center of the project. The coordinates should be in degrees, minutes seconds (DD MM SS.SS) and North American Datum 1983. For linear projects provide the project's termini.

Latitude 40 degrees 27 minutes 46.5 seconds Longitude -79 degrees 38 minutes 21.7 seconds
 Latitude _____ degrees _____ minutes _____ seconds Longitude _____ degrees _____ minutes _____ seconds
 Horizontal Collection Method: GPS Interpolated from U.S.G.S. Topographic Map DEP's eMAP

5. U.S.G.S. 7.5 min. Quad Map Name Franklin (Include a copy of the project area on the 7.5 min quad map)

6. Will the project be conducted as a phased permit project? Yes No
 If Yes, Include Master Site Plan Estimated Timetable for Phased Projects. Additional sheet(s) attached.

Phase No. or Name	Description	Total Area	Disturbed Area	Start Date	End Date

7. List existing and previous land use for a minimum of the previous 5 years. Industrial, open land, agriculture, wetland

8. Other Pollutants: Will the stormwater discharge contain pollutional substances other than sediment? Yes No
 If yes, explain and provide any available quantitative data.

<p>9. Will fuels, chemicals, solvents, other hazardous waste or materials be used or stored on site during earth disturbance activities? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (If yes, a PPC Plan must be maintained on site during earth disturbance.)</p>	
<p>10. Does the project have the potential to discharge to siltation-impaired waters? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (If yes, show how the project will not result in a net change in volume, rate or water quality. See section G below.)</p>	
<p>11. Has the project site been investigated to identify naturally occurring geologic formations or soil types that may cause pollution when disturbed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Have naturally occurring geologic formations or soil types that may cause pollution when disturbed been identified? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (If yes, BMPs to avoid or minimize the potential pollution must be utilized.)</p>	
<p>12. Has the project site been analyzed to determine potential thermal impacts to surface waters of the Commonwealth? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Have potential thermal impacts to surface water of the Commonwealth from earth disturbance activity been identified? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (If yes, BMPs to avoid, minimize or mitigated the thermal pollution must be utilized.)</p>	
<p>13. Have the E&S Plan and PCSM/SR Plan been planned, designed and implemented to be consistent? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	
<p>14. Have existing and/or proposed Riparian Forest Buffers been identified? Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/> (If not, they must be shown on the plans.)</p>	
<p>15. Is a riparian buffer waiver being requested? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, the applicant requesting a waiver must submit a written request that demonstrates that reasonable alternatives will meet the requirements of 25 Pa. Code § 102.14 and to demonstrate that any existing riparian buffer will remain undisturbed to the extent practicable.</p>	
<p>16. Have antidegradation implementation requirements for special protection waters been addressed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (If no, antidegradation requirements must be included in the plan.) N/A <input type="checkbox"/></p>	
<p>17. Has the seasonal high groundwater level been identified at all excavation locations for pits and impoundments other than those which will contain top-hole water, fresh water and uncontaminated drill cuttings? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> (If no, be advised that a 20-inch separation between the seasonal high groundwater and the bottom of all pits and impoundments containing pollutional substances is required.)</p>	
<p>18. Receiving Water/Watershed Name <u>UNT to Turtle Creek; UNT to Kemerer Hollow; Kemerer Hollow; UNT to Steels Run; Steels Run; UNT to Haymakers Run; Haymakers Run; Haymakers Run-Turtle Creek Watershed</u> Chapter 93, Designated Use and Existing Use Stream Classification <input checked="" type="checkbox"/> High Quality <input type="checkbox"/> Exceptional Value <input checked="" type="checkbox"/> Other HQ-CWF: <u>UNT to Kemerer Hollow; Kemerer Hollow; UNT to Steels Run; Steels Run; UNT to Haymakers Run; Haymakers Run; Haymakers Run-Turtle Creek Watershed;</u> <u>TSF: UNT to Turtle Creek</u> <input checked="" type="checkbox"/> Siltation-impaired Secondary Receiving Water Turtle Creek</p>	<p>Name of Municipal or Private Separate Storm Sewer Operator N/A</p>

19. Is an Expedited Review being requested? Yes No
If yes, be advised that the Expedited Review is not available for all projects. Refer to the "Expedited Review Process" Item 8, Page 17 of the ESCGP-2 Instructions to determine if your project is eligible.

SECTION D. EROSION AND SEDIMENT CONTROL PLAN BMPS
See the attached Instructions on how to complete this section.

Erosion and Sediment Control Plan BMPs should be designed to minimize accelerated erosion and sedimentation through limiting the extent and duration of earth disturbance, protection of existing drainage and vegetation, limiting soil compaction and controlling the generation of increased runoff. The Department recommends the use of the Erosion and Sediment Control BMP Manual to achieve this goal. The E&S Plan must meet the requirements of Pa. Code § 102.4(b) and submitted with the NOI.

1. E & S Plan

The E & S Plan must satisfy at least one of subparagraph A or B below.

Provide a brief summary of proposed BMPs and their performance to manage E & S for the project. If E & S BMPs and their application do not follow the guidelines referenced in the Pa. Erosion and Sediment Pollution Control Program Manual, provide documentation to demonstrate performance equivalent to, or better than, the BMPs in the Manual.

The proposed E&S BMPs will be implemented as described in this Plan and indicated in the E&S Plan drawing found in Section 4 of the ESCGP-2 Permit Application. Below is a summary:

The plan is designed to provide guidelines, best management practices, and typical techniques for the installation and implementation of soil erosion and sediment control measures while permitting adequate flexibility to use the most appropriate best management practice measures based on site-specific conditions. The intent is to provide general information on the pipeline construction process and sequence, and to describe specific measures that will be employed during and following construction to minimize impacts to the environment.

A. E & S plan is designed using BMPs in the Pennsylvania Erosion & Sedimentation Pollution Control Manual (ESPC) (Technical Guidance #3632134-008/March 2012)

OR

B. E & S plan is designed using an alternative BMP or design standard

2. Riparian Buffer Information

A. Will you be protecting, converting or establishing a riparian buffer or a riparian forest buffer as a part of this project?

Protect Yes No Convert Yes No Establish Yes No

B. Will you be protecting, converting or establishing a voluntary riparian forest buffer as part of this project?

Yes No

C. Are you proposing to conduct oil and gas activities for which site reclamation or restoration is required as part of the Chapter 78 permit authorization in a high quality or exceptional value watershed that is currently attaining its designated use and within 150 ft of a perennial or intermittent river, stream or creek or lake, pond or reservoir?

Yes No If yes, provide a demonstration that any existing riparian buffer is undisturbed to the extent practicable.

D. If the regulations require a riparian buffer or riparian forest buffer and you are not providing one, list the waiver provisions in the Chapter 102 regulations, Section 102.14(d)(2)(i)-(vi), that you are requesting and provide additional documentation to demonstrate reasonable alternatives for compliance with 102.14 requirements and to demonstrate that any existing riparian buffer will remain undisturbed to the extent practicable.

The SHP Project in Westmoreland County qualifies for a riparian forest buffer exemption under Pa. Code § 102.14(d)(1)(vii) & 102.14(d)(1)(ix) for the aboveground facilities. Existing riparian forest buffers within the project area are identified on the E&S Plan drawings in Section 4. Existing riparian forest buffers will be protected to by minimizing the limit of disturbance at stream crossings to 75 feet. In addition, DTI also requests a waiver under Pa. Code § 102.14(d)(2)(ii) and 102.14(d)(2)(vi) for construction areas within 150 feet of surface waters.

All earth disturbance activities have been reduced to the maximum extent possible. Additionally, riparian forest buffers will be protected to the extent practicable in accordance with DTI's post-construction management practices. DTI has limited the disturbance to 75 feet at all stream crossings within the riparian forest buffer where possible. Workspaces that provide additional space for stream crossing activities have been placed outside of the riparian forest buffers where possible. The LOD has been reduced to the extent feasible to allow for safe and successful installation of the pipeline and associated facilities. Any further reduction would compromise the safety and success of the Project construction and operation. In addition, JB Tonkin Compressor Station is currently located within the 150 foot forested riparian buffer and therefore is not expected to meet the 150 foot riparian buffer requirement per Pa. Code § 102.14(d)(2)(vi).

Note: If the proposed activity protects, converts or establishes a riparian or riparian forest buffer a Buffer Management Plan is required in the PCSM Plan.

3. Thermal Impacts Analysis

Please explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Avoid impacts to all surface waters and wetlands to the maximum extent possible to maintain existing hydrology and encourage natural thermal buffering; locate proposed facilities as close as possible to existing facilities to minimize proposed impervious cover; choose areas with minimal existing tree cover to reduce removal of existing tree canopy; immediately revegetate disturbed areas to help cool runoff prior to discharge.

The proposed Project was analyzed for potential thermal impacts associated with the planned activities and how potential impacts could be avoided, minimized, or mitigated. Thermal impacts resulting from activities similar to the proposed Project are primarily due to the negative impacts of increased impervious area. The following opportunities for negative thermal impacts exist for projects similar to the one being proposed:

- Heat transfer from impervious cover to surface runoff;
- Solar heat gain in ponded surface water;
- Increased surface temperatures caused by removal of vegetation;
- Reduced thermal buffering of stormwater due to reduction in site's infiltration capacity; and
- Increased stream temperatures due to reduced base flow caused by reduction in site's infiltration capacity.

Siting of the proposed facilities was limited by the location of the existing facilities and pipelines which they will service, surface restrictions such as regulatory setbacks from building and waterways, and existing property boundaries. From this perspective, the potential to limit thermal impacts by altering the location of the Project is limited. The Project has implemented the following Site Layout Criteria to help prevent or minimize thermal impacts to receiving waters: avoid impacts to surface waters and wetlands to the maximum extent possible; locate proposed facilities as close as possible to existing facilities; and choose areas with minimal existing tree cover.

In addition to the above site selection criteria, several BMPs will be used to help mitigate negative thermal impacts from the proposed Project. Minimizing the LOD and the limit of tree clearing to the minimum area necessary to construct the proposed facilities will preserve existing vegetative cover and maintain the infiltration and evapotranspiration capacity of undisturbed areas to the maximum extent practicable. Also, disturbed areas will be immediately revegetated to help cool runoff prior to discharge.

Direct discharges of stormwater runoff to surface waters will be avoided. Runoff discharges will instead be directed across vegetated areas to provide opportunity for increased infiltration and promote groundwater recharge, which will both promote natural thermal buffering.

SECTION E. SITE RESTORATION (SR) PLAN BMPS
See the attached Instructions on how to complete this section.

If this section is not applicable to your project, please indicate by checking this box: N/A

For earth disturbance projects involving oil and gas activities authorized by Chapter 78 (well pads) or pipelines and other similar utility infrastructure provide the information outlined below. If your project includes both oil and gas activities authorized by Chapter 78 (well pads) or pipelines and other similar utility infrastructure and other activities requiring Post Construction Stormwater Management, provide the information outlined in this Section as well as Section F.

Site Restoration BMPs should be designed to use natural measures to eliminate pollution, infiltrate runoff, not require extensive construction/maintenance activity, promote pollutant reduction, and preserve the integrity of stream channels. The Department recommends the use of PA Stormwater BMP manual to achieve this goal. The SR Plan must meet the requirements of Pa Code § 102.8(n) and be submitted with the NOI.

1. Site Restoration Plan Information – The Site Restoration Plan should be designed to maximize volume reduction technologies, eliminate (where possible) or minimize point source discharges to surface waters, preserve the integrity of stream channels, and protect the physical, biological and chemical qualities of the receiving surface water.

Design standards applied to develop the Site Restoration Plan. Check those that apply.

Act 167 Plan – The attached SR Plan is consistent with an applicable approved Act 167 Plan.

Complete the following for all approved Act 167 Stormwater Management Plans. (Use additional sheets if necessary)

Act 167 Plan Name	Date Adopted	Consistency Letter Included	<input type="checkbox"/>
_____	_____	Verification Report Included	<input type="checkbox"/>

NOTE: A consistency letter is not required if a verification report is provided. Please see NOI Instructions. The Site Restoration Plan must satisfy either sub paragraph A, B, or C below. Check those that apply.

- A. Act 167 Plan approvals on or after January 2005 - The attached PCSM Plan, in its entirety, is consistent with all requirements pertaining to rate, volume, and water quality from an Act 167 Stormwater Management Plan approved by DEP on or after January 2005. Letter A must be checked if a current, DEP approved Act 167 plan exists.
- B. The PCSM meets the standard design criteria from the PA Stormwater BMP Manual. For projects involving oil and gas activities authorized by a permit issued under Chapter 78 (well pads) or pipelines and other similar utility infrastructure, post construction stormwater management requirements are met for all areas that are restored to preconstruction conditions or to a condition of meadow in good condition or better.
- C. Alternative Design Standard – The attached PCSM Plan was developed using approaches other than 102.8(g)(2). Demonstrate/explain in the space provided below how this standard will be either more protective than what is required in 102.8(g)(2) or will maintain and protect existing water quality and existing and designated uses.

2. Riparian Buffer Information

- A. Will you be protecting, converting or establishing a riparian buffer or a riparian forest buffer as part of this activity?
Protect Yes No Convert Yes No Establish Yes No
- B. Will you be protecting, converting or establishing a voluntary riparian forest buffer as part of this activity?
 Yes No
- C. Are you proposing to conduct oil and gas activities for which site reclamation or restoration is required under a permit issued under the authority of the 2012 Oil and Gas Act and Chapter 78 in a high quality or exceptional value watershed that is currently attaining its designated use and within 150 ft of a perennial or intermittent river, stream or creek or lake, pond or reservoir?
 Yes No If yes, provide a demonstration that any existing riparian buffer is undisturbed to the extent practicable.

- D. If the regulations require a riparian buffer or riparian forest buffer and you are **not** providing one, list below the waiver provisions in the Chapter 102 regulations, Section 102.14(d)(i)-(vi), that you are requesting and provide additional documentation to demonstrate reasonable alternatives for compliance with 102.14 requirements and to demonstrate that any existing riparian buffer will remain undisturbed to the extent practicable.

The SHP Project in Westmoreland County qualifies for a riparian forest buffer exemption under Pa. Code § 102.14(d)(1)(vii) & 102.14(d)(1)(ix) for the aboveground facilities. Existing riparian forest buffers within the project area are identified on the E&S Plan drawings in Section 4. Existing riparian forest buffers will be protected to by minimizing the limit of disturbance at stream crossings to 75 feet. In addition, DTI also requests a waiver under Pa. Code § 102.14(d)(2)(ii) and 102.14(d)(2)(vi) for construction areas within 150 feet of surface waters.

All earth disturbance activities have been reduced to the maximum extent possible. Additionally, riparian forest buffers will be protected to the extent practicable in accordance with DTI's post-construction management practices. DTI has limited the disturbance to 75 feet at all stream crossings within the riparian forest buffer where possible. Workspaces that provide additional space for stream crossing activities have been placed outside of the riparian forest buffers where possible. The LOD has been reduced to the extent feasible to allow for safe and successful installation of the pipeline and associated facilities. Any further reduction would compromise the safety and success of the Project construction and operation. In addition, JB Tonkin Compressor Station is currently located within the 150 foot forested riparian buffer and therefore is not expected to meet the 150 foot riparian buffer requirement per Pa. Code § 102.14(d)(2)(vi).

Note: If the proposed activity protects, converts or establishes a riparian or riparian forest buffer a Buffer Management Plan is required in the PCSM Plan.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA

See Attachment D in the Instructions on how to Complete This Section

This section does not need to be completed for areas of projects involving oil and gas activities authorized by Chapter 78 (well pads) or pipelines and other similar utility infrastructure which will be restored to meadow in good condition or better or existing conditions.

Watershed Name: Turtle Creek Watershed

Design storm frequency <u>2- year</u> Rainfall amount <u>2.38"</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	1.390	2.020	0.63
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.677	0.960	0.283
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.600	-0.077
Stormwater discharge rate for the design frequency storm	Pre-construction	Post Construction	Net Change
1) 2-Year/24-Hour	10.34	15.17	4.83
2) 10-Year/24-Hour	20.35	26.37	6.02
3) 50-year/24-Hour	32.92	39.76	6.84
4) 100-year/24-Hour	39.22	46.24	7.02

4. SUMMARY DESCRIPTION OF SITE RESTORATION BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Site Restoration <input checked="" type="checkbox"/> Restore Site to Meadow in Good Condition or Better, or Existing Conditions	Infiltration/Recharge Detention/WQ Treatment	N/A	53.2
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input checked="" type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ N/A	_____ _____ _____ 53.2
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____	_____ _____
Access Road Design <input type="checkbox"/> Road Crowning	Infiltration/Recharge	_____	_____

<input checked="" type="checkbox"/> Ditches		2905.24	3.95
<input type="checkbox"/> Turnouts		_____	_____
<input checked="" type="checkbox"/> Culverts		N/A	3.95
<input type="checkbox"/> Roadside Vegetated Filter Strips		_____	_____
Stormwater Energy Dissipaters	Infiltration/Recharge		
<input type="checkbox"/> Level Spreaders		_____	_____
<input type="checkbox"/> Riprap Aprons		_____	_____
<input checked="" type="checkbox"/> Upslope Diversions		TBD	1.04
<input type="checkbox"/> _____		_____	_____

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No
 If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and Site Restoration Plans that the discharge will not cause erosion, damage, or a nuisance to off-site properties.

The Applicant shall develop and implement procedures which will detail the proper measures for disposal and recycling of materials associated with or from the project site in accordance with PADEP regulations. The Applicant is responsible for developing and implementing an adequate E&SCP(s) and submitting the Plan(s) to the PADEP for review and approval. The Contractor shall immediately stabilize the waste site upon completion of any stage or phase of earth disturbance activity at the waste site.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

The proposed Project was analyzed for potential thermal impacts associated with the planned activities and how potential impacts could be avoided, minimized, or mitigated. Thermal impacts resulting from activities similar to the proposed Project are primarily due to the negative impacts of increased impervious area. The following opportunities for negative thermal impacts exist for projects similar to the one being proposed:

- Heat transfer from impervious cover to surface runoff;
- Solar heat gain in ponded surface water;
- Increased surface temperatures caused by removal of vegetation;
- Reduced thermal buffering of stormwater due to reduction in site's infiltration capacity; and
- Increased stream temperatures due to reduced base flow caused by reduction in site's infiltration capacity.

Siting of the proposed facilities was limited by the location of the existing facilities and pipelines which they will service, surface restrictions such as regulatory setbacks from building and waterways, and existing property boundaries. From this perspective, the potential to limit thermal impacts by altering the location of the Project is limited. The Project has implemented the following Site Layout Criteria to help prevent or minimize thermal impacts to receiving waters: avoid impacts to surface waters and wetlands to the maximum extent possible; locate proposed facilities as close as possible to existing facilities; and choose areas with minimal existing tree cover.

In addition to the above site selection criteria, several BMPs will be used to help mitigate negative thermal impacts from the proposed Project. Minimizing the LOD and the limit of tree clearing to the minimum area necessary to construct the proposed facilities will preserve existing vegetative cover and maintain the infiltration and evapotranspiration capacity of undisturbed areas to the maximum extent practicable. Also, disturbed areas will be immediately revegetated to help cool runoff prior to discharge.

SECTION F. POST CONSTRUCTION STORMWATER MANAGEMENT (PCSM) PLAN BMPS
 See the attached Instructions on how to complete this section.

If this section is not applicable to your project, please indicate by checking this box: N/A

For earth disturbance projects requiring post construction stormwater management, provide the information outlined below. If your project includes both oil and gas activities authorized under a well permit issued under the 2012 Oil and Gas Act and Chapter 78 (well pads) or pipelines and other similar utility infrastructure and other activities requiring Post Construction Stormwater Management, provide the information outlined in this Section as well as Section E.

Post Construction Stormwater Management BMPs should be designed to use natural measures to eliminate pollution, infiltrate runoff, not require extensive construction/maintenance activity, promote pollutant reduction, and preserve the integrity of stream channels. The Department recommends the use of PA Stormwater BMP manual to achieve this goal. If PCSM BMPS and their application do not follow the guidelines referenced in the PA Stormwater BMP Manual, provide documentation to demonstrate performance equivalent to, or better than, the BMPs in the Manual.

1. Post Construction Stormwater Management Plan Information – The Post Construction Stormwater Management Plan must meet the requirements in 25 Pa. Code §102.8 and should be designed to maximize volume reduction technologies, eliminate (where possible) or minimize point source discharges to surface waters, preserve the integrity of stream channels, and protect the physical, biological and chemical qualities of the receiving surface water.

Design standards applied to develop the Post Construction Stormwater Management Plan. Check those that apply.

Act 167 Plan – The attached PCSM Plan is consistent with an applicable approved Act 167 Plan.

Complete the following for all approved Act 167 Stormwater Management Plans. (Use additional sheets if necessary)

Act 167 Plan Name	Date Adopted	Consistency Letter Included	<input type="checkbox"/>
_____	_____	Verification Report Included	<input type="checkbox"/>

NOTE: A consistency letter is not required if a verification report is provided. Please see NOI Instructions.

The PCSM Plan must satisfy either subparagraph A, B, or C below. Check those that apply. If a current, DEP approved Act 167 Plan exists, letter A must be checked.

- A. Act 167 Plan approvals on or after January 2005 - The attached PCSM Plan, in its entirety, is consistent with all requirements pertaining to rate, volume, and water quality from an Act 167 Stormwater Management Plan approved by DEP on or after January 2005.
- B. The PCSM meets the standard design criteria from 102.8(g)(2) and (3) the PA Stormwater BMP Manual. [Note: PCSM plans have to meet both the volume and rate requirements in the regulations, which are provided in these 2 sections].
- C. Alternative Design Standard – The attached PCSM Plan was developed using alternative approaches as provided in 102.8(g)(2)(iv) and 102.(g)(3)(iii). Demonstrate/explain in the space provided below how this standard will be either more protective than what is required in 102.8(g)(2) and 102.8(g)(3) or will maintain and protect existing water quality and existing and designated uses.

2. Riparian Buffer Information

- A. Will you be protecting, converting or establishing a riparian buffer or a riparian forest buffer as part of this activity?
Protect Yes No Convert Yes No Establish Yes No
- B. Will you be protecting, converting or establishing a voluntary riparian forest buffer as part of this activity?
 Yes No
- C. Are you proposing to conduct oil and gas activities for which site reclamation or restoration is required under a well permit issued under the authority of the 2012 Oil and Gas Act and Chapter 78 and in a high quality or exceptional value watershed that is currently attaining its designated use and within 150 ft of a perennial or intermittent river, stream or creek or lake, pond or reservoir?
 Yes No If yes, provide a demonstration that any existing riparian buffer is undisturbed to the extent practicable.
- D. If the regulations require a riparian buffer or riparian forest buffer and you are not providing one, list below the waiver provisions in the Chapter 102 regulations, Section 102.14(d)(i)-(vi), that you are requesting and provide additional documentation to demonstrate reasonable alternatives for compliance with 102.14 requirements and to demonstrate that any existing riparian buffer will remain undisturbed to the extent practicable.

The SHP Project in Westmoreland County qualifies for a riparian forest buffer exemption under Pa. Code § 102.14(d)(1)(vii) & 102.14(d)(1)(ix) for the aboveground facilities. Existing riparian forest buffers within the project area are identified on the E&S Plan drawings in Section 4. Existing riparian forest buffers will be protected to by minimizing the limit of disturbance at stream crossings to 75 feet. In addition, DTI also requests a waiver under Pa. Code § 102.14(d)(2)(ii) and 102.14(d)(2)(vi) for construction areas within 150 feet of surface waters.

All earth disturbance activities have been reduced to the maximum extent possible. Additionally, riparian forest buffers will be protected to the extent practicable in accordance with DTI's post-construction management practices. DTI has limited the disturbance to 75 feet at all stream crossings within the riparian forest buffer where possible. Workspaces that provide additional space for stream crossing activities have been placed outside of the riparian forest buffers where possible. The LOD has been reduced to the extent feasible to allow for safe and successful installation of the pipeline and associated facilities. Any further reduction would compromise the safety and success of the Project construction and operation. In addition, JB Tonkin Compressor Station is currently located within the 150 foot forested riparian buffer and therefore is not expected to meet the 150 foot riparian buffer requirement per Pa. Code § 102.14(d)(2)(vi).

Note: If the proposed activity protects, converts or establishes a riparian or riparian forest buffer a Buffer Management Plan is required in the PCSM Plan.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Turtle Creek Watershed

Design storm frequency <u>2-year</u> Rainfall amount <u>2.38</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	1.390	2.020	0.63
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.677	0.960	.283
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.600	0.600
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	10.34	15.17	4.83
2) 10-Year/24-Hour	20.35	26.37	6.02
3) 50-year/24-Hour	32.92	39.76	6.84
4) 100-year/24-Hour	39.22	46.24	7.02

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input checked="" type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input checked="" type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	<u>882</u> _____ _____ <u>N/A</u>	<u>.25</u> _____ _____ <u>53.2</u>
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____
Access Road Design <input type="checkbox"/> Road Crowning <input checked="" type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input checked="" type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	<u>2905.24</u> _____ <u>N/A</u> _____	<u>3.95</u> _____ <u>145</u> _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input type="checkbox"/> _____	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

The Applicant shall develop and implement procedures which will detail the proper measures for disposal and recycling of materials associated with or from the project site in accordance with PADEP regulations. The Applicant is responsible for developing and implementing an adequate E&SCP(s) and submitting the Plan(s) to the PADEP for review and approval. The Contractor shall immediately stabilize the waste site upon completion of any stage or phase of earth disturbance activity at the waste site.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

The proposed Project was analyzed for potential thermal impacts associated with the planned activities and how potential impacts could be avoided, minimized, or mitigated. Thermal impacts resulting from activities similar to the proposed Project are primarily due to the negative impacts of increased impervious area. The following opportunities for negative thermal impacts exist for projects similar to the one being proposed:

- Heat transfer from impervious cover to surface runoff;
- Solar heat gain in ponded surface water;
- Increased surface temperatures caused by removal of vegetation;
- Reduced thermal buffering of stormwater due to reduction in site's infiltration capacity; and
- Increased stream temperatures due to reduced base flow caused by reduction in site's infiltration capacity.

Siting of the proposed facilities was limited by the location of the existing facilities and pipelines which they will service, surface restrictions such as regulatory setbacks from building and waterways, and existing property boundaries. From this perspective, the potential to limit thermal impacts by altering the location of the Project is limited. The Project has implemented the following Site Layout Criteria to help prevent or minimize thermal impacts to receiving waters: avoid impacts to surface waters and wetlands to the maximum extent possible; locate proposed facilities as close as possible to existing facilities; and choose areas with minimal existing tree cover.

In addition to the above site selection criteria, several BMPs will be used to help mitigate negative thermal impacts from the proposed Project. Minimizing the LOD and the limit of tree clearing to the minimum area necessary to construct the proposed facilities will preserve existing vegetative cover and maintain the infiltration and evapotranspiration capacity of undisturbed areas to the maximum extent practicable. Also, disturbed areas will be immediately revegetated to help cool runoff prior to discharge.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A Professional Engineer will be present for critical stages of BMP construction (i.e, installation of structurally engineered BMPs) or other BMPs as deemed appropriate by the PADEP or the Conservation District.

SECTION G. ANTIDEGRADATION ANALYSIS

This section must be completed where earth disturbance activities will be conducted in special protection or siltation-impaired watersheds.

Part 1 NONDISCHARGE ALTERNATIVES EVALUATION

The applicant must consider and describe any and all nondischarge alternatives for the entire project area which are environmentally sound and will:

- Minimize accelerated erosion and sedimentation during the earth disturbance activity
- Achieve no net change from pre-development to post-development volume, rate and concentration of pollutants in water quality

E & S Plan	<i>Official Use Only</i>	PCSM/Site Restoration Plan	<i>Official Use Only</i>
<p>Check off the environmentally sound nondischarge Best Management Practices (BMPs) listed below to be used prior to, during, and after earth disturbance activities that have been incorporated into your E & S Plan based on your site analysis. For non-discharge BMPs not checked, provide an explanation of why they were not utilized. Also for BMPs checked, provide an explanation of why they were utilized. (Provide your analysis and attach additional sheets if necessary) For additional information refer to the ESCP included as Section 4 of this ESCGP-2 Permit.</p>		<p>Check off the environmentally sound nondischarge Best Management Practices (BMPs) listed below to be used after construction that have been incorporated into your PCSM/SR Plan based on your site analysis. For non-discharge BMPs not checked, provide an explanation of why they were not utilized. Also for BMPs checked, provide an explanation of why they were utilized. (Provide your analysis and attach additional sheets if necessary) For additional information refer to the PCSM/SR Plan included as Section 5 of this ESCGP-2 Permit</p>	

Nondischarge BMPs

- Alternative Siting
 - Alternative location
 - Alternative configuration
 - Alternative location of discharge
- Limited Disturbed Area
- Limiting Extent & Duration of Disturbance (Phasing, Sequencing)
- Riparian Buffers (150 ft. min.)
- Riparian Forest Buffer (150 ft. min.)
- Other _____

Nondischarge BMPs

- Alternative Siting
 - Alternative location
 - Alternative configuration
 - Alternative location of discharge
- Low Impact Development (LID / BSD)
- Riparian Buffers (150 ft. min.)
- Riparian Forest Buffer (150 ft. min.)
- Infiltration
- Water Reuse
- Other _____

Will the non-discharge alternative BMPs eliminate the net change in rate, volume and quality during and after construction?

- Yes No

If yes, antidegradation analysis is complete.

If no, proceed to Part 2.

PART 2 ANTIDegradation Best Available Combination of Technologies (ABACT)

If the net change in stormwater discharge from or after construction is not fully managed by nondischarge BMPs, the applicant must utilize ABACT BMPs to manage the difference. The Applicant must specify whether the discharge will occur during construction, post-construction or both, and identify the technologies that will be used to ensure that the discharge will be a non-degrading discharge. ABACT BMPs include but are not limited to:

E & S Plan	<i>Official Use Only</i>	PCSM/Site Restoration Plan	<i>Official Use Only</i>
<input checked="" type="checkbox"/> Treatment BMPs: <input type="checkbox"/> Sediment basin with skimmer <input type="checkbox"/> Sediment basin ratio of 4:1 or greater (flow length to basin width) <input type="checkbox"/> Sediment basin with 4-7 day detention <input type="checkbox"/> Flocculants <input checked="" type="checkbox"/> Compost Filter Socks <input type="checkbox"/> Compost Filter Sock Sediment Basin <input checked="" type="checkbox"/> RCE w/ Wash Rack <input type="checkbox"/> Land disposal: <input type="checkbox"/> Vegetated filters <input type="checkbox"/> Riparian buffers <150ft. <input type="checkbox"/> Riparian Forest Buffer <150ft. <input type="checkbox"/> Immediate stabilization <input checked="" type="checkbox"/> Pollution prevention: <input checked="" type="checkbox"/> PPC Plans <input type="checkbox"/> Street sweeping <input type="checkbox"/> Channels, collectors and diversions lined with permanent vegetation, rock, geotextile or other non-erosive materials <input type="checkbox"/> Stormwater reuse technologies: <input type="checkbox"/> Sediment basin water for dust control <input type="checkbox"/> Sediment basin water for irrigation <input checked="" type="checkbox"/> Other <u>Waterbars</u>		<input checked="" type="checkbox"/> Treatment BMPs: <input type="checkbox"/> Infiltration Practices <input type="checkbox"/> Wet ponds <input type="checkbox"/> Created wetland treatment systems <input checked="" type="checkbox"/> Vegetated swales <input type="checkbox"/> Manufactured devices <input type="checkbox"/> Bio-retention/infiltration <input type="checkbox"/> Green Roofs <input checked="" type="checkbox"/> Land disposal: <input type="checkbox"/> Vegetated filters <input checked="" type="checkbox"/> Riparian Buffers <150ft. <input type="checkbox"/> Riparian Forest Buffer <150ft. <input checked="" type="checkbox"/> Disconnection of roof drainage <input type="checkbox"/> Bio-retention/bio-infiltration <input checked="" type="checkbox"/> Pollution prevention: <input type="checkbox"/> Street sweeping <input type="checkbox"/> Nutrient, pesticide, herbicide or other chemical application plan alternatives <input type="checkbox"/> PPC Plans <input checked="" type="checkbox"/> Non-structural Practices <input type="checkbox"/> Restoration BMPs <input checked="" type="checkbox"/> Stormwater reuse technologies: <input checked="" type="checkbox"/> Divert rainwater into impoundment <input checked="" type="checkbox"/> Underground storage <input checked="" type="checkbox"/> Spray/Drip Irrigation <input checked="" type="checkbox"/> Other <u>Riprap Lined Swales</u>	

SECTION H. COMPLIANCE REVIEW

Is the applicant in violation of any existing permit, regulation, order, or schedule of compliance issued by the Department within the last 5 years?

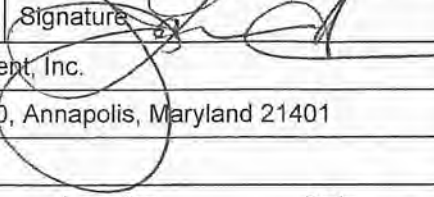
Yes No

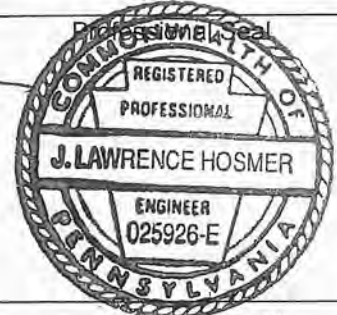
If yes, provide the permit number or facility name, a brief description of the violation, the compliance schedule (including dates and steps to achieve compliance) and the current compliance status. (Attach additional information on a separate sheets, when necessary)

*** See attached Compliance History**

SECTION I. CERTIFICATION BY PERSON PREPARING APPLICATION

I do hereby certify to the best of my knowledge, information, and belief, that the Erosion and Sediment Control and PCSM/Site Restoration Plans are true and correct, represent actual field conditions, and are in accordance with the 25 Pa. Code Chapters 78 and 102 of the Department's rules and regulations. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Print Name J. Lawrence Hosmer	Signature 
Company Environmental Resources Management, Inc.	
Address 180 Admiral Cochrane Drive, Suite 400, Annapolis, Maryland 21401	
Phone (410) 266-0006	
Most Recent DEP Training Attended _____	Location _____ Date _____
e-Mail Address larry.hosmer@erm.com	



EXPEDITED REVIEW PROCESS

In addition to the certification required above applicants using the expedited permit review process must attach an E&S and PCSM/Site Restoration Plans developed and sealed by a licensed professional engineer, surveyor or professional geologist. The plans shall contain the following certification:

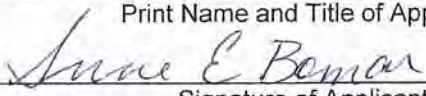
I do hereby certify to the best of my knowledge, information, and belief, that the E & S Control and SR/PCSM BMPs are true and correct, represent actual field conditions and are in accordance with the 25 Pa. Code Chapters 78 and 102 of the Department's rules and regulations. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

033017

SECTION J. APPLICANT CERTIFICATION

Applicant Certification. I certify under penalty of law that this document and all attachments were prepared by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. The responsible official's signature also verifies that the activity is eligible to participate in the permit, and that the applicant agrees to abide by the terms and conditions of the permit. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Anne E. Bomar, SVP Pipeline Services & Optimization
 Print Name and Title of Applicant


 Signature of Applicant

31 March 2017
 Date Application Signed

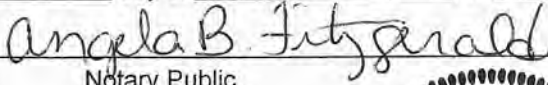
 Print Name and Title of Co-Applicant (if applicable)

 Signature of Co-Applicant

 Date Application Signed

Notarization

Sworn to and subscribed to before me this
31st day of March, 20 17


 Notary Public

Commonwealth of Pennsylvania
 County of _____

My Commission expires 3/31/18

AFFIX SEAL



SECTION K. CONTACT FOR ADDITIONAL INFORMATION

Contact's Last Name Gangle	First Name Richard	MI	Phone (804) 273-2814	
			FAX	
Mailing Address 5000 Dominion Blvd.	City Glen Allen		State VA	ZIP + 4 23060
e-Mail Address Richard.B.Gangle@dom.com				



**NOTICE OF INTENT (NOI) ADMINISTRATIVE COMPLETENESS CHECKLIST
 EROSION AND SEDIMENT CONTROL GENERAL PERMIT (ESCGP-2) FOR EARTH
 DISTURBANCE ASSOCIATED WITH OIL AND GAS EXPLORATION, PRODUCTION,
 PROCESSING, OR TREATMENT OPERATIONS OR TRANSMISSION FACILITIES**

Please check the following list to make sure that you have included all the required information. Place a check mark in the column provided for all items completed and/or provided. Failure to provide all of the requested information will delay the processing of the application, may preclude the use of the Expedited Review, and may result in the application being placed ON HOLD with NO ACTION, or being considered withdrawn and the application file closed.

THIS CHECKLIST MUST BE COMPLETED AND ENCLOSED WITH YOUR GENERAL PERMIT NOI

✓CHECKLIST FOR EROSION AND SEDIMENT CONTROL GENERAL PERMIT NOI <input checked="" type="checkbox"/> NEW NOI <input type="checkbox"/> RENEWAL <input type="checkbox"/> SUBSEQUENT PHASE <input type="checkbox"/> MAJOR MODIFICATION If a Renewal, Subsequent Phase or Revision, identify ESCGP-2 Permit Authorization # _____			Minor revisions are not required to be submitted to the regional office for review.		
	APPLICANT <u>Dominion Transmission, Inc.</u> PROJECT and PHASE NAME <u>Supply Header Project</u> (If applicable)	Applicant Check <input checked="" type="checkbox"/> if Included	Official Use Only <input type="checkbox"/>		
1.	Fully completed, properly signed and notarized Notice of Intent form (1 original and 2 copies). (Not required for subsequent phases)	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
2.	Complete Erosion and Sediment Control (E&S) Plans. (1 original and 2 copies) NOTE: Identify Locations as Drawings (D), Narrative (N). (Identify Not Applicable as "N/A") The E & S Plan must contain, at a minimum, the following:	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
	a. Topographic Features Existing topographic features of the project site and immediate surrounding area. Include the project area outlined on an 8 1/2" x 11" photocopy of the U.S.G.S. topo map area. The map must include the name of the appropriate 1:24,000 scale U.S.G.S. 7.5 minute series quadrangle map where the project is located.	Location: <u>N/D</u> Page: <u>Sec 4 p2; App A</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	b. Soil Characteristics Types, depth, slope, locations and limitations of the soils including methods for resolution of all soil limitations.	Location: <u>N</u> Page: <u>Sec 4 p2</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	c. Earth Disturbance Activity The characteristics of the earth disturbance activity, including the past, present and proposed land uses and proposed alteration to the project site.	Location: <u>N</u> Page: <u>Sec 4 p2-5</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	d. Project Site Runoff The Volume and rate of runoff from the project site and its upstream watershed area.	Location: <u>N</u> Page: <u>Sec 4 p17-19</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	e. Surface Water Classification The Location of all surface waters of this Commonwealth which may receive runoff within or from the project site including their classification under Chapter 93 and status as siltation-impaired water.	Location: <u>N</u> Page: <u>Sec4 p19-20</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	f. BMP Description Narrative A narrative description of the location and type of perimeter and onsite BMPs used before, during, and after the earth disturbance activity.	Location: <u>N/D</u> Page: <u>Sec 4 p47-49</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

<p>g. BMP Installation Sequence Narrative A sequence of BMP installation and removal in relation to the scheduling of earth disturbance activities, prior to, during and after earth disturbance activities that ensures proper functioning of BMPs.</p>	Location: <u>N/D</u>	Page: <u>Sec 4 p49-50</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>h. Supporting Calculations and Measurements.</p>	Location: <u>D</u>	Page: <u>Sec 4 App E</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>i. Plan Drawings.</p>	Location: <u>D</u>	Page: <u>Sec 4 App A</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>j. Maintenance Program A maintenance program which provides for the operation and maintenance of BMPs and the inspection of BMPs on a weekly basis and after each stormwater event, including the repair or replacement of BMPs to ensure effective and efficient operation. The program must provide for completion of a written report documenting each inspection and all BMP repair, or replacement and maintenance activities.</p>	Location: <u>N</u>	Page: <u>Sec 4 p50-55</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>k. Material Recycling and Disposal Procedures which ensure that the proper measures for the recycling or disposal of materials associated with or from the project site will be undertaken in accordance with this title.</p>	Location: <u>N</u>	Page: <u>Sec 4 p56</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>l. Soil Conditions and Geologic Formations Identification of naturally occurring geologic formations or soil conditions that may have the potential to cause pollution during earth disturbance activities and include BMPs to avoid or minimize potential pollution and its impacts from the formations.</p>	Location: <u>N</u>	Page: <u>Sec 4 p56-60</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>m. Thermal Impacts Identification of potential thermal impacts to surface waters of this Commonwealth from the earth disturbance activity including BMPs to avoid, minimize or mitigate potential pollution from thermal impacts.</p>	Location: <u>N</u>	Page: <u>Sec 4 p61</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>n. E&S Plan and PCSM/SR Plan Consistency The E&S Plan shall be planned, designed and implemented to be consistent with the PCSM Plan under § 102.8. Unless otherwise approved by the Department, the E&S Plan must be separate from the PCSM Plan and labeled "E&S" or "Erosion and Sediment Control Plan" and be the final plan for construction.</p>	Location: <u>N</u>	Page: <u>Sec 4 p62</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>o. Riparian Forest Buffers Identification of existing and proposed riparian forest buffers (When required).</p>	Location: <u>N</u>	Page: <u>Sec 4 p63</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>p. Antidegradation Requirements Satisfy antidegradation implementation requirements for special protection water and siltation-impaired waters including evaluation of nondischarge alternatives and ABACT.</p>	Location: <u>N</u>	Page: <u>Sec 4 p63-66</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>3. Permit NOI Filing Fees of \$500 to the appropriate Clean Water Fund plus \$100/Acre of earth disturbance payable to the Commonwealth of PA Clean Water Fund (\$500 filing fee not required for subsequent phases).</p>	Location: <u>N</u>	Page: <u>NOI</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4. Municipal Notification: (3 copies) Not required for subsequence phases.			☒	☐
a. Act 14 Municipal Notifications to the local municipality and county governments that specify that the application is for Erosion and Sediment Control General Permit for Earth Disturbance Associated with Oil and Gas Activities. A "sample" notification letter is provided as Attachment C of the instructions. Proof or Receipt of municipal notifications: copies of certified mail receipts, proof of deliver from a commercial carrier or acknowledgment letters from the local municipality and county government	Location: <u>N</u>	Page: <u>Sec 7</u>	☒	☐
b. Cultural Resource Notice: for permitted activities on lands of the Allegheny National Forest (ANF) are to be coordinated with the appropriate ANF Ranger.				
5. Pennsylvania Natural Heritage Program (PNHP). Include PNDI receipt and other information depending on the permit application option. (3 copies)	Location: <u>N</u>	Page: <u>Sec 6</u>	☒	☐
6. Complete PCSM/SR Plans. (1 Original, 2 copies) NOTE: Identify location(s) as Drawing (D), Narrative (N). (Identify Not Applicable as "N/A".) The PCSM/SR Plan must contain, at a minimum, the following:			☒	☐
a. Topographic Features The existing topographic features of the project site and immediate surrounding area.	Location: <u>D</u>	Page: <u>Sec 5 App A</u>	☒	☐
b. Soil Characteristics The types, depth, slope, locations and limitations of the soils and geologic formations.	Location: <u>N</u>	Page: <u>Sec 5 p3</u>	☒	☐
c. Earth Disturbance Activity Characterization The characteristics of the project site, including the past, present and proposed land uses and the proposed alteration of the project site.	Location: <u>N</u>	Page: <u>Sec 5 p3, p10-11</u>	☒	☐
d. Net Change in Volume and Rate of Runoff An identification of the net change in volume and rate of stormwater from preconstruction hydrology to post construction hydrology for the entire project site and each drainage area.	Location: <u>N</u>	Page: <u>Sec 5 p18-21</u>	☒	☐
e. Surface Water Classification An identification and location of surface waters of this Commonwealth, which may receive runoff within or from the project site and their classification under Chapter 93.	Location: <u>N</u>	Page: <u>Sec 5 p3-5</u>	☒	☐
f. BMP Description Narrative A written description of the location and type of PCSM/Site Restoration BMPs including construction details for permanent stormwater BMPs including permanent stabilization specifications and locations.	Location: <u>N</u>	Page: <u>Sec 5 p12-14</u>	☒	☐
g. BMP Installation Sequence Narrative A sequence of PCSM/Site Restoration BMP implementation or installation in relation to earth disturbance activities of the project site and a schedule of inspections for critical stages of PCSM/Site Restoration BMP installation.	Location: <u>N</u>	Page: <u>Sec 5 p14-15</u>	☒	☐
h. Supporting calculations.	Location: <u>D</u>	Page: <u>Sec 5, App B</u>	☒	☐

<p>i. Plan Drawings.</p>	<p>Location: <u>D</u></p>	<p>Page: <u>Sec 5, App A</u></p>	<p><input checked="" type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p>j. Long Term Operation and Maintenance Schedule A Long term operation and maintenance schedule, which provides for inspection of PCSM/Site Restoration BMPs, including the repair, replacement or other routine maintenance of the PCSM/Site Restoration BMPs to ensure proper function and operation. The program must provide for completion of a written report documenting each inspection and all BMP repair and maintenance activities and how access to the PCSM/Site Restoration BMPs will be provided.</p>	<p>Location: <u>N</u></p>	<p>Page: <u>Sec 5 p22-24</u></p>	<p><input checked="" type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p>k. Material Recycling and Disposal Procedures which ensure that the proper measures for recycling or disposal of materials associated with or from the PCSM/Site Restoration BMPs are in accordance with Department laws, regulations and requirements.</p>	<p>Location: <u>N</u></p>	<p>Page: <u>Sec 5 p24-25</u></p>	<p><input checked="" type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p>l. Geologic Formations and Soil Conditions An identification of naturally occurring geologic formations or soil conditions that may have the potential to cause pollution after earth disturbance activities are completed and PCSM/Site Restoration BMPs are operational and development of a management plan to avoid or minimize potential pollution and its impacts.</p>	<p>Location: <u>N</u></p>	<p>Page: <u>Sec 5 p5-10</u></p>	<p><input checked="" type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p>m. Thermal Impacts An Identification of potential thermal impacts from post construction stormwater to surface water of this Commonwealth including BMPs to avoid, minimize or mitigate potential thermal pollution from thermal impacts.</p>	<p>Location: <u>N</u></p>	<p>Page: <u>Sec 5 p25-26</u></p>	<p><input checked="" type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p>n. Riparian Forest Buffer Management Plan A riparian forest buffer management plan when required under § 102.14.</p>	<p>Location: <u>N</u></p>	<p>Page: <u>Sec 5 p11</u></p>	<p><input checked="" type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p>o. Antidegradation Requirements A demonstration of compliance with antidegradation implementation requirements including evaluation of nondischarge alternatives and ABACT for where activities will be conducted in special protection waters or siltation impaired waters.</p>	<p>Location: <u>N</u></p>	<p>Page: <u>Sec 5 p26</u></p>	<p><input checked="" type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p>7. PCSM Plan Stormwater Analysis Do the regulated activities require site restoration or reclamation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, skip to Item 8. If No, provide the following information:</p>			<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p>a. Site Characterization and Assessment Predevelopment site characterization and assessment of soil and geology including infiltration and geotechnical studies that identify location and depths of test sites and methods used (If applicable).</p>	<p>Location: <u>N/A</u></p>	<p>Page: <u>N/A</u></p>	<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>

<p>b. Volume Reduction and Water Quality Requirements Analysis demonstrating that the PCSM BMPs will meet the volume reduction and water quality requirement specified in an applicable Department approved and current Act 167 stormwater management watershed plan; or manage the net change for storms up to and including the 2-year/24-hour storm event when compared to preconstruction runoff volume and water quality (If applicable).</p>	Location: <u>N/A</u>	Page: <u>N/A</u>	<input type="checkbox"/>	<input type="checkbox"/>
<p>c. Rate Requirements Analyses demonstrating that the PCSM BMPs will meet the rate requirements specified in an applicable Department approved and current Act 167 stormwater management watershed plan; or manage the net change in peak rate for the 2-, 10-, 50-, and 100-year/24-hour storm event in a manner not to exceed preconstruction rates (If applicable).</p>	Location: <u>N/A</u>	Page: <u>N/A</u>	<input type="checkbox"/>	<input type="checkbox"/>
<p>d. Calculation Methodologies Identification of the methodologies for calculating total runoff volume and peak rate of runoff and provide supporting documentation and calculations (If applicable).</p>	Location: <u>N/A</u>	Page: <u>N/A</u>	<input type="checkbox"/>	<input type="checkbox"/>
<p>e. Construction Techniques Identification of construction techniques or special consideration to address soil and geologic limitations (If applicable).</p>	Location: <u>N/A</u>	Page: <u>N/A</u>	<input type="checkbox"/>	<input type="checkbox"/>
<p>f. Antidegradation Requirements Demonstration of compliance with antidegradation implementation requirements including evaluation of nondischarge alternatives and ABACT for where activities will be conducted in special protection waters or siltation impaired waters.</p>	Location: <u>N/A</u>	Page: <u>N/A</u>	<input type="checkbox"/>	<input type="checkbox"/>
<p>8. Expedited Review Process</p> <p>Is any part of your project located in or drain into a Special Protection watershed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Is the area surrounding an oil or natural gas wellhead that is subject to earth disturbance and that is used or planned for use for drilling, production or plugging of the well including associated support activities constructed on or in a flood plain? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Is any earth disturbance located on land known to be contaminated? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Is your project a transmission project? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, to any of the above questions your project is not eligible for Expedited Review. If your project is not a transmission project complete items 8a and 8b.</p> <p>Is an expedited review being requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If yes, all of the following items must be completed:</p>			<input type="checkbox"/>	<input type="checkbox"/>
<p>a. E&S and PCSM/Site Restoration Plan drawings and narrative sealed by licensed professional.</p>			<input type="checkbox"/>	<input type="checkbox"/>
<p>b. Licensed professional prepared, sealed, and certified Application/NOI.</p>			<input type="checkbox"/>	<input type="checkbox"/>
<p>c. Licensed professional listed location and date of DEP training attended in application/NOI.</p>			<input type="checkbox"/>	<input type="checkbox"/>

9.	Phased Projects Is the activity being conducted as a phased project? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, all of the following must be completed: a. Initial Phase - Is the master plan included? <input type="checkbox"/> Yes <input type="checkbox"/> No b. Subsequent Phase(s) – Is(are) the subsequent phase(s) identified in the master plan? <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 	<input type="checkbox"/> 	
10.	Preparedness, Prevention and Contingency (PPC) Plan Will fuels, chemicals, solvents, other hazardous materials be used or stored on site during earth disturbance activities? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, a PPC Plan must be maintained on the site during earth disturbance.	<input type="checkbox"/> 	<input type="checkbox"/> 	
11.	Subsequent Phase Certification for Expedited Reviews Is the activity being conducted as a phased project? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is an expedited review being requested for subsequent phase? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, all of the following must be completed:	<input type="checkbox"/> 	<input type="checkbox"/> 	
<p><i>I do hereby certify to the best of my knowledge, information, and belief, that the Erosion and Sediment Control and PCSM/Site Restoration Plan are true and correct, represent actual field conditions and are in accordance with the 25 Pa. Code Chapters 78 and 102 of the Department's rules and regulations. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.</i></p>				
Signature		Professional Seal		
Company				
Address				
Phone				
Most Recent DEP Training Attended	Location _____			Date _____
e-Mail Address				
<p>EXPEDITED REVIEW PROCESS In addition to the certification required above, applicants using the expedited permit review process must attach an E&S and PCSM/Site Restoration Plan developed and sealed by a licensed professional engineer, landscape architect, surveyor or professional geologist. The plans shall contain the following certification: <i>I do hereby certify to the best of my knowledge, information, and belief, that the Erosion and Sediment Control and PCSM/Site Restoration Plan and Post Construction BMPs are true and correct, represent actual field conditions and are in accordance with the 25 Pa. Code Chapters 78 and 102 of the Department's rules and regulations. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.</i></p>				
12.	Permit Renewal Is a permit renewal being requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, all of the following must be completed: a. Administratively complete, signed, and notarized Notice of Intent Form, including Items 1-8. (1 signed original and 2 copies of the NOI/application)	<input type="checkbox"/> 	<input type="checkbox"/> 	
	b. Permit filing fee of \$500 payable to the appropriate clean water fund plus \$100/Acre of earth disturbance payable to the Commonwealth of PA Clean Water Fund.	<input type="checkbox"/> 	<input type="checkbox"/> 	

FACILITY NAME	DATE	DESCRIPTION OF NONCOMPLIANCE	ACTION TAKEN/ COMPLIANCE SCHEDULE	RESOLUTION/ CURRENT COMPLIANCE STATUS
South Oakford Station	2007 - 2012	Potential historical deviation. Compliance summary page indicated incorrect emission units (lb/hr instead of tons/year) in Semi-annual and Annual Compliance reports.	Contacted PADEP regarding this issue. Department has indicated that a single letter with revised sheets should be sent to revise the submittals. Letter submitted.	In compliance.
Harrison Station	2012	NPDES - Stormwater from permitted pond used for testing of possible leak of natural gas at a station valve. After test completed water discharged through filter bag to the ground.	Notified PADEP and trained employees on proper discharge process.	In compliance.
Punxsutawney Station	1/9/12	Malodor off of property boundary.	Reported to PADEP same day (within 24 hours); contacted neighbor to obtain additional information.	In compliance.
Punxsutawney Station	1/10/12	Malodor off of property boundary.	Reported to PADEP same day (within 24 hours)	In compliance.
Punxsutawney Station	1/10/12-3/12/12	Neighbor reported numerous instances of malodor off of property boundary.	Reported to PADEP same day (within 24 hours) of report from neighbor.	In compliance.
Crayne Station	1/16/12	Malfunction - ESD of Station	ESD was activated due to a faulty hand valve. Valve was leaking pilot air and pressure went down to the point that the ESD was activated. PADEP notified. Investigated cause and replaced hand valve and put back into service.	In compliance.
Ardell Station	2/1/12	Failed NOx ppm at 15% Oxygen	Failed Test Protocol being implemented. Replaced fuel injectors and re-tested.	In compliance.
Beaver Station	2/28/12	NOV - Underground pipe failure resulted in loss of about 1800 gallons of 50% ethylene glycol. Glycol migrated to a water spring	Isolate system, contain spring water for commercial disposal. Reported to PADEP.	In compliance.
South Bend Station	2/29/12	NPDES - Flow was not taken as required at outfall 001 due to flow meter broken	replaced meter; noted on DMR	In compliance.
Leidy Station	3/5/12	NPDES - Exceeded the monthly average and daily maximum for copper at the API Separator	A new filter system has been installed in the WWTP to remove metals prior to Outfall 101 discharge; noted on DMR	In compliance.
TL591	3/7/12	Consent Assessment of Civil Penalty - Directional drilling for pipeline under I-70 caused inadvertent return in stream. Not reported to PADEP as a spill.	Lead EI removed from Project due to not following requirements. Shut down operations, contain and recover drilling fluids, install turbidity curtain in stream.	Paid \$5,500 fine. In compliance.
Charleroi Propane Terminal	3/12/12	Malodor off of property boundary.	Operators called to scene and investigated and eventually stopped leak. On the 12 Scott Kingston met with neighbors to review odor issue and indicate our commitment to resolve. Also called in to PADEP at 10:46 A.M. (within 24 hour window of complaint)	In compliance.
Charleroi Propane Terminal	3/13/12	Malodor off of property boundary.	Scott Kingston met with neighbors to review odor issue and again indicate our commitment to resolve. Believe this was residual from initial odor incident.	In compliance.
Charleroi Propane Terminal	3/14/12	Malodor off of property boundary. Noticed odor outside of facility.	DRS met with neighbors to review odor issue and again indicate our commitment to resolve. Discussed with Operations who found a small leak and repaired it.	In compliance.
Charleroi Propane Terminal	3/15/12	Malodor off of property boundary. Odor still noticeable inside of office in the AM.	DRS met with neighbors to review odor issue. Investigation indicated that odor may be coming in from furnace and hot water tank inlet air lines.	In compliance.
Charleroi Propane Terminal	3/19/12	Malodor off of property boundary. PADEP called us reporting an anonymous report of malodors.	DRS met with neighbors to review odor issue. Reported to Operations for resolution.	In compliance.

FACILITY NAME	DATE	DESCRIPTION OF NONCOMPLIANCE	ACTION TAKEN/ COMPLIANCE SCHEDULE	RESOLUTION/ CURRENT COMPLIANCE STATUS
Beaver Station	3/23/12	Overfilled frac tank causing a glycol spill.	Changed manifold to pump to a different tank. Reported to PADEP	In compliance.
TL591 SR221	3/23/12	NPDES -Exceeded the holding time for dissolved oxygen samples	Purchase DO meter for on site testing; noted on DMR	In compliance.
Ardell Station	3/27/12	ESD of Unit 1	Review indicated Analog control card failed. Card was replaced and unit re-started at 5:20 P.M. Reported to PADEP (Roger Jordan) at 3:15 P.M. on 3/27/12 (voice mail). Follow up call to Roger Jordan at 9:00 A.M. to indicate cause and resolution. Roger indicated no concern regarding this Malfuction. Information filed.	In compliance.
TL591 SR221	3/30/12	NPDES -Exceeded the holding time for dissolved oxygen samples	Purchase DO meter for on site testing; noted on DMR	In compliance.
TL591 I 76	3/31/12	NPDES -Exceeded the holding time for dissolved oxygen samples	Purchase DO meter for on site testing; noted on DMR	In compliance.
Leidy Station	4/5/12	NPDES - Exceeded the monthly average for copper at the API Separator	Replace the media in the metals filter at the WWTP and change the metal parameters to the WWTP discharge; noted on DMR	In compliance.
Beaver Station	4/12/12	Failed CO - 18.3 lbs/hr limit, result = 18.99 lbs/hr.	Took away 1/2 inch of air manifold pressure.	In compliance.
Leidy Station	5/1/12	NPDES - Three permit exceptions; average and maximum copper and average aluminum	Facility personnel were trained by Glenn Bishop on clean sampling techniques, equipment was purchased to conduct clean sampling, and a comprehensive sampling program on incoming water, process water, stormwater and soil is planned for the July - August timeframe; reported to PADEP.	In compliance.
South Oakford Station	5/7/12	NPDES - Discharge sample exceeded permit limits	Reported to PADEP.	In compliance.
TL492 EXT 5	5/23/12	NOV - Contractor was conducting ROW cleanup activities and illegally disposed of residual waste on a private property	Meeting on site with PADEP and Greene Co. Soil Conservation District. Site remediated.	In compliance.
TL-591	6/21/12	Contractor conducted pipeline crossing of Brush Creek using a wet-trench crossing method. The permitted construction method with PADEP, USACE and FERC was for a dry (dam/pump) crossing method	Reported to PADEP.	In compliance.
TL590	7/5/12	NPDES -TL-590 ruptured during hydrotest, and released approx. 55,000 gallons of clean water to an unnamed tributary of Dunkard Fork in Greene County, PA. Water was released through the rupture and was therefore not sampled prior to release.	Notified PADEP and Greene County SCD via telephone on 7/5/2012 and followed up with letter on 7/9/2012. Met with inspectors from PADEP and Greene SCD. No release of sediment was observed in the stream or the larger Dunkard Fork approx 1 mile downstream from release. Pipeline was excavated, replaced and the stream banks restored.	In compliance.
TL590	7/11/12	NPDES - 4 permit exceptions: Exceed TSS holding time limit and improperly preserve the oil and grease samples from the hydrostatic test discharge sampling.	Additional training provided for sampling personnel. Reported to PADEP.	In compliance.

FACILITY NAME	DATE	DESCRIPTION OF NONCOMPLIANCE	ACTION TAKEN/ COMPLIANCE SCHEDULE	RESOLUTION/ CURRENT COMPLIANCE STATUS
South Bend Station	7/24/12	ESD of Station	Brief power loss resulted in the start-up of emergency generator and then shutdown of the generator when power was restored. During re-boot of system there was an analog input failure causing the ESD. PADEP notified. Updated control logic and placed facility back into operation.	In compliance.
TL591	7/24/12	NPDES - 2 permit exceptions exceed TSS limit and total iron limit	Reported to PADEP.	In compliance.
South Oakford Station	7/27/12	NOV - Wastewater excursions 1st Half 2012	Entire septic tank and nitrifying filter system was pumped down and cleaned / reworked June & July 2012; letter response to NOV with documentation submitted to PA DEP on 4/5/2013	In compliance.
Leidy Station	8/23/12	NPDES - laboratory error suggesting permit limitation exceedence.	Reported to PADEP. Revised DMR accordingly.	In compliance.
South Bend Station	9/11/12	Failed NOx	Failed Test protocol being implemented. Called PADEP to report failed test at 2:35 P.M. same day.	In compliance.
Leidy Station	9/13/12	Gas leak on engine 8 resulting in fire and blow-down of engines.	Reported to PADEP within 24 hours. Blew down all engines (except 9 it was already down). Isolate and address issue and re-start equipment.	In compliance.
DTI - PA	9/18/12	NOV for failure to disclose enforcement actions within the last 5 years. Waste Transportation Safety Act Section 6204 (e)	Resubmitted application 10/24 with updated enforcement action list.	In compliance.
Leidy Station	9/24/12	NPDES - One exception of daily average permit limits for copper at outfall 001	Reported to PADEP.	In compliance.
Ardell Station	9/25/12	Failed NOx	Failed Test protocol being implemented. Called PADEP to report failed test at 2:17 P.M. same day.	In compliance.
Finnefrock Station	10/15/12	Inlet gas temperature and pressure drop across the control devise (C202) were not being recorded.	The Department was notified of the non-compliance issue on February 6, 2013 and the issue was addressed on February 7, 2013.	In compliance.
Finnefrock Station	10/15/12	Inlet gas temperature and pressure drop across the control devise (C202) were not recorded on a continuous basis during the stack test.	The Department was notified of the non-compliance issue on February 6, 2013 and the issue was addressed on February 7, 2013. A re-test was scheduled and completed on 2/21/13, preliminary results indicate a passing test.	In compliance.
Leidy Station	10/28/12 (5-day letter sent 10/18/12)	NPDES - NOV for the diversion of wastewater around treatment	Repairs made to pipelines; completed on 10/26/12 and 12/11/12. To ensure proper wastewater flow paths are maintained, periodic dry weather evaluations (e.g. checks for dry weather flow in the stormwater drain lines) will be conducted.	In compliance.
Finnefrock Station	10/30/12	During the course of an abnormal operating condition, AOC-919, 1.5 gallons of oil was emitted through the ESD of Finnefrock and sprayed onto a site puddle and left a sheen on the mud roadway.	The oil was discovered on the morning of 10/30/12 and it was immediately contained with spill sorbent pads and the mud was containerized. Notification was made to PADEP and the National Response Center as it was unclear whether or not oil migrated from the site from the pictures.	In compliance.
Finnefrock Station	10/30/12	Blow-down of Station; Aux gen did not operate after initial operation during power failure. Loss of air pressure and station ESD was activated.	Reported to PADEP. Cleanup completed.	In compliance.

FACILITY NAME	DATE	DESCRIPTION OF NONCOMPLIANCE	ACTION TAKEN/ COMPLIANCE SCHEDULE	RESOLUTION/ CURRENT COMPLIANCE STATUS
Oakford Station	11/7/12	Stained gravel and soil was noted outside the fence line near the front entrance. It is not clear where the source of the petroleum that stained the soil came from and the quantity is not known. It was estimated for reporting purposes to be less than 20 gallons.	Impacted soil excavated and placed into drums. The soil is awaiting characterization. Post-excavation samples were collected for TPH-DRO and GRO, per the PADEP instructions.	In compliance.
Punxsutawney Station	11/14/12	Failed NOx	Failed Test protocol being implemented. Called PADEP to report failed test at 4:20 P.M. same day.	In compliance.
South Bend Station	11/14/12	NPDES permit, TSS exceedence for instantaneous max and monthly average due to backwash procedural error.	Reported within 24 hours by M. Ballantine and a 5-day written notification was submitted to the DEP regional office. No further action required.	In compliance.
Punxsutawney Station	11/15/12	Failed VOC	Failed portable test for VOC – Engine 3 tested at 2.9 lb/hr and exceeding limit of 2.61 lb/hr.	In compliance.
Leidy Station	11/30/12	Missed portable test.	Reported in Compliance report as a potential deviation.	In compliance.
Sabinsville Station	11/30/12	Relief Valve Blow-down.	Shut facility down to stop blow-down. Removed, cleaned / repaired relief valve and placed facility back into service. Reported to PADEP.	In compliance.
South Bend Station	12/3/12	NPDES - TSS exceedence for instantaneous max and monthly average.	Reported within 24 hours by M. Ballantine and a 5-day written notification was submitted to the DEP regional office. No further action required.	In compliance.
Oakford Station	12/4/12	Failed NOx	Replaced PCC checks, balanced engine	In compliance.
Oakford Station	12/7/12	Failed VOC	Adjusted A/F ratio, balanced unit	In compliance.
Oakford Station	12/7/12	NPDES - invalid sample due to temperature	Reported to PADEP.	In compliance.
Oakford Station	12/10/12	Failed VOC	Replaced fuel valve, adjusted A/F ratio, balanced unit	In compliance.
Finnefrock Station	12/11/12	Auxiliary Generator started up without installation of a Non-Resettable Hours meter.	The Department was notified of the non-compliance issue on February 6, 2013. Dominion obtained and installed a separate stand alone, non-resettable hour meter on February 13, 2013.	In compliance.
Leidy Station	12/28/12	NPDES - Discharge exceeded permit limits	Reported to PADEP. Permit modified.	In compliance.
Charleroi Propane Terminal	1/9/2013, 1/11/2013	Malodor complaint	Repaired leak. Reported to PADEP.	In compliance.
South Bend Station	1/13/13	RCRA-Exempt Pipeline Fluid Release to Soil	Excavation, repair of line, and soil removal to clean soil determined by PID meter. Ryan Environmental hired by Supply Chain to complete soil removal work. Line repair completed 1/14/2013. Telephone notification made to PA DEP SW Region 24-hour release notification contact on 1/13/2013. 10-day initial written report submitted to PA DEP SW Solid Waste on 1/23/2013.	In compliance.
Tioga Station	1/16/13	NPDES - pH test method used by Tioga for wastewater monitoring not approved for wastewater per NPDES program rules 40 CFR 136	Training specific to Tioga wastewater monitoring including proper pH meter calibration and documentation was conducted on 1/23/2013. Reported to PADEP.	In compliance.
Oakford Station	1/23/13	Failed NOx (18.5 lb/hr vs. 16.53 lb/hr limit)	Replaced fuel valve P2R, lifter P4L and balanced engine	In compliance.

FACILITY NAME	DATE	DESCRIPTION OF NONCOMPLIANCE	ACTION TAKEN/ COMPLIANCE SCHEDULE	RESOLUTION/ CURRENT COMPLIANCE STATUS
Oakford Station	1/27/13	RCRA-Exempt Pipeline Fluid Release to Soil	Operators locked out affected drip lines, spill material and snow was shoveled up from frozen ground and drummed, spill area was covered with plastic to protect from expected rain, nearby storm drain was blocked, station mobilizing resources for repair 1/28&29, will collect soil in roll-off boxes for characterization. Telephone notification made to PA DEP SW Region 24-hour release notification contact on 1/27/2013. 10-day initial written report submitted to PA DEP SW Solid Waste on 2/6.	In compliance.
Charleroi Propane Terminal	2/13/13	Malodor complaint	Deodorant was placed by operator.	In compliance.
Centre Station	2/13/2013 - Issue confirmed and addressed 6/12/13	Failed to maintain a record of weekly malodor and visible emission inspections.	Reported to PADEP.	In compliance.
North Summit Storage Pool	2/18/13	RCRA-Exempt Production Fluid (brine) release to soil inside containment	Isolated the R-6 tanks, brought in vacuum truck to remove free liquid in earthen containment dike, also pumped down tanks to allow repair to piping. Protective telephone notification made to PA DEP SW Region 24-hour release notification contact on 2/18/2013. Decision to report was based on volume of release which exceeds threshold for contained release in the North Summit Storage Pool PPC Plan and 2012 DRAFT PA Act 13 brine release reporting guidance; no follow-up from PA DEP, DTI follow-up written report submitted on 4/2/2013.	In compliance.
Oakford Station	3/5/13	Distillate Release to concrete and gravel surfaces.	Source stopped by Operations. Concrete surfaces cleaned with pads and mats. Contractor called to perform emergency response excavation of impacted gravel. Spill reported on 3/5/2013 at 10:15 to the PADEP, Paul Minor. Follow-up written report to DEP submitted 3/19/2013.	In compliance.
Sabinsville Station	3/19/13	Failed test, subsequently determined to be invalid due to low load testing.	The first turbine test was determined to be invalid and a re-test was scheduled for April 16, 2013. The Department (Andrea Ryder) was contacted on March 25, 2013 and informed of the invalid test and schedule to re-test. With the approval of the Department, DTI proceeded with the re-test of the turbine.	In compliance.
Sabinsville Station	3/19/13	Failed stack test (CO and formaldehyde), subsequently determined to be invalid due to low load testing.	Retested unit at full load and passed.	In compliance.
Leidy Station	3/28/13 (for Feb 2013)	NPDES - TSS excursion	Resin beds were replaced 2/25, TSS sample collected 3/5 was < 5 mg/l	In compliance.

FACILITY NAME	DATE	DESCRIPTION OF NONCOMPLIANCE	ACTION TAKEN/ COMPLIANCE SCHEDULE	RESOLUTION/ CURRENT COMPLIANCE STATUS
Tioga Station	4/1/13	Hydraulic oil release to soil	Spill was immediately contained and cleaned up. Valve was repaired by Shafer valve repairman. Soil impacted by hydraulic oil is drummed and ready for disposal. Courtesy call to Tom Mcnerney PADEP. Since oil was immediately cleaned up, PADEP indicated no follow-up report required.	In compliance.
Big Run Station	4/17/13	Failed test for grams/hr NOx on engine 2 but passed on lb/hr NOx.	Implemented failed test protocol. Replaced #1 and #4 PCC chambers	In compliance.
Beaver Station	6/11/13 proposed - settled 8/23/13	Dec 2011 ethylene glycol incident where groundwater contaminated by underground leak of ethylene glycol from engine lines emerged in spring on the property creating a release to surface water. Proposed civil penalty from PA DEP for unauthorized discharge to water self-reported by Dominion on 12/21/2011.	Stopped source of release, contained release, remediated groundwater at Beaver Station and replaced underground ethylene glycol piping that failed with above ground piping	Paid \$192,000 fine. In compliance
Oakford Station	6/25/13	Pipeline fluid release to surface gravel	Operators locked out affected drip lines, gravel chips with spill material were shoveled up and drummed, area was backfilled with clean gravel chips, all completed by 7 am. Verbal report to PA DEP SW Regional office made by Paul Dickens at 9:15 am on 6/15. 10-day report submitted on 7/2.	In compliance.
Punxsutawney Station	6/30/13	Late portable test	Called PADEP and reported issue. Added recurring semi-annual portable test task into ECTS. Scheduled a make-up test for the second half of 2013	In compliance.
Ardell Station	6/30/13	Late portable test	Called PADEP and reported issue. Added recurring semi-annual portable test task into ECTS. Scheduled a make-up test for the second half of 2013	In compliance.
Finnefrock Station and Tioga Expansion Project	7/14/13	Pipeline fluid release to surface gravel	All gravel and soil impacted by the spilled pipeline fluids was collected immediately and notification was made to the ECC at the same time. In the future, if a separator vessel needs to be taken offline, it will either be plugged or have sufficient containment to collect any and all fluids within the vessel. Verbal report to PA DEP NC Regional Office, to Mr. Randy Farmerie, by Sharon Burke at 8:00 am on 7/15. Written report submitted 7/29.	In compliance.

FACILITY NAME	DATE	DESCRIPTION OF NONCOMPLIANCE	ACTION TAKEN/ COMPLIANCE SCHEDULE	RESOLUTION/ CURRENT COMPLIANCE STATUS
Tioga Expansion: TL610 Ext. 1	7/15/13	Spill of drilling mud to surface	Mud was vacuumed up as much as possible, Pit dug deeper and berm height extended. A straw bale barrier was placed in roadway ditch to prevent mud from reaching culvert and eventually Pine Creek. Reported to PADEP around 1600 on July 15,2013. Site visit by John Erich (Manager Environmental Emergency Response). There was some mud that entered wetland W15 but was minimal and did not appear to create any issues. Mr. Erich commented that he was happy to see how effective our response was and that we were correct to block any flow along the road ditch to prevent any spill into Pine Creek. On Tuesday July 16, 2013 Mr. Randy Farmerie of PADEP North Central Office paid a visit to the site as a follow up to John Erich's visit.	In compliance.
Harrison Station	9/5/13	Spill of produced fluids due to tank overflow	The exterior of the tank was cleaned; Ryan Environmental / Waste Management was onsite for drip cutting and vacuumed and cleaned the secondary containment of the tank and all impacted gravel and soil was staged on tarps and then later transferred to a roll off container. The previously approved waste disposal request submitted for the produced fluid was updated and emailed to supply chain. The tank alarm setting has been set at 75% capacity rather than 90% capacity and waste disposal requests for the tank contents will be inputted more frequently and scheduled promptly by supply chain. Reported to PADEP.	In compliance.
Punxsutawney Station	11/19/13	Failed test for NOx ppm on the turbine (ID 137)	Tuned turbine and replaced blocking rings in turbine combustion section to adjust air to fuel ratio.	In compliance.
Central PA G&P	11/27/13	Notice of Violation for alleged failure to register PA Act 9 emergency response information for unconventional wells in the PA Oil and Gas Reporting Electronic (OGRE) web-based system by 8/15/2013 deadline. NOV was received by GES on 12/5/2013.	Central G&P Operations Staff entered missing Act 9 emergency response information for unconventional wells in the PA OGRE system on 12/6/2013. Other new Act 9 requirements were completed during 2nd Qtr 2013.	In compliance.
Charleroi Propane Terminal	12/1/13	odor complaint	Homeowner called and complained of a mild to strong odor. Operations investigated the site and found no issues. Likely a small spill and not an on-going issue. Reported to PADEP.	In compliance.
Harrison Station	12/16/13	Reporting - left emergency generator off the ZZZZ Initial Notification	Submitted notification of generator	In compliance.

FACILITY NAME	DATE	DESCRIPTION OF NONCOMPLIANCE	ACTION TAKEN/ COMPLIANCE SCHEDULE	RESOLUTION/ CURRENT COMPLIANCE STATUS
Sabinsville Station- Transmission Lay down Area - LN 50 Gate 85 Capital Project Drip	12/23/13	Contained release to gravel and soil of pipeline solids and sludge mixed with rain water	Sabinsville Transmission and Station personnel cleaned up spill materials and affected gravel & soil, then wrapped drip to cover any openings to prevent any further rain or snow fall from entering drip. Generated 5 drums of spill cleanup material. Ryan Environmental returned to site on 12/24 and completed proper cleaning of solids and fluids in the drip. The material removed from the drip was drummed generating 13 additional drums. Total of 18 drums of spill response and drip cleaning waste were generated from this incident. Samples were collected on 12/23 for characterization. Reported to PADEP.	In compliance.
Steinmiller Tap	1/9/14	Sediment in waterbody; PADEP inspection with violations identified dated 01/09/2014; formal NOV dated 01/22/2014 for failure to maintain E&S Controls	Instructed contractor to de-water excavation through filter bag and monitor discharge to ensure it does not become sediment laden and enter any wetland or waterbody.	In compliance.
Tioga Station	1/15/14	NPDES - pH excursion	Reported to PADEP.	In compliance.
Punxsutawney Station	2/6/14	High Opacity	Reported to PADEP.	In compliance.
North Summit Storage Pool Area / Well UW-119	2/8/14	Brine Spill; NOV dated 2/12/2014	The spill was contained and Weavertown was called to cleanup the spill.	In compliance.
Sabinsville Station	3/28/14	Failed to submit Leak Detection Reports since the Plan Approval was issued in 2009.	Submitted report of all past Leak Detection Inspections	In compliance.
Boom Station	3/31/14	Five year ESD test released a fine mist of oil and water which sprayed onto soil, gravel, station structures, fencing material, and a perimeter ditch.	Impacted soil/gravel was excavated and disposed. Booms were placed in the perimeter ditch and in the receiving stream. Contaminated structures and piping were wiped down. Reported to PADEP.	In compliance.
North Summit Storage Pool Area / Well UW-107	4/23/14	Brine Spill due to failed pipe connection; NOV dated 4/28/2014.	Drain valves from containment dikes were evaluated and plugged.	In compliance.
South Oakford Station	5/7/14	Recordkeeping - Some required daily records of fuel consumption were not collected every day for the auxiliary generator or the glycol dehydration system.	Reported to PADEP.	In compliance.
Ardell Station	6/4/14	Release - Unexpected slug of pipeline fluids entered the compressor and discharged through blow down stack during unit shutdown.	The contaminated material was cleaned up and drummed. Reported to PADEP.	In compliance.
Leidy Station	7/1/14	Discovered that the annual boiler inspection report had not been submitted for the inspection conducted in October 2013	Report submitted. Reported to PADEP.	In compliance.
Finnefrock Station	7/30/14	The 4Q 2013 and 1Q 2014 PEM Reports did not include a Certificate of Accuracy from the Responsible Official.	Disclosed this oversight to PADEP in the 2Q 2014 report.	In compliance.
Crayne Station	10/1/14	Excess Emission	Reported to PADEP.	In compliance.
Beaver Station	11/11/14	Reporting -Discovered Boiler MACT initial Notification for new 3.0 MMBtu/hr was not submitted	Notification submitted to USEPA/PADEP 11/11/2014.	In compliance.

FACILITY NAME	DATE	DESCRIPTION OF NONCOMPLIANCE	ACTION TAKEN/ COMPLIANCE SCHEDULE	RESOLUTION/ CURRENT COMPLIANCE STATUS
Crayne Station	12/10/14	Station ESD at 9:45 am, 1018.78 MCF gas released	ESD handle was closed as soon as the issue was identified. Pilot relay on F gate was leaking and it was rebuilt and reinstalled. Reported to PADEP.	In compliance.
Oakford Station	1/22/15	CO exceedence	Catalyst Replaced. Reported to PADEP.	In compliance.
Crayne Station	1/27-28/15	PM Exceedence	Invalid Test - incorrect equipment used. Reported to PADEP.	In compliance.
PA Unconventional Production Wells	4/1/15	NOV - Failure to file unconventional well production reports for January 2015 by the statutory deadline.	Reports filed.	In compliance.
Longwall Cumberland Panel 64 (TL-342/TL-492)	4/10/15 - 4/13/15 NOV dated 4/21/15	NOV - Compliant from local land owner that discharge from Dominion's TL-342/TL-492 long wall project was putting sediment into his pond. Project open excavation filled with rainwater, overflowed into stream and caused a slip which moved outside of the limits of disturbance.	Emergency corrective action plan developed and submitted to Green County Conservation District and PADEP. Landslide material was excavated and staged to dry out.	In compliance.
PA Unconventional Production Wells	4/17/15	NOV - Failure to file unconventional well production reports for February 2015 by the statutory deadline.	Reports filed.	In compliance.
Sharon Storage Pool Well N-249-S	4/30/15 NOV dated 5/4/15	NOV - Failure to operate and construct the well to ensure the integrity of the well is maintained and health, safety, environment, and property are protected.	Well was killed with fresh water and cast iron bridge plug set.	In compliance.
Leidy Station	4/30/15	NPDES - Bypass of treatment	Area excavated, gasket/seal of pipe into vault repaired. Reported to PADEP.	In compliance.
LN-50/Gaines Township, Tioga County, PA	7/22/15	Spill - Release of hydrostatic test water into Lick Run causing turbidity.	Reported to PADEP.	In compliance.
LN50 Pipeline Replacement (Sections 3&4)	7/22/15	NOV - Water was released from a pressure-relief valve on the pipeline that was installed as part of the hydrotest set-up. Water needed to be transferred from the pipe, and the release occurred.	A sample was obtained from the hydrotest water storage tank for chemical characterization of the release. No potential for contamination (hazardous or petroleum) determined in soil or water, so no cleanup required. Lick Run returned to clear flow several hours after incident occurred. Reported to PADEP.	In compliance.
Leidy Station	8/11/15	NPDES - Exceedence of daily maximum for Oil & Grease	Three additional samples were collected during the month of August 2015 for purposes of calculating the monthly average. All other results were BDL (detection limit of 4.8 mg/l). Reported to PADEP.	In compliance.
Finnefrock Station	12/17/15	NOV issued to DTI for Finnefrock emissions exceedence due to not installing cold ambient fuel control logic on Turbine 110 when installed in 2012. COA: Final Signed Order signed by DTI 3/10/2016. Failure to construct and operate new equipment in accordance with the air permit.	Significant permit amendment submitted to PADEP on 3/24/2016 to correct permit limits. Civil Penalty paid 3/10/2016	In compliance.
South Bend Station	1/1/16	DMR was submitted late	Report was submitted	In compliance.

FACILITY NAME	DATE	DESCRIPTION OF NONCOMPLIANCE	ACTION TAKEN/ COMPLIANCE SCHEDULE	RESOLUTION/ CURRENT COMPLIANCE STATUS
Leidy Station	2/22/16	Spill of distillate/water	The valve was closed and locked. Contractor was immediately called to mobilize to the site for clean up. Contaminated debris (soil/gravel) was collected and placed in lined roll-off containers, sampled and characterized for off-site disposal. Reported to PADEP.	In compliance.
Cherry Tree Station	4/3/16	Spill - Aprx. 20 gallons of pipeline fluids was released as a mist from the ESD stack.	Valve was manually shut, pads used to absorb visible liquids. Contractor wiped structures, grass, etc. Reported to PADEP.	In compliance.
PA G&P Well No. WN-1562	9/13/2016	NOV - failure to stop the vertical movement of gas in the wellbore. PADEP detected 100% LEL in the vent on this plugged well and believe the plug has failed to prevent the vertical movement of gas.	DTI will be re-plugging well.	Unchanged
Finnefrock	9/19/2016	NOV - Failure to conduct stack testing. TV renewal issued 6/11/2013 required stack testing to be completed on engines 1-6 between 6/11/2014-6/11/2015.	Testing was completed 6/2013 on routine 5 year schedule instead of during timeframe required by permit.	NOV closed via issuance of Closure memo 11/16/16
Greenlick Station	9/29/16	Little Greenlick Engine 2 (P106) on September 29, 2016 showed initial NOx readings of 7.19 lb/hr which is higher than the Title V limit of 6.35 lb/hr.	Unit shutdown (except for tuning and validation of repairs). Maintenance and engine tuning performed. Follow-up stack testing to confirm compliance with the Title V limit and PA RACT II completed on December 6, 2016. Little Greenlick Engine 2 emissions on December 6, 2016 were below all Title V permit limits and complied with NOx limits.	In compliance
Leidy Station	1/1/17	Gas release on 8/12/16 due to operator error. Gas release 9/12/2016 due to improper setting. PA RACT II VOC Compliance Demonstration not met by 1/1/2017	8/12/2016 Closed valve, ensured valve proper operation, and provided additional training. 9/12/2016 Relief valve immediately reset and placed back in service. Per notification submitted to PADEP 12/30/2016, Engines 1 and 5 are shut down and will only operate for reasons of maintenance, troubleshooting, and testing. Engines 1&5 will be tested in April 2017.	Unchanged

DOMINION TRANSMISSION, INC.

SUPPLY HEADER PROJECT

SECTION 2 – PROJECT DESCRIPTION

- Project Description
- Waterbody and Wetland Tables
- Site Specific Water Resource Crossing Drawings

Project Description

Dominion Transmission, Inc. (DTI) is proposing to construct and operate approximately 37.5 miles of pipeline loop and modify existing compression facilities in Pennsylvania and West Virginia. This project, referred to as the Supply Header Project (Project), will enable DTI to provide firm transportation service to various customers, including Atlantic Coast Pipeline, LLC, which is proposing to construct the Atlantic Coast Pipeline in West Virginia, Virginia, and North Carolina. DTI has hired Environmental Resources Management, Inc. (ERM) as the primary environmental consultant for the Project. ERM is assisting DTI with construction planning, environmental surveys, and acquisition of environmental permits and certifications necessary for the Project. The overall project is being reviewed and authorized through the Federal Energy Regulatory Commission (FERC), Docket No. CP15-555-000.

The Pennsylvania segment of the Project includes 3.9 miles of 30-inch diameter natural gas pipeline loop (TL-636) adjacent to DTI's existing LN-25 pipeline in Westmoreland County and modifications at DTI's existing JB Tonkin and Crayne Compressor Stations in Westmoreland and Greene Counties, respectively. The Project will utilize temporary contractor yards in Salem Township, Westmoreland County.

The typical construction right-of-way for the TL-636 loop will be 100 feet wide in non-agricultural upland areas and 125 feet wide in agricultural areas, where full width topsoil segregation will be implemented. In accordance with the FERC Wetland and Waterbody Construction and Mitigation Procedures (Procedures), the width of the construction right-of-way will be reduced to 75 feet at wetlands and waterbodies. In addition to the construction right-of-way, additional temporary workspace will be required to stage construction activities and store equipment, materials, and temporary side cast at wetland, waterbody, and road crossings. Following construction, a 50-foot-wide permanent easement will be maintained for operation of the pipeline.

In Westmoreland County, modifications at the JB Tonkin Compressor Station will include the addition of one new gas-driven turbine which will provide 20,500 horsepower of additional compression. The modifications will include one new compressor building and additional auxiliary structures within the existing and new chain-link security fenced-in site. Equipment at the station will include gas filter/separators, gas coolers, inlet air filters, exhaust silencers, tanks, blowdown silencers, heaters, and auxiliary generators. Workspace outside the existing fence line will be required for construction activities such as welding, coating, and storing construction materials, as well as activities associated with the new pipeline interconnects. With the exception of valves and other aboveground facilities that will be installed at the pipeline interconnects, these areas will be restored to pre-construction conditions.

In addition, DTI will install valves and pig launcher/receiver facilities at each end of the pipeline loop. The valves, which will allow DTI to segment the pipelines for safety, operations, and maintenance purposes, will be installed below grade with aboveground valve operators, risers, blowdown valves, and crossover piping connected on each side of the valve. The pig launchers/receivers will be used to run pipeline inspection tools, called pigs, through the pipeline system. The Project includes the addition of 18 permanent access roads with 7 new access roads and the use and modification of 9 existing access roads for the construction and operation of the

Project. DTI anticipates that construction in Pennsylvania will be complete and placed in service by fall 2019.

Field Reconnaissance

ERM conducted a wetland and waterbody delineation of the proposed Project area. The onsite wetland delineation was conducted utilizing procedures described in the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual and the 2012 Regional Supplement to the U.S. Army Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region. Other waters were assessed utilizing the definitions in 33 Code of Federal Regulations 328.3. Impact assessments to potential waters of the U.S., including wetlands, were evaluated within the proposed Project construction work area. A Wetland and Waterbody Delineation Report, which includes detailed findings, is included in Section 4. A summary of wetlands and waterbodies are provided below in Pennsylvania Department of Environmental Protection Form 3150-PM-BWEW0557 (Aquatic Resource Impact Table) and Tables 2-1 and 2-2, respectively.

Aquatic Impacts

The Project has incorporated avoidance and minimization to the maximum extent practicable to reduce unavoidable stream and wetland impacts.

Along the construction right-of-way and access roads, 11 wetlands are crossed (Table 2-1); however, several wetlands are crossed multiple times resulting in 14 wetland crossings. Some wetlands are bisected by a waterbody resulting in separate wetlands on either side of the waterbody; therefore, those wetland crossings are considered separate crossings as reflected on the Chapter 105 Fee Calculation Worksheet. The width of the construction right-of-way will be limited to 75 feet through wetlands, with additional temporary workspace (ATWS) on both sides of wetland crossings to stage construction equipment and materials, fabricate the pipeline, and store materials and excavated temporary side-cast. In accordance with the Procedures, the ATWSs will be located in upland areas a minimum of 50 feet from the wetland edge (with the exception of site-specific modifications as requested by DTI and approved by the FERC). Wetland boundaries will be clearly marked in the field prior to the start of construction with signs and flagging. Construction equipment working in wetlands will be limited to what is essential for right-of-way clearing, excavating the trench, fabricating and installing the pipeline, backfilling the trench, and restoring the right-of-way. In areas where there is no reasonable access to the right-of-way except through wetlands, non-essential equipment will be allowed to travel through wetlands once, unless the ground is firm enough or has been stabilized to avoid rutting.

Along the construction right-of-way, access roads, and compressor station, 14 waterbodies are crossed (Table 2-2); however, several waterbodies are crossed multiple times resulting in 18 waterbody crossings. All the waterbodies are minor and range in width from 4 to 20 feet from top-of-bank to top-of-bank. DTI has prepared and will implement various Project-specific construction, restoration, and mitigation plans including DTI's Preparedness, Prevention, and Contingency Plan (PPC), Restoration and Rehabilitation Plan, and Invasive Species Management Plan included in Section 8 of this application. During the clearing and grading phase of construction, temporary bridges will be installed across waterbodies in accordance with the

FERC's Procedures to allow construction equipment and personnel to cross. ATWS will be required on both sides of waterbody crossings to stage construction equipment, fabricate the pipeline, and store construction materials. The ATWSs will be located at least 50 feet away from the water's edge at each waterbody (with the exception of site-specific modifications as requested by DTI and approved by the FERC) and will provide a means for construction equipment to cross these streams while minimizing impacts on the channel bottom or banks. DTI will use dry crossing methods (i.e., flume or dam-and-pump) to construct the pipelines across waterbodies. In each case and for each method, DTI will adhere to the measures specified in the FERC Procedures (with the exception of site-specific modifications as requested by DTI and approved by the FERC) as well as any additional requirements identified in federal or state waterbody crossing permits. In addition, DTI has designed stormwater management controls for expanded facilities outlined in this application. DTI is applying for Pennsylvania Department of Environmental Protection Chapter 105 Water Encroachment General Permits 5, 7, and 8 for water resource crossings associated with this Project filed concurrently with this application.

Pennsylvania Natural Diversity Index

An on-line Pennsylvania Natural Diversity Inventory (PNDI) query of the project area was initially conducted on July 2, 2014, May 6, 2015, and March 16, 2017. A copy of the PNDI Project Environmental Review Receipt is provided in Section 9. Regulatory consultations were conducted as a result:

The PNDI did not require further review with the U.S. Fish and Wildlife Service (FWS). However, due to proposed tree clearing associated with construction of the Project, ERM initiated consultation with the FWS on November 12, 2015. DTI provided the results of acoustic surveys conducted between June 3 and June 5, 2015 to determine the presence/absence of Indiana bat and northern long-eared bat. The surveys did not record any Indiana or northern long-eared bats. The FWS responded on January 28, 2016 and determined that tree clearing related to the Project is not likely to adversely affect the Indiana bat or northern long-eared bat.

ERM updated the PNDI results for the Project on March 16, 2017 due to the FWS listing the rusty patched bumble bee as endangered under the Endangered Species Act on January 10, 2017. The PNDI results indicated there were no know impacts for the Project in Westmoreland County. DTI will periodically rerun these searches as the Project progresses to ensure that the most up-to-date information is available.

TABLE 2-1

**Supply Header Project
Bodies of Water Identified Within the Construction Work Area**

Milepost	Unique Project ID	Site Specific Drawing	Cowardin Classification ^a	Temporary Construction Impacts (acres) ^b	Pipeline/Access Road Crossing Length (feet)	Conversion of PFO Wetlands (acres) ^c	Permanent Impact (acres) ^d	Assets Crossed	Anticipated PADEP General Permit
0.20	wwmh012f	Crossing 1	PFO	0.06	33	0.03	<0.01	Pipeline, Workspace	5,8
0.65	wwmh001f	Crossing 3	PFO	0.12	69	0.07	<0.01	Pipeline, Workspace	5,8
1.19	wwmh002e	Crossing 4	PEM	0.23	85	N/A	<0.01	Pipeline, Workspace	5,8
1.35	wwmh002e	Crossing 5	PEM	0.03	51	N/A	<0.01	Pipeline, Workspace	5,8
1.92	wwmh007e	Crossing 7	PEM	0.29	199	N/A	<0.01	Pipeline, Workspace	5,8
2.61	wwmh003f	Crossing 9	PFO	0.06	N/A ^e	0.02	N/A	Workspace	8
2.86	wwmh008e	Crossing 10	PEM	0.04	N/A ^e	N/A	N/A	Workspace	8
2.90	wwmh010f	Crossing 10	PFO	<0.01	N/A ^e	<0.01	<0.01	Workspace	8
2.92	wwmh009e	Crossing 10	PEM	0.01	N/A ^e	N/A	N/A	Workspace	8
3.10	wwmh010f	Crossing 11	PFO	<0.01	N/A ^e	<0.01	<0.01	Workspace	8
3.24	wwmh010f	Crossing 12	PFO	0.10	55	0.06	<0.01	Pipeline, Workspace	5,8
3.63	wwmh011f	Crossing 13	PFO	0.06	42	0.05	< 0.01	Pipeline, Workspace	5,8
3.84	wwmh006e	Crossing 14	PEM	0.02	11	N/A	<0.01	Pipeline, Workspace	5,8
N/A	wwmh005e	Crossing 16	PEM	N/A	N/A ^e	N/A	0.02	JB Tonkin Compressor Station	7
Total				1.05	545	0.23	0.05		

^a Wetland types according to Cowardin et al. (1979):

PEM = palustrine emergent

PFO = palustrine forested

^b Temporary wetland impacts are associated with a 75-foot-wide construction right-of-way through wetlands. Lengths include access road crossing length.

^c Wetland vegetation type conversion impacts are associated with forested wetlands (PFO). Operational requirements (corrosion/leak surveys) allow a 10-foot-wide corridor centered over the pipeline to be maintained in an herbaceous state, and allow trees within 15 feet on either side of the pipeline with roots that could compromise the integrity of the pipeline to be selectively cut from the right-of-way. To determine conversion impacts on scrub-shrub wetlands, a 10-foot-wide corridor centered over the pipeline was assessed. A 30-foot-wide corridor centered over the pipeline was assessed for forested wetlands. Operational impacts shown for PEM wetlands indicate the acres of PEM wetlands located in the maintained easement. However, because the easement will be maintained in an herbaceous state, there will be no permanent operational impacts on PEM wetlands.

^d Permanent impacts include access road crossings and pipeline centerline crossings. Permanent impact for pipeline centerline crossing is calculated assuming a pipeline footprint of 30 inches multiplied by the wetland width. No permanent loss is expected for utility line wetland crossings. Permanent impacts also include adding fill in wetland wwmh005e at the JB Tonkin Compressor Station.

^e Wetlands crossed by the pipeline right-of-way, not crossed by the centerline.

TABLE 2-2

**Supply Header Project
Watercourses Identified Within the Construction Work Area**

Milepost	Unique Project ID ^a	Site Specific Drawing	Waterbody Name	Regime	PA Code Chapter 93 Designation ^b	Approved Trout Waters ^c	Temporary Waterbody Impacts (acres) ^d	Floodway Crossing Width (feet) ^e	Floodway Impacts (acres)	Total Temporary Impacts (acres) ^f	Temporary Waterbody Crossing Length (feet) ^g	Permanent Impacts Crossing (acres) ^h	Permanent Crossing Length (feet) ⁱ	Asset Crossed	Anticipated PADEP General Permit
0.20	swmh001	Crossing 1	UNT to Turtle Creek	Perennial	N/A	TSF	0.01	N/A	N/A	0.01	103	0.01	N/A	Pipeline, Workspace	5,8
0.49	swmh001	Crossing 2	UNT to Turtle Creek	Perennial	N/A	TSF	N/A	N/A	N/A	N/A	N/A	<0.01	14	Access Road	7
0.49	swmh001	Crossing 2	UNT to Turtle Creek	Perennial	N/A	TSF	N/A	N/A	N/A	N/A	N/A	<0.01	34	Access Road	7
0.65	swmh003	Crossing 3	UNT to Turtle Creek	Perennial	N/A	TSF	0.01	N/A	N/A	0.01	98	<0.01	N/A	Pipeline, Workspace	5,8
1.19	swmh004	Crossing 4	UNT to Kemerer Hollow	Perennial	HQ-CWF	No	0.01	N/A	N/A	0.01	140	<0.01	N/A	Pipeline, Workspace	5,8
1.35	swmh004	Crossing 5	UNT to Kemerer Hollow	Perennial	HQ-CWF	No	N/A	N/A	N/A	N/A	N/A	<0.01	30	Access Road	7
1.35	swmh005	Crossing 5	Kemerer Hollow	Perennial	HQ-CWF	No	0.01	39	0.06	0.07	94	<0.01	N/A	Pipeline, Workspace	5,8
1.67	swmh012	Crossing 6	UNT to Kemerer Hollow	Perennial	HQ-CWF	No	0.02	N/A	N/A	0.02	79	<0.01	N/A	Pipeline, Workspace	5,8
1.92	swmh013	Crossing 7	UNT to Kemerer Hollow	Perennial	HQ-CWF	No	0.01	N/A	N/A	0.01	82	<0.01	N/A	Pipeline, Workspace	5,8
2.50	swmh006	Crossing 8	UNT to Steels Run	Perennial	HQ-CWF	No	0.02	N/A	N/A	0.02	158	<0.01	N/A	Pipeline, Workspace	5,8
2.60	swmh007	Crossing 9	Steels Run	Perennial	HQ-CWF	No	0.02	65	0.13	0.13	130	<0.01	N/A	Pipeline, Workspace	5,8
2.70	swmh008	Crossing 9	UNT to Steels Run	Perennial	HQ-CWF	No	N/A	N/A	N/A	N/A	N/A	<0.01	30	Access Road	7
2.94	swmh014	Crossing 10	UNT to Steels Run	Perennial	HQ-CWF	No	0.01	N/A	N/A	0.01	140	<0.01	N/A	Pipeline, Workspace	5,8
3.24	swmh014	Crossing 12	UNT to Steels Run	Perennial	HQ-CWF	No	0.01	N/A	N/A	0.01	179	<0.01	N/A	Pipeline, Workspace	5,8
3.63	swmh015	Crossing 13	UNT to Haymakers Run	Perennial	HQ-CWF	No	0.01	N/A	N/A	0.01	150	<0.01	N/A	Pipeline, Workspace	5,8
3.84	swmh011	Crossing 14	UNT to Haymakers Run	Perennial	HQ-CWF	No	< 0.01	N/A	N/A	<0.01	57	<0.01	N/A	Pipeline, Workspace	5,8
N/A	swmh010	Crossing 15	Haymakers Run	Perennial	HQ-CWF	No	N/A	NA	N/A	N/A	N/A	<0.01	30	Access Road	7
N/A	swmh010	Crossing 17	Haymakers Run	Perennial	HQ-CWF	No	0.04	43	0.12	0.12	204	0.01	N/A	JB Tonkin Compressor Station	8
N/A	swmh011	Crossing 17	UNT to Haymakers Run	Perennial	HQ-CWF	No	N/A	N/A	N/A	N/A	N/A	0.02	100	JB Tonkin Compressor Station (Culvert)	7
N/A	swmh009	Crossing 18	UNT to Haymakers Run	Perennial	HQ-CWF	No	0.03	N/A	N/A	0.03	111	N/A	N/A	JB Tonkin Compressor Station	8
Total							0.21	147	0.31	0.52	1,726	0.04	220		

^a Unique Project ID for each waterbody utilizes a nomenclature convention where "s" at the beginning of the ID indicates waterbodies delineated during field survey.
^b Designated Water Uses and Water Quality Criteria as defined by Pennsylvania Code Chapter 93.9; HQ-CWF = High Quality Cold Water Fishes
^c TSF= Trout stocked fisheries. Seasonal restriction for TSF stream and wetland encroachment permits from March 1 to June 15.
^d Temporary waterbody impacts include the area of the waterbody within the 75-foot pipeline right-of-way or within the JB Tonkin Compressor Station workspace.
^e Floodway width is calculated for pipeline and access road crossings. Width of the floodway associated with a stream crossing is also considered the width of the waterbody crossing.
^f Total temporary impacts includes temporary waterbody and floodway impacts. The floodway impact for swmh011 is permanent and is not included in this total.
^g Temporary crossing length is the 75-foot width of the temporary right-of-way over the waterbody crossing or the width of the waterbody crossing, whichever width is greater.
^h Permanent impacts include access road crossings and pipeline centerline crossings. Permanent impact for pipeline centerline crossing is calculated assuming a pipeline footprint of 30 inches multiplied by the waterbody width. No permanent loss is expected for utility line waterbody crossings. Placement of a 100-foot culvert is a permanent impact for swmh011.
ⁱ All access road crossings are perpendicular to the waterbodies and crossing length is 30 feet wide per access road crossing. The footprint for the two access road crossings of swmh001 for Crossing 2 overlap with a total single and complete crossing length of 48 feet.

Aquatic Resource Impact Table

Project / Site Name: _____

Supply Header Project

Date: Mar-17

DEP / Corps use only			Project Information								Corps / 404					PADEP / 105		
PADEP Permit Number	Single and Complete Project	Crossing Number	Structure / Activity	Aquatic Resource	Aquatic Resource TYPE	Latitude	Longitude	Work Proposed / Impact Type	Waters Name	PA Code Chapter 93 Designation	Corps Impact TYPE	Stream Impact WIDTH	Stream Impact LENGTH	Stream Impact AREA	Wetland Impact AREA	DEP Impact TYPE	Floodway Impact AREA	Wetland Impact AREA
<i>leave blank</i>	<i>leave blank</i>	<i>leave blank</i>	unique identifier	being impacted		<i>dd nad83</i>	<i>dd nad83</i>				<i>temp / perm</i>	linear feet	linear feet	square feet	square feet	<i>temp / perm</i>	square feet	square feet
		1	wwmh012f	Wetland	PFO	40.42531	-79.5939	Excavation	N/A	N/A	Temp	N/A	N/A	N/A	2679	Temp	N/A	2679
		1	wwmh012f	Wetland	PFO	40.42531	-79.5939	Excavation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Perm	N/A	83
		1	swmh001	Stream	Perennial	40.42443	-79.59879	Excavation	UNT to Turtle Creek	TSF	Temp	6	103	305	N/A	Temp	N/A	N/A
		1	swmh001	Stream	Perennial	40.42443	-79.59879	Excavation	UNT to Turtle Creek	TSF	N/A	6	6	15	N/A	Perm	N/A	N/A
		2	swmh001	Stream	Perennial	40.42388	-79.60111	Excavation	UNT to Turtle Creek	TSF	Perm	6	14	86	N/A	Perm	N/A	N/A
		2	swmh001	Stream	Perennial	40.4238	-79.6011	Excavation	UNT to Turtle Creek	TSF	Perm	0	34	226	N/A	Perm	N/A	N/A
		3	wwmh001f	Wetland	PFO	40.4295	-79.60063	Excavation	N/A	N/A	Temp	N/A	N/A	N/A	5396	Temp	N/A	5396
		3	wwmh001f	Wetland	PFO	40.4295	-79.60063	Excavation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Perm	N/A	173
		3	swmh003	Stream	Perennial	40.42964	-79.60062	Excavation	UNT to Turtle Creek	TSF	Temp	5	98	295	N/A	Temp	N/A	N/A
		3	swmh003	Stream	Perennial	40.42964	-79.60062	Excavation	UNT to Turtle Creek	TSF	N/A	5	5	13	N/A	Perm	N/A	N/A
		4	wwmh002e	Wetland	PEM	40.43468	-79.61182	Excavation	N/A	N/A	Temp	N/A	N/A	N/A	10035	Temp	N/A	N/A
		4	wwmh002e	Wetland	PEM	40.43468	-79.61182	Excavation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Perm	N/A	N/A
		4	swmh004	Stream	Perennial	40.43397	-79.61056	Excavation	UNT to Kemerer Hollow	HQ-CWF	Temp	8	140	372	N/A	Temp	N/A	N/A
		4	swmh004	Stream	Perennial	40.43397	-79.61056	Excavation	UNT to Kemerer Hollow	HQ-CWF	N/A	8	8	20	N/A	Perm	N/A	N/A
		5	swmh004	Stream	Perennial	40.43445	-79.61180	Excavation	UNT to Kemerer Hollow	HQ-CWF	Perm	8	30	125	N/A	Perm	N/A	N/A
		5	swmh005	Stream	Perennial	40.43467	-79.61172	Excavation	Kemerer Hollow	HQ-CWF	Temp	8	94	376	N/A	Temp	5749	N/A
		5	swmh005	Stream	Perennial	40.43467	-79.61172	Excavation	Kemerer Hollow	HQ-CWF	N/A	8	8	20	N/A	Perm	97	N/A
		5	wwmh002e	Wetland	PEM	40.43309	-79.60921	Excavation	N/A	N/A	Temp	N/A	N/A	N/A	10052	Temp	N/A	10052
		5	wwmh002e	Wetland	PEM	40.43309	-79.60921	Excavation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Perm	N/A	128

Aquatic Resource Impact Table

Project / Site Name: _____

Supply Header Project

Date: Mar-17

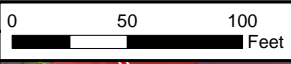
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PADEP Permit Number <i>leave blank</i>	Single and Complete Project <i>leave blank</i>	Crossing Number <i>leave blank</i>	Structure / Activity <small>unique identifier</small>	Aquatic Resource <small>being impacted</small>	Aquatic Resource TYPE	Latitude <small>dd nad83</small>	Longitude <small>dd nad83</small>	Work Proposed / Impact Type	Waters Name	PA Code Chapter 93 Designation	Corps Impact TYPE <small>temp / perm</small>	Stream Impact WIDTH <small>linear feet</small>	Stream Impact LENGTH <small>linear feet</small>	Stream Impact AREA <small>square feet</small>	Wetland Impact AREA <small>square feet</small>	DEP Impact TYPE <small>temp / perm</small>	Floodway Impact AREA <small>square feet</small>	Wetland Impact AREA <small>square feet</small>
		6	swmh012	Stream	Perennial	40.43769	-79.61627	Excavation	UNT to Kemerer Hollow	HQ-CWF	Temp	10	79	713	N/A	Temp	N/A	N/A
		6	swmh012	Stream	Perennial	40.43769	-79.61627	Excavation	UNT to Kemerer Hollow	HQ-CWF	N/A	10	10	25	N/A	Perm	N/A	N/A
		7	swmh013	Stream	Perennial	40.4408	-79.61904	Excavation	UNT to Kemerer Hollow	HQ-CWF	Temp	10	82	414	N/A	Temp	N/A	N/A
		7	swmh013	Stream	Perennial	40.4408	-79.61904	Excavation	UNT to Kemerer Hollow	HQ-CWF	N/A	10	10	25	N/A	Perm	N/A	N/A
		7	wwmh007e	Wetland	PEM	40.44088	-79.61926	Excavation	N/A	N/A	Temp	N/A	N/A	N/A	12428	Temp	N/A	12428
		7	wwmh007e	Wetland	PEM	40.44088	-79.61926	Excavation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Perm	N/A	497
		8	swmh006	Stream	Perennial	40.44643	-79.62629	Excavation	UNT to Steels Run	HQ-CWF	Temp	8	158	807	N/A	Temp	N/A	N/A
		8	swmh006	Stream	Perennial	40.44643	-79.62629	Excavation	UNT to Steels Run	HQ-CWF	N/A	8	8	20	N/A	Perm	N/A	N/A
		9	swmh008	Stream	Perennial	40.448584	-79.62804	Excavation	UNT to Steels Run	HQ-CWF	N/A	2	21	41	N/A	Perm	N/A	N/A
		9	swmh007	Stream	Perennial	40.44804	-79.62778	Excavation	Steels Run	HQ-CWF	Temp	10	130	787	N/A	Temp	5749	N/A
		9	swmh007	Stream	Perennial	40.44804	-79.62778	Excavation	Steels Run	HQ-CWF	N/A	10	10	25	N/A	Perm	163	N/A
		9	wwmh003f	Wetland	PFO	40.44785	-79.62798	Excavation	N/A	N/A	Temp	N/A	N/A	N/A	2497	Temp	N/A	2497
		9	wwmh003f	Wetland	PFO	40.44785	-79.62798	Excavation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Temp	N/A	497
		10	swmh014	Stream	Perennial	40.45292	-79.63399	Excavation	UNT to Steels Run	HQ-CWF	Temp	8	140	608	N/A	Temp	N/A	N/A
		10	swmh014	Stream	Perennial	40.45292	-79.63399	Excavation	UNT to Steels Run	HQ-CWF	N/A	8	8	20	N/A	Perm	N/A	N/A
		10	wwmh008e	Wetland	PEM	40.45042	-79.63112	Excavation	N/A	N/A	Temp	N/A	N/A	N/A	1673	Temp	N/A	1673
		10	wwmh009e	Wetland	PEM	40.45104	-79.63165	Excavation	N/A	N/A	Temp	N/A	N/A	N/A	413	Temp	N/A	413
		10	wwmh010f	Wetland	PFO	40.45333	-79.63411	Excavation	N/A	N/A	Temp	N/A	N/A	N/A	462	Temp	N/A	462
		11	wwmh010f	Wetland	PFO	40.45333	-79.63411	Excavation	N/A	N/A	Temp	N/A	N/A	N/A	246	Temp	N/A	246

Aquatic Resource Impact Table

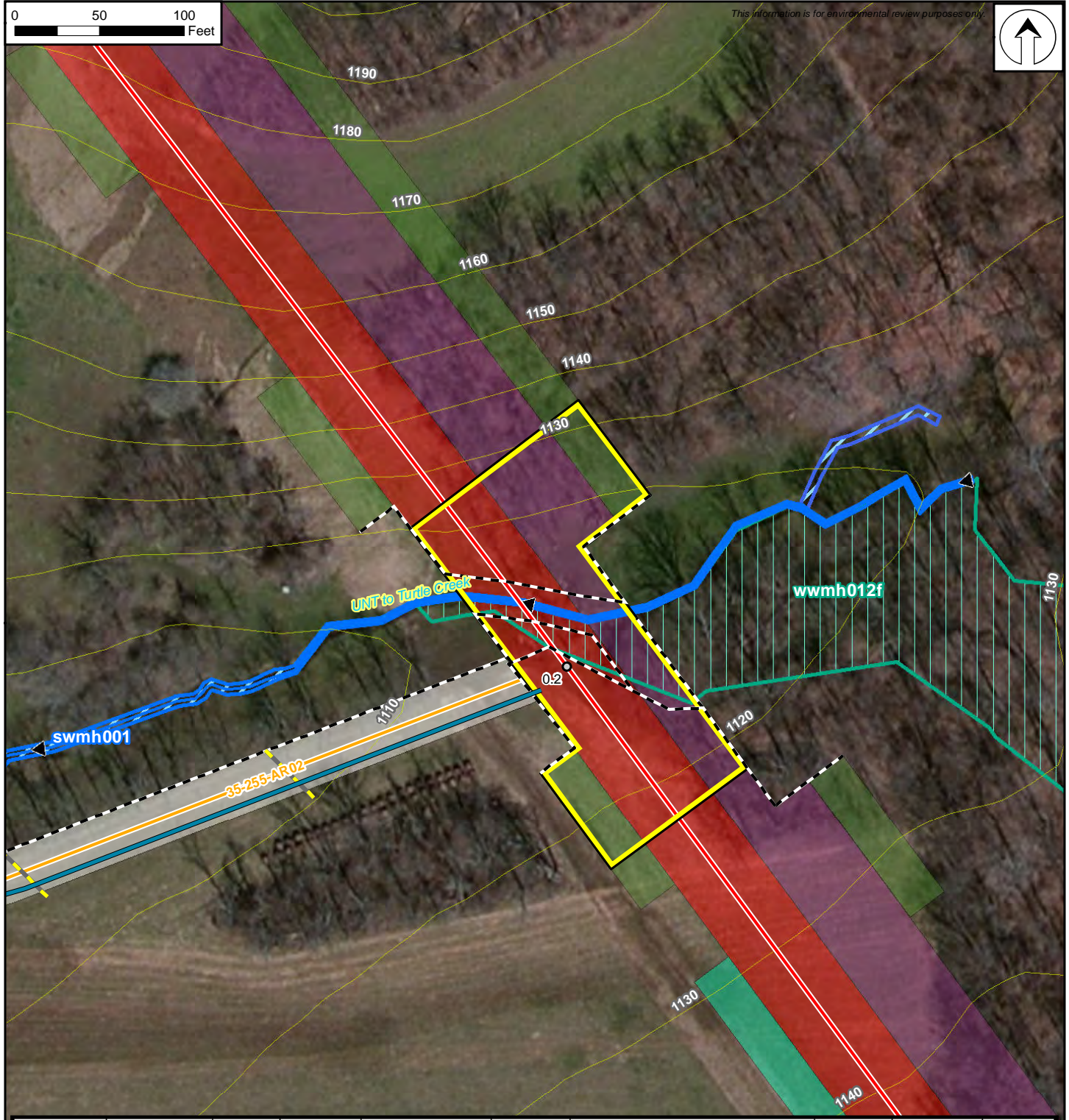
Project / Site Name: Supply Header Project

Date: Mar-17

DEP / Corps use only			Project Information								Corps / 404					PADEP / 105		
PADEP Permit Number <i>leave blank</i>	Single and Complete Project <i>leave blank</i>	Crossing Number <i>leave blank</i>	Structure / Activity unique identifier	Aquatic Resource being impacted	Aquatic Resource TYPE	Latitude <i>dd nad83</i>	Longitude <i>dd nad83</i>	Work Proposed / Impact Type	Waters Name	PA Code Chapter 93 Designation	Corps Impact TYPE <i>temp / perm</i>	Stream Impact WIDTH linear feet	Stream Impact LENGTH linear feet	Stream Impact AREA square feet	Wetland Impact AREA square feet	DEP Impact TYPE <i>temp / perm</i>	Floodway Impact AREA square feet	Wetland Impact AREA square feet
		12	swmh014	Stream	Perennial	40.45292	-79.63399	Excavation	UNT to Steels Run	HQ-CWF	Temp	8	140	561	N/A	Temp	N/A	N/A
		12	swmh014	Stream	Perennial	40.45292	-79.63399	Excavation	UNT to Steels Run	HQ-CWF	N/A	8	8	20	N/A	Perm	N/A	N/A
		12	wwmh010f	Wetland	PFO	40.45333	-79.63411	Excavation	N/A	N/A	Temp	N/A	N/A	N/A	3781	Temp	N/A	3781
		12	wwmh010f	Wetland	PFO	40.45333	-79.63411	Excavation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Perm	N/A	138
		13	swmh015	Stream	Perennial	40.45937	-79.6386	Excavation	UNT to Haymakers Run	HQ-CWF	Temp	8	150	415	N/A	Temp	N/A	N/A
		13	swmh015	Stream	Perennial	40.45937	-79.6386	Excavation	UNT to Haymakers Run	HQ-CWF	N/A	8	8	20	N/A	Perm	N/A	N/A
		13	wwmh011f	Wetland	PFO	40.45942	-79.63859	Excavation	N/A	N/A	Temp	N/A	N/A	N/A	2745	Temp	N/A	2745
		13	wwmh011f	Wetland	PFO	40.45942	-79.63859	Excavation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Perm	N/A	105
		14	swmh011	Stream	Perennial	40.46133	-79.63953	Excavation	UNT to Haymakers Run	HQ-CWF	Temp	8	57	172	N/A	Temp	N/A	N/A
		14	swmh011	Stream	Perennial	40.46133	-79.63953	Excavation	UNT to Haymakers Run	HQ-CWF	N/A	8	8	20	N/A	Perm	N/A	N/A
		14	wwmh006e	Wetland	PEM	40.46127	-79.63956	Excavation	N/A	N/A	Temp	N/A	N/A	N/A	885	Temp	N/A	885
		14	wwmh006e	Wetland	PEM	40.46127	-79.63956	Excavation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Perm	N/A	128
		15	swmh010	Stream	Perennial	40.46253	-79.63934	Excavation	Haymakers Run	HQ-CWF	Perm	15	30	275	N/A	Perm	N/A	N/A
		16	wwmh005e	Wetland	PEM	40.462357	-79.640528	Fill	N/A	N/A	Perm	N/A	N/A	N/A	874	Perm	N/A	874
		17	swmh010	Stream	Perennial	40.46253	-79.63934	Excavation	Haymakers Run	HQ-CWF	Temp	15	204	1833	N/A	Temp	N/A	N/A
		17	swmh011	Stream	Perennial	40.46133	-79.63953	Excavation	UNT to Haymakers Run	HQ-CWF	Perm	8	100	472	N/A	Perm	NA	N/A
		18	swmh009	Stream	Perennial	40.46395	-79.63953	Excavation	UNT to Haymakers Run	HQ-CWF	Temp	20	111	1274	N/A	Temp	N/A	N/A



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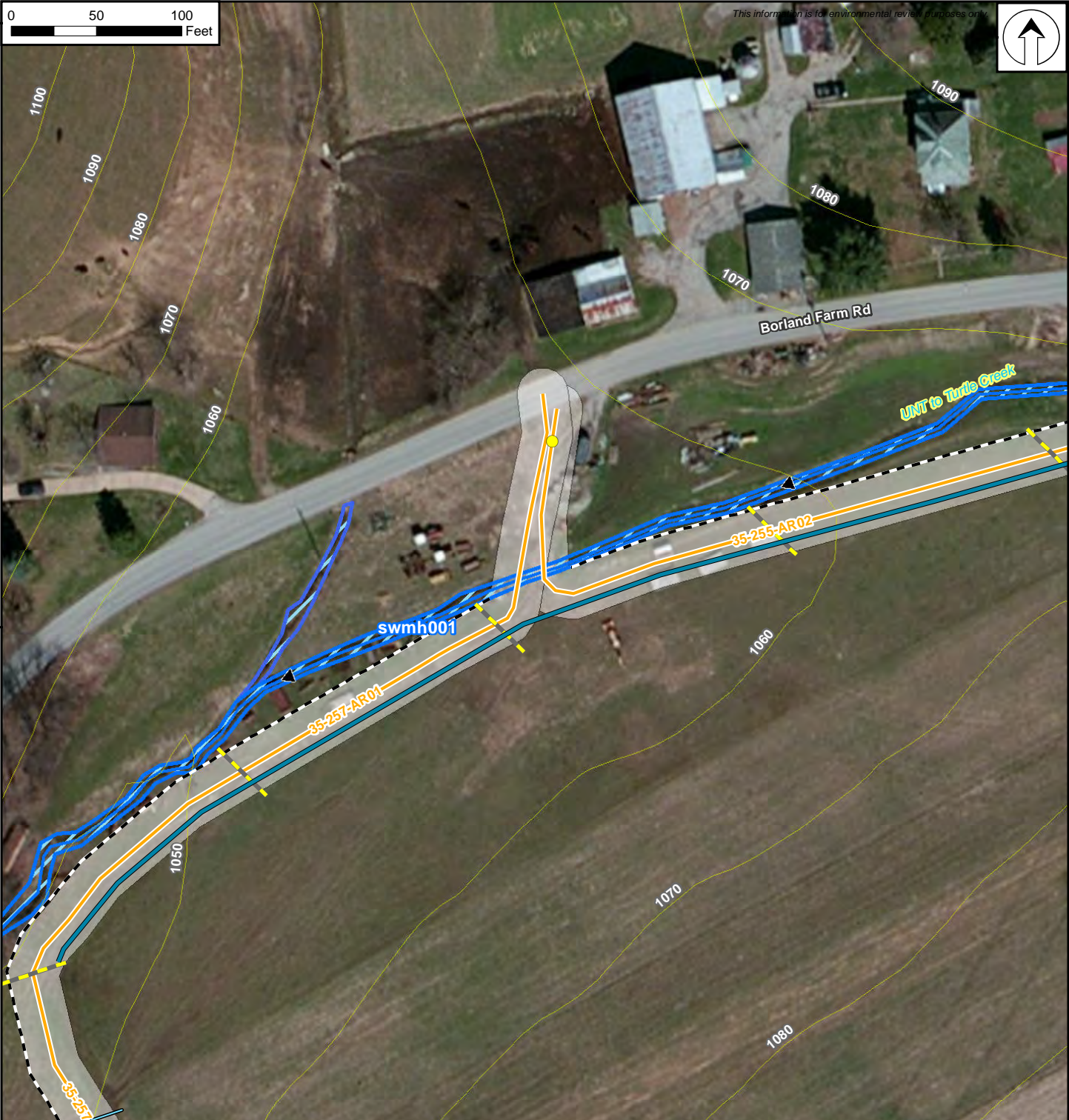
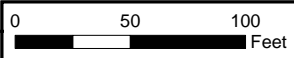
Unique ID	Workspace Crossed	Width TOB (ft)	Crossing Width	Stream/Wetland Impact (Sq. ft.)	Floodway Impact (Sq. ft.)	Proposed Crossing Method	Type	PA Code Ch. 93 Designation	Drainage Area (Acres)
wwmh012f	Pipeline ROW	N/A	33	2679	N/A	Open Cut	PFO	N/A	576
swmh001	Pipeline ROW	6	103	305	N/A	1) Dam and Pump 2) Flume	Perennial	TSF	576



- TL-636 Centerline
- Access Road Centerline
- Contours
- Surveyed Waterbodies
- Surveyed Wetlands
- Erosion Control Mats
- Compost Filter Sock
- Construction Entrances
- Roadside Ditch
- Access Road Culverts
- Access Road Buffer
- Perm ROW
- ATWS
- Temp ROW
- Topsoil Segregation

Supply Header Project
 Site Specific Maps
 Westmoreland Co., PA
 Crossing 1

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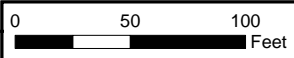
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swmh001	35-255-AR02	6	14.4	86	N/A	Timber mats over existing culvert	Perennial	TSF	576
swmh001	35-257-AR01	6	34.3	226	N/A	Timber mats over existing culvert	Perennial	TSF	576



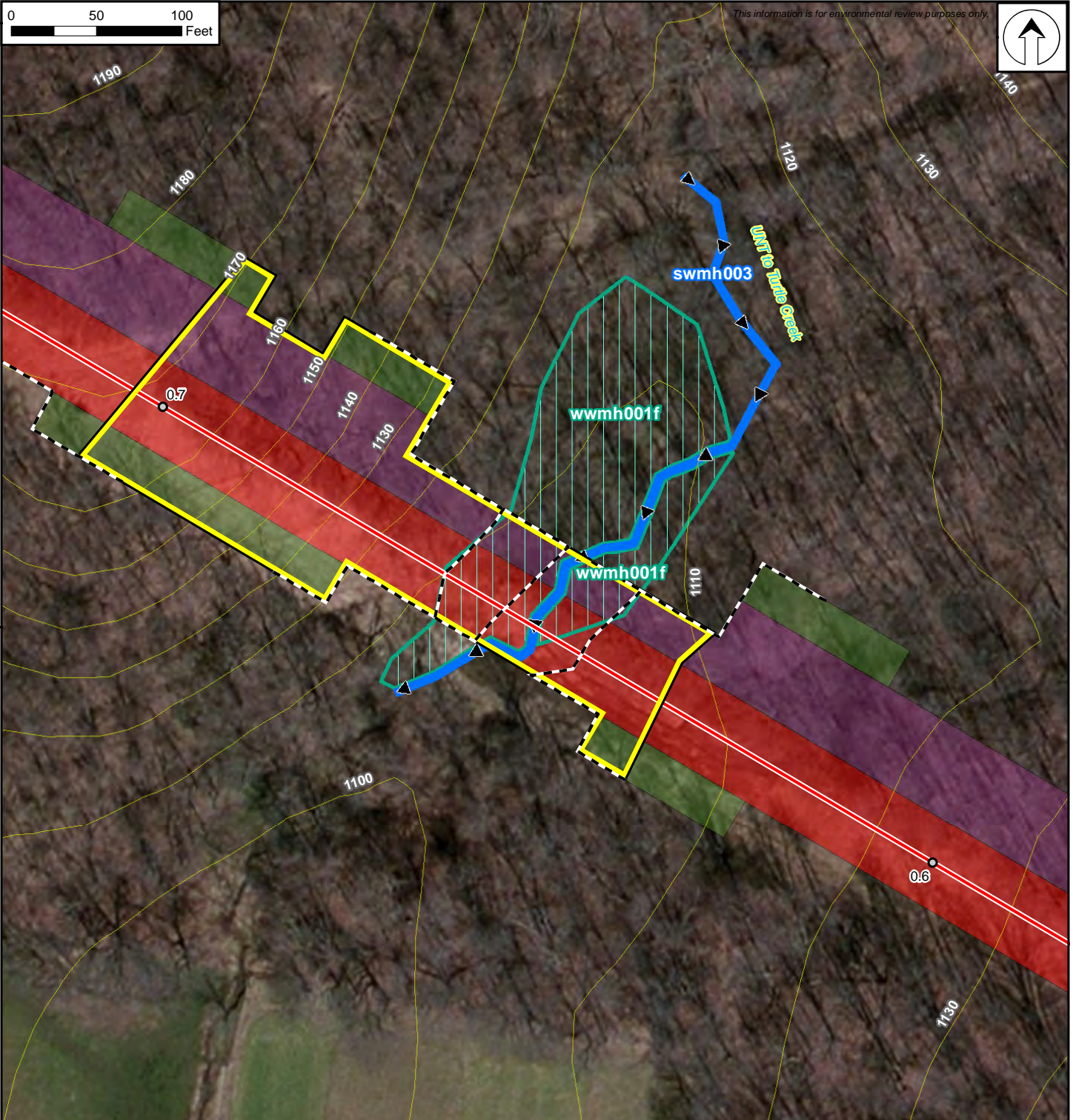
- Access Road Centerline
- Contours
- Surveyed Waterbodies
- Compost Filter Sock
- Construction Entrances
- Roadside Ditch
- Access Road Culverts
- Access Road Water Bars
- Access Road Buffer

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 Site Specific Maps
 Westmoreland Co., PA
 Crossing 2





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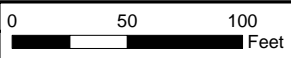
Unique ID	Workspace Crossed	Width TOB (ft)	Crossing Width	Stream/Wetland Impact (Sq. ft.)	Floodway Impact (Sq. ft.)	Proposed Crossing Method	Type	PA Code Ch. 93 Designation	Drainage Area (Acres)
wwmh001f	Pipeline ROW	N/A	69	5396	N/A	Open Cut	PFO	N/A	576
swmh003	Pipeline ROW	5	98	295	N/A	1) Dam and Pump 2) Flume	Perennial	TSF	576



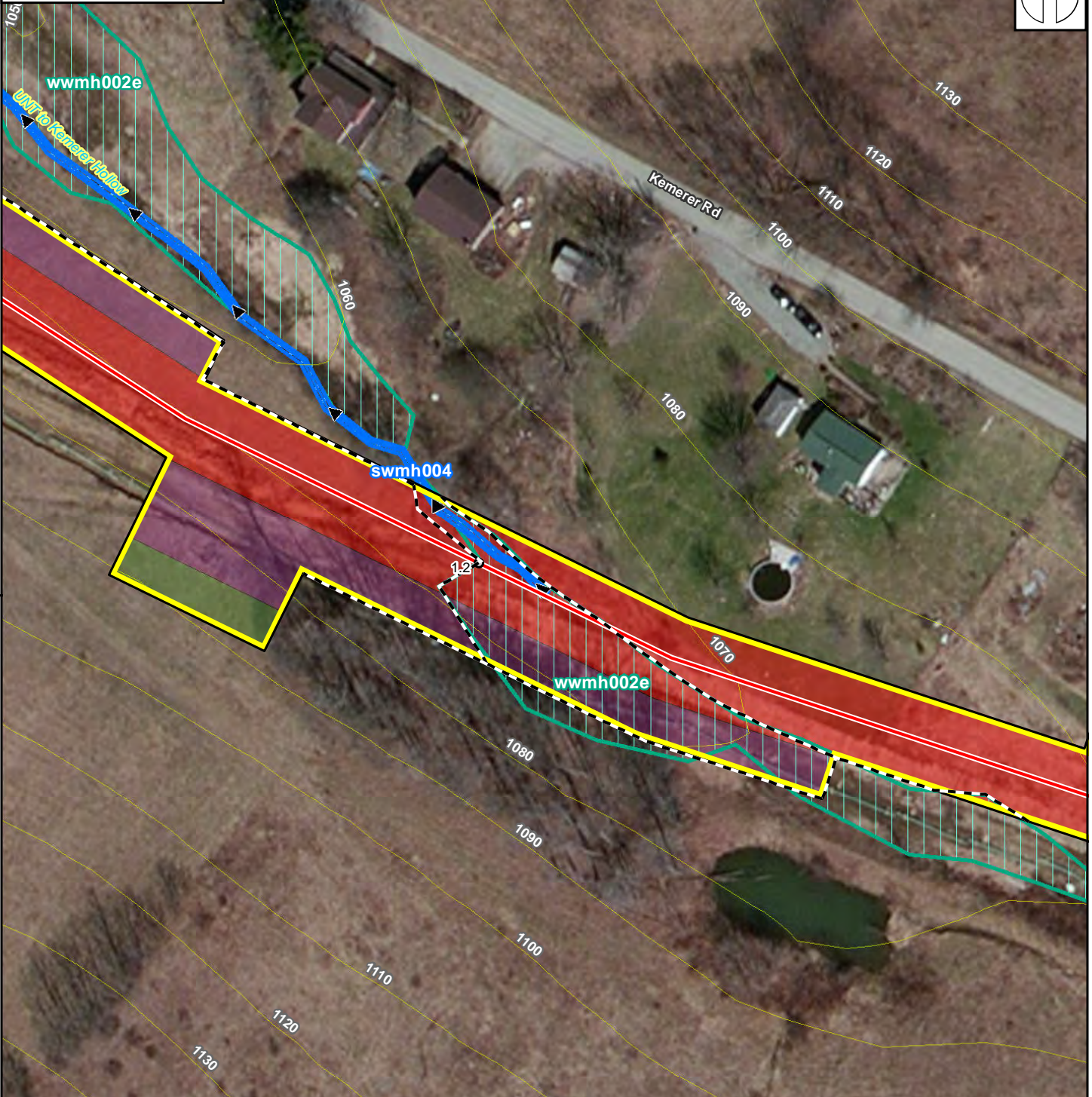
- TL-636 Centerline
- Contours
- Surveyed Waterbodies
- Surveyed Wetlands
- Erosion Control Mats
- Compost Filter Sock
- Perm ROW
- ATWS
- Temp ROW

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 Site Specific Maps
 Westmoreland Co., PA
 Crossing 3





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Unique ID	Workspace Crossed	Width TOB (ft)	Crossing Width	Stream/Wetland Impact (Sq. ft.)	Floodway Impact (Sq. ft.)	Proposed Crossing Method	Type	PA Code Ch. 93 Designation	Drainage Area (Acres)
wwmh002e	Pipeline ROW	N/A	85	10035	N/A	Open Cut	PEM	N/A	576
swmh004	Pipeline ROW	8	140	372	N/A	1) Dam and Pump 2) Flume	Perennial	HQ-CWF	656



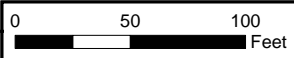
- TL-636 Centerline
- Contours
- Surveyed Waterbodies
- Surveyed Wetlands
- Erosion Control Mats
- - Compost Filter Sock
- Perm ROW
- ATWS
- Temp ROW

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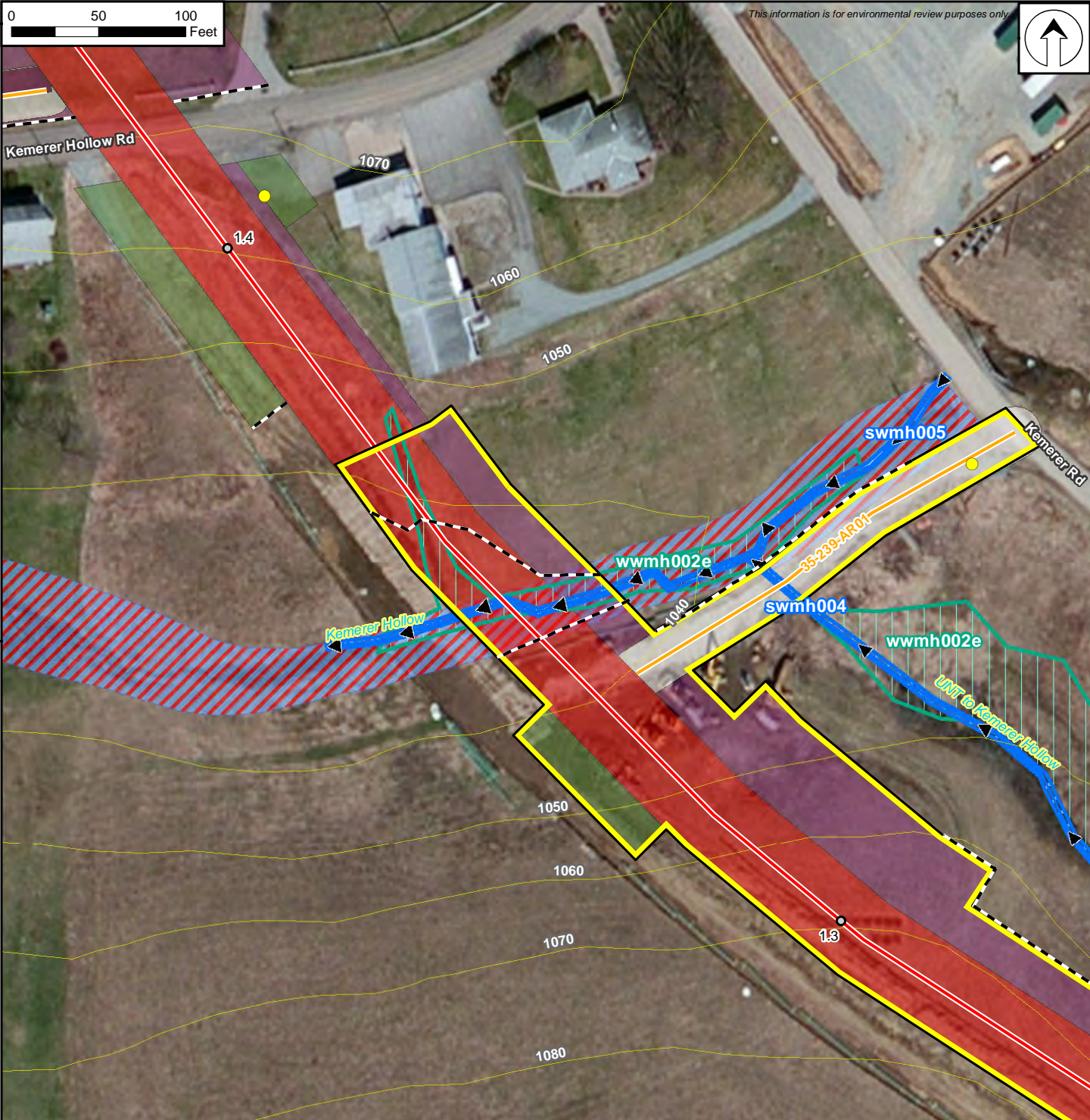
Site Specific Maps

Westmoreland Co., PA
Crossing 4





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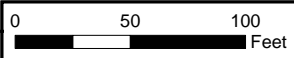
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swmh004	35-239-AR01	8	30	125	N/A	N/A	Perennial	HQ-CWF	656
swmh005	Pipeline ROW	8	94	376	2671	1) Dam and Pump 2) Flume	Perennial	HQ-CWF	656
wwmh002e	Pipeline ROW	N/A	51	10052	N/A	Open Cut	PEM	N/A	656



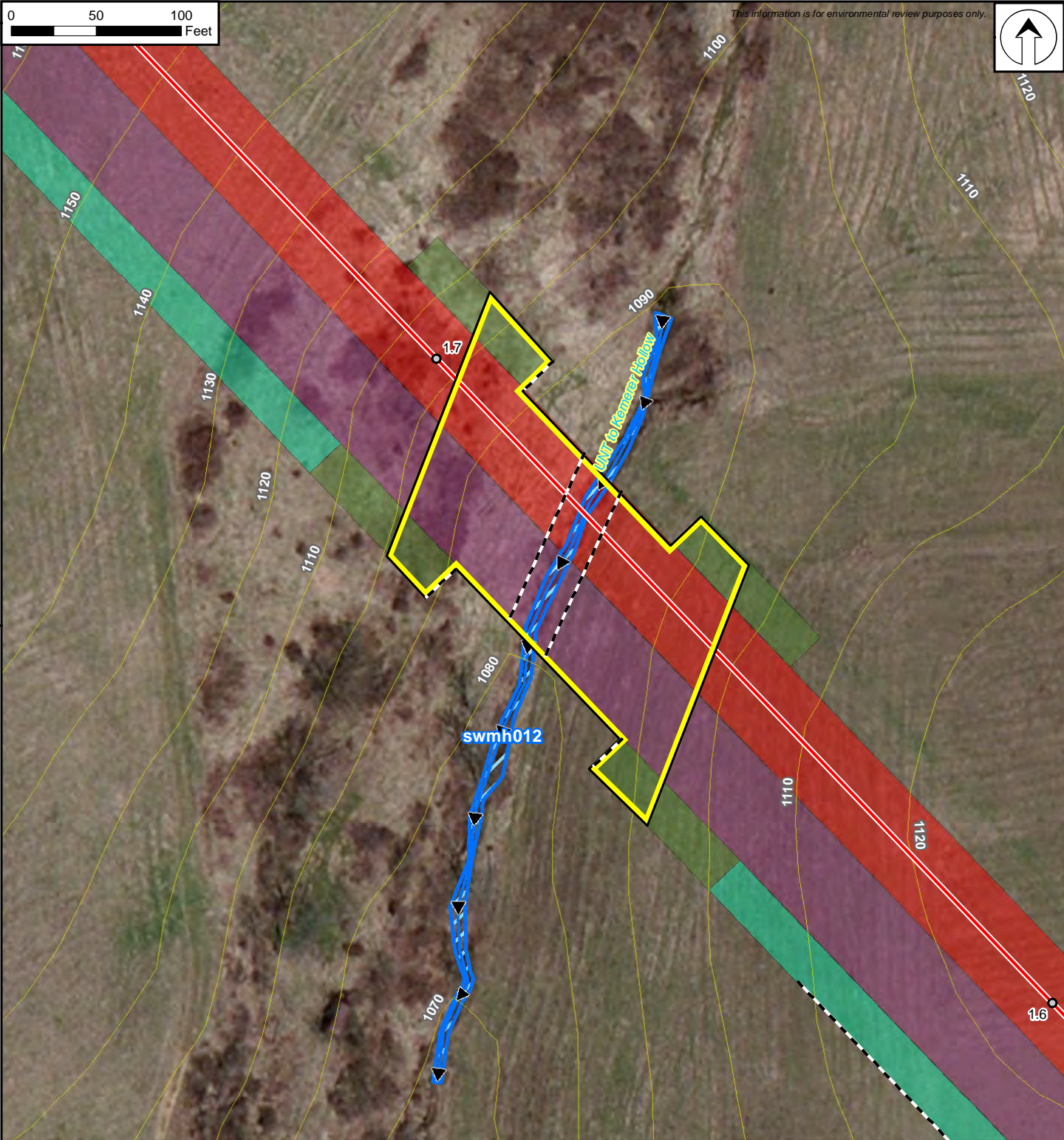
- TL-636 Centerline
- Access Road Centerline
- Contours
- ▭ Surveyed Waterbodies
- ▭ Surveyed Wetlands
- ▭ Floodways
- ▭ Erosion Control Mats
- - Compost Filter Sock
- Construction Entrances
- Access Road Buffer
- ▭ Ground Bed
- ▭ Perm ROW
- ▭ ATWS
- ▭ Temp ROW

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 Site Specific Maps
 Westmoreland Co., PA
 Crossing 5





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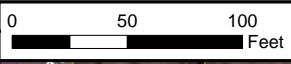
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swmh012	Pipeline ROW	10	79	713	N/A	1) Dam and Pump 2) Flume	Perennial	HQ-CWF	656



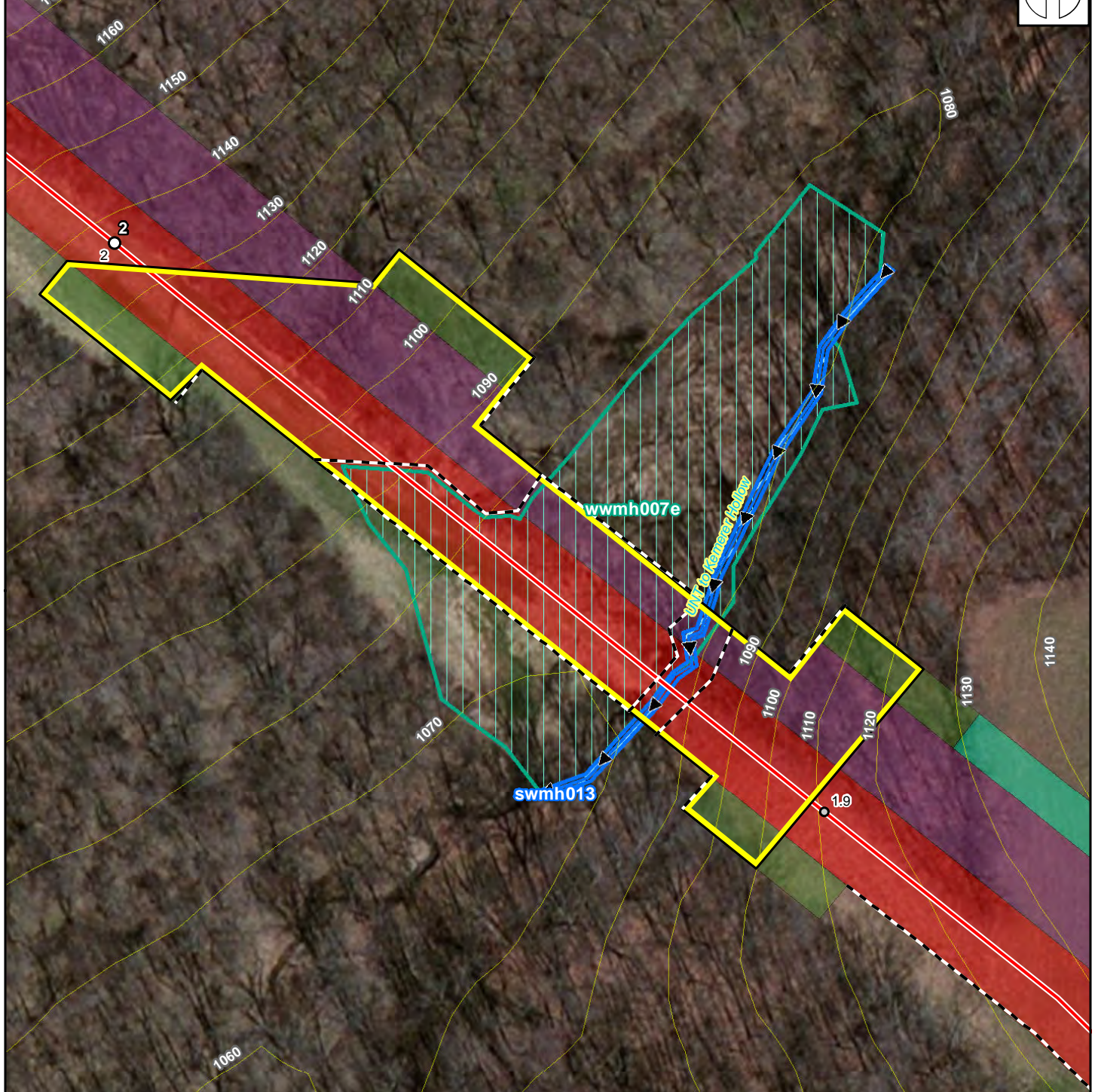
- TL-636 Centerline
- Contours
- Surveyed Waterbodies
- Erosion Control Mats
- Compost Filter Sock
- Perm ROW
- ATWS
- Temp ROW
- Topsoil Segregation

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 Site Specific Maps
 Westmoreland Co., PA
 Crossing 6





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Unique ID	Workspace Crossed	Width TOB (ft)	Crossing Width	Stream/Wetland Impact (Sq. ft.)	Floodway Impact (Sq. ft.)	Proposed Crossing Method	Type	PA Code Ch. 93 Designation	Drainage Area (Acres)
swmh013	Pipeline ROW	10	82	415	N/A	1) Dam and Pump 2) Flume	Perennial	HQ-CWF	180
wwmh007e	Pipeline ROW	N/A	199	12428	N/A	Open Cut	PEM	N/A	180



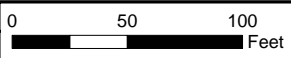
- TL-636 Centerline
- Contours
- Surveyed Waterbodies
- Surveyed Wetlands
- Erosion Control Mats
- - Compost Filter Sock
- Perm ROW
- ATWS
- Temp ROW
- Topsoil Segregation

Supply Header Project

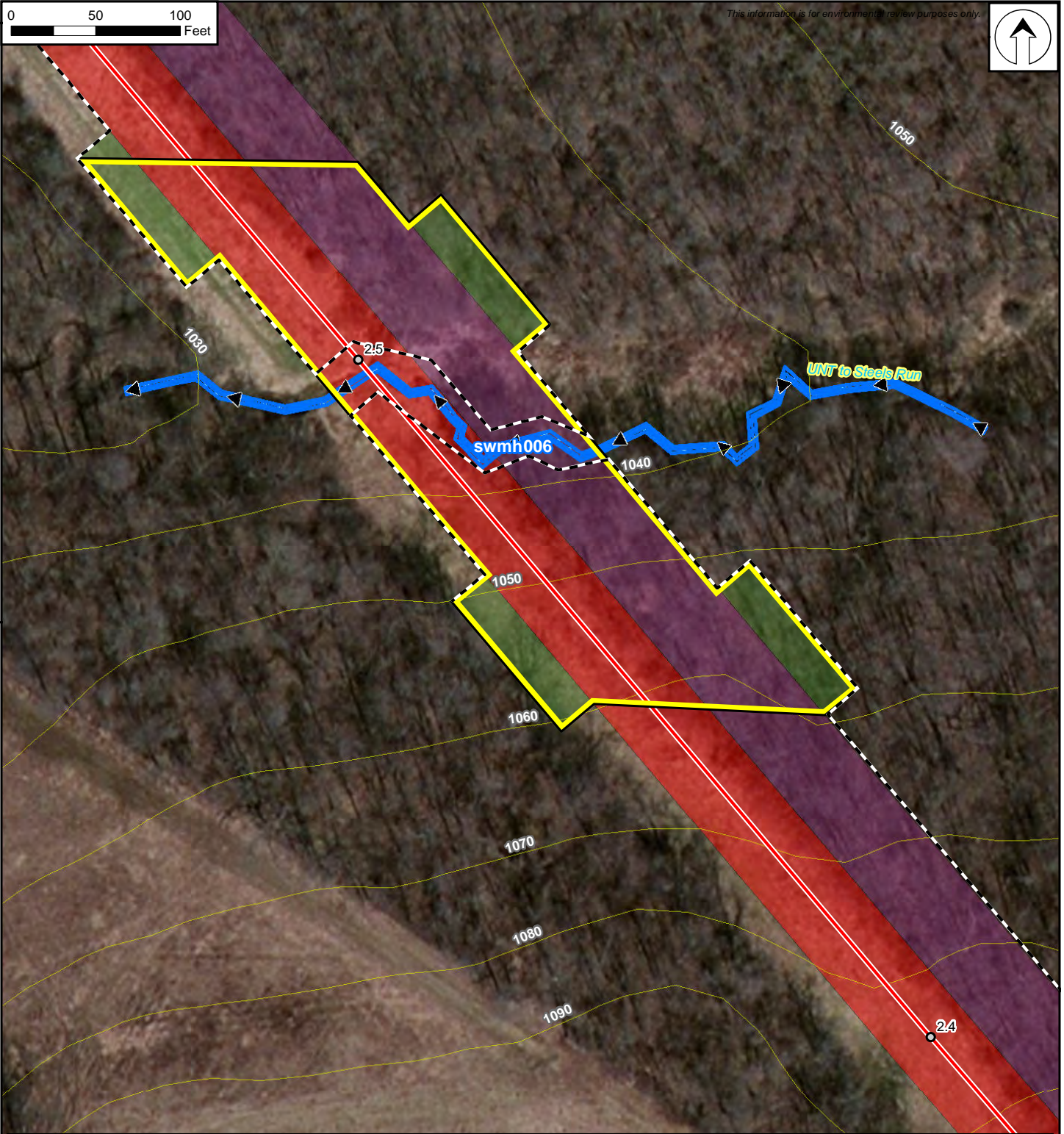
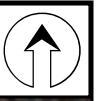
Site Specific Maps

Westmoreland Co., PA
Crossing 7





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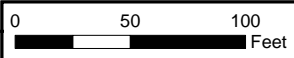
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swmh006	Pipeline ROW	8	158	807	N/A	1) Dam and Pump 2) Flume	Perennial	HQ-CWF	919



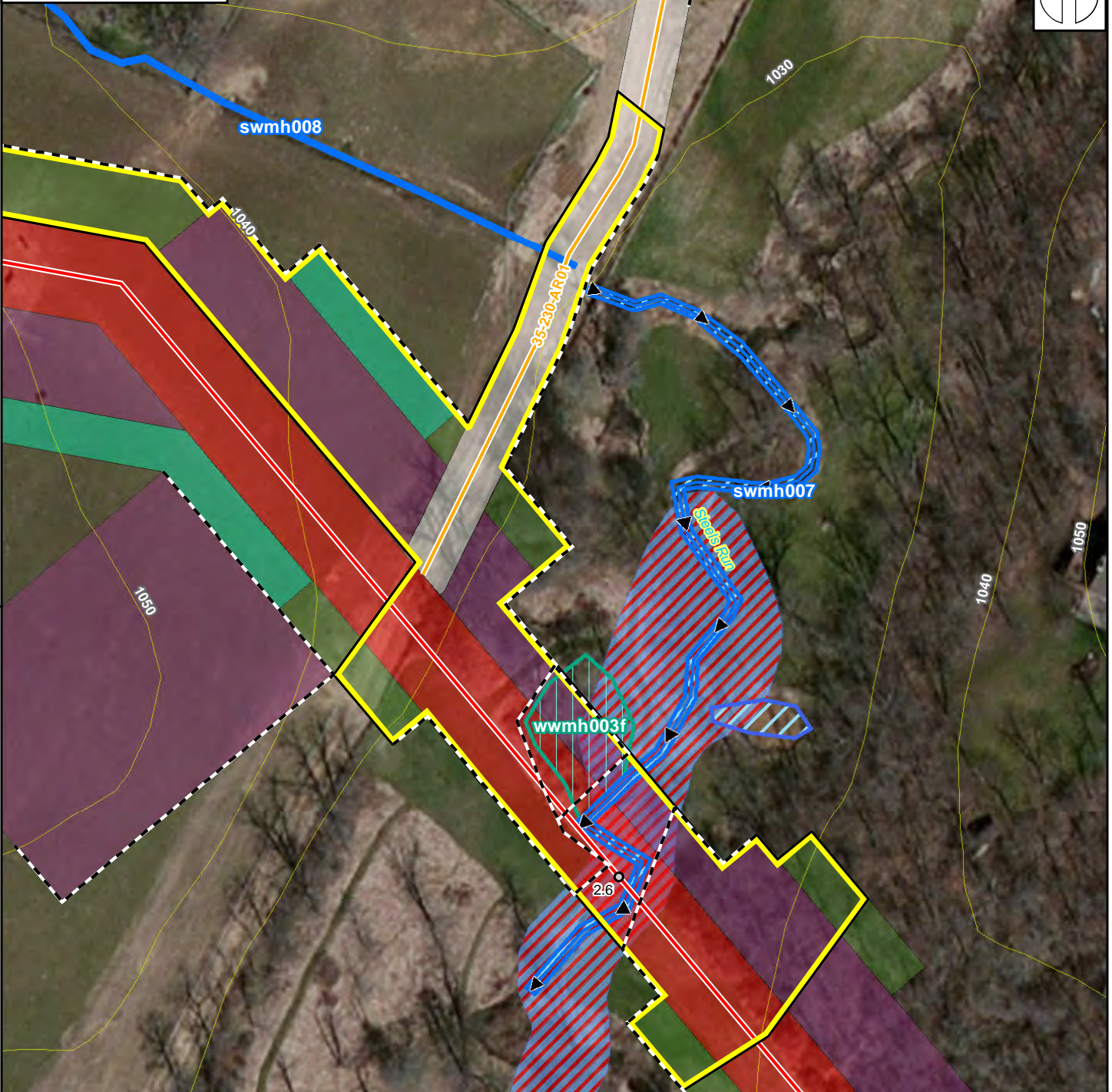
- TL-636 Centerline
- Contours
- ▭ Surveyed Waterbodies
- ▭ Erosion Control Mats
- Compost Filter Sock
- ▭ Perm ROW
- ▭ ATWS
- ▭ Temp ROW

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 Site Specific Maps
 Westmoreland Co., PA
 Crossing 8





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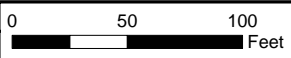
Unique ID	Workspace Crossed	Width TOB (ft)	Crossing Width	Stream/Wetland Impact (Sq. ft.)	Floodway Impact (Sq. ft.)	Proposed Crossing Method	Type	PA Code Ch. 93 Designation	Drainage Area (Acres)
swmh007	Pipeline ROW	10	130	787	5749	1) Dam and Pump 2) Flume	Perennial	HQ-CWF	919
swmh008	35-230-AR01	2	21	41	N/A	N/A	Perennial	HQ-CWF	919
wwmh003f	Pipeline ROW	N/A	N/A	2497	N/A	N/A	PFO	N/A	919



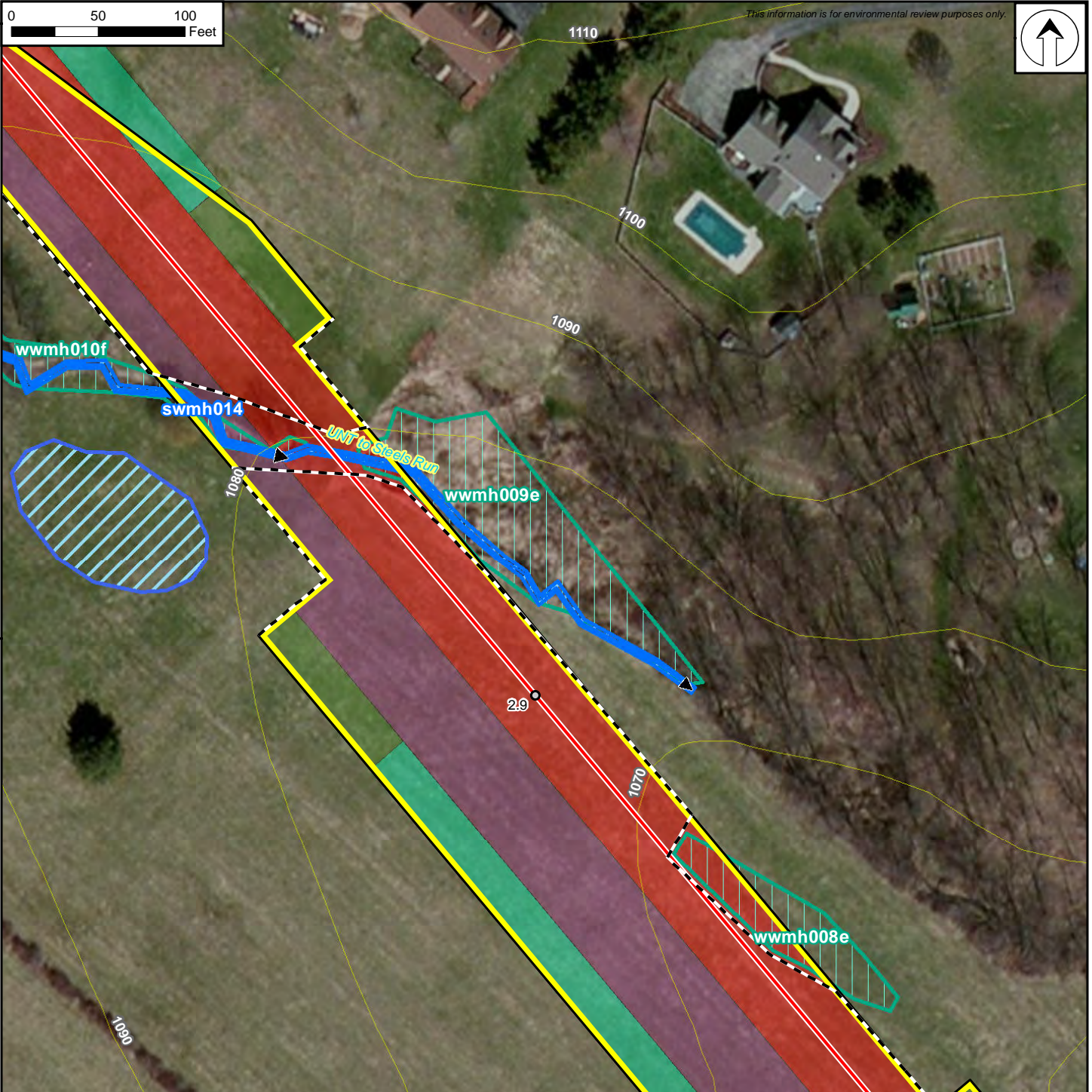
- TL-636 Centerline
- Access Road Centerline
- Contours
- Surveyed Waterbodies
- Surveyed Wetlands
- Floodways
- Erosion Control Mats
- Compost Filter Sock
- Access Road Buffer
- Perm ROW
- ATWS
- Temp ROW
- Topsoil Segregation

Supply Header Project
 Site Specific Maps
 Westmoreland Co., PA
 Crossing 9





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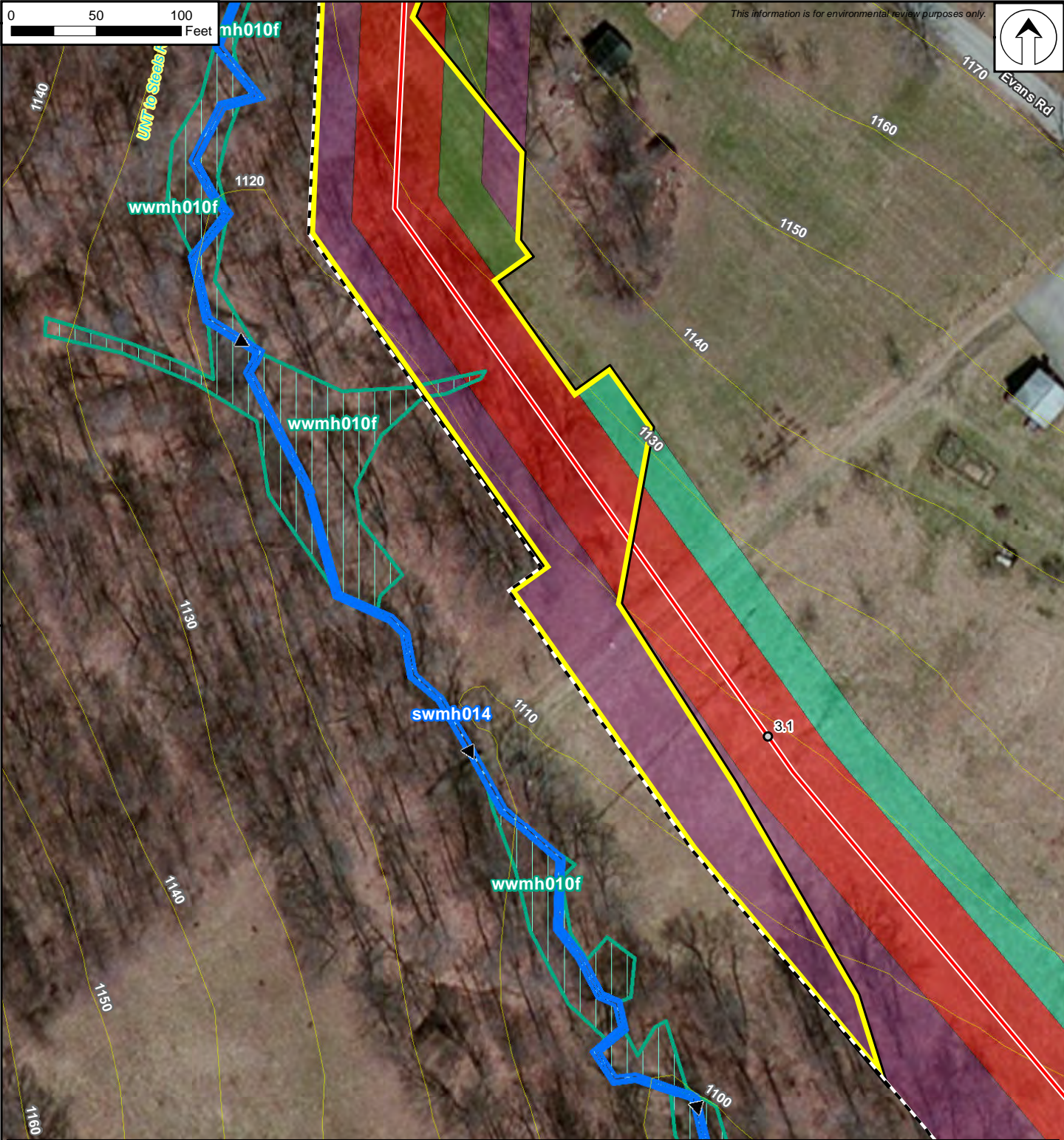
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swmh014	Pipeline ROW	8	140	608	N/A	1) Dam and Pump 2) Flume	Perennial	HQ-CWF	919
wwmh008e	Pipeline ROW	N/A	N/A	1673	N/A	N/A	PEM	N/A	919
wwmh009e	Pipeline ROW	N/A	N/A	413	N/A	N/A	PEM	N/A	919
wwmh010f	Pipeline ROW	N/A	N/A	462	N/A	Open Cut	PFO	N/A	919



- TL-636 Centerline
- Contours
- Surveyed Waterbodies
- Surveyed Wetlands
- Erosion Control Mats
- - - Compost Filter Sock
- Perm ROW
- ATWS
- Temp ROW
- Topsoil Segregation

Supply Header Project
 Site Specific Maps
 Westmoreland Co., PA
 Crossing 10





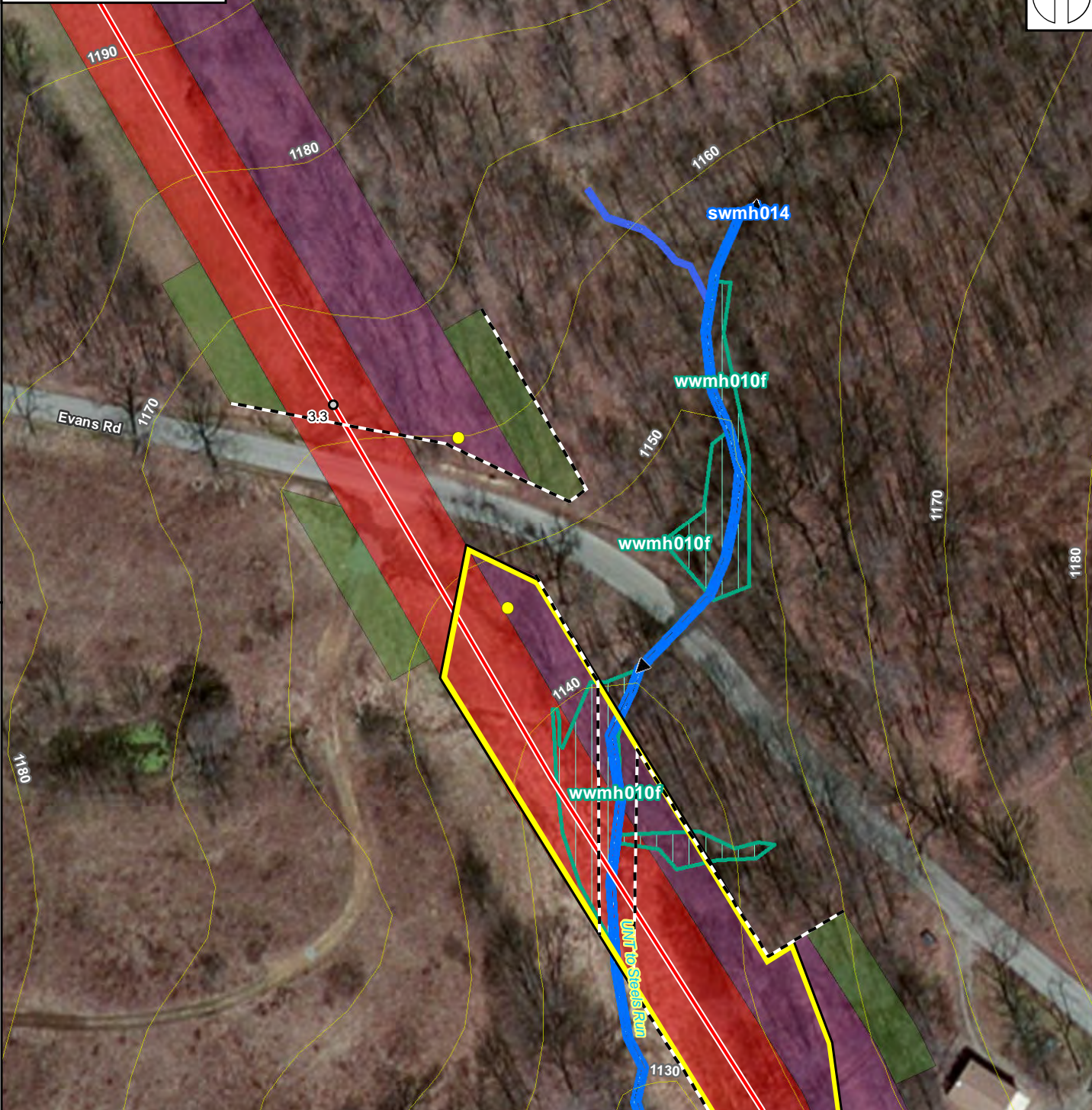
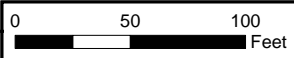
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wwmh010f	Pipeline ROW	N/A	N/A	246	N/A	Open Cut	PFO	N/A	919



- TL-636 Centerline
- Contours
- Surveyed Waterbodies
- Surveyed Wetlands
- Erosion Control Mats
- - Compost Filter Sock
- Perm ROW
- ATWS
- Temp ROW
- Topsoil Segregation

Supply Header Project
 Site Specific Maps
 Westmoreland Co., PA
 Crossing 11





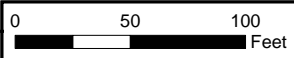
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swmh014	Pipeline ROW	8	140	561	N/A	1) Dam and Pump 2) Flume	Perennial	HQ-CWF	919
wwmh010f	Pipeline ROW	N/A	54	3781	N/A	Open Cut	PFO	N/A	919



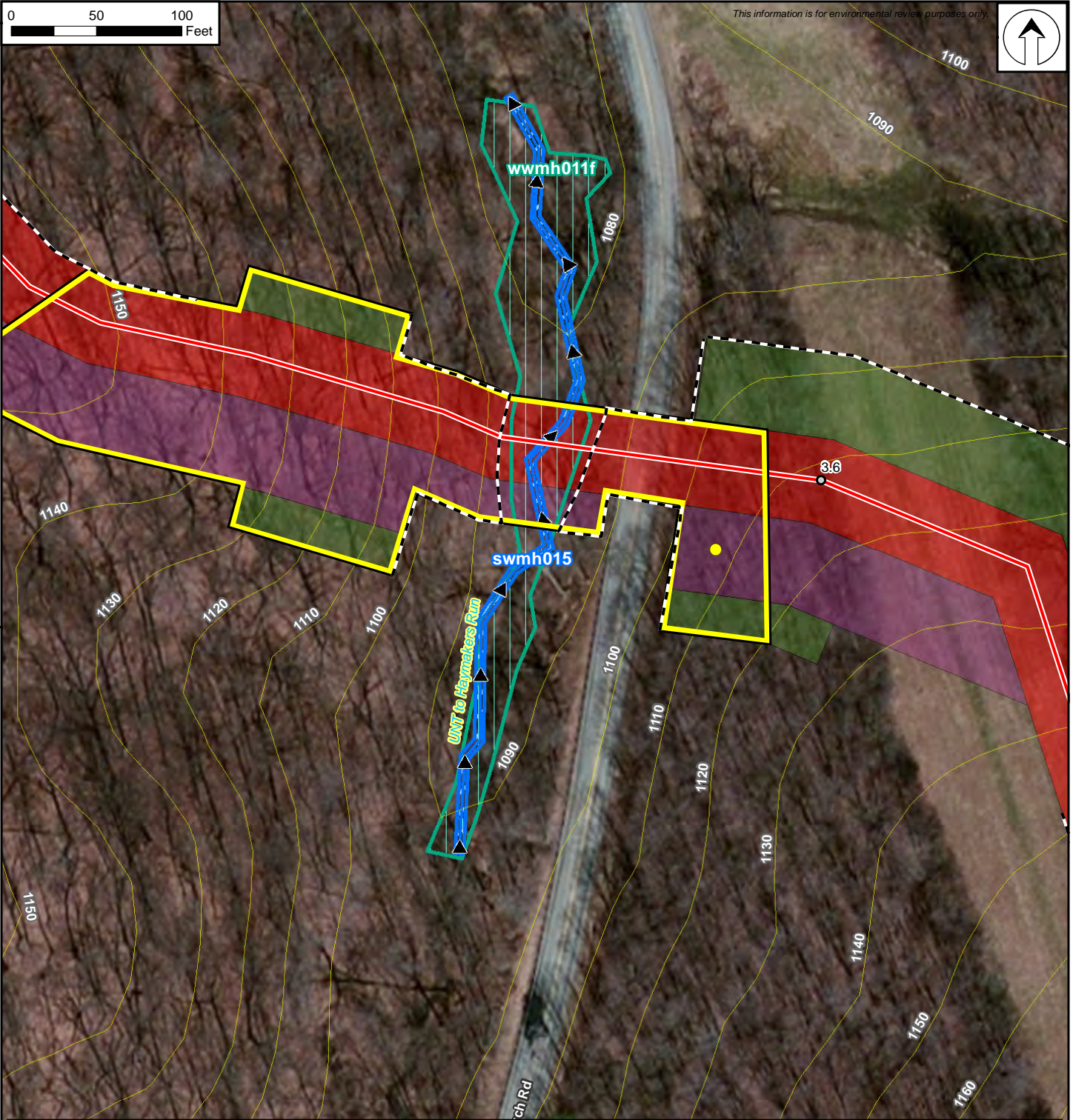
- TL-636 Centerline
- Contours
- Surveyed Waterbodies
- Surveyed Wetlands
- Erosion Control Mats
- - - Compost Filter Sock
- Construction Entrances
- Perm ROW
- ATWS
- Temp ROW

Supply Header Project
 Site Specific Maps
 Westmoreland Co., PA
 Crossing 12





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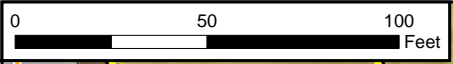
Unique ID	Workspace Crossed	Width TOB (ft)	Crossing Width	Stream/Wetland Impact (Sq. ft.)	Floodway Impact (Sq. ft.)	Proposed Crossing Method	Type	PA Code Ch. 93 Designation	Drainage Area (Acres)
swmh015	Pipeline ROW	8	150	415	N/A	1) Dam and Pump 2) Flume	Perennial	HQ-CWF	1144
wwmh011f	Pipeline ROW	N/A	42	2745	N/A	Open Cut	PFO	N/A	1144



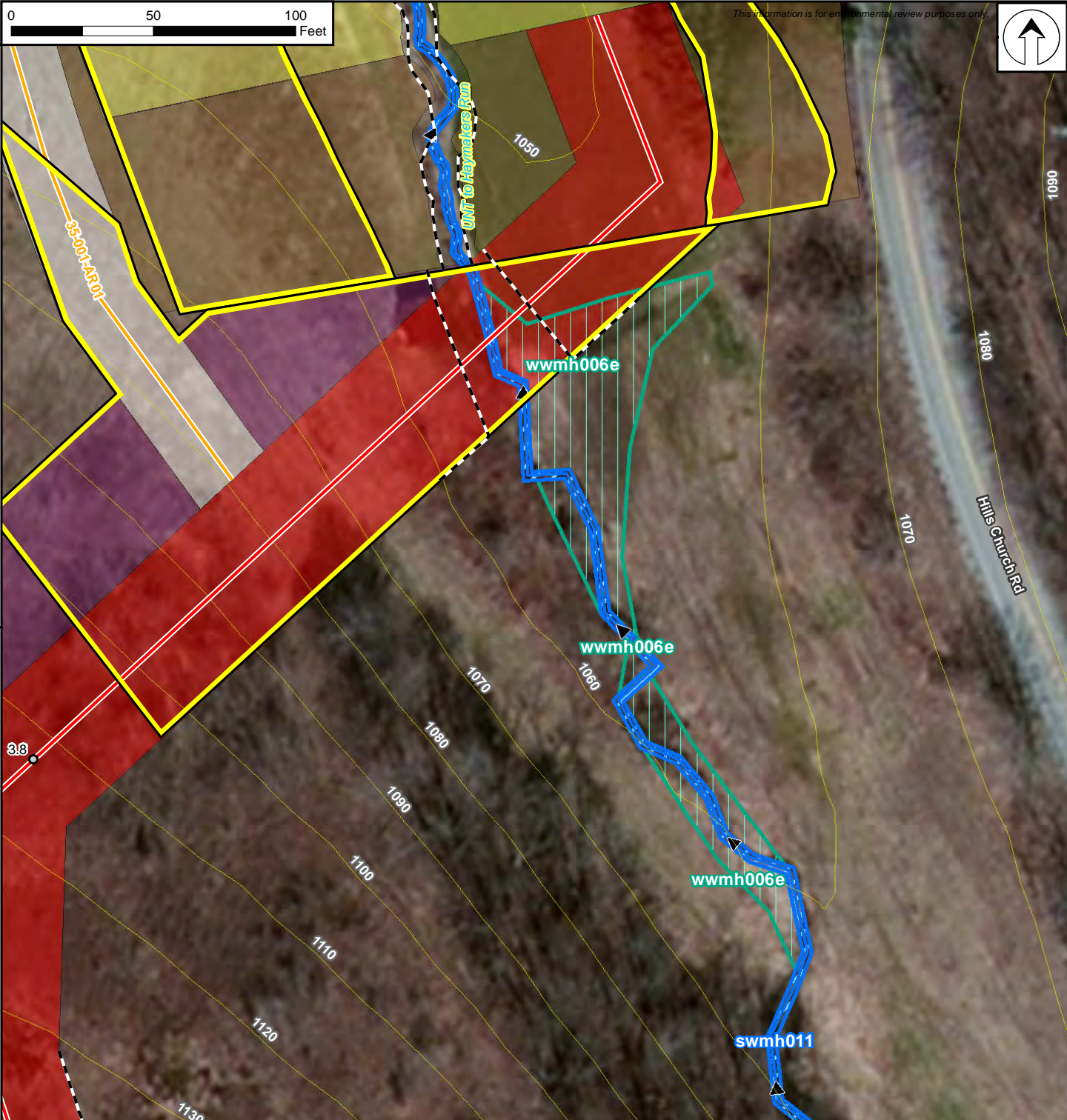
- TL-636 Centerline
- Contours
- Surveyed Waterbodies
- Surveyed Wetlands
- Erosion Control Mats
- Compost Filter Sock
- Construction Entrances
- Perm ROW
- ATWS
- Temp ROW

Supply Header Project
 Site Specific Maps
 Westmoreland Co., PA
 Crossing 13





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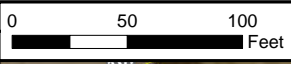
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swmh011	Pipeline ROW	8	57	172	N/A	1) Dam and Pump 2) Flume	Perennial	HQ-CWF	1144
wwmh006e	Pipeline ROW	N/A	11	885	N/A	Open Cut	PEM	N/A	1144



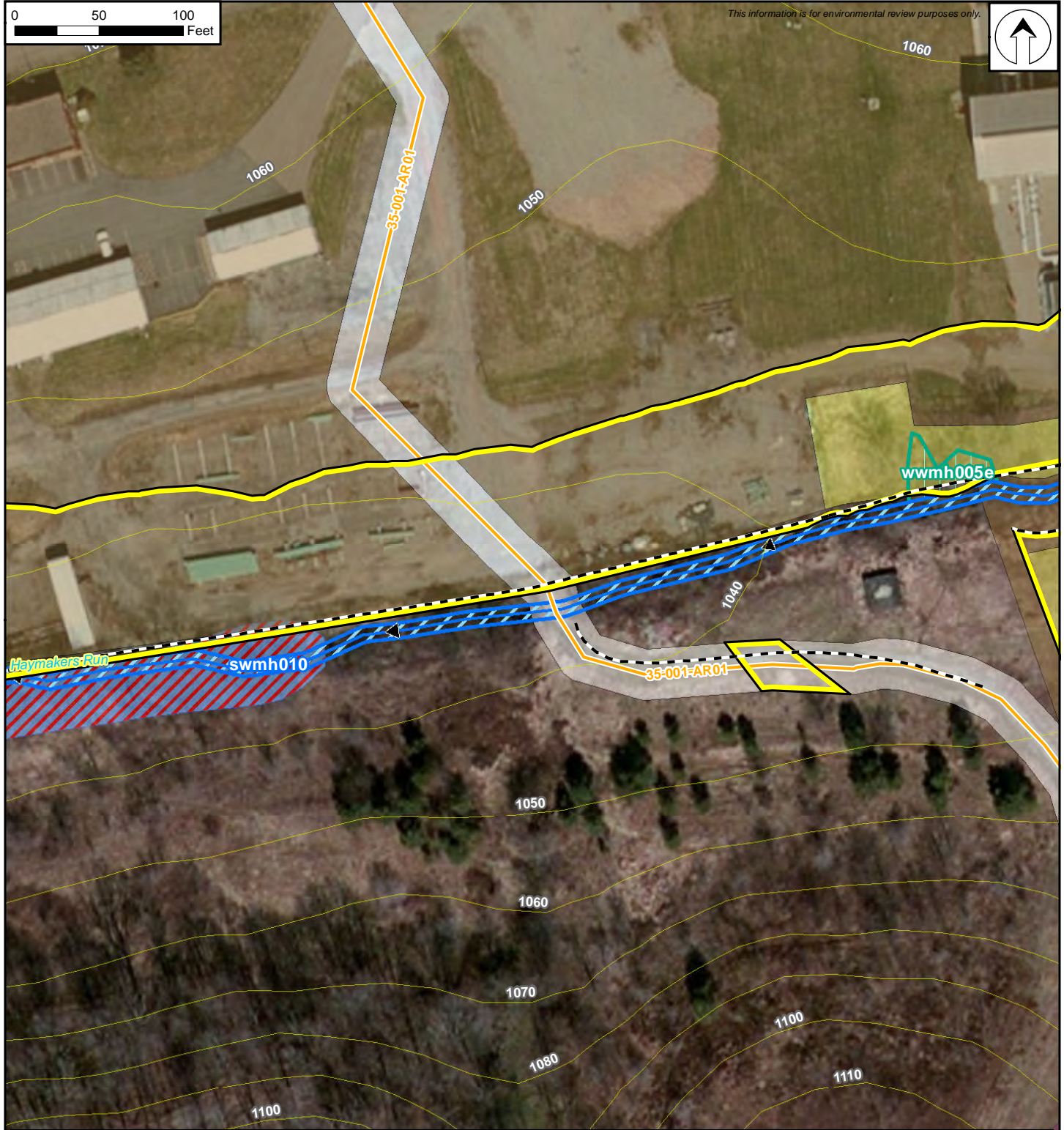
- TL-636 Centerline
- Access Road Centerline
- Contours
- Surveyed Waterbodies
- Surveyed Wetlands
- Erosion Control Mats
- Compost Filter Sock
- Access Road Buffer
- Perm Compressor Station
- Perm ROW
- Temp Compressor Station
- Temp ROW

Supply Header Project
 Site Specific Maps
 Westmoreland Co., PA
 Crossing 14





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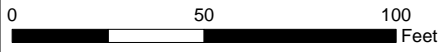
Unique ID	Workspace Crossed	Width TOB (ft)	Crossing Width	Stream/Wetland Impact (Sq. ft.)	Floodway Impact (Sq. ft.)	Proposed Crossing Method	Type	PA Code Ch. 93 Designation	Drainage Area (Acres)
swmh010	35-001-AR01	15	30	275	N/A	1) Dam and Pump 2) Flume	Perennial	HQ-CWF	1144



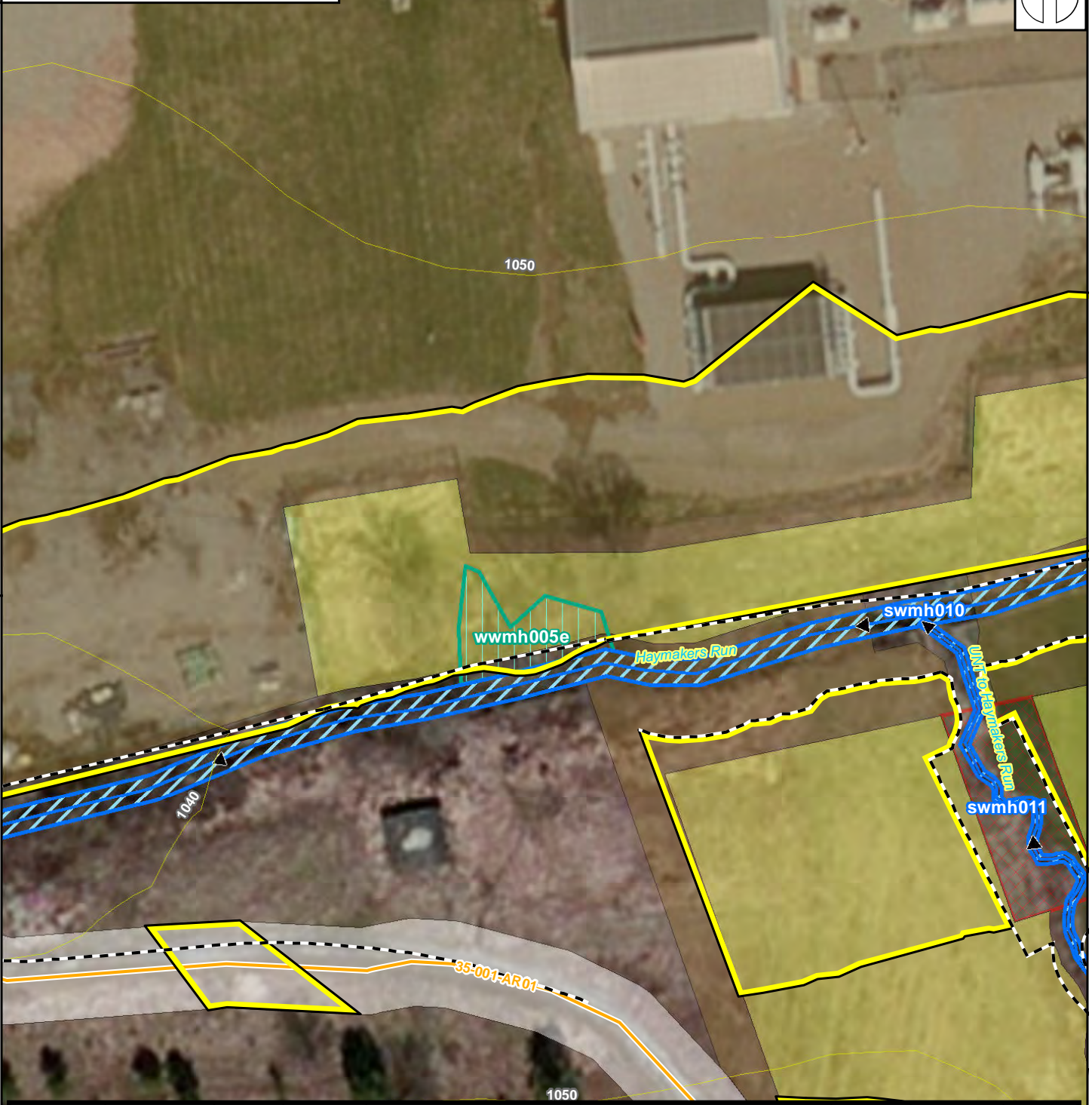
- Access Road Centerline
- Contours
- Surveyed Waterbodies
- Surveyed Wetlands
- Floodways
- Erosion Control Mats
- Compost Filter Sock
- Access Road Buffer
- Perm Compressor Station
- Perm ROW
- Temp Compressor Station
- Temp ROW

Supply Header Project
 Site Specific Maps
 Westmoreland Co., PA
 Crossing 15





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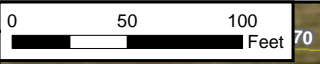
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wwmh005e	JB Tonkin	N/A	N/A	874	N/A	Open Cut	PEM	N/A	1144



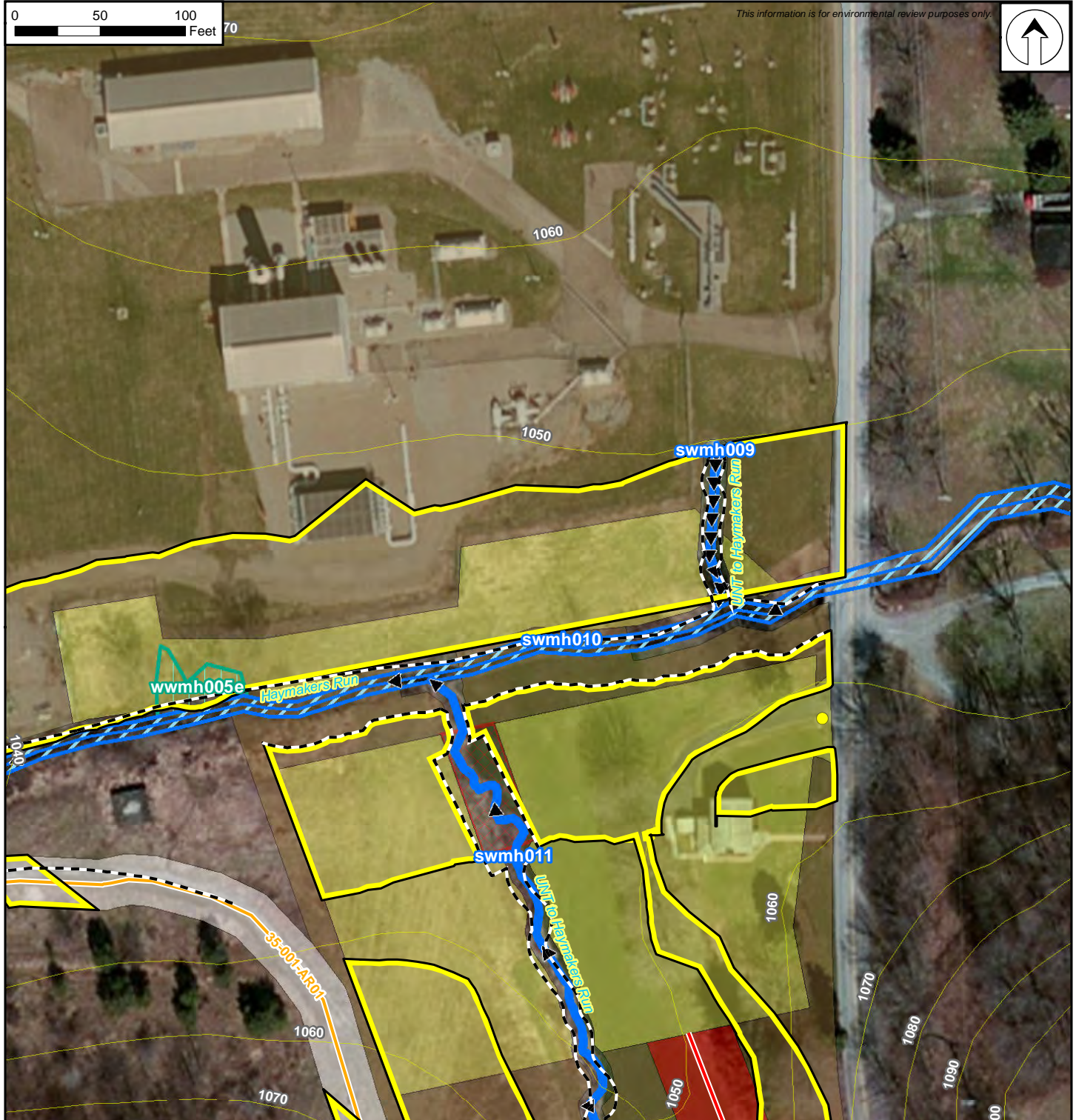
- Access Road Centerline
- Contours
- Surveyed Waterbodies
- Surveyed Wetlands
- Erosion Control Mats
- Compost Filter Sock
- Access Road Buffer
- Perm Compressor Station
- Culvert
- Temp Compressor Station

Supply Header Project
 Site Specific Maps
 Westmoreland Co., PA
 Crossing 16





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Unique ID	Workspace Crossed	Width TOB (ft)	Crossing Width	Stream/Wetland Impact (Sq. ft.)	Floodway Impact (Sq. ft.)	Proposed Crossing Method	Type	PA Code Ch. 93 Designation	Drainage Area (Acres)
swmh010	JB Tonkin	15	204	1833	5219	1) Dam and Pump 2) Flume	Perennial	HQ-CWF	1144
swmh011	JB Tonkin	8	100	472	N/A	1) Dam and Pump 2) Flume	Perennial	HQ-CWF	1144



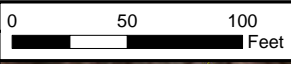
- TL-636 Centerline
- Access Road Centerline
- Contours
- ▭ Surveyed Waterbodies
- ▭ Surveyed Wetlands
- ▭ Erosion Control Mats
- - Compost Filter Sock
- Construction Entrances
- Access Road Buffer
- Perm Compressor Station
- Culvert
- Perm ROW
- Temp Compressor Station
- Temp ROW

Supply Header Project

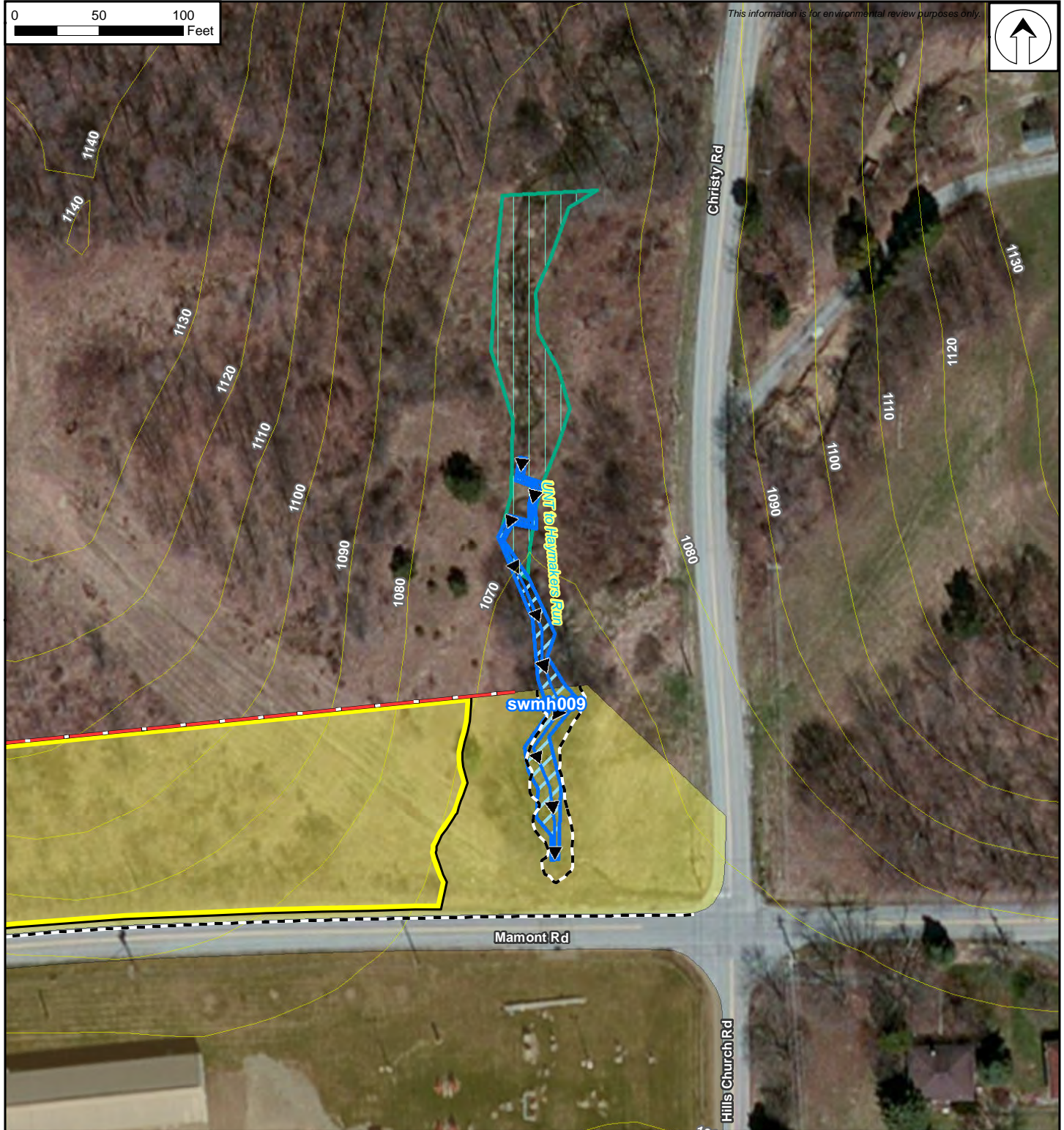
Site Specific Maps

Westmoreland Co., PA
Crossing 17





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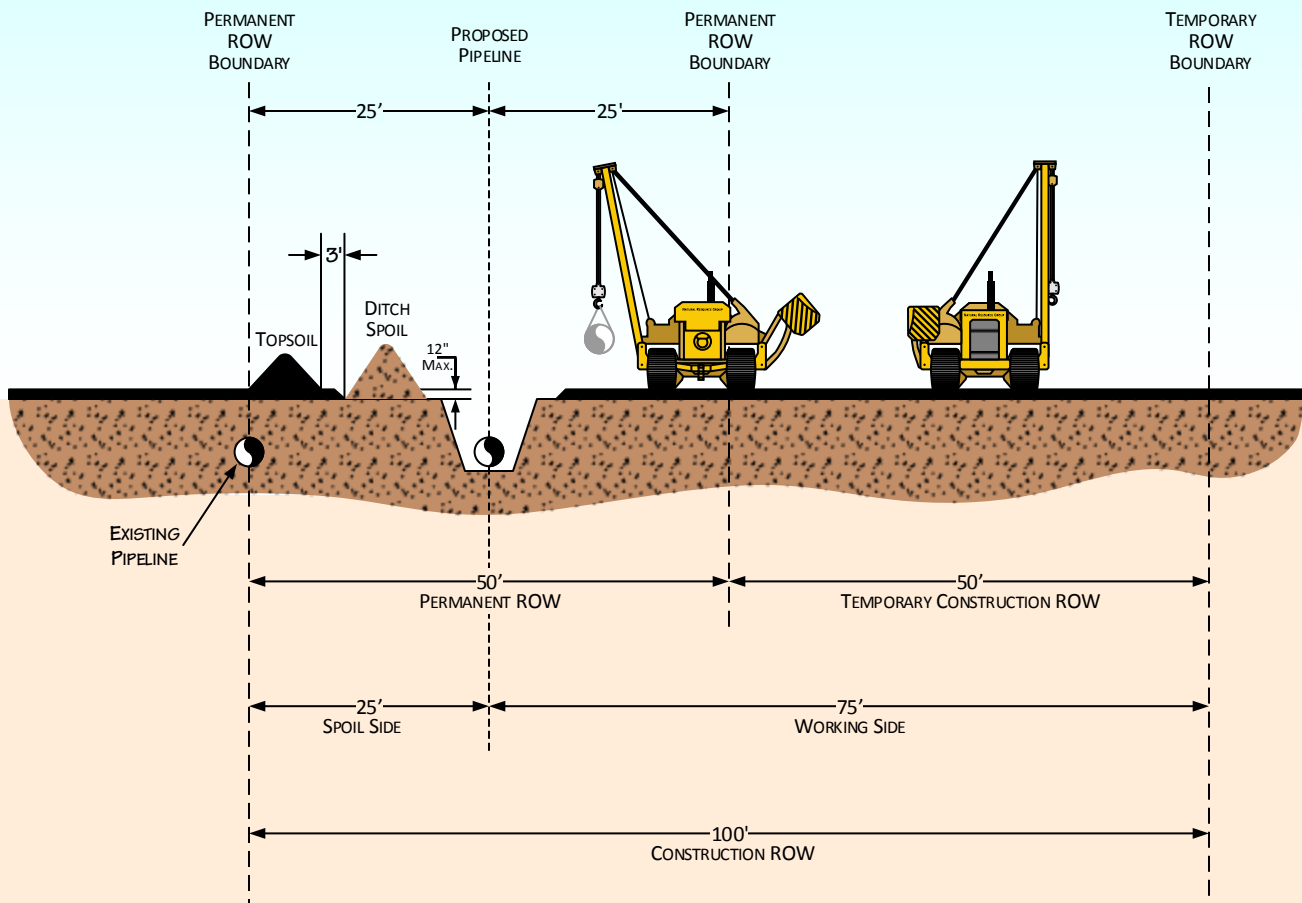
Unique ID	Workspace Crossed	Width TOB (ft)	Crossing Width	Stream/Wetland Impact (Sq. ft.)	Floodway Impact (Sq. ft.)	Proposed Crossing Method	Type	PA Code Ch. 93 Designation	Drainage Area (Acres)
swmh009	JB Tonkin	20	111	1274	N/A	1) Dam and Pump 2) Flume	Perennial	HQ-CWF	1144



- Contours
- Surveyed Waterbodies
- Erosion Control Mats
- Compost Filter Sock
- Tonkin Diversion
- Perm Compressor Station
- Temp Compressor Station

Supply Header Project
 Site Specific Maps
 Westmoreland Co., PA
 Crossing 18





PROFILE

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100' WIDE CONSISTING OF 50' OF PERMANENT RIGHT-OF-WAY AND 50' OF TEMPORARY CONSTRUCTION RIGHT-OF-WAY. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL, RIVER CROSSINGS, SIDESLOPES, WHERE FULL RIGHT-OF-WAY TOPSOIL STRIPPING IS CONDUCTED, AND OTHER SPECIAL CIRCUMSTANCES AS REQUIRED.

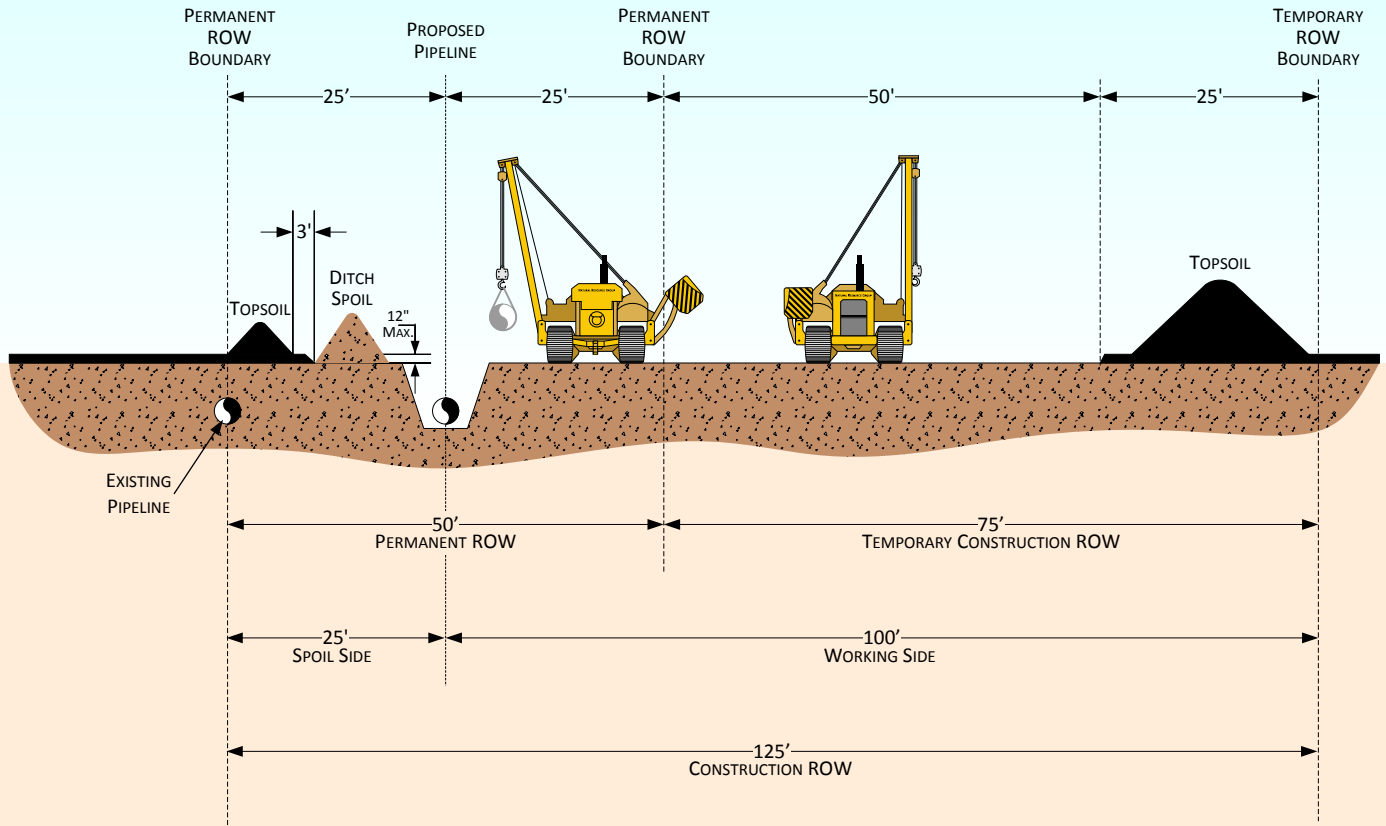
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Supply Header Project
TL-635 (36" Outside Diameter) and TL-636 (30" Outside Diameter)
 Typical Construction Right-of-Way - Collocated
 Non-Agricultural Areas



an ERM Group company



PROFILE

NOTES:

1. IN AGRICULTURAL AREAS WHERE FULL WIDTH TOPSOIL STRIPPING IS REQUIRED, AN ADDITIONAL 25' OF TEMPORARY WORKSPACE WILL BE REQUIRED. IN THIS SCENARIO, THE CONSTRUCTION RIGHT-OF-WAY WILL BE 125' WIDE, CONSISTING OF 50' OF PERMANENT RIGHT-OF-WAY AND 75' OF TEMPORARY CONSTRUCTION RIGHT-OF-WAY. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL, RIVER CROSSINGS, SIDESLOPES, AND OTHER SPECIAL CIRCUMSTANCES AS REQUIRED.

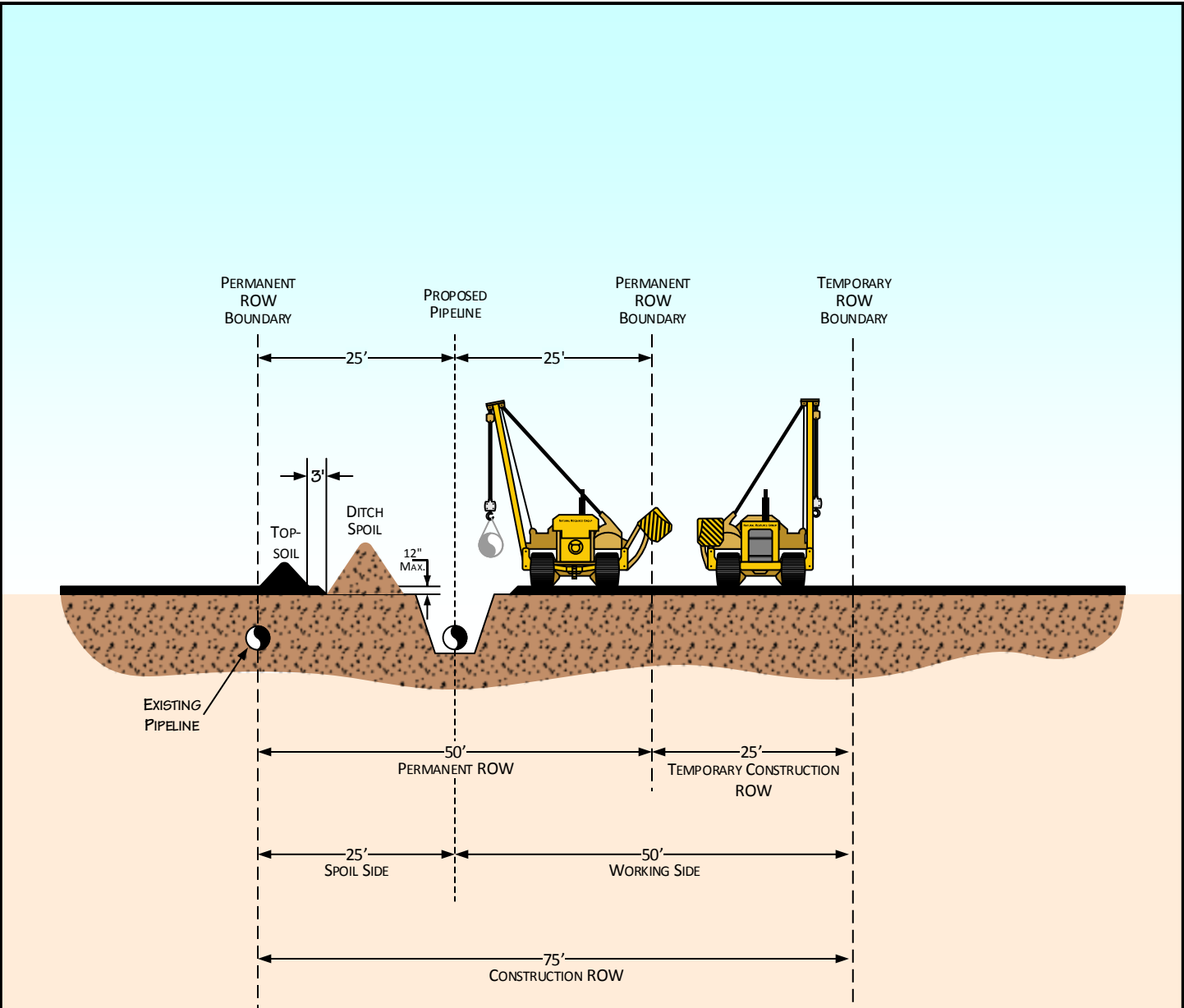
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**Supply Header Project
 TL-635 (30" Outside Diameter) and TL-636 (30" Outside Diameter)
 Typical Construction Right-of-Way - Collocated
 Agricultural Areas**



an ERM Group company



PROFILE

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 75' WIDE CONSISTING OF 50' OF PERMANENT RIGHT-OF-WAY AND 25' OF TEMPORARY CONSTRUCTION RIGHT-OF-WAY. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL, RIVER CROSSINGS, SIDESLOPES, WHERE FULL RIGHT-OF-WAY TOPSOIL STRIPPING IS CONDUCTED, AND OTHER SPECIAL CIRCUMSTANCES AS REQUIRED.

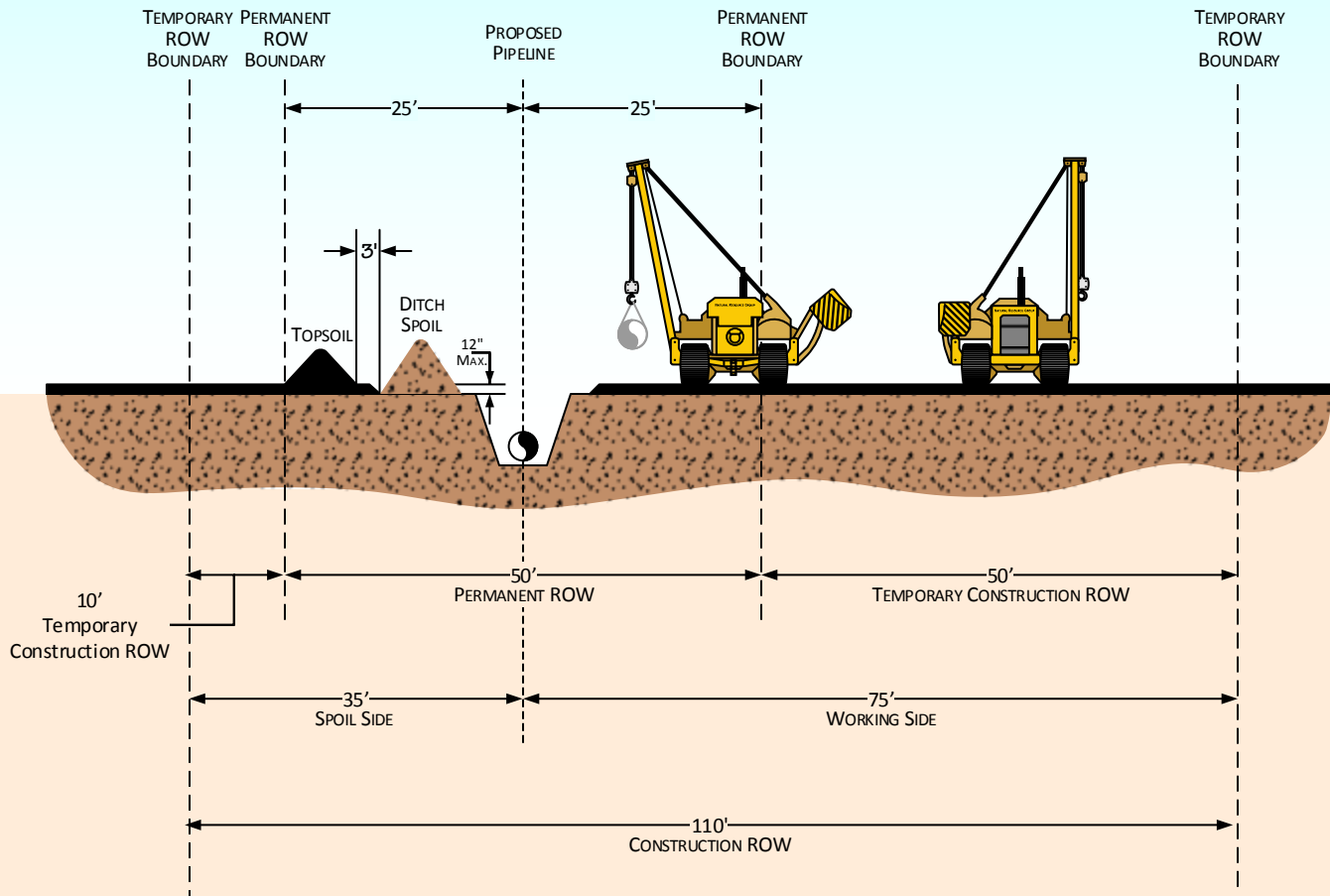
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Supply Header Project
TL-635 (36" Outside Diameter) and TL-636 (30" Outside Diameter)
 Typical Construction Right-of-Way in Wetlands - Collocated



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PROFILE

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 110' WIDE CONSISTING OF 50' OF PERMANENT RIGHT-OF-WAY AND 60' OF TEMPORARY CONSTRUCTION RIGHT-OF-WAY. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL, RIVER CROSSINGS, SIDESLOPES, WHERE FULL RIGHT-OF-WAY TOPSOIL STRIPPING IS CONDUCTED, AND OTHER SPECIAL CIRCUMSTANCES AS REQUIRED.

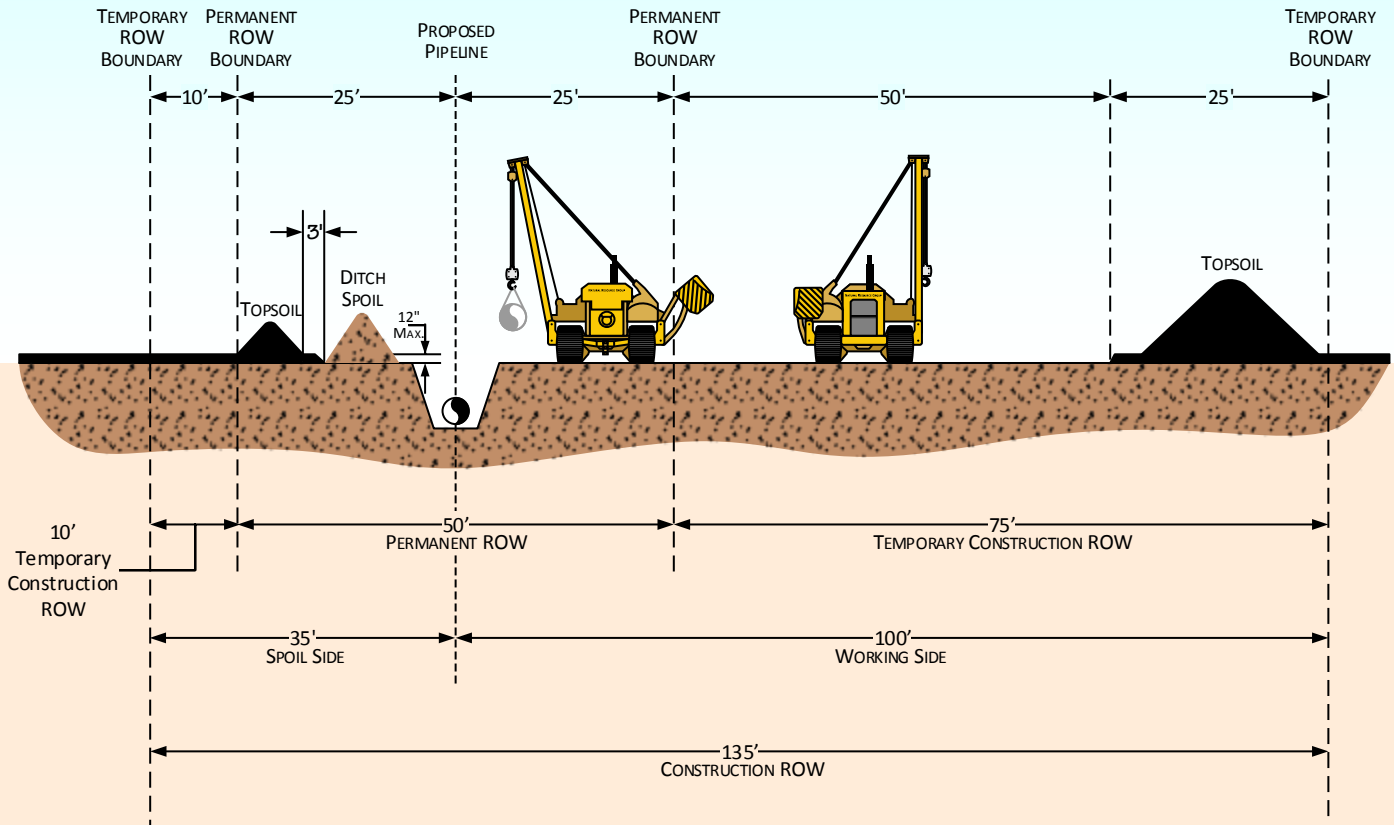
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Supply Header Project
TL-635 (36" Outside Diameter) and TL-636 (30" Outside Diameter)
 Typical Construction Right-of-Way – Not Collocated
 Non-Agricultural Areas



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PROFILE

NOTES:

1. IN AGRICULTURAL AREAS WHERE FULL WIDTH TOPSOIL STRIPPING IS REQUIRED, AN ADDITIONAL 25' OF TEMPORARY WORKSPACE WILL BE REQUIRED. IN THIS SCENARIO, THE CONSTRUCTION RIGHT-OF-WAY WILL BE 135' WIDE, CONSISTING OF 50' OF PERMANENT RIGHT-OF-WAY AND 85' OF TEMPORARY CONSTRUCTION RIGHT-OF-WAY. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL, RIVER CROSSINGS, SIDESLOPES, AND OTHER SPECIAL CIRCUMSTANCES AS REQUIRED.

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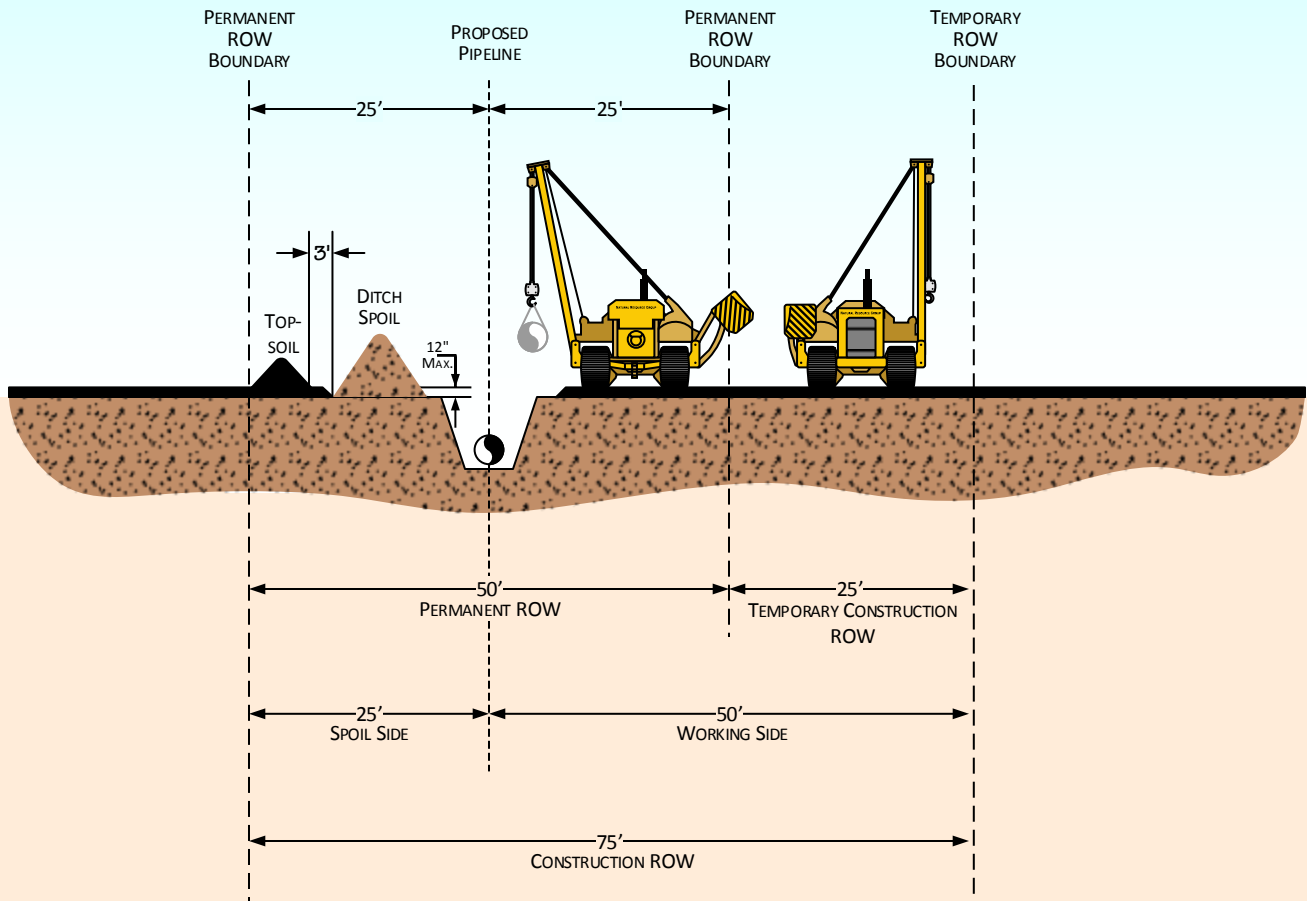
Supply Header Project

TL-635 (36" Outside Diameter) and TL-636 (30" Outside Diameter)

Typical Construction Right-of-Way – Not Collocated
Agricultural Areas



an ERM Group company



PROFILE

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 75' WIDE CONSISTING OF 50' OF PERMANENT RIGHT-OF-WAY AND 25' OF TEMPORARY CONSTRUCTION RIGHT-OF-WAY. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL, RIVER CROSSINGS, SIDESLOPES, WHERE FULL RIGHT-OF-WAY TOPSOIL STRIPPING IS CONDUCTED, AND OTHER SPECIAL CIRCUMSTANCES AS REQUIRED.

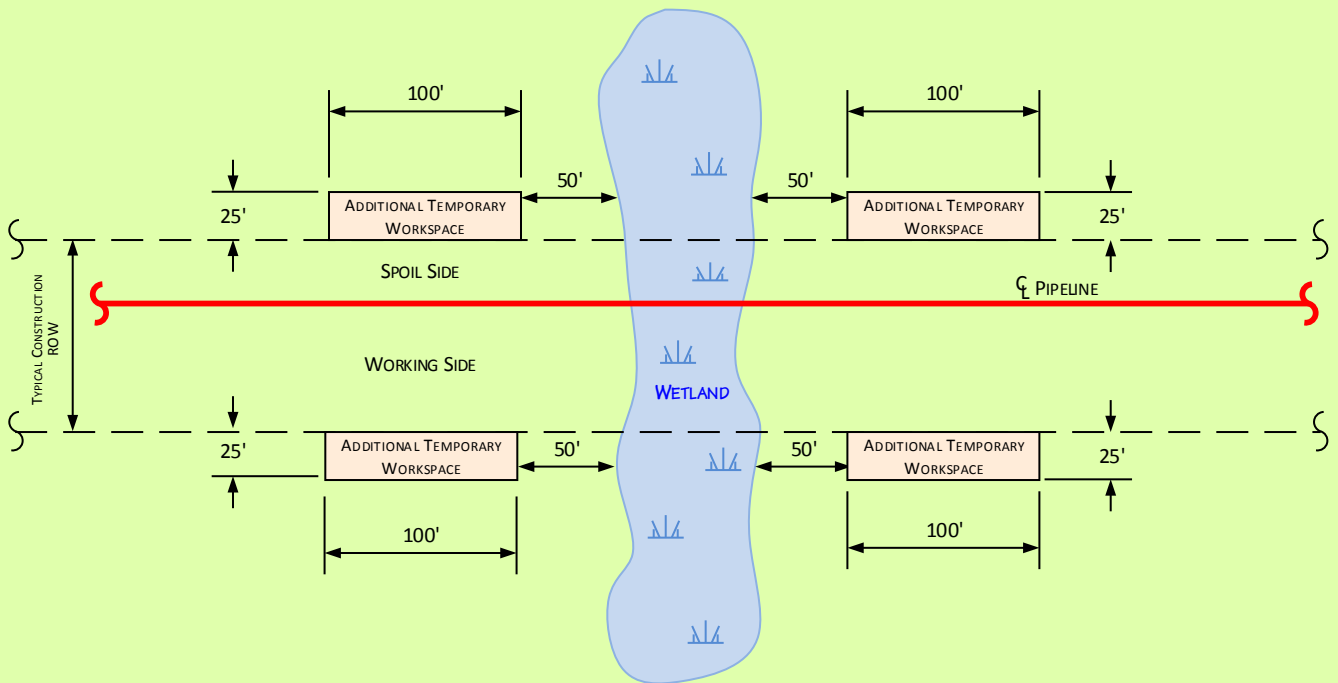
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Supply Header Project
TL-635 (36" Outside Diameter) and TL-636 (30" Outside Diameter)
 Typical Construction Right-of-Way
 in Wetlands – Not Collocated



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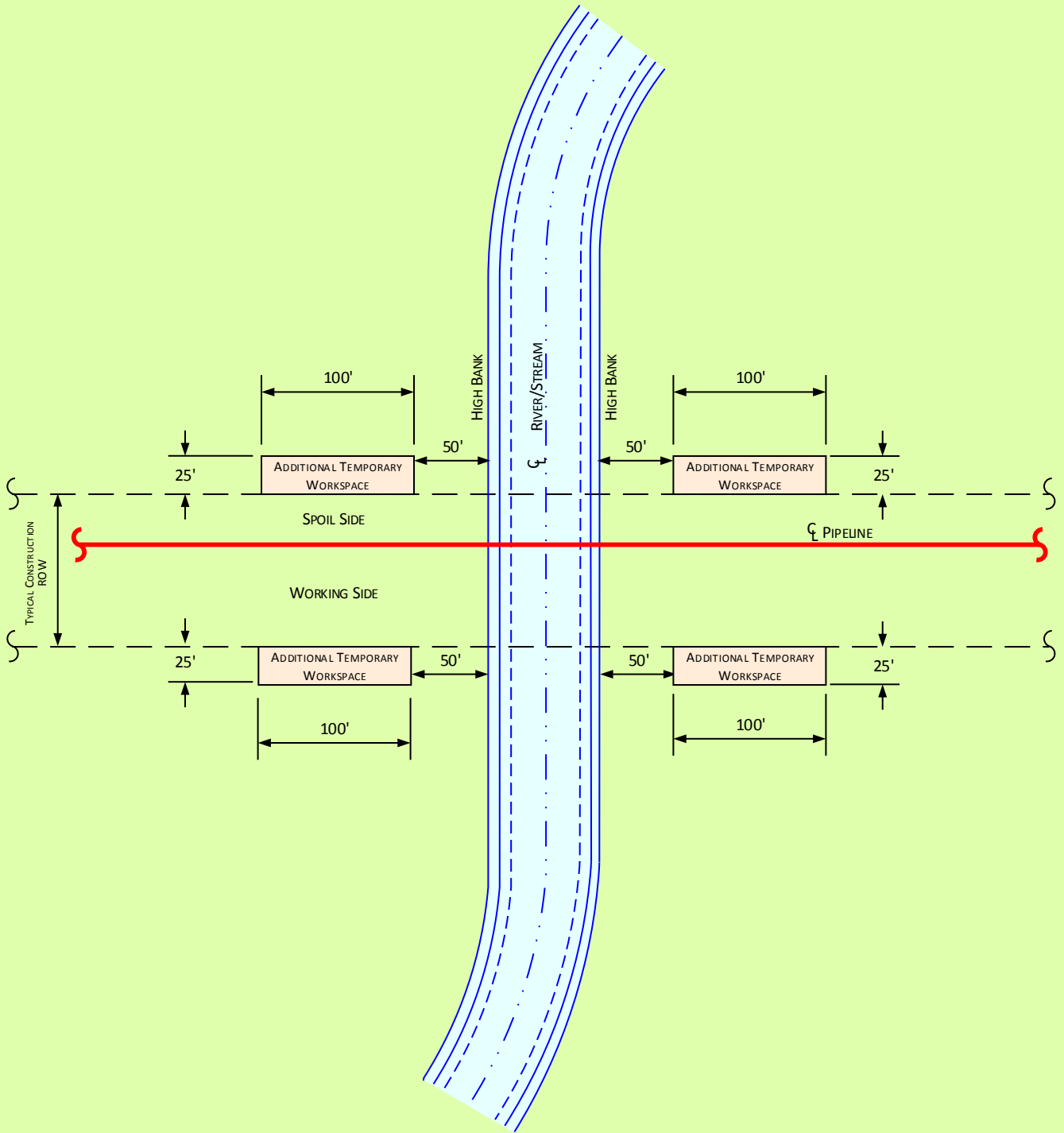
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Supply Header Project
TL-635 (36" Outside Diameter) and TL-636 (30" Outside Diameter)
 Typical Additional Workspace at
 Wetland Crossings



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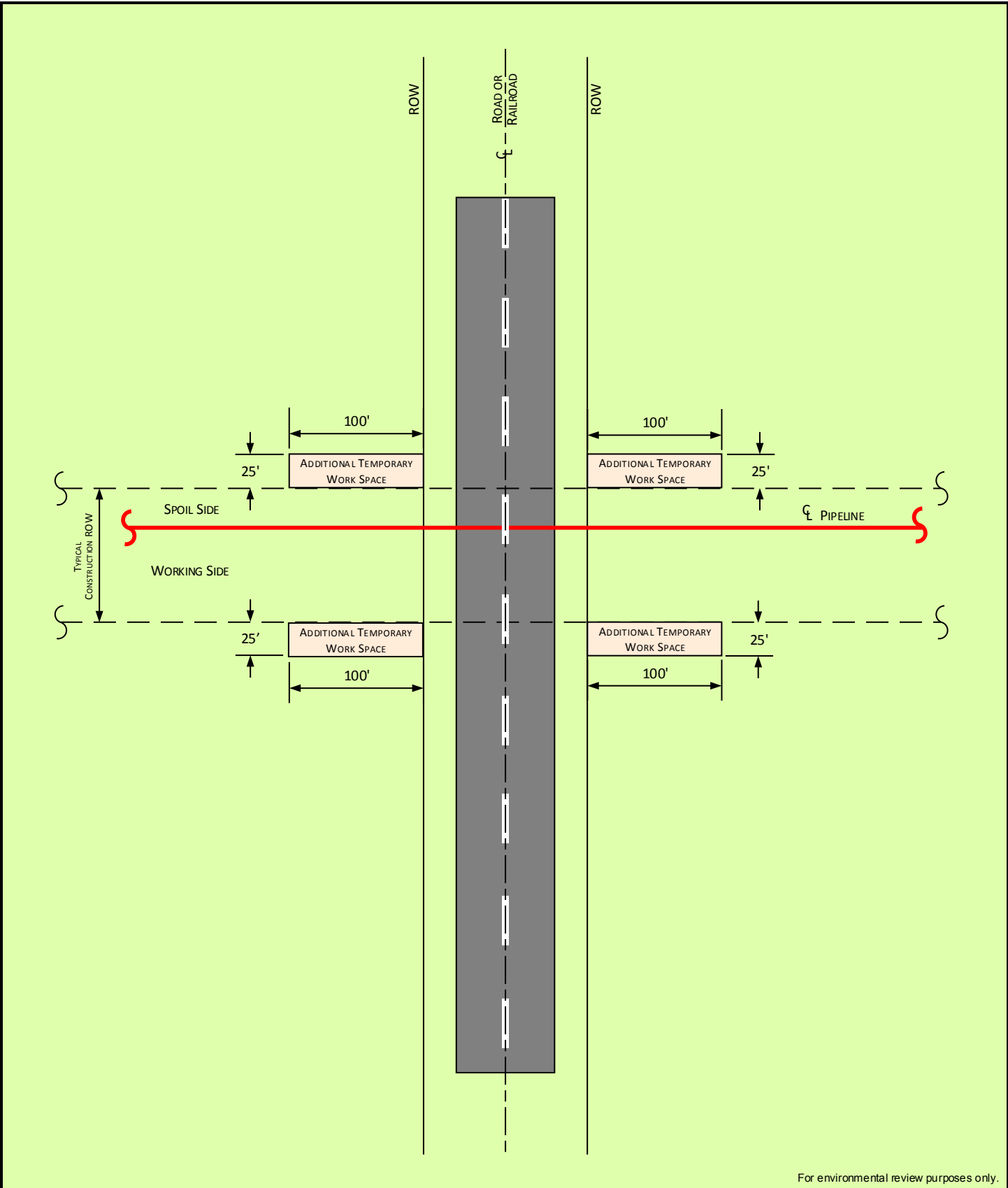
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Supply Header Project
TL-635 (36" Outside Diameter) and TL-636 (30" Outside Diameter)
 Typical Additional Workspace at all Waterbodies



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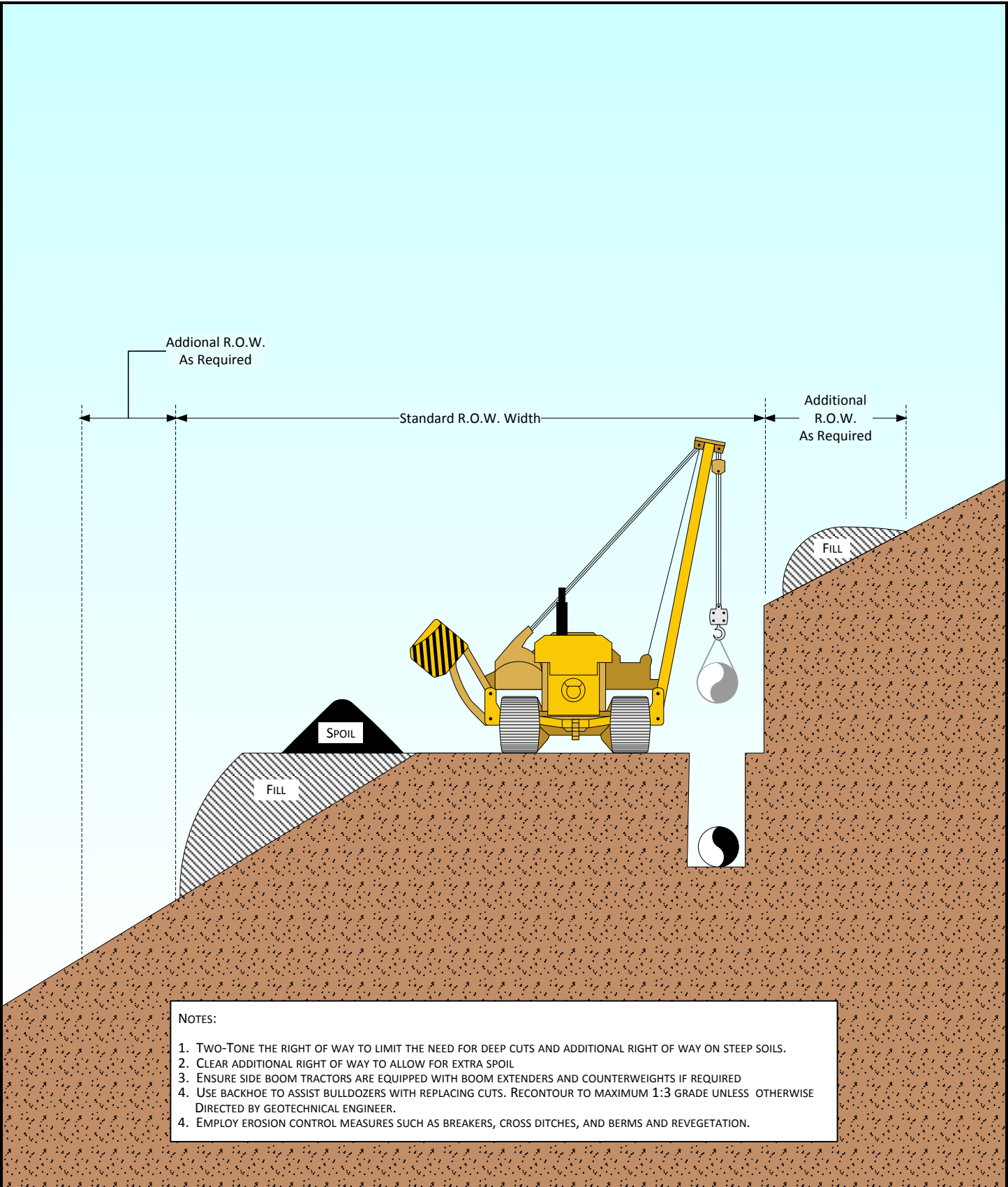
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Supply Header Project
TL-635 (36" Outside Diameter) and TL-636 (30" Outside Diameter)
 Typical Additional Workspace at all Bored Roads



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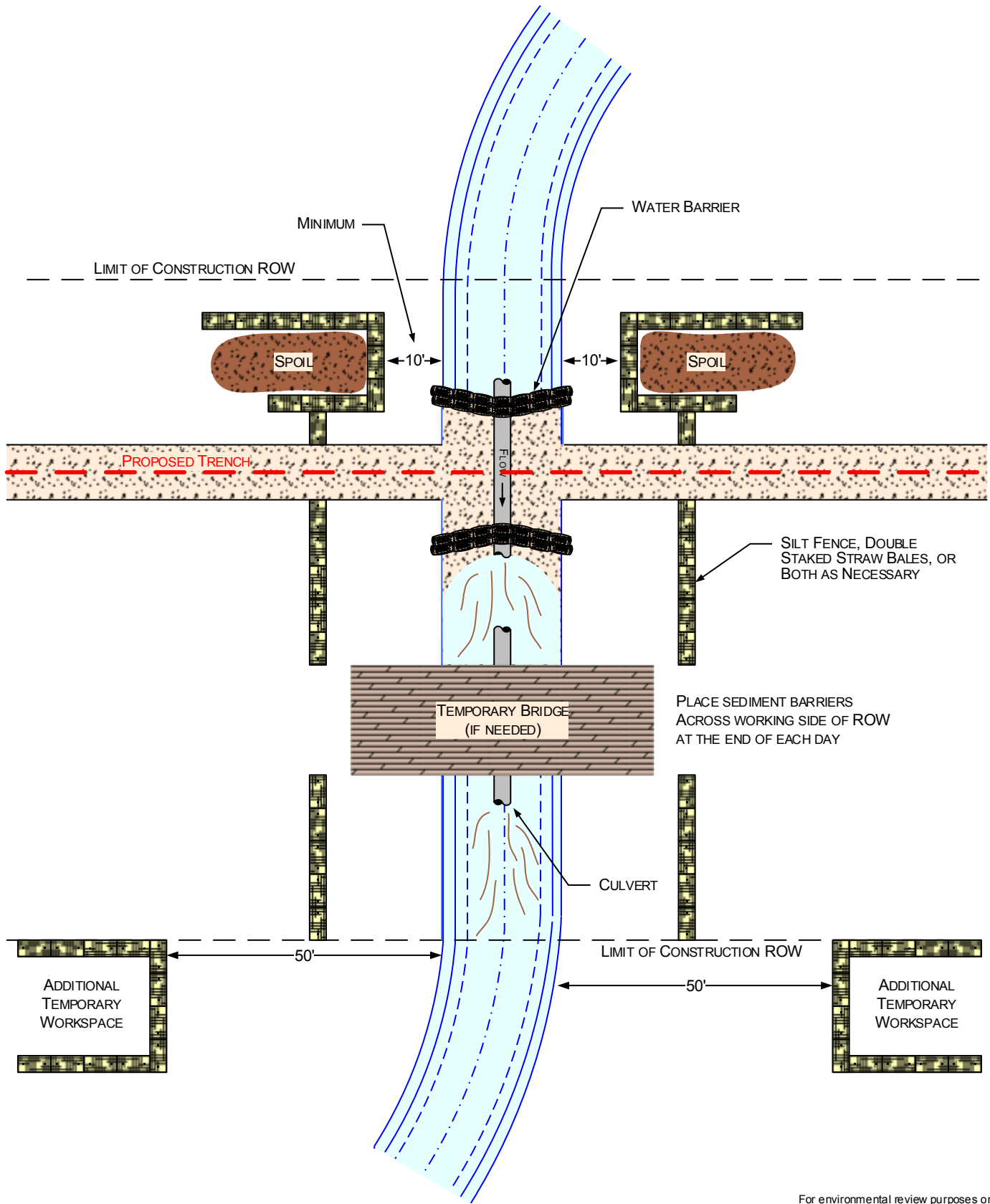
- NOTES:
1. TWO-TONE THE RIGHT OF WAY TO LIMIT THE NEED FOR DEEP CUTS AND ADDITIONAL RIGHT OF WAY ON STEEP SOILS.
 2. CLEAR ADDITIONAL RIGHT OF WAY TO ALLOW FOR EXTRA SPOIL
 3. ENSURE SIDE BOOM TRACTORS ARE EQUIPPED WITH BOOM EXTENDERS AND COUNTERWEIGHTS IF REQUIRED
 4. USE BACKHOE TO ASSIST BULLDOZERS WITH REPLACING CUTS. RECONTOUR TO MAXIMUM 1:3 GRADE UNLESS OTHERWISE DIRECTED BY GEOTECHNICAL ENGINEER.
 4. EMPLOY EROSION CONTROL MEASURES SUCH AS BREAKERS, CROSS DITCHES, AND BERMS AND REVEGETATION.



Atlantic Coast Pipeline and Supply Header Projects Cut and Fill Construction



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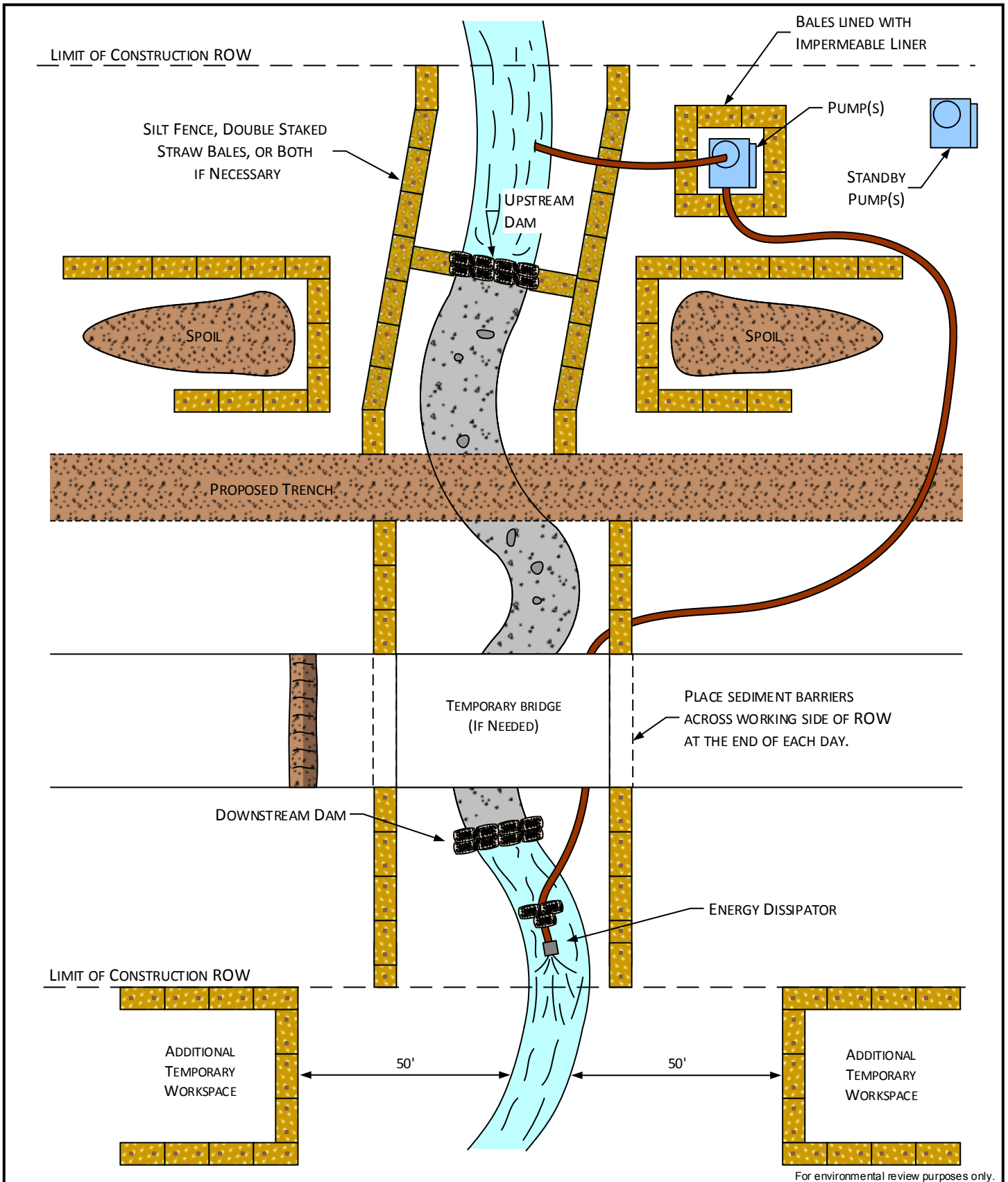
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Supply Header Project
TL-635 (36" Outside Diameter) and TL-636 (30" Outside Diameter)
Typical Waterbody Crossing
Flume Method



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Supply Header Project

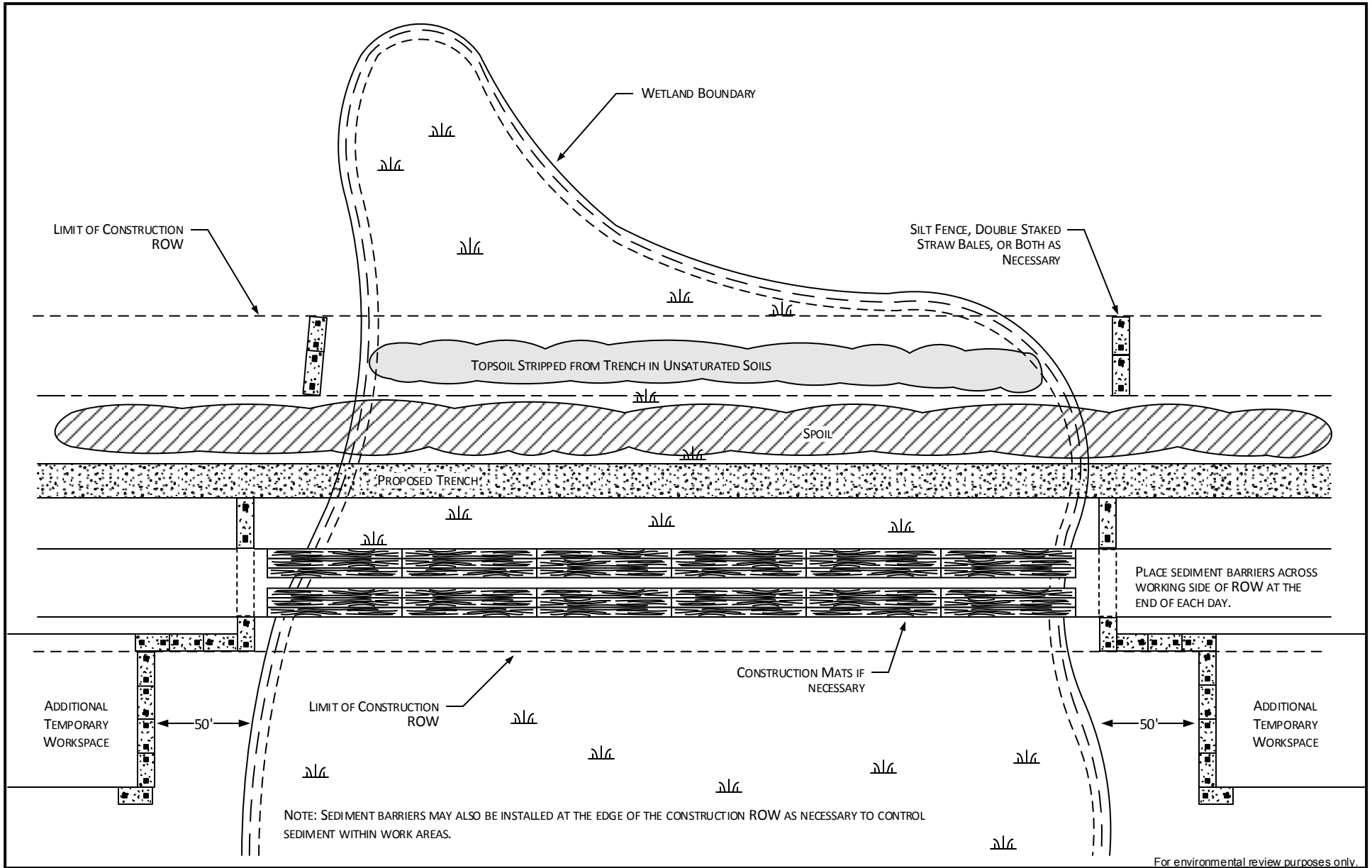
TL-635 (36" Outside Diameter) and TL-636 (30" Outside Diameter)

Dam and Pump Method



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ID-41

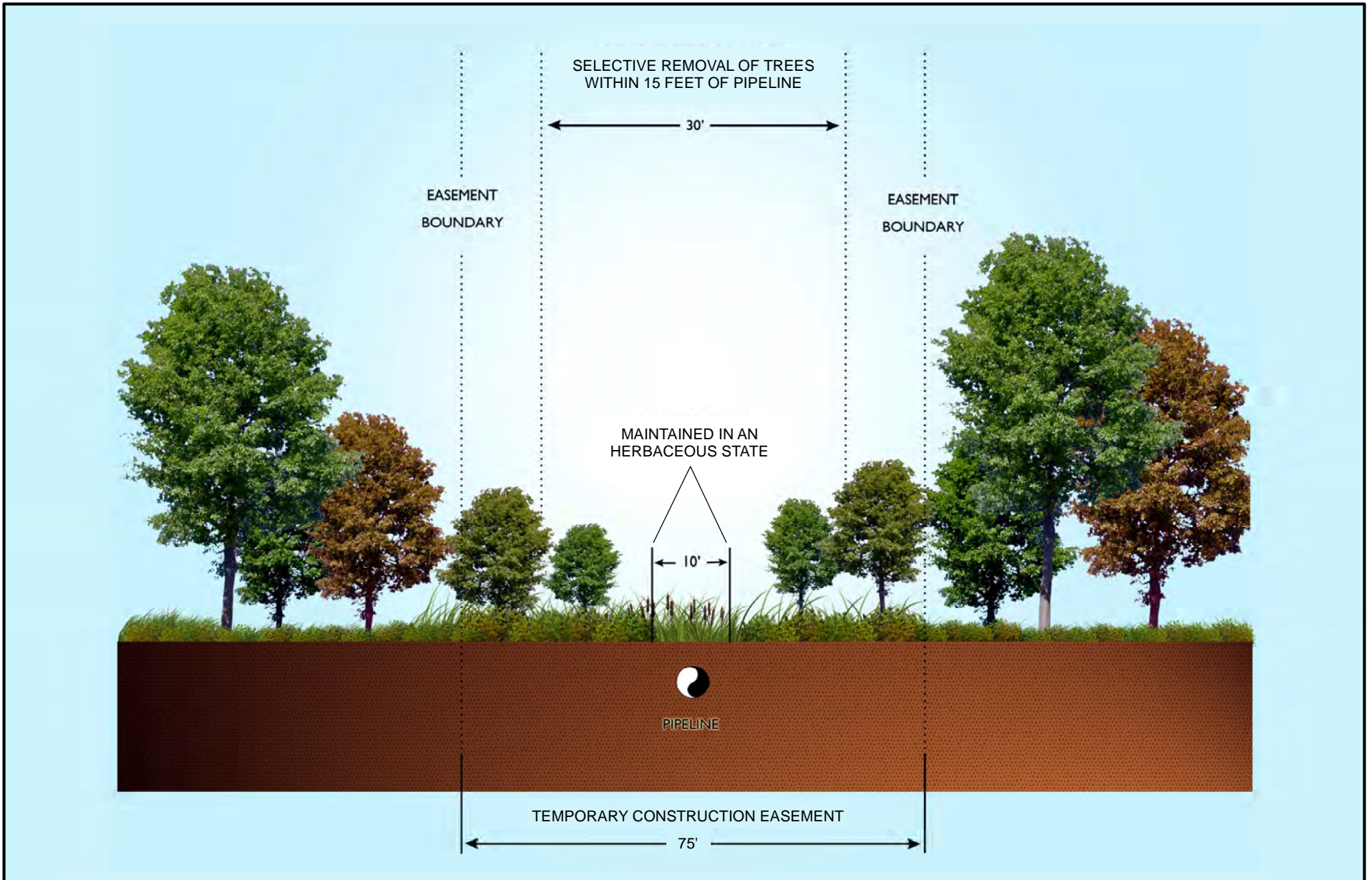


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Supply Header Project
TL-635 (36" Outside Diameter) and TL-636 (30" Outside Diameter)
 Typical Wetland Crossing
 Open Cut Method



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Atlantic Coast Pipeline and Supply Header Project Corridor Wetland Maintenance

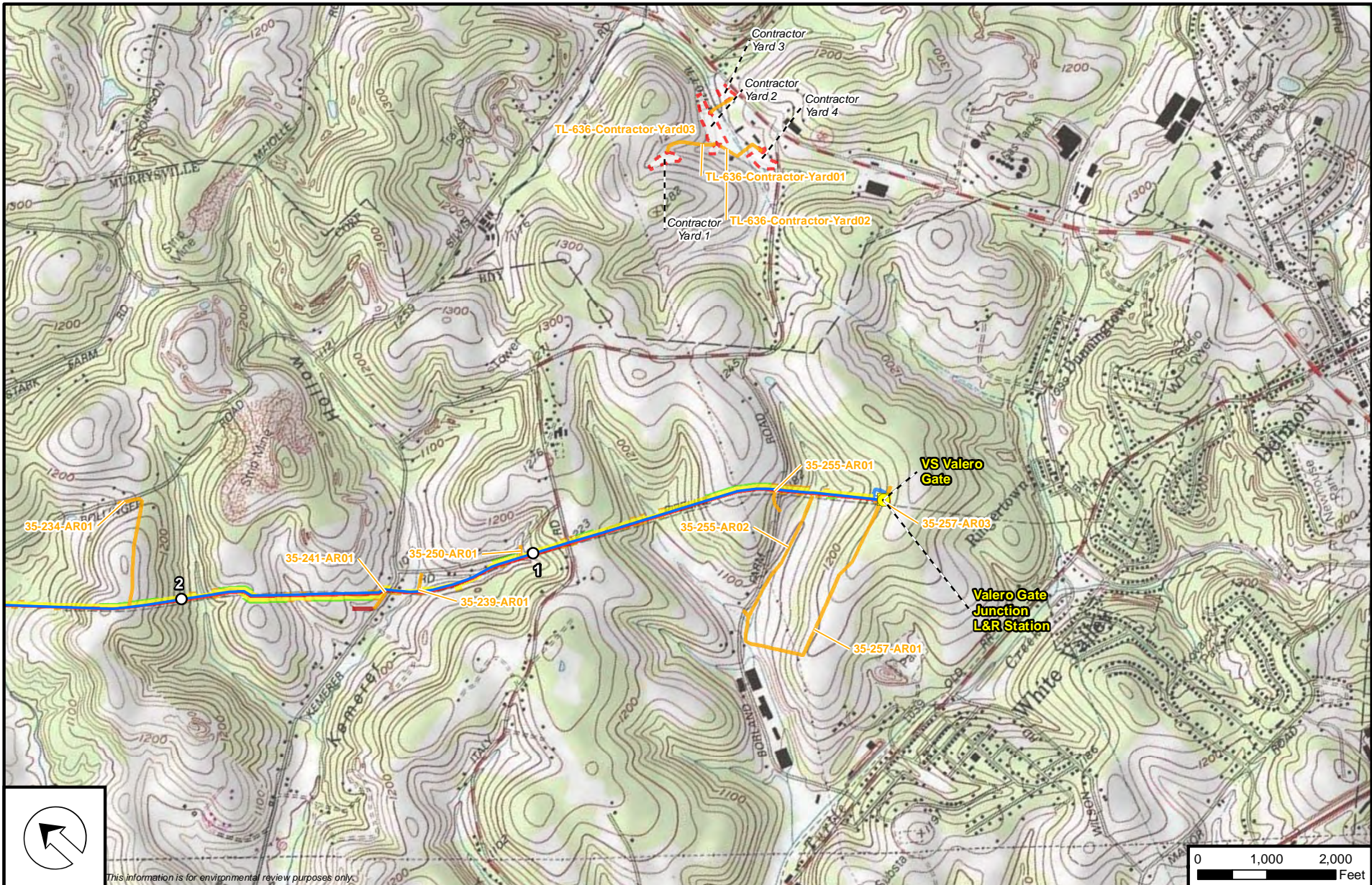


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DOMINION TRANSMISSION, INC.

SUPPLY HEADER PROJECT

SECTION 3 – PROJECT OVERVIEW MAP



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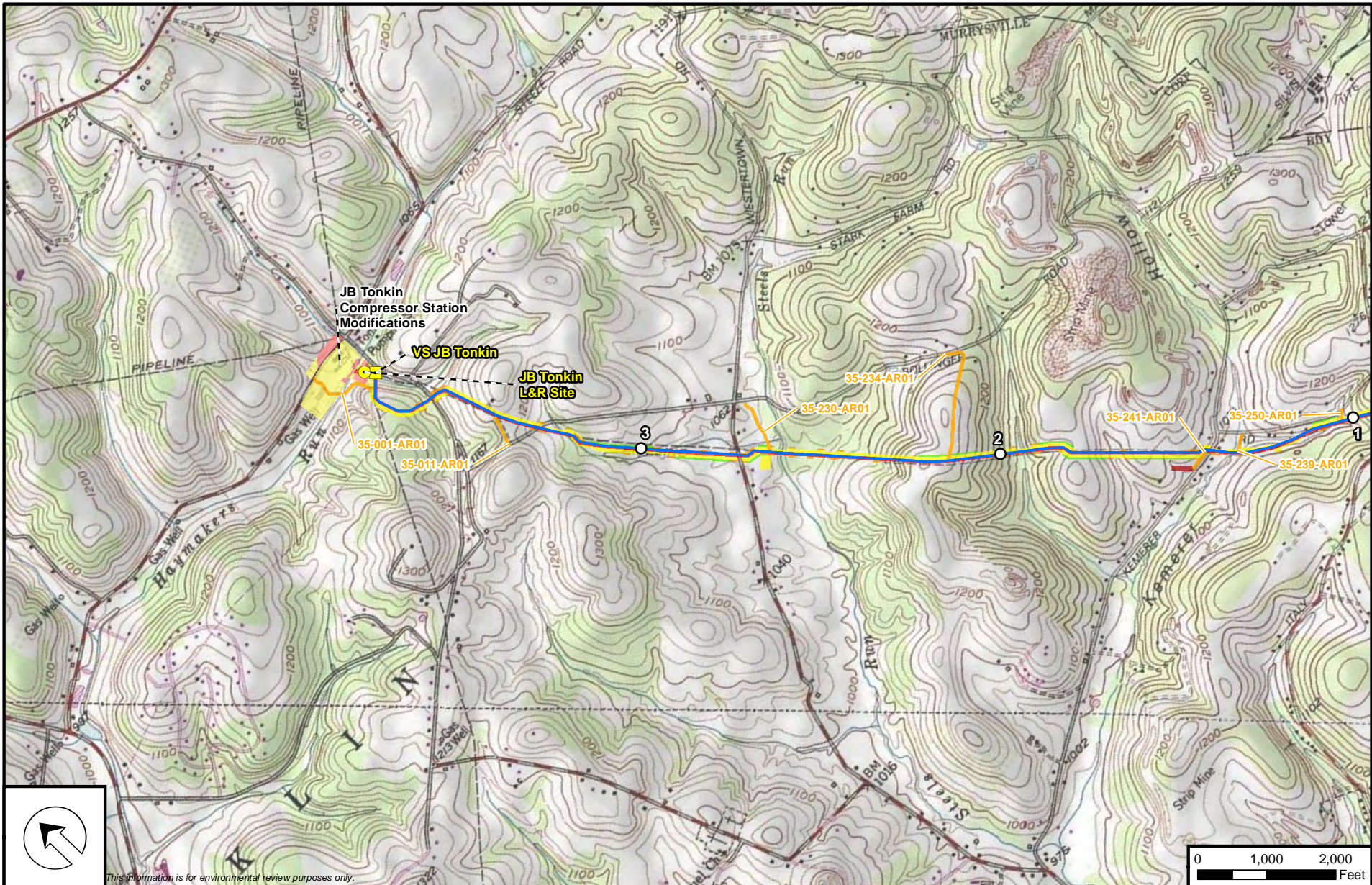


- Proposed Centerline (TL-636)
- Access Road
- L&R Site
- Valve Site
- ATWS - Pipeline
- Ground Bed
- Permanent - L&R Site
- Permanent - Pipeline
- Soil - Pipeline
- - - Temporary - Con Yard
- Temporary - Pipeline

Supply Header Project General Location Map

Westmoreland Co., Pennsylvania





This information is for environmental review purposes only.



- Proposed Centerline (TL-636)
- Access Road
- L&R Site
- Valve Site
- ATWS - Pipeline
- Ground Bed
- Permanent - CS
- Permanent - Pipeline
- Soil - Pipeline
- Temporary - CS
- Temporary - Pipeline

Supply Header Project General Location Map

Westmoreland Co., Pennsylvania



DOMINION TRANSMISSION, INC.

SUPPLY HEADER PROJECT

SECTION 4 – EROSION AND SEDIMENT CONTROL PLAN (ESCP)

- Erosion and Sediment Control Plan
- Erosion and Sediment Control Plan Drawings
- Soil Report
- Wetland and Watercourse Report
- Clean Fill Certification
- Erosion and Sediment Control Design Calculations
- PADEP Visual Site Inspection Form
- Training Records

DOMINION TRANSMISSION, INC.

SUPPLY HEADER PROJECT

SECTION 4 – EROSION AND SEDIMENT CONTROL PLAN (ESCP)

EROSION AND SEDIMENT CONTROL PLAN NARRATIVE

Erosion and Sediment Control Plan

Dominion Transmission, Inc.
Supply Header Project
Murrysville and Salem Township,
Westmoreland County, Pennsylvania

March 31, 2017

Submitted By: Dominion Transmission, Inc.
5000 Dominion Boulevard
Glen Allen, VA 23060
(804) 335-4923

Prepared By: Environmental Resources Management, Inc.
15 Park Row West
Suite 104
Providence, RI 02903
(401) 278-4308



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- D Clean Fill Certification
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- F PADEP Visual Site Inspection Form
- G Training Records

LIST OF DEFINITIONS

ABACT	anti-degradation best available combination of technology
BMP	best management practice
CFR	Code of Federal Regulations
COE	U.S. Army Corps of Engineers
Company	Dominion Transmission, Inc.
DCNR	Department of Conservation of Natural Resources
DTI	Dominion Transmission, Inc.
E&S	erosion and sediment control
E&SCP	Erosion and Sediment Control Plan
ECP	Environmental Construction Permitting Department
EI	Environmental Inspector
EPA	U.S. Environmental Protection Agency
ERM	Environmental Resources Management, Inc.
ESCGP-2	Erosion and Sediment Control General Permit
FERC Plan	FERC’s Upland Erosion Control, Revegetation, and Maintenance Plan
FERC Procedures	FERC’s Wetland and Waterbody Construction and Mitigation Procedures
FERC	Federal Energy Regulatory Commission
HQ-CWF	High-Quality Cold Water Fishes
LOD	limit of disturbance
MP	milepost
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NOI	Notice of Intent
NOT	Notice of Termination
NWI	National Wetland Inventory
P.S.	Pennsylvania Statutes
PA ESC Manual	Pennsylvania Department of Environmental Protection’s Erosion and Sediment Pollution Control Program Manual, 2012
Pa. Code	Pennsylvania Code
PADEP	Pennsylvania Department of Environmental Protection
PaGEODE	Pennsylvania Geologic Data Exploration web-mapping application
PEM	palustrine emergent
PFBC	Pennsylvania Fish and Boat Commission
PPC Plan	Preparedness, Prevention, and Contingency Plan
Project	Supply Header Project
ROW	right-of-way
SCS	Soil Conservation Service
SPCC	Spill Prevention, Control, and Countermeasure
SR/PCSM Plan	Site Restoration/ Post-Construction Stormwater Management Plan
SSURGO database	Soil Survey Geographic database
TL-636	TL-636 Pipeline Loop
TMDL	total maximum daily load
TR-55	Technical Release 55

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UNT	Unnamed tributary
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
U.S. DOT	U.S. Department of Transportation
WWF	Warm Water Fishes

1.0 INTRODUCTION

Dominion Transmission, Inc. (DTI or Company) is proposing to construct and operate the Supply Header Project (Project) in Greene and Westmoreland Counties, Pennsylvania. This submittal addresses only the portions of the Project located in Westmoreland County. A general location map, and a U.S. Geological Survey (USGS) quadrangle map showing the exact location and extents of the proposed Project, is included on the cover of the Erosion and Sediment Control Plan (E&SCP) drawings included in Appendix A.

This E&SCP has been developed to address control of accelerated erosion and sedimentation resulting from earth disturbance associated with the proposed Project. The plan consists of this written narrative and the attached appendices including plan drawings and design calculations. The content of this plan is organized in the same order as the “Standard E&S Control Plan Technical Review Checklist” provided in the Pennsylvania Department of Environmental Protection’s (PADEP) Protection’s Erosion and Sediment Pollution Control Program Manual, 2012 (PA ESC Manual). This plan was developed in accordance with the requirements of the Federal Energy Regulatory Commission (FERC), U.S. Army Corps of Engineers (COE), the United States Fish and Wildlife Service, the U.S. Department of Agriculture (USDA), the Natural Resource Conservation Service (NRCS), Title 25 Pennsylvania Code (Pa. Code) 102, as well as the Clean Streams Law (Title 35 Pennsylvania Statutes [P.S.] Section 691.1001), as amended, utilizing guidelines and best management practices (BMP) information provided in the PA ESC Manual. An up-to-date copy of this E&SCP (including this narrative and all appendices) shall be maintained and available at the Project site during all stages of earth disturbance activity.

The figures provided in Appendix A of this plan illustrate the minimum requirements of BMPs for design and utilization of construction workspace areas, access roads, and erosion controls, as well as construction methods for special use areas (e.g., agricultural and residential land), and crossing of features during pipeline construction, including roads.

The goal of the E&SCP is to preserve the integrity of environmentally sensitive areas and to maintain existing water quality by:

- minimizing the extent and duration of disturbance;
- diverting runoff to stabilized areas;
- installing temporary and permanent erosion control measures; and
- establishing an effective inspection and maintenance program.

If conflicts or differences occur between project-specific conditions of appropriate federal and state agencies and the BMPs described in this E&SCP, the contractor shall consult with the DTI Environmental Construction Permitting Department (ECP) representative or ECP Lead. The more stringent or site-specific requirement is typically applicable unless otherwise approved by the ECP Lead and approved by the permitting agency. With the exception of minor variations from the typical figures that may be required due to site-specific conditions designed to achieve an equivalent or greater degree of environmental protection, any deviations from the construction

drawings or changes in the design of control measures as set forth in this E&SCP must be approved by the appropriate permitting agency and DTI's ECP Lead prior to implementation. Measures and practices identified within this plan are to be implemented during construction unless otherwise specified by project-specific permit conditions approved by the appropriate agency(ies).

This plan was prepared by Environmental Resources Management, Inc. (ERM) personnel, under the direct supervision of a Pennsylvania licensed Professional Engineer trained and experienced in erosion and sediment control methods and techniques applicable to the size and scope of the proposed Project.

DTI shall perform the required environmental field surveys and acquire the necessary environmental permits, clearances, and authorizations prior to the start of construction of the Project. DTI shall notify the appropriate federal, state, and local agencies prior to, during, and/or subsequent to the construction of the Project.

2.0 EXISTING TOPOGRAPHY AND FEATURES

The E&SCP drawings included in Appendix A contain existing site features. The existing features include the topography of the Project site and the surrounding area, mapped soil boundaries, municipal and county boundaries, known property, easement, and right-of-way (ROW) boundaries, roadways, streams, watercourses, existing structures, existing ground cover (including tree lines and other significant vegetative features), and identifiable underground utilities.

3.0 SOIL CHARACTERISTICS

The location of mapped soil types are shown on the E&SCP drawings. These soil boundaries and associated information were obtained from the USDA Soil Survey Geographic (SSURGO) database. In addition to this soil mapping data, the NRCS "Web Soil Survey" website (<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>) was used to generate an "NRCS Custom Soils Resources Report" for this Project.

The soil report is included in Appendix B and contains the types, depth, slope, and limitations of the soils within the Project area. Additional information in the soil report includes data on the physical characteristics of the soils, such as their texture, resistance to erosion, and suitability for the intended use. The limitation of soils, as defined by the NRCS, pertaining to earthmoving projects, and the means to address the identified soils limitations are included on the E&SCP drawings.

4.0 EARTH DISTURBANCE AND LAND USES

4.1 PROJECT DESCRIPTION

DTI is proposing to construct and operate approximately 37.5 miles of pipeline loop and modify existing compression facilities in Pennsylvania and West Virginia. The Project will enable DTI to provide firm transportation service to various customers, including Atlantic Coast Pipeline,

LLC, which is proposing to construct the Atlantic Coast Pipeline. DTI has hired ERM as the primary environmental consultant for the Project. ERM is assisting DTI with construction planning, environmental surveys, and acquisition of environmental permits necessary for the Project. The overall project is being reviewed and authorized through the FERC, Docket No. CP15-555-000.

The Pennsylvania segment of the Project includes 3.9 miles of 30-inch-diameter natural gas pipeline loop (TL-636) adjacent to DTI's existing LN-25 pipeline and modifications at DTI's existing JB Tonkin Compressor Station in Westmoreland County, respectively. The Project will utilize temporary contractor yards in Salem Township, Westmoreland County.

The typical construction ROW for the TL-636 loop will be 100 feet wide in non-agricultural upland areas and 125 feet wide in agricultural areas, where full width topsoil segregation will be implemented. In accordance with the FERC Procedures, the width of the construction ROW will be reduced to 75 feet in wetlands and waterbodies. In addition to the construction ROW, additional temporary workspace will be required to stage construction activities and store equipment, materials, and temporary side cast at wetland, waterbody, and road crossings. Following construction, a 50-foot-wide permanent easement will be maintained for operation of the pipeline. A 30-foot-wide permanent easement will be maintained for access roads.

In Westmoreland County, modifications at the JB Tonkin Compressor Station will include the addition of one new gas-driven turbine that will provide 20,500 horsepower of additional compression. The modifications will include one new compressor building and additional auxiliary structures within the existing and new chain-link security fenced-in site. Equipment at the station will include gas filter/separators, gas coolers, inlet air filters, exhaust silencers, tanks, blowdown silencers, heaters, and auxiliary generators. Workspace outside the existing and new fenceline will be required for construction activities such as welding, coating, and storing construction materials, as well as activities associated with the new pipeline interconnects. With the exception of valves and other aboveground facilities that will be installed at the pipeline interconnects, these areas will be restored to pre-construction conditions. The proposed improvements at the JB Tonkin Compressor Station will include conversion of currently vegetated surfaces to gravel and rooftop, resulting in the addition of 0.27 acre of impervious area.

In addition, DTI will install valves and pig launcher/receiver facilities at each end of the pipeline loop. The valves, which will allow DTI to segment the pipelines for safety, operations, and maintenance purposes, will be installed below grade with aboveground valve operators, risers, blowdown valves, and crossover piping connected on each side of the valve. The pig launchers/receivers will be used to run pipeline inspection tools, called pigs, through the pipeline system. DTI is targeting completion of the Project in late 2019.

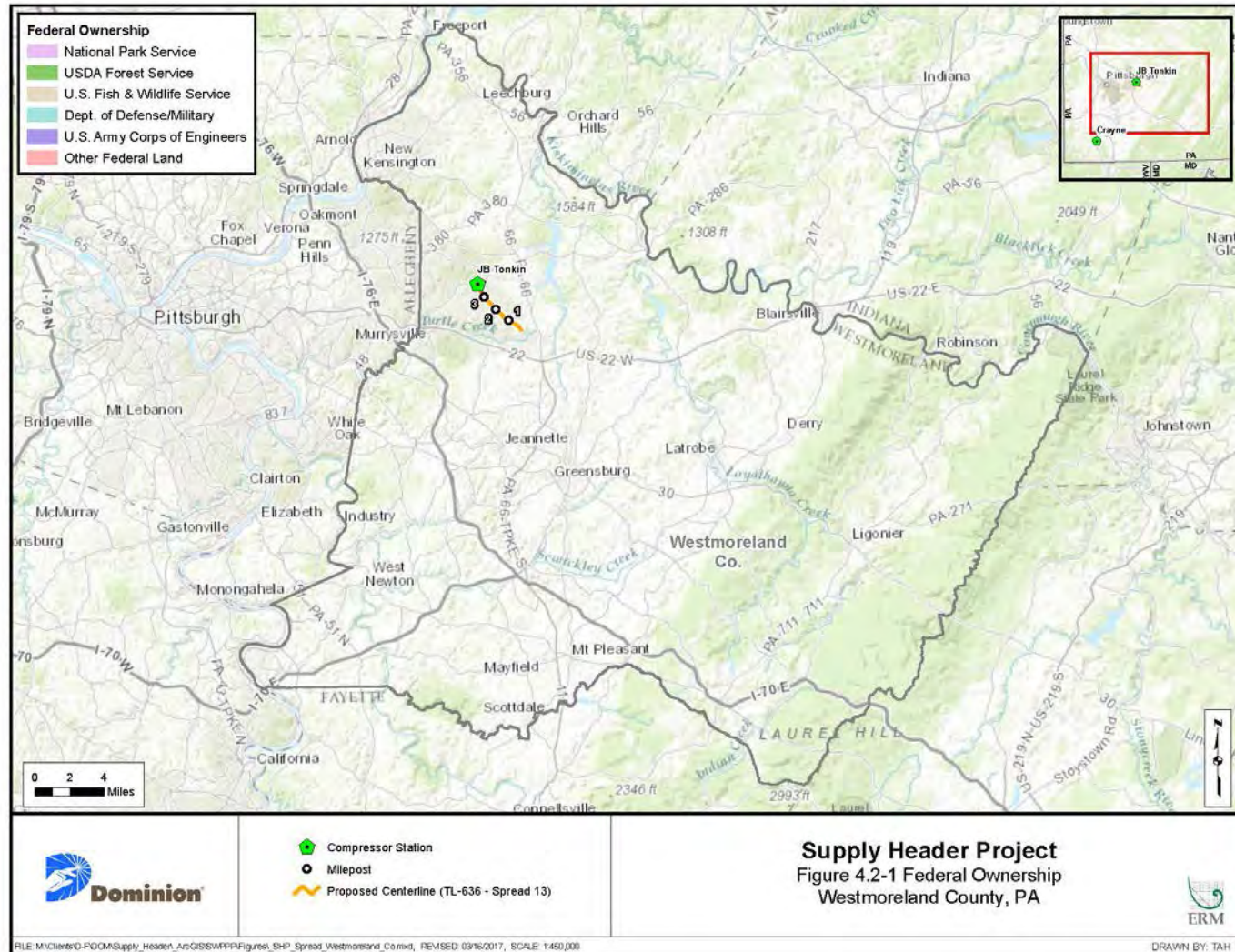
The total proposed area of disturbance resulting from installation of the proposed facilities, including compressor station modifications, additional temporary workspace, pipeline installation, and temporary contractor yards, is 82.49 acres. Earth disturbance will be restricted to the limit of disturbance (LOD) with a total area of 75.49 acres delineated on the E&SCP drawings. These drawings depict all proposed facilities and site features as well as the boundary

of the area to be covered by the Erosion and Sediment Control General Permit (ESCGP-2) (Project Boundary). This includes the proposed topography, areas of cuts and fills, the limits of earth disturbance, the locations of proposed roads, the locations of existing and proposed structures, and the locations of proposed BMPs. The E&SCP drawings also include road profiles and cross sections of areas with significant cuts and fills.

4.2 LAND USE AND LAND COVER

The proposed Project is located on private land and the current land use is gas-related industrial activity. Prior to the existing industrial development, the land use was rural residential. The existing land cover within the permit boundary is a mixture of impervious roof and asphalt, gravel surface, and meadow. The existing land use at the compressor station includes pasture land, upland forest, and developed area. The existing land at the proposed pipeline location includes agricultural land, upland forest, developed land, and wetlands. The land disturbed during construction of the pipeline will be restored to meadow or similar land use resulting in an equivalent or better hydrologic condition and will not result in the addition of impervious area. The pipeline will be installed within existing rights-of-way. The Project does not cross any federally owned lands, as demonstrated on Figure 4.2-1.

Erosion and Sediment Control Plan
 Dominion Transmission, Inc. – Supply Header Project
 Murrysville and Salem Township, Westmoreland County, Pennsylvania



The approximate construction area at the JB Tonkin Compressor Station is 13.97 acres, consisting of pasture lands, upland forests, and developed lands. The proposed improvements at the JB Tonkin Compressor Station will include conversion of currently vegetated surfaces to gravel and rooftop, resulting in the addition of 0.27 acre of impervious area. Approximately 0.02 acre of a palustrine emergent (PEM) wetland will be filled within the JB Tonkin Compressor Station site.

Construction of the 3.9-mile pipeline will result in 61.52 acres of earth disturbance, consisting of agricultural land (cultivated crop), agricultural land (pasture land), agricultural land (harvested forest/tree plantation), upland forest, developed land, and wetlands. The land disturbed during construction of the pipeline will be restored to meadow or similar land use resulting in an equivalent or better hydrologic condition and will not result in the addition of impervious area. The land disturbed during pipeline construction will be restored to meadow or better conditions following finalization of construction

Four existing contractor yards northeast of milepost (MP) 0.4 include 7.0 acres of previously disturbed land that will be used as a temporary contractor yard in Salem Township. The temporary contractor yards will be used during pipeline construction. The contractor yards have previously been developed and only minor improvements (e.g., replenishing the gravel surface) are anticipated, thus no new disturbance will occur at these areas. The overview map of the project identifies the location of the contractor yards in Section 3.

5.0 WATERBODY CROSSINGS

The intent of these procedures is to minimize the extent and duration of Project related disturbances within waterbodies. The following section describes the construction procedures and mitigation measures that will be used for pipeline installations at waterbodies. The length of the crossing, the sensitivity of the area, existing conditions at the time of the crossing, and permit requirements will determine the most appropriate measures to be used.

5.1 GENERAL WATERBODY PROCEDURES

Pipeline construction across waterbody channels may result in short term water quality impacts. Crossing procedures are to comply with COE, or its delegated agency, permit terms and conditions. The following general procedures are to be followed to minimize or avoid impacts at waterbody crossings:

1. Construct crossings as close to perpendicular to the axis of the waterbody channel as engineering and routing conditions permit.
2. Where waterbodies meander or have multiple channels, route the pipeline to minimize the number of waterbody crossings.
3. Perform mobilization of construction equipment, trench excavation, and backfilling in a manner that will minimize the potential for erosion and sedimentation within the waterbody channel. Pipeline ROW construction through any active channel shall be

immediately backfilled and the channel restored to its original cross-section and protective lining.

4. A utility line crossing of a stream channel 10 feet in bottom width or less should be completed within 24 hours from start to finish, including the trench backfilling, stabilization of stream banks and stabilization of the area 50 feet back from the top of each stream bank.
5. Stream channels between 10 and 100 feet in width should be completed within 48 hours or as approved in writing from the PADEP or conservation district.
6. Locate all extra work areas, such as staging and additional spoil storage areas, at least 50 feet away from water's edge, except where the adjacent upland consists of cultivated, rotated cropland, other disturbed land, or if within a high-quality watershed. Site-specific written approval by FERC is required for all extra work areas with a less than 50-foot setback and associated measures to be used to ensure the waterbody is adequately protected.
7. Erosion control blanketing shall be installed within 50 feet of all state streams and wetlands and on all other disturbed areas specified on the plan maps and/or detail sheets. Erosion control devices will be installed within 100 feet of streams and wetlands within high-quality watersheds.
8. Implement erosion control measures to confine water quality impacts within the immediate construction area and to minimize impacts to downstream areas.
9. Place all spoil from the waterbody within the construction ROW at least 10 feet from the water's edge or in the extra work areas shown on the construction drawings.
10. Maintain adequate flow rates to protect aquatic life and prevent the interruption of existing downstream uses.
11. Dewater trench in accordance with the procedures described in Section 10.10.7.

5.2 TIME WINDOW FOR INSTREAM WORK

Unless expressly permitted or further restricted by the appropriate federal or state agency in writing on a site-specific basis, instream work must occur during the following time windows:

- Coldwater fisheries – June 1 through September 30.
- March 1 through June 15 in-stream construction restriction period to provide an appropriate angling window for all approved trout waters managed for spring stocking. If required, DTI will obtain approval from the Pennsylvania Fish and Boat Commission (PFBC) prior to any work in these waterbodies between March 1 through June 15.
- October 1 through 31 in-stream construction restriction period to protect recreational angling from the impacts of sedimentation for all approved trout waters managed for fall stocking.

- In-stream construction restriction periods for regulated trout waters as conditions warrant for delayed harvest and/or catch and release special regulation areas.

Prior to construction through waterbodies classified as Trout Stocked Fishers, DTI will coordinate with the PFBC. Installation or removal of equipment bridges above the top of bank is not subject to the aforementioned time windows.

5.3 EQUIPMENT BRIDGES

Equipment bridges will be installed and used where needed to allow equipment access across waterbodies as permitted with the Pennsylvania Department of Environmental Protection Chapter 105 Water Obstructions and Encroachment General Permit. Fords are not allowed to be used at any time in high-quality watersheds.

1. Bridges should be used only where normal flow is shallow or intermittent across a wide channel and crossings are anticipated to be infrequent. Bridges should be located where a rocky stream bottom exists to minimize damage to the channel during crossings. Approaches should be stabilized with AASHTO #1. Fords are not authorized by general permits in special protection watersheds. Construct and maintain equipment bridges that allow unrestricted flow and prevent sediment from entering the waterbody. Equipment bridges details shown in drawings Appendix A.
2. Do not use soil to construct or stabilize equipment bridges. Only clean rock fill may be used and must be sized according to the anticipated flow conditions. The rock fill should be extended a minimum of 50 feet from top of bank on each side of the crossing. The fill should be depressed a minimum of 6 inches over the channel to allow for overflow.
3. Design and maintain equipment bridges to prevent sediment from entering the waterbody.
4. Remove temporary equipment bridges as soon as practicable after seeding.
5. If there will be more than one month between final cleanup and the beginning of permanent seeding and reasonable alternative access to the ROW is available, remove temporary equipment bridges as soon as practicable after final cleanup.
6. Obtain any necessary approval or authorization from the COE and/or the appropriate state agency for temporary and permanent bridges. DTI has begun consultations with the PADEP to obtain a Chapter 105 permit.

5.3.1 Clearing and Grading Near Waterbodies

1. Confine construction activities and ground disturbance to the construction ROW boundaries, as shown on the construction drawings. Restrict extra work areas (such as staging areas and additional spoil storage areas) to only those shown on the construction drawings.
2. If the pipeline parallels a waterbody, maintain at least 15 feet of undisturbed vegetation between the waterbody (and any adjacent wetland) and the ROW except where maintaining this offset will result in greater environmental impact.

3. Clear the ROW adjacent to all waterbodies up to the high water bank (where discernible). Within 10 feet of the high water bank, trees shall be cut to ground level with little to no ground disturbance. Do not grub this 10-foot vegetative strip with equipment.
4. Immediately remove all cut trees and branches that inadvertently fall into a waterbody and stockpile in an upland area within the construction ROW for disposal.
5. Grade the ROW adjacent to waterbodies up to within 10 feet of the high water bank, leaving an ungrubbed vegetative strip intact.
6. Clearing and grading operations may proceed through the 10-foot vegetative strip only on the working side of the ROW in order to install the equipment bridge and travel lane. Use temporary sediment barriers to prevent the flow of bank spoil into the waterbody.

5.3.2 Temporary Erosion and Sediment Controls at Waterbodies

Install sediment barriers immediately after initial disturbance of the waterbody or adjacent upland. Sediment barriers must be properly maintained throughout construction and repaired or reinstalled as necessary (such as after backfilling of the trench), until replacement by permanent erosion controls or restoration of adjacent upland areas is complete. Temporary erosion and sediment control measures are addressed in more detail in Section 10.6, however, the following specific measures must be implemented at stream crossings:

1. Install sediment barriers across the entire construction ROW at all waterbody crossings, where necessary to prevent the flow of sediments into the waterbody.
2. Install sediment barriers parallel to contours along the edge of the construction ROW as necessary to contain spoil within the construction ROW and prevent sediment flow into the waterbody where waterbodies are adjacent to the construction ROW or parallel to the construction ROW and the ROW slopes toward the waterbody.
3. Removable or temporary sediment barriers (i.e., compost filter socks, slope breakers, or drivable berms) may be used in lieu of sediment barriers in front of equipment bridges or timber mats across the travel lane. Removable sediment barriers can be removed during the construction day, but must be reinstalled after construction has stopped for the day or whenever heavy precipitation is imminent.
4. Use trench plugs at all waterbody crossings, as necessary, to prevent diversion of water into upland portions of the pipeline trench and to keep any accumulated trench water out of the waterbody. Trench plugs shall be installed per engineering details in Appendix A.
5. Use clean gravel or native cobbles for the upper 12 inches of trench backfill in all waterbodies identified as coldwater fisheries, unless otherwise specified by state-specific agency recommendations or permit conditions.

5.4 TYPES OF WATERBODY CROSSING METHODS

Waterbody crossing techniques allowed for use on the Project will be determined by agency consultations and permits. Construction at waterbodies will be conducted using a “dry” crossing

method. The “dry” or “dry-ditch” crossing procedure is further divided into a flume crossing and a dam-and-pump crossing methods. These methods are designed to maintain downstream flow at all times and to isolate the construction zone from the stream flow by channeling the water flow through a flume pipe or by damming the flow and pumping the water around the construction area. The overall objective is to minimize siltation of the waterbody and to facilitate trench excavation of saturated spoil.

Unless approved otherwise by the appropriate federal or state agency, pipeline construction and installation must occur using one of the two “dry” crossing methods for waterbodies state-designated as either coldwater or significant coolwater or warmwater fisheries, or federally designated as critical habitat. The flume and dam-and-pump crossing methods are applicable to waterbodies up to 30 feet wide (possibly wider depending on flow volume and rate) at the water’s edge at the time of construction.

A crossing of a stream channel 10 feet in bottom width or less should be completed within 24 hours from start to finish, including the trench backfilling, stabilization of stream banks, and stabilization of the area 50 feet back from the top of each stream bank. Stream channels between 10 and 100 feet in width should be completed within 48 hours or as approved in writing from the Department/Conservation District. Impervious trench plugs are required for all stream, river, wetland, or other waterbody crossing.

5.4.1 Flume Crossing

The flume crossing method utilizes a flume pipe(s) to transport stream flow across the disturbed area and allows trenching to be done in drier conditions. The flume pipe(s) installed across the trench will be sized to accommodate anticipated stream flows. Flumes are generally not recommended for use on a waterbody with a broad unconfined channel, unstable banks, a permeable substrate, excessive stream flow, or where the installation and construction of the flume crossing will adversely affect the bed or banks of the stream.

The flume waterbody crossing shall be installed as follows:

1. Install flume pipe(s) after blasting and other rock breaking measures (if required), and installed prior to trench excavation at the location;
2. Properly align flume pipe(s) to prevent bank erosion and streambed scour;
3. The flume will be of sufficient size to convey normal stream flow over the open trench;
4. Use sand bags or equivalent dam diversion structure to provide a seal at either end of the flume to channel water flow (some modifications to the stream bottom may be required to achieve an effective seal);
5. Do not remove flume pipe during trenching, pipe laying (thread pipe underneath the flume pipe(s)), or backfilling activities, or initial streambed restoration efforts, except for crossings where a dam-and-pump method has been established as an alternative measure to redirect stream flow;

6. Remove all flume pipes and dams that are not also part of the equipment bridge as soon as final cleanup of the stream bed and bank is complete;
7. Stabilize waterbody banks and install temporary sediment barriers within 24 hours of completing instream construction activities for streams less than 10 feet wide and within 48 hours for streams 10 to 100 feet wide; and
8. Complete bank stabilization before returning flow to the waterbody channel.

5.4.2 Dam-and-Pump Crossing

The dam-and-pump crossing method is presented as an alternative dry crossing procedure to the flume crossing (in limited cases, it may be used in combination with a flume crossing). The dam-and-pump method is accomplished by utilizing pumps to transport stream flow across the disturbed area. This method involves placing sandbags across the existing stream channel upstream from the proposed crossing to stop water flow and downstream from the crossing to isolate the work area. Pumps are used to pump the water across the disturbed area and back into the stream further downstream.

The dam-and-pump procedure allows for more space and flexibility during trenching and pipe installation, which shortens the duration of time spent at the waterbody. The dam-and-pump method may be used for crossings of waterbodies where pumps can adequately transfer stream flow volumes around the work area, and where there are no concerns about sensitive species passage.

The dam-and-pump crossing method shall be installed as follows:

1. A temporary bypass channel should be designed to pass normal base flows if the crossing will be completed in one to three days, otherwise the channel should be designed for bank-full flow (original channel). All such channels should be constructed from the downstream end upward.
2. At a minimum, a geotextile protective lining should be provided for temporary bypass channels.
3. Install and properly seal sandbags at the upstream and downstream location of the crossing;
4. Create an in-stream sump using sandbags if a natural sump is unavailable for the intake hose;
5. Initiate pumping of the stream around the work area prior to excavating the trench;
6. Monitor dam and pumps at all times to ensure proper operation until the waterbody crossing is completed;
7. Stabilize waterbody banks and install temporary sediment barriers within 24 hours of completing instream construction activities for streams less than 10 feet wide and within 48 hours for streams 10 to 100 feet wide;
8. Complete bank stabilization before returning flow to the waterbody channel; and

9. Remove the sandbag dams, pumps, and hoses and return normal flow back to the waterbody following installation and restoration of the streambed.

Implementation of the dam-and-pump crossing method will meet the following performance criteria:

- Use sufficient pumps, including on-site backup pumps, to maintain downstream flows;
- Construct dams with materials that prevent sediment and other pollutants from entering the waterbody (e.g., sandbags or clean gravel with plastic liner);
- Screen all intake hoses to minimize the entrainment of fish and other aquatic life
- Prevent streambed scour at pump discharge; and
- Continuously monitor the dam and pumps to ensure proper operation throughout the waterbody crossing.

5.5 RESTORATION

Restore and stabilize the waterbody banks and channel in accordance with this section.

1. Return all waterbody banks to preconstruction contours or to stable angle of repose as approved by the EI.
2. Use clean gravel or native cobbles for the upper 12 inches of trench backfill in all waterbodies identified as coldwater fisheries, unless otherwise specified by state-specific agency recommendations or permit conditions.
3. For dry crossings, complete bank stabilization before returning flow to the waterbody channel.
4. Stabilize waterbody banks and install temporary sediment barriers within 24 hours of completing instream construction activities for streams less than 10 feet wide and within 48 hours for streams 10 to 100 feet wide.
5. Limit the use of rock riprap to areas where flow conditions preclude effective vegetation stabilization techniques such as seeding and erosion control fabric, unless otherwise specified by COE and state permits. Limit the placement of rock riprap to the slopes along the disturbed waterbody crossing. Application of riprap for bank stabilization must comply with COE, or its delegated agency, permit terms and conditions.
6. Install erosion control fabric or a functional equivalent on waterbody banks at the time of final bank contouring. Do not use synthetic monofilament mesh/netted erosion control materials in areas designated as sensitive wildlife habitat unless the product is specifically designed to minimize harm to wildlife.
7. Revegetate disturbed riparian areas with native species of conservation grasses, legumes and woody species similar in density to adjacent undisturbed lands.
8. In the event that final cleanup is deferred more than 20 days after the trench is backfilled, all slopes within 100 feet of waterbodies shall be mulched with 3 tons/acre of straw.

Cessation of activity for at least 4 days or more requires temporary stabilization. Immediate stabilization is required as soon as any graded area reaches final grade.

9. Remove all temporary sediment barriers when replaced by permanent erosion controls or when restoration of adjacent upland areas is successful.
10. Install a permanent waterbar 50 feet from the stream. Install trench plugs on both sides of all crossings to prevent draining streams or wetlands, and to prevent changes to hydrology of the water resources..

6.0 WETLAND CROSSINGS

The term “wetland” as used in this plan includes any area that satisfies the requirements of the current federal methodology for identifying and delineating wetlands. The requirements outlined below do not apply to wetlands in actively cultivated or rotated cropland. Standard upland protective measures, including workspace and topsoil segregation requirements, apply to these agricultural wetlands.

Wetland boundaries are identified on the E&S drawings in Appendix A. Wetlands were delineated prior to construction using current federal methodology and summarized within a wetland delineation report, which identifies the following information for all wetlands that would be affected by the construction ROW:

- Location, including pipeline milepost if crossed by centerline;
- National Wetland Inventory (NWI) classification;
- Crossing length in feet;
- Area of permanent and temporary disturbance that would occur in each wetland, sorted by NWI classification type.

6.1 GENERAL WETLAND PROCEDURES

Crossing procedures are to comply with COE, or its delegated agency, permit terms and conditions. Implement the following general requirements during planning and construction near or across wetlands:

- Route the pipeline to avoid wetland areas to the maximum extent possible.
- Staging areas should be located at least 50 feet from the edge of the wetland.
- If a wetland cannot be avoided or crossed by following an existing ROW, route the new pipeline in a manner that minimizes disturbance to wetlands. Where looping an existing pipeline, overlap the existing pipeline ROW with the new construction ROW. In addition, locate the loop line no more than 25 feet away from the existing pipeline unless site-specific constraints would adversely affect the stability of the existing pipeline.

- Identify site-specific areas where excessively wide trenches could occur and/or where spoil piles could be difficult to maintain because existing soils lack adequate unconfined compressive strength.
- Limit construction activity and ground disturbance in wetland areas to a construction ROW width of 75 feet or as shown on the construction drawings. Only with prior written approval from the FERC, construction ROW width within the boundaries of federally delineated wetlands may be expanded beyond 75 feet if required by site-specific topographic conditions or soil limitations.
- All extra work areas must be located at least 50 feet away from wetland boundaries, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land. Only with prior written approval from the FERC, DTI can locate extra work areas closer than 50 feet from the wetland if site-specific conditions justify a less than 50-foot setback.
- Aboveground facilities shall not be located in any wetland, except as permitted or where the location of such facilities outside of wetlands would prohibit compliance with U.S. Department of Transportation (U.S. DOT) regulations.
- In the event a waterbody crossing is located within or adjacent to a wetland crossing, DTI must file a site-specific crossing plan for review and obtain written approval by the FERC before construction if all measures of Sections V. and VI. of the FERC Procedures cannot be met.
- Limit construction equipment operating in wetland areas to that needed to clear the ROW, dig the trench, fabricate and install the pipeline, backfill the trench, and restore the construction ROW. All other construction equipment shall use access roads located in upland areas to the maximum extent practical.
- Lime and fertilizer are not to be applied to the backfilled trench. Annual ryegrass may be applied at the rate of 40 pound/acre where needed to areas without standing water. Straw mulch should be used at the rate of 3 tons/acre and without binding agents. No soil amendments will be used on wetland areas.
- Impervious trench plugs are required for all stream, river, wetland, or other waterbody crossings.

6.2 CLEARING AND GRADING AT WETLANDS

- Wetland boundaries and buffers (e.g., extra work area setbacks, refueling restrictions) must be clearly marked in the field with signs and /or highly visible flagging until construction-related ground disturbing activities are complete.
- If standing water or saturated soils are present the vehicles will cross wetlands on temporary pads or mats identified in the engineering drawings in Appendix A.
- If wetland areas are temporarily disturbed, isolate and stockpile topsoil for replacement after grading is completed.

- Attempt to use no more than two layers of timber riprap to stabilize the ROW. Cut vegetation just above ground level and grind stumps to ground level, leaving existing root systems in place and remove any excess vegetation (e.g., wood chips). Immediately remove all cut trees, limbs, and branches from the wetland and stockpile in an upland area on ROW for disposal.
- Limit pulling of tree stumps and grading activities to directly over the trenchline. Do not grade or remove stumps or root systems from the rest of the construction ROW in wetlands unless the Chief Inspector and EI determine that safety-related construction constraints require grading or the removal of tree stumps from under the working side of the construction ROW.
- Do not cut trees outside of the construction ROW to obtain timber for riprap or equipment mats.
- Cleared materials, such as slash, logs, brush, and wood chips, shall not be permanently placed within wetland areas.

6.3 TEMPORARY EROSION & SEDIMENT CONTROL AT WETLANDS

Install sediment barriers immediately after initial ground disturbance at the following locations:

- Within the ROW at the edge of the boundary between wetland and upland;
- At the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from a wetland;
- Across the entire ROW immediately upslope of the wetland boundary to contain spoil within the construction ROW and prevent sediment flow into the wetland;
- Along the edge of the ROW, where the ROW slopes toward the wetland, to protect adjacent, off ROW wetland; and
- Along the edge of the ROW parallel to contours as necessary to contain spoil and prevent sediment from migrating outside the construction ROW in areas where a wetland is both within and adjacent to the construction ROW.

Maintain all sediment barriers throughout construction and reinstall as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. Remove the temporary sediment barriers during ROW cleanup.

6.4 WETLAND CROSSING PROCEDURE

Procedures used to install a pipeline across wetlands vary depending on the level of soil stability and saturation encountered during construction. The following BMPs are to be employed during standard wetland crossings:

1. Assemble the pipeline in an upland area unless the wetland is dry enough to adequately support skids and pipe.

2. Do not use rock, soil imported from outside the wetland, tree stumps, or brush riprap to stabilize the ROW.
3. Perform topsoil segregation in accordance with Section 10.10.1, including segregating the top 1 foot of topsoil from the area disturbed by trenching, except in areas where standing water is present or soils are saturated. Immediately after backfilling is complete, restore the segregated topsoil to its original location.
4. If required, dewatering should be conducted as described in Section 10.10.7.
5. Minimize the length of time that topsoil is segregated and the trench is open. Do not trench the wetland until the pipeline is assembled and ready for lowering-in.
6. Install permanent trench breakers at the wetland boundaries and/or seal the trench bottom as necessary to maintain the original wetland hydrology at locations where the pipeline trench may drain a wetland.
7. Install a permanent slope breaker and a trench breaker at the base of slopes near the boundary between the wetland and adjacent upland areas for each wetland crossed.
8. Install a permanent slope breaker across the construction ROW at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from the wetland, or as needed to prevent sediment transport into the wetland. In some areas, with the approval of the EI, an earthen berm may be suitable as a sediment barrier adjacent to the wetland.
9. Restore segregated topsoil to its original position after backfilling is complete. When required, additional fill material imported from off the ROW must be approved by the EI.
10. Preconstruction wetland contours and flow regimes will be restored to the extent practical.

6.5 WETLAND CLEANUP AND RESTORATION

1. Restore pre-construction wetland contours to maintain the wetland hydrology.
2. Revegetate the ROW with annual ryegrass not exceeding 48 pounds/acre pure live seed. Apply clean straw as mulch at a rate of 3 tons/acre without binding agents. Do not use soil amendments on wetland areas.
3. Do not use lime, mulch, or fertilizer areas will not be applied to the backfilled trench unless required in writing by the appropriate federal or state agency.
4. In the event that final cleanup is deferred more than 20 days after the trench is backfilled, all slopes adjacent to wetlands shall be mulched with 3 tons/acre of straw for a minimum of 100 feet on each side of the crossing. Cessation of activity for at least 4 days or more requires temporary stabilization. Immediate stabilization is required as soon as any graded area reaches final grade.
5. Remove all Project-related material used to support equipment on the construction ROW, including timber riprap and prefabricated equipment mats, upon completion of construction.

6. Develop specific procedures in coordination with the appropriate federal or state agency, where necessary, to prevent the invasion or spread of invasive vegetation (such as purple loosestrife and phragmites).
7. Ensure that all disturbed areas permanently revegetate.
8. Temporary erosion control BMPs will not be removed until 70 percent permanent vegetation is achieved, the site is inspected by the Conservation District to confirm site stabilization, and the Notice of Termination is filed.

7.0 RUNOFF FROM PROJECT AND UPSTREAM WATERSHED

The proposed earth disturbance was analyzed for the impact it will have on downstream receiving watercourses. This analysis included calculation of the runoff volume and peak rate of runoff for each of the design storms in existing and proposed conditions. Pre- and post-construction stormwater runoff calculations were completed for the JB Tonkin Compressor Station and the launcher facilities using HydroCAD because construction of the station upgrade will result in an increase in impervious surface area. A summary of the preconstruction stormwater runoff from the site and from the upstream drainage area is shown in the Notice of Intent. Detailed calculations, standard TR-55 worksheets, and print-outs from WinTR-55 will be shown in the Site Restoration/Post-Construction Stormwater Management Plan (SR/PCSM Plan) Section 5 of the ESCGP-2 application package.

7.1 HYDROLOGIC ANALYSIS METHODS

Hydrology calculations were performed to determine existing conditions and analyze the impacts of the proposed facilities. The NRCS Rainfall-Runoff methodology was used to produce rainfall-runoff response estimates for the Project's drainage areas. Further details and analysis are included in the PCSM/SR Plan, Section 5 of this permit.

7.2 SITE CONDITIONS

Stormwater runoff calculations were not completed for the length of the TL-636 Pipeline ROW since it will be restored to existing or meadow conditions resulting in hydrologic conditions equivalent to or better than pre-development conditions. The approximate construction area at the existing JB Tonkin site is 13.9 acres. The site currently contains buildings and equipment related to the existing compressor station. The surfaces consist of asphalt pavement, grass, and gravel. The compressor station upgrade will result in the addition of impervious surface in the form of a new compressor building, auxiliary building, and gravel. While most of the site is not technically defined as an impervious surface, the areas that will be graveled will generate increased runoff. The proposed upgrade will not increase the current site boundaries, but it will convert areas of grass into asphalt and gravel along with the construction of a new compressor building and auxiliary building, totaling approximately 3.9 acres. In addition, the Project includes 12.1 acres of land disturbance for access roads and 0.6 acre of land disturbance for the receiver site.

The approximate construction area for the TL-636 Pipeline and associated temporary workspace is 45.0 acres. The JB Tonkin Compressor Station and the TL-636 Pipeline are located in the Haymakers Run-Turtle Creek Watershed. The Turtle Creek watershed drains an area of approximately 148 square miles that includes forest, farmland, industry, abandoned mined lands, and urban and suburban residential communities. Turtle Creek flows west and enters the Monongahela River. Steels Run, Haymakers Run, and Turtle Creek (upper, middle, lower) are subwatersheds within the Turtle Creek Watershed that are potentially impacted by the proposed Project. Coal mining in the general area has contributed to major pollutant loads to several streams in the Turtle Creek Watershed.

The Haymakers Run drainage areas consist of forest, meadow, cultivated land, and a few residences. Most the land is undeveloped. According to a 2002 study commissioned by the Pennsylvania Department of Conservation and Natural Resources, about 3 percent of the Haymakers Run watershed is impervious surface. Land uses in the watershed are 75.2 percent forested/herbaceous, 17.8 percent planted/cultivated, 5.5 percent residential/urban, 0.5 percent transitional, 0.2 percent industrial/transportation, and 0.1 percent mines/barren areas. These land use fractions were used to determine the subwatershed curve numbers. According to NRCS, the main soil types present on-site are Ernest Silt Loam and Gilpin-Weikert channery silt loam with hydrologic soil group C. Runoff calculations used 24-hour NRCS storm data for Westmoreland County.

Land use within the Steels Run subwatershed is comprised of 60.9 percent forested/herbaceous, 34.5 percent planted/cultivated, 2.1 percent mines/barren areas, 1.2 percent transitional 0.4 percent residential/urban, and 0.2 percent industrial/transportation. The subwatershed is composed of only 0.4 percent impervious cover (the lowest in the Turtle Creek watershed), classifying Steels Run as a sensitive stream. There is no abandoned mine land in the Steels Run subwatershed. Approximately 21.4 percent of the subwatershed has been mined for the Pittsburgh Coal.

Land use within the Lower Turtle Creek subwatershed is comprised of 51.5 percent forested/herbaceous, 26.5 percent residential/urban, 9.8 percent industrial/ transportation, 1.1 percent mines/barren areas, 4.7 percent planted/cultivated and 1.2 percent transitional. The subwatershed is composed of 22.8 percent impervious cover, classifying Lower Turtle Creek as an impacted stream. There are 1.35 square miles of abandoned mine land areas in the Lower Turtle Creek subwatershed, and 62.1 percent of the subwatershed has been mined for the Pittsburgh Coal.

Land use within the Middle Turtle Creek subwatershed is comprised of 69.4 percent forested/herbaceous, 20.9 percent residential/urban, 5.2 percent industrial/ transportation, 3.2 percent planted/cultivated, 0.7 percent mines/barren areas, and 0.5 percent transitional. The subwatershed is composed of 16.2 percent impervious cover, classifying Middle Turtle Creek as an impacted stream. There are no abandoned mine land areas in the Middle Turtle Creek subwatershed, and only 0.1 percent of the subwatershed has been mined for the Pittsburgh Coal.

Land use within the Upper Turtle Creek subwatershed is comprised of 59.1 percent forested/herbaceous, 19.0 percent planted/cultivated, 11.2 percent residential/urban, 1.9 percent

industrial/transportation, 0.3 percent mines/barren areas, and 0.2 percent transitional. The subwatershed is composed of only 8.1 percent impervious cover, classifying Upper Turtle Creek as a sensitive stream. There are 1.78 square miles of abandoned mine land areas in the Upper Turtle Creek subwatershed, and 56.3 percent of the subwatershed has been mined for the Pittsburgh Coal.

Haymakers Run crosses the southern portion of the JB Tonkin Compressor Station site from east to west. Two unnamed tributaries join Haymakers Run near the southeastern portion of the site. One tributary flows north to south, and the other flows south to north. The site is in the Haymakers Run-Turtle Creek watershed. Generally, drainage enters the site from the north and the south and via Haymakers Run on the east. Most of the runoff from the site enters Haymakers Run, which flows to the west. The upstream drainage area of the site was estimated using USGS topographic maps for Westmoreland County. A listing of waterbodies within the construction footprint for the Project is provided in Table 2-2 of Section 2 of the ESCGP-2 application package.

The TL-636 Pipeline crosses waterbodies that are within the Haymakers Run-Turtle Creek watershed. Generally, drainage crosses the proposed pipeline from the east to the southwest. The proposed pipeline crosses two high-quality drainage basins and one non-high quality drainage basin. Tributaries drain to Turtle Creek, which flows to the west. The upstream drainage area of the site was estimated using USGS topographic maps for Westmoreland County. A listing of waterbodies within the construction footprint for the Project is provided in Table 2-2 of Section 2 of the ESCGP-2 application package.

Pre- and post-construction stormwater runoff calculations, standard TR-55 worksheets, and print-outs from HydroCAD and WinTR-55 are included in the Site Restoration/Post-Construction Stormwater Management Plan (SR/PCSM Plan) included as Section 5 of the ESCGP-2 application package.

7.3 RUNOFF VOLUME AND PEAK RATE

The impacts of the proposed Project on runoff volume and peak flow rate were analyzed utilizing the methods described in the previous section. The calculations used to determine the 2-year volume and peak flow rate are consistent with the methodology described in the PADEP Stormwater BMP Manual (2006). A summary of the analysis results for each drainage area are depicted in the Summary Tables contained in the Notice of Intent form and detailed analysis results are included in the SR/PCSM Plan.

8.0 LOCATION AND CLASSIFICATION OF SURFACE WATERS

ERM conducted a wetland and waterbody delineation of the proposed Project area. The Wetland and Watercourse Report is included in Appendix C. The on-site wetland delineation was conducted using procedures described in the 1987 COE Wetland Delineation Manual and the 2012 Regional Supplement to the U.S. Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region. Other waters were assessed using the definitions in Title 33 Code of Federal Regulations (CFR) Part 328.3. Impact assessments to potential waters of the

United States, including wetlands, were evaluated within the proposed Project construction work area. Fourteen waterbodies and 11 wetlands are crossed by the JB Tonkin Compressor Station and TL-636 project activities in Westmoreland County. Some wetlands and waterbodies are crossed more than once for a total of 18 waterbody crossings and 14 wetland crossings. Wetlands and waterbodies crossed by the project are included in Section 2 of the ESCGP-2 application package and identified on the site specific crossing drawings in Section 2 and on drawings in Appendix A. There are nine U.S. Environmental Protection Agency (EPA) Section 303(d) impaired streams within the Project area: unnamed tributary (UNT) to Turtle Creek (MP 0.2); UNT to Turtle Creek (MP 0.6); UNT to Kemerer Hollow (MP 1.2); Kemerer Hollow (MP 1.3); UNT to Kemerer Hollow (MP 1.7); UNT to Kemerer Hollow (MP 1.9); UNT to Steels Run (MP 2.5); Steels Run (MP 2.6); and UNT to Steels Run (MP 2.9). The impairment cause for all of these streams is listed as aquatic life.

The JB Tonkin Compressor Station and the TL-636 Pipeline are located with the Haymakers Run-Turtle Creek watershed. The Project will cross Steels Run and associated unnamed tributaries, Haymakers Run and associated unnamed tributaries, Kemerer Hollow and associated unnamed tributaries, and unnamed tributaries to Turtle Creek. The waterbodies crossed by the Project are not a PFBC “Approved Trout Waters” or “Wild Trout Waters”. Turtle Creek is a PFBC “Trout Stocked Fisheries”.

Steels Run and its associated tributaries have a Pa. Code, Title 25, Chapter 93 designated protected use of High-Quality Cold Water Fishes (HQ-CWF) and are special protection waters. According to the 2014 Pennsylvania Integrated Water Quality Monitoring and Assessment Report, the receiving waters for this Project are listed as siltation impaired in Category 5. Steels Run was listed in 2006 and has a total maximum daily load (TMDL) date of 2019.

Haymakers Run and its associated tributaries have a Pa. Code, Title 25, Chapter 93 designated protected use of HQ-CWF and are special protection waters. According to the 2014 Pennsylvania Integrated Water Quality Monitoring and Assessment Report, the receiving waters for this Project are not listed as siltation impaired in Category 4 or Category 5.

Kemerer Hollow and its associated tributaries have a Pa. Code, Title 25, Chapter 93 designated protected use of HQ-CWF and are special protection waters. According to the 2014 Pennsylvania Integrated Water Quality Monitoring and Assessment Report, the receiving waters for this Project are not listed as siltation impaired in Category 4 or Category 5.

Turtle Creek and its tributaries do not have a Pa. Code, Title 25, Chapter 93 designated protected use and are not special protection waters. According to the 2014 Pennsylvania Integrated Water Quality Monitoring and Assessment Report, the receiving waters for this Project are listed as siltation impaired in Category 4a and Category 5. Turtle Creek was listed as a Category 4a in 2004 with a TMDL date of 2013. Turtle Creek was listed as a Category 5 in 2006 with a TMDL date of 2019.

9.0 STEEP SLOPES

DTI recognizes the increased risk of instability associated with pipeline construction particularly while traversing steep slopes. As a baseline, DTI developed a program for use on projects within steep terrain. When routing the Project, the goal has been to do so perpendicular to topographic contours and to minimize routing on slip prone steep slopes to the extent practicable.

The program outlines the following engineering design methods that will apply to slip prevention and correction during construction:

- drainage improvement that may include providing subsurface drainage at seep locations through granular fill and outlet pipes, incorporating drainage into trench breakers using granular fill, and/or intercepting groundwater seeps and diverting them from the ROW;
- buttressing slopes with Sakrete trench breakers;
- changing slope geometry;
- benching and re-grading with controlled backfill;
- using alternative backfill;
- chemical stabilization of backfill;
- Geogrid reinforced slope that consists of benching existing slope, installing subsurface drains, and incorporating Geogrid reinforcement into compacted backfill; and/or
- retaining structures.

Selection of appropriate engineered prevention measure or combination will be dependent on the individual site conditions and constraints.

10.0 CONSTRUCTION TECHNIQUES FOR NATURAL GAS FACILITIES

10.1 ESTIMATED START AND COMPLETION DATES FOR THE PROJECT

Subject to receipt of the required permits and regulatory approvals, DTI anticipates that the proposed modifications to the JB Tonkin Compressor Station and TL-636 Pipeline will be complete and in service by fall of 2019. Key milestone dates for the construction schedule are summarized in Table 10.1-1.

TABLE 10.1-1: Construction Schedule by Spread for the Supply Header Project in Westmoreland County, Pennsylvania ^a

Spread	Approximate Mileposts	Begin Construction	Finish Construction ^d
Initial Construction Activities			
Initial Site Preparation (Spread 14)	By spread	November 2017	1Q 2018
Tree Clearing (Spread 14) ^{b,c}	By spread	November 2017	1Q 2018
Construction of Pipeline Spread			
Spread 14 (TL-636)	0.0-3.9	January 2018	4Q 2018
Construction of Compressor Station Modifications			
JB Tonkin	0.0	February 2018	3Q 2019
^a The number and timing of the construction spreads are subject to change dependent upon construction and permit requirements. ^b The start of tree clearing is dependent upon the results of the environmental surveys and agency consultations. ^c Including tree clearing for aboveground facilities, access roads, and contractor yards. ^d The finish construction date refers to the end of mechanical construction; additional restoration and post construction activity is expected to occur in the Project area beyond the timeframe reflected here. 1Q = first quarter; 2Q = second quarter; 3Q = third quarter; 4Q = fourth quarter.			

10.2 TYPICAL WORKSPACE REQUIREMENTS

Pipeline construction workspace requirements are a function of pipe diameter, equipment size, topography, geological rock formations, location of construction road crossings and river crossings, pipeline crossovers, methods of construction such as boring or open-cut construction, or existing soil conditions encountered during construction. As the diameter of the pipeline being installed increases, so does the depth of trench, excavated spoil material, equipment size, and ultimately the amount of construction workspace that will be required to construct a Project. All workspace locations for the Project are depicted on the E&S drawings in Appendix A.

Additional construction ROW may be required at specific locations including, but not limited to, steep side or vertical slopes, road crossings, pipeline crossovers, areas requiring supplemental topsoil segregation, and staging areas associated with wetland and waterbody crossings.

Minor field realignments and workspace shifts are only allowed if construction activities remain within the environmental field survey area, comply with project-specific environmental permits and landowner easements, and do not affect new landowners or sensitive resource areas within the permitted LOD.

10.3 ACCESS ROADS AND ACCESS POINTS

To the extent practical, all access to the construction ROW have been limited to existing roads, where possible. However, additional access roads to the construction ROW are required and identified at various points along the Project where other road crossings (paved or gravel state/local roads) do not exist. Improvements to access roads (i.e., grading, placing gravel, replacing/installing culverts, and trimming overhanging vegetation) will be required at some locations due to the size and nature of the equipment that would utilize the road. The Project includes seven new permanent access roads and nine existing access roads. The following conditions apply to the use of all access roads:

1. Maintain safe and accessible conditions at all road crossings and access points during construction and restoration.
2. Minimize the use of tracked equipment on public roadways and in accordance with the requirements of the managing agency. Remove soil or gravel spilled or tracked onto roadways daily or more frequently as necessary to maintain safe road conditions. Repair damages to roadway surfaces, shoulders, and bar ditches.
3. Construction entrances will have stone access entrance and exit drives and parking areas to reduce the tracking of sediment onto public or private roads. Maintain access roads in a stable manner to prevent impacts to areas outside of the LOD, including impacts on adjacent and/or nearby sensitive resource areas.
4. During construction and restoration activities, access to the construction workspace is limited to the use of existing access roads identified on the construction drawings. Access to the construction workspaces will utilize existing roads and access will be avoided in wetlands.
5. All access roads across a waterbody must use an equipment bridge.

10.4 PIPE AND CONTRACTOR YARDS

Pipe and contractor yards are required for storing and staging equipment, pipe, fuel, oil, pipe fabrication, and other construction-related materials and preparations. DTI will use existing gravel yards located in Salem Township and will not involve and new ground disturbance. The Contractor shall perform the following measures at pipe and contractor yards:

1. Strip and segregate topsoil in agricultural lands.
2. Install erosion and sediment control structures as directed by the EI or identified on the construction drawings, and as outlined in this E&SCP and/or the Preparedness,

Prevention, and Contingency (PPC) Plans. PPC Plans will be maintained at the Project site. Maintain controls throughout construction and restoration activities.

3. Implement and comply with the PPC Plan, including the completion of any required site-specific forms and attachments.
4. Restore and revegetate all disturbed areas in accordance with the measures outlined in this E&SCP, landowner agreements and/or as directed by the EI. At a minimum, the area must be returned to approximate preconstruction contours and stabilized prior to contractor demobilization.

10.5 OFF-LOD DISTURBANCE

All construction activities, including staging areas and spoil storage areas, are restricted to the construction LOD identified on the construction drawings, except for activities in limited, non-wetland and non-riparian areas that are allowed by the FERC Plan and Procedures (i.e., permanent slope breakers, energy-dissipating devices, and dewatering structures) and are located within the Pennsylvania Chapter 102 permit boundary. Use of these limited areas is subject to landowner or land management agency approval and compliance with all applicable survey, permit, and reporting requirements. In some cases, federal, state, and local permits and authorizations may require additional approvals.

10.6 SUPPLY HEADER PROJECT CONSTRUCTION SEQUENCE

Natural gas pipelines are installed using conventional overland buried pipeline construction techniques. These activities are necessary for the installation of a stable, safe, and reliable transmission facility consistent with U.S. DOT requirements and regulations. This section provides an overview of the equipment and operations necessary for the installation of a natural gas pipeline, describes potential impacts that may occur from each operation, and identifies the measures that will be implemented to control these potential impacts. This section also discusses in detail the erosion and sediment control techniques that apply to each construction activity including clearing, grading, trenching, lowering-in of pipe, backfilling, hydrostatic testing, and pipeline abandonment. ROW restoration is the final step in the typical construction sequence.

At least 7 days prior to starting any earth disturbance activities, DTI will invite all contractors, the landowner, appropriate municipal officials, the E&S plan preparer, the PCSM plan preparer, and a representative from the Westmoreland County Conservation District to an on-site preconstruction meeting. Upon installation or stabilization of all perimeter sediment control BMPs and at least 3 days prior to proceeding with the bulk earth disturbance activities, the permittee or co-permittee shall provide notification to the Department or authorized conservation district. At least 3 days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Contractor will notify the Pennsylvania One Call (Dial 8-1-1) for the location of existing underground utilities. All earth disturbance activities shall proceed in accordance with the sequence provided on the plan drawings. Deviation from that sequence must be approved by the Westmoreland County Conservation District or by the Department prior to

implementation. Each step of the sequence shall be completed before proceeding to the next step, except where noted.

Site Preparation

1. Survey and flag the construction ROW and mark environmentally sensitive areas.
2. Install rock construction entrance in non-high quality watersheds, and construction entrances with wash racks in high quality watersheds.
3. Conduct initial clearing, limited to that necessary to install temporary sediment barriers.
4. Install all perimeter BMPs prior to any bulk earth-moving activity.
5. Conduct progressive clearing with installation of temporary sediment barriers and temporary equipment bridges keeping pace with clearing.
6. Modify access roads by grading and installing stone where needed.
7. Grade the ROW, and segregate topsoil where necessary.
8. Install temporary slope breakers, also referred to as interceptor dikes, as needed to reduce runoff velocity and divert water off the construction ROW.

Pipe Installation

1. Excavate new trench to accommodate new/replacement pipeline segment.
2. String pipe, bend the pipe joints.
3. Weld the pipe, inspect welds.
4. Lower the pipe into the trench.
5. Install permanent trench plugs.
6. Backfill the trench.
7. Install hydrostatic test dewatering structures.
8. Hydrostatically test the pipe and dewater.
9. Final grade ROW and temporary workspaces to original contours to the extent practicable.
10. Replace segregated topsoil.
11. Install permanent interceptor dikes.

12. Conduct ROW restoration and cleanup. As soon as slopes, channels, ditches, and other disturbed areas reach final grade, they must be stabilized.
13. Apply soil amendments, permanent seed, mulch and/or erosion control fabric.
14. Restore temporary access roads or any paved surfaces to original condition.
15. Temporary erosion control BMPs will not be removed until 70 percent permanent vegetation is achieved, the site is inspected by the Conservation District to confirm site stabilization, and the Notice of Termination is filed.

Obstacles to the mainline technique are often encountered and are not considered to be out of the ordinary. These obstacles, which include side hill crossings, rock, wetlands, streams, roads, and residential areas, do not normally interrupt the assembly line flow.

10.7 CLEARING AND FLAGGING

Clearing operations include the removal of vegetation within the construction ROW. Various clearing methods are employed depending on tree size, contour of the land, and the ability of the ground to support clearing equipment. Vegetative clearing can be accomplished either by hand or by cutting equipment. The following procedures will be standard practice during clearing:

1. Prior to beginning the removal of vegetation:
 - a. the limits of clearing will be established, in accordance with the construction drawings, and visibly marked on-site before clearing;
 - b. signs and highly visible flagging will also be used to mark the boundaries of sensitive resource areas, including waterbodies and wetlands, and/or areas with special requirements along the construction work area, in accordance with the construction drawings;
 - c. flagging or marking shall be maintained throughout construction; and
 - d. trees to be protected per landowner requests or as otherwise directed will be clearly marked, if applicable.
2. All construction activities and ground disturbance will be confined to within the permitted LOD shown on the construction drawings.
3. Clearly mark and protect trees to be saved as per landowner requests or as otherwise indicated. All other brush and trees will be felled into the construction ROW to minimize damage to trees and structures adjacent to the ROW. Trees that inadvertently fall beyond the edge of the ROW will be immediately moved onto the ROW and disturbed areas will be immediately stabilized, per landowner approval.

4. Trees will be chipped and removed or cut into lengths identified by the landowner and then stacked at the edge of the ROW or removed. Trees may be burned depending on local and state restrictions, applicable permits, and landowner agreements.
5. Brush and limbs may be disposed of in one or more of the following ways depending on local restrictions, applicable permits, and landowner agreements:
 - a. Stockpiled/windrowed along the edge of the ROW;
 - b. burned - if burning of brush is elected and approved by DTI, the Contractor will first obtain a burn permit from the local Fire Marshall or Fire Department with jurisdiction in Pennsylvania and abide by all site-specific requirements of the permit. The Environmental Inspector (EI) will receive a copy of the burn permit and determine where, if any, requirements conflict with other permits or requirements of the Project. Burning will not take place in wetlands;
 - c. chipped, spread across the ROW in upland areas in accordance with federal and/or state requirements, and plowed in at the discretion of the Chief Inspector or EI (excess material must be removed);
 - d. used as part of erosion control mix material; or
 - e. hauled off site to a DTI-approved disposal facility.
6. Existing surface drainage patterns shall not be altered by the placement of timber or brush piles at the edge of the construction ROW.

10.8 TEMPORARY SEDIMENT BARRIERS

Sediment barriers, which are temporary sediment controls intended to minimize the flow and deposition of sediment beyond approved workspaces or into sensitive resource areas, shall be installed following vegetation clearing operations. They may be constructed of materials such as compost filter sock, compacted earth (e.g., drivable berms across travel lanes), sand bags, or other appropriate materials (see E&S drawings in Appendix A).

1. Install temporary sediment barriers at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from a road crossing, waterbody, and/or wetland.
2. Sediment control logs (i.e., compost filter socks, slope breakers, or drivable berms) will be used on equipment bridges or on mats across the travel lane.
3. Inspect temporary sediment barriers daily in areas of active construction to ensure proper functioning and maintenance. In other areas with no construction or equipment operation, sediment barriers will be inspected and maintained on a weekly basis throughout construction, and within 24 hours following runoff events. Remove accumulated sediments when sediment reaches one-third the aboveground height sediment barrier.

4. Sediment removed from erosion controls will be disposed by adding to existing on-site soil stockpiles and stabilizing, or will be reused on-site within the construction LOD and outside of any wetlands, streams, or riparian areas.
5. Maintain all temporary sediment barriers in place until permanent revegetation measures are successful or the upland areas adjacent to wetlands, waterbodies, or roads are stabilized.

Temporary erosion control BMPs will not be removed until 70 percent permanent vegetation is achieved, the site is inspected by the Conservation District to confirm site stabilization, and the Notice of Termination is filed. The contractor shall inspect all erosion and sediment BMPs after each runoff event and on a weekly basis, at a minimum and record observations in the PADEP Visual Site Inspection Form, provided as Appendix F.

10.9 WIND EROSION CONTROL

The following temporary sediment controls are intended to minimize the surface and air movement of dust during land disturbing and constructing activities:

1. In areas with little or no construction traffic, a vegetative stabilized surface will reduce the dust emissions.
2. Mulch is not to be used in areas designated for heavy traffic. Binders or trackifiers should be used to stake organic mulches.
3. Tillage should be used only in an emergency situation before wind erosion begins, plowing on the windward side of the site with chisel-type plows spaced approximately 12 inches apart.
4. The site should be sprinkled with water until the surface is wet and repeated as needed.
5. Use of spray-on adhesives may be used on mineral soils only.
6. Use crushed stone or coarse gravel to stabilize roads and other areas during construction.
7. Use a board fence, wind fence, or sediment fence to control air currents and blowing soil. Place barriers perpendicular to prevailing air currents at intervals of about 15 times the barrier height.
8. Calcium chloride may be applied by a mechanical spreader as loose, dry granules or flakes at a rate that keeps the surface moist but not so high as to cause water pollution or plant damage.
9. Permanent vegetation can be used to help reduce soil and air movement.

10.10 GRADING

The construction LOD will be graded as needed to provide a level workspace for safe operation of heavy equipment used in pipeline construction. The following procedures will be standard practice during grading: topsoil segregation (where required), tree stump removal and disposal, rock management, temporary stabilization, and installation of temporary slope breakers as needed. These procedures are discussed in more detail in subsequent sections.

10.10.1 Topsoil Segregation

During construction, topsoil and subsoil will be disturbed by grading of the LOD and by heavy equipment moving throughout the LOD. Implementation of proper topsoil segregation is intended to mitigate these construction impacts and promote or facilitate post-construction revegetation success.

Topsoil segregation methods will be used in all residential areas (except where the topsoil is being replaced), wetlands (except areas where standing water is present or soils are saturated), cultivated or rotated croplands, managed pastures, hayfields, and other areas at the landowner's or land managing agency's request, as applicable to these site activities. Either the "ditch plus spoil side" or the "full ROW" segregation method will be used.

1. Graded areas shall be scarified or otherwise loosened to a depth of 3 to 5 inches to permit bonding of the topsoil to the surface areas and to provide a roughened surface to prevent topsoil from sliding down slope.
2. Prevent the mixing of topsoil with subsoil by stripping topsoil from either the full work area or from the trench and subsoil storage area ("ditch plus spoil side" method).
3. Segregate at least 12 inches of topsoil in deep soils with more than 12 inches of topsoil. In soils with less than 12 inches of topsoil, make every effort to segregate the entire topsoil layer.
4. Within wetlands, segregate the top 12 inches of topsoil within the trenchline, except in areas where standing water is present or soils are saturated.
5. In residential areas, importation of topsoil (i.e., topsoil replacement) is an acceptable alternative to topsoil segregation, if approved by the landowner and Chief Inspector.
6. Maintain separation of salvaged topsoil and subsoil throughout all construction activities.
7. Leave gaps in the topsoil piles and spoil piles for the installation of temporary slope breakers to allow water to be diverted off the construction workspace.
8. Never use topsoil for padding the pipe, constructing temporary slope breakers, trench breakers or trench plugs, improving or maintaining roads, or as a fill material.
9. Topsoil shall be uniformly distributed across the disturbed area to a minimum depth of 4 to 8 inches; 2 inches on fill outslopes. Spreading shall be done in such a manner that sodding or seeding can proceed with a minimum of additional preparation or tillage.

Irregularities in the surface resulting from topsoil placement shall be corrected in order to prevent formation of depressions.

10. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet, or in a condition that may otherwise be detrimental to proper grading and seedbed preparation. Compacted soils shall be scarified 6 to 12 inches along contour wherever possible prior to seeding.
11. Stabilize topsoil piles and minimize loss due to wind and water erosion with use of sediment barriers, mulch, temporary seeding, or functional equivalents, where necessary.
12. Cessation of activity for at least 4 days or more requires temporary stabilization. Immediate stabilization is required as soon as any graded area reaches final grade.
13. Upon completion or temporary cessation of the earth disturbance activity in a special protection watershed, that portion of the project site tributary to the special protection waters must be immediately stabilized.

10.10.2 Tree Stump Removal and Disposal

1. Remove tree stumps in upland areas along the entire width of the permanent ROW to allow adequate clearance for the safe operation of vehicles and equipment. Stumps within the temporary ROW will be removed or ground below the surface in accordance with DTI construction specifications to allow the safe passage of equipment, as determined by the Chief Inspector or EI.
2. In wetlands, limit pulling of tree stumps and grading activities to directly over the trenchline.
3. Dispose of stumps by one of the following methods with the approval of the Chief Inspector and the landowner and in accordance with regulatory requirements:
 - a. buried at a permitted and DTI-approved off-site location (except in wetlands and agricultural areas);
 - b. chipped, spread across the construction ROW in upland areas, and plowed in;
 - c. used as erosion control mix material;
 - d. hauled to a permitted and DTI-approved off-site location.

10.10.3 Rock Management

Rock will be used, removed, or disposed of in one of the following ways, as applicable, to the proposed site activities:

- a. rock excavated from the LOD may be used to backfill LOD areas only to the top of the existing bedrock profile (Rock that is not returned to the LOD shall be considered construction material or waste, unless approved for use as mulch or for some other use on the construction work areas by the land owner or land managing agency.);

- b. windrowed per written landowner agreement with DTI;
- c. removed and disposed of at a DTI -approved landfill within the LOD;
- d. used as riprap for streambank stabilization as allowed by applicable regulatory agency(ies) and provided the rock is uncontaminated and free of soil and other debris; or
- e. if removed to a DTI-approved disposal site not within the LOD, an approved E&SCP with the county conservation district is required.

NOTE: Form FP-001 – Certification of Clean Fill must be completed if fill material is brought onto the Project site, provided in Appendix D.

If removed to a DTI -approved disposal site not within the limits of disturbance, an approved E&SCP with the county conservation district is required.

10.10.4 Temporary Stabilization

Temporary stabilization will be conducted as needed for graded areas, spoil piles and other disturbed land during construction with temporary seed and mulch as indicated below. The recommended soil amendment application rates and recommended seed mixtures are listed in Table 10.10.4-1:

Table 10.10.4-1: Recommended Seed Mixtures

Mixture Number	Species	Seeding Rate (pounds/acre) – Pure Live Seed	
		Most Sites	Adverse Sites
3	Birdsfoot trefoil, plus	6	10
	Tall fescue	30	35

Seeding rates are adapted from Table 11.4 of the PA ESC Manual and recommended by the Westmoreland County Conservation District. For birdsfoot trefoil, the empire variety will be used. For slopes greater than 3H:1V, add perennial rye at 20 pound/acre. For planting outside March 1 - October 15, use winter oats at 90 pound/acre and winter rye at 56 pound/acre. For agricultural or private lands, contractor will use mixtures above unless otherwise specified by landowner. Stabilization within wetland areas is discussed in Section 6.2.

10.10.5 Temporary Slope Breakers (Waterbars)

Temporary slope breakers are temporary erosion control measures intended to reduce runoff velocity and divert water off the construction LOD. Temporary slope breakers may be constructed of materials such as compacted soil, or sand bags. Segregated topsoil may not be used for constructing temporary slope breakers. Straw/hay bales are not permitted as waterbars..

1. Install temporary slope breakers on all disturbed areas as necessary following grading operations to avoid excessive erosion. Unless otherwise specified by permit conditions, temporary slope breakers must be installed on slopes greater than 5 percent at the recommended spacing interval indicated below (closer spacing should be used if necessary):

<u>Slope (%)</u>	<u>Spacing (feet)</u>
< 5	250
5–15	150
> 15–30	100
> 30	50

2. Direct the outfall of each slope breaker to a stable, well vegetated area or construct an energy-dissipating device (i.e., staked straw bales, erosion control fabric) at the end of the slope breaker.
3. Position the outfall of each temporary slope breaker to prevent sediment discharge into wetlands, waterbodies, or other sensitive resource areas.
4. Install temporary slope breakers across the entire construction workspace along slopes greater than 5 percent where the base of the slope is less than 50 feet from wetland, waterbody, and road crossings.
5. Inspect temporary slope breakers daily in areas of active construction to ensure proper functioning and maintenance. Slope breakers temporarily removed during the day will be reinstalled prior to end of daily construction. In other areas, the slope breakers will be inspected and maintained on a weekly basis throughout construction, and within 24 hours following construction. Repairs should be made within 24 hours of identification, if possible.
6. Remove temporary measures when replaced by permanent measures or when permanent stabilization is achieved (uniform 70 percent perennial vegetative cover).

10.10.6 Trenching

The trench centerline will be staked after the construction ROW has been prepared. In general, a trench will be excavated to a depth that will permit burial of the pipe with a minimum of three feet of cover. Overland trenching may be accomplished using a conventional backhoe or a rotary wheel-ditching machine. In shale or rocky areas where the use of the wheel-ditching machine is limited, a tractor-drawn ripper will be employed to break and loosen hard substratum material. In areas where rock cannot be ripped, drilling and blasting may be required. Should blasting be required, DTI will develop specific blasting procedures in coordination with the appropriate agencies. A backhoe may then be used to remove rock and soil from the ditch. The total length of excavated trench open at any one time should not be greater than the total length of utility line that can be placed in the trench and back-filled in one working day. Open trench operations should be the minimum time necessary to efficiently excavate the trench, install the pipe, backfill

the trench, and begin stabilization of the disturbed areas. For most installations, this time period should not exceed 30 calendar days.

The following procedures will be standard practice during ditching:

- Flag drainage tiles damaged during ditching activities for repair.
- Place spoil in additional extra work areas or at least 10 feet away from the waterbody's edge in the construction ROW. Spoil will be contained with erosion and sediment control devices to prevent spoil materials or sediment-laden water from transferring into waterbodies and wetlands or off of the ROW.
- If temporary erosion or sediment controls are damaged or removed during trenching, they shall be repaired and/or replaced before the end of the workday.

10.10.7 Temporary Trench Plugs

Temporary trench plugs are intended to segment a continuous open trench prior to backfill. Along steep slopes, they serve to reduce erosion and sedimentation in the trench and minimize dewatering problems at the base of slopes where sensitive environments, such as waterbodies and wetlands, are frequently located. In addition, they provide access across the trench for wildlife and livestock.

1. Temporary trench plugs may consist of unexcavated portions of the trench, compacted subsoil, sandbags, or some functional equivalent.
2. Trench plugs should be installed on both sides of all crossings to prevent draining streams or wetlands, and to prevent changes to their hydrology.
3. Position temporary trench plugs, as necessary, to reduce trenchline erosion and minimize the volume and velocity of trench water flow at the base of slopes.
4. Do not use topsoil for installing temporary soft trench plugs.
5. Coordinate with the landowner to identify optimal locations for the placement of temporary hard trench plugs designed to provide access for livestock.
6. Temporary trench plugs may be used in conjunction with interceptor dikes to prevent water in the trench from overflowing into sensitive resource areas. Attempt to divert trench overflow to a well vegetated off-ROW location or construct an energy-dissipating device.

10.10.8 Trench and Site Dewatering

Dewatering may be periodically conducted to remove accumulated groundwater or precipitation from the construction ROW, including from within the trenchline. The need for erosion controls as well as the type of control used will vary depending on the type and amount of sediment within the water, and volume and rate of discharge.

1. Conduct dewatering (on or off the construction ROW) in such a manner that does not cause erosion and does not result in silt-laden water flowing into any waterbody or wetland.
2. Elevate and screen the intake of each hose used to withdraw the water from the trench to minimize pumping of deposited sediments.
3. Where vegetation is absent or in the vicinity of waterbody / wetland areas, water will be pumped into a discharge structure that accommodates the anticipated discharge volumes as well as type and amount of sediment within the water being discharged, including
 - a. a filter bag, or
 - b. a structure composed of sediment barrier; or
 - c. a structure that is more typically used for discharges of hydrostatic test water may be necessary for large volumes of water.
4. When using filter bags, secure the discharge hose to the bag with a clamp.
5. Remove dewatering structures as soon as practicable after the completion of dewatering activities.

10.10.9 Pipe Installation

During all phases of the pipe installation process, ensure that all roadway crossings and access points are safe and accessible conditions. Repair damaged temporary erosion controls by the end of the workday. If portions of slope breakers are removed from the travel lane to facilitate safe work conditions, they shall be restored prior to the end of the workday. Pipe installation will commence according to DTI construction and implementation plans and generally consists of stages such as stringing and bending, welding, and lowering-in and tie-ins.

10.10.9.1 Stringing and Bending

Following trench excavation, pipe sections will be delivered to the construction site by truck or tracked vehicle, and strung out along the trench. Individual pipe sections will be placed on temporary supports or wooden skids and staggered to allow room for work on the exposed ends. Certain pipe sections will be bent, as necessary, to conform to changes in slope and direction of the trench.

10.10.9.2 Welding & Weld Inspections

Once the bending operation is complete, the pipe sections will be welded together on supports using approved welding procedures that comply with DTI welding specifications. After welding, the welds will be inspected radiographically or ultrasonically to ensure their structural integrity.

10.10.9.3 Lowering-In & Tie-Ins

Lowering-in consists of placing the completed pipeline sections into the trench where a tie-in weld will be made. Lowering-in is usually accomplished with two or more sideboom tractors acting in unison and spaced so as not to buckle or otherwise damage the pipe. The pipeline will be lifted

from the supports, swung out over the trench, and lowered directly into the trench. The equipment uses a “leap frogging” technique requiring sufficient area to safely move around other tractors within the construction ROW to gain an advanced position on the pipe. The unwelded ends of the completed pipeline segments (typically present at road crossings, stream crossings, etc.) are then welded together or “tied-in” by specialized tie in crews.

10.10.10 Backfilling

Backfilling consists of covering the pipe with the earth removed from the trench or with other fill material hauled to the site when the existing trench spoil is not adequate for backfill. Backfilling will follow lowering-in of the pipeline as close as is practical.

In areas where the trench bottom is irregularly shaped due to consolidated rock or where the excavated spoil materials are unacceptable for backfilling around the pipe, padding material may be required to prevent damage to the pipe. This padding material will generally consist of sand or screened spoil materials from trench excavation.

1. Underground utilities cutting through any active channel shall be immediately backfilled and the channel restored to its original cross-section and protective lining.
2. Under no circumstances shall topsoil be used as padding material.
3. Excess rock, including blast rock, may be used to backfill the trench only to the top of the existing bedrock profile in accordance with DTI Specifications.
4. Any excess material will be spread within the ROW in upland areas and land contours will be roughed-in to match adjacent topography.
5. The trench may be backfilled with a crown over the pipe to compensate for compaction and settling. Openings will be left in the completed trench crown to restore pre-construction drainage patterns. Crowning shall not be used in wetland areas.

NOTE: Form FP-001 – Certification of Clean Fill must be completed if fill material is brought onto the Project site, provided in Appendix D.

10.10.10.1 Trench Plugs

Trench plugs are intended to slow subsurface water flow and erosion along the trench and around the pipe in sloping terrain. An engineer or similarly qualified professional shall determine the need for additional trench plugs. However, trench plugs will not be installed within a wetland. Trench plugs will be installed per PA ESC Manual requirements included below.

Trench plugs will be constructed with sand bags, polyurethane foam, or an equivalent as identified in the permit requirements. Topsoil shall not be used to construct trench plugs. Sakrete may be used at the discretion of the Chief Inspector on severe slopes greater than 30 percent.

Trench plugs, which are used in conjunction with slope breakers, shall be installed at the locations shown on the E&S drawings, at the same spacing interval as and upslope of permanent

slope breakers, or as otherwise determined by an engineer or similarly qualified professional, such as the EI. If not shown, use the following spacing (PADEP ESC Manual, 2012, Table 13.1):

<u>Slope (%)</u>	<u>Minimum Spacing (feet)</u>
< 5	1000
5 – 15	500
> 15 – 25	300
> 25 – 35	200
> 35 – 100	100
> 100	50

Impervious trench plugs shall be installed at the base of slopes adjacent to waterbodies and wetlands, and where needed to avoid draining of a resource.

10.10.11 Hydrostatic Testing

Once the pipeline is completed and before it is placed into service, it will be hydrostatically tested for structural integrity. Hydrostatic testing involves filling the pipeline with clean water and maintaining a test pressure in excess of normal operating pressures for a specified period of time (typically 8 hours). The testing procedure involves filling the pipeline with test water, performing the pressure test, and discharging the test water. DTI plans to acquire water from a local municipal water source and will discharge at a location at MP 0.0 at the southern end of the TL-636 line. DTI will obtain the proper PADEP permitting prior to hydrostatic discharge.

1. The EI shall notify appropriate state agencies of the intent to use specific test water sources at least 48 hours before testing activities (unless waived in writing).
2. Pumps used for hydrostatic testing within 100 feet of any waterbody or wetland shall be operated and refueled in accordance with the PPC Plan.
3. DTI shall not use or discharge into state-designated exceptional value waters, waterbodies that provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate federal, state, and/or local permitting agencies grant written permission. Use only water sources identified in the permit. Discharges will occur into non-high quality upland areas.
4. For an overland discharge of test water from a new pipeline, dewater into an energy dissipation device constructed of straw bales, filter bag or other approved measure.
5. Dewater only at the locations shown on the construction drawings or locations identified in the permit.
6. Locate all dewatering structures in a well vegetated and stabilized upland area, if practical, and attempt to maintain at least a 50-foot vegetated buffer from adjacent waterbody/wetland areas. If an adequate buffer is not available, sediment barriers or similar erosion control measures must be installed. Regulate discharge rate, use energy

dissipation device(s), and install sediment barriers, as necessary, to prevent erosion, streambed scour to aquatic resources, suspension of sediments, flooding, or excessive stream flow.

10.11 LIMIT OF DISTURBANCE RESTORATION AND FINAL CLEANUP

Restoration of the LOD will begin after pipeline construction activities have been completed. Restoration measures include the re-establishment of final grades and drainage patterns as well as the installation of permanent erosion and sediment control devices to minimize post-construction erosion. Property shall be restored as close to its preconstruction condition as practical unless otherwise specified by the landowner.

1. The contractor shall make every reasonable effort to complete final cleanup of an area (including final grading, topsoil replacement and installation of permanent erosion control structures) within 20 days after backfilling the trench in that area (within 10 days in residential areas). If seasonal or other weather conditions prevent compliance with these timeframes, continue to inspect and maintain temporary erosion and sediment controls (i.e., temporary slope breakers, sediment barriers, and mulch) until conditions allow completion of cleanup.
2. As soon as slopes, channels, ditches, and other disturbed areas reach final grade, they must be stabilized. The disturbed LOD will be seeded as soon as possible and within no more than 6 working days of final grading, weather and soil conditions permitting. Cessation of activity for at least 4 days or more requires temporary stabilization. Immediate stabilization is required as soon as any graded area reaches final grade.
3. Grade the LOD to pre-construction contours, with the exception of the installation of any permanent measures required herein.
4. Spread segregated topsoil back across the graded LOD to its original profile.
5. Remove excess rock from at least the top 12 inches of soil in all cultivated or rotated cropland, managed pastures, hayfields, residential areas, as well as other areas at the landowner's request. The size, density, and distribution of rock on the construction workspace shall be similar to adjacent areas not disturbed by construction. The landowner or land managing agency may approve other provisions in writing.
6. A travel lane may be left open temporarily to allow access by construction traffic if the temporary erosion and sediment control structures are installed, regularly inspected, and maintained. When access is no longer required, the travel lane must be removed and the LOD restored.
7. Remove all construction debris (i.e., used filter bags, skids, trash, etc.) from all construction work areas unless the landowner or land managing agency approves leaving material on-site for beneficial reuse, stabilization, or habitat restoration. Grade or till the LOD to leave the soil in the proper condition for planting.

10.11.1 Permanent Erosion Control

10.11.1.1 Permanent Waterbars

Permanent waterbars are intended to reduce runoff velocity, divert water off the construction workspace, and prevent sediment deposition into sensitive resources. Permanent waterbars will be constructed of compacted soil. Stone or some functional equivalent may be used when approved by DTI.

- a. Construct and maintain permanent waterbars in all areas, except cultivated areas and lawns, unless requested by the landowner, at the locations shown on the construction drawings. If not shown, use the following spacing (PADEP ESC Manual, 2012).

<u>Slope (%)</u>	<u>Spacing (feet)</u>
< 5	250
5–15	150
15–30	100
> 30	50

- b. Construct permanent waterbars with a 2 percent outslope to divert surface flow to a stable vegetative area without causing water to pool or erode behind the slope breaker. In the absence of a stable vegetative area, install an energy-dissipating device at the end of the waterbar.
- c. Where drainage is insufficient in upland areas, install a rock-lined drainage swale as approved by the EI. The drainage swale is generally 8 feet wide and a maximum of 18 to 24 inches deep.

10.11.1.2 Erosion Control Fabric/Blankets

Erosion control fabric or blankets are used during restoration to slow down stormwater and stabilize soil until vegetation becomes established. Install erosion control fabric or blankets where necessary or as recommended by the EI and according to PA ESC Manual. Evaluate flow conditions to determine if erosion control fabric is suitable as an effective vegetation stabilization technique on waterbody banks.

10.11.2 Revegetation and Seeding

Permanent seed mixes and rates will be the same as those outlined in the temporary stabilization section above (Section 10.10.4). Seed mixtures were selected based on appropriate site conditions and recommendations PA ESC Manual (2012) and recommended by the Westmoreland County Conservation District. Seeding will be conducted using the following requirements:

1. Fertilize and add soil pH modifiers in accordance with Table 10.11.2-2. Incorporate recommended soil pH modifier and fertilizer into the top 2 inches of soil as soon as practicable after application.

Table 10.11.2-2: Soil Amendment Application Rate Equivalents

Soil Amendment	Permanent Seeding Application Rate			Notes
	Per Acre	Per 1,000 sq. ft.	Per 1,000 sq. yd.	
Agricultural lime	7.5 tons	300 pound	3,100 lb.	Or as per soil test; may not be required in agricultural fields
20-20-20 fertilizer	1,000 lb.	25 lb.	210 lb.	Or as per soil test; may not be required in agricultural fields

2. Seed all disturbed areas within 6 working days of final grading, weather and soil conditions permitting. Cessation of activity for at least 4 days or more requires temporary stabilization. Immediate stabilization is required as soon as any graded area reaches final grade
3. Prepare seedbed in disturbed areas to a depth of 3 to 4 inches to provide a firm seedbed. When hydroseeding, scarify the seedbed to facilitate lodging and germination of seed.
4. Seeding is required for all disturbed areas in accordance with the seed mixes and rates, as described in Table 10.10.4-1 and Table 10.11.2-2, respectively..
5. Perform seeding of permanent vegetation within the recommended seeding dates, as outlined on the E&S drawings. If seeding cannot be done in a timely manner, use appropriate temporary erosion control measures and perform seeding of permanent vegetation at the beginning of the next recommended seeding season. Dormant seeding or temporary seeding of annual species may also be used, if necessary, to establish cover, as approved by the EI. Mulch in accordance with Section 10.11.3.
6. Use seed within 12 months of seed testing.
7. Treat legume seed with an inoculant specific to the species using the manufacturer’s recommended rate of inoculant appropriate for the seeding method (broadcast, drill, or hydroseeding).
8. Uniformly apply and cover seed in accordance with the appropriate seed mix, as outlined on the E&S drawings, in the absence of any recommendations from the local soil conservation authorities, landowner, or land managing agency.
9. Stockpiled topsoil will be used for replacement after grading is completed. The replaced soil will be seeded per PA ESC Manual requirements.

10.11.3 Mulch

Mulch is intended to stabilize the soil surface and shall consist of weed-free straw, wood fiber hydromulch, or some functional equivalent per the PA ESC Manual. General mulch application rates are provided in Table 10.11.3-1, but may increase pending landowner and agency consultations. The mulch application rates, which are derived from the PA ESC Manual (2012)

and recommended by the Westmoreland County Conservation District, will be applied to the proposed site activities.

Table 10.11.3-1: Mulch Application Rates

Mulch Type	Tons per Acre	Pounds per 1,000 sq. ft.	Pounds per 1,000 sq. yd.	Notes
Straw	3	140	1,240	Either wheat or oat straw, free of weeds, not chopped or finely broken.
Hay	3	140	1,240	Timothy, mixed clover and timothy, or other native forage grasses.
Wood Chips	4–6	185–275	1,650–2,500	May prevent germination of grasses and legumes.
Hydromulch	1	47	415	Shredded paper hydromulch should not be used on slopes steeper than 5 percent. Wood fiber hydromulch may be applied on steeper slopes provided a tackifier is used. The application rate for any hydromulch should be 2,000 pounds per acre at a minimum.

1. In general, to ensure that the seed will remain in place through germination and growth, seedlings must be mulched. All seeded areas that do not include erosion control blankets will be mulched. Straw and hay mulch will be anchored or tackified immediately after application to prevent being windblown. A tractor-drawn implement may be used to “crimp” the straw or hay into the soil. Crimping of hay or straw by running it over with tracked machinery is not recommended. This method will be limited to slopes no steeper than 3H:1V. Mulch on slopes of 8 percent or steeper will be held in place with netting. . All seeded areas should be mulched or covered with erosion control blanketing to minimize the potential for failure to establish an adequate vegetative cover. An area which is to be stabilized by vegetation will not exceed 15,000 square feet prior to reaching final grade without being seeded and mulched.
2. Mulch all disturbed upland areas (except cultivated cropland) before seeding if:
 - a. Final cleanup, including final grading and installation of permanent erosion control measures, is not completed in an area within 20 days after the trench in that area is backfilled (10 days in residential areas); or
 - b. Construction or restoration activity is interrupted for an extended period, such as when seeding cannot be completed due to seeding period restrictions.

When final grade is achieved during non-germinating months, the area should be mulched until the beginning of the next planting season. NOTE: When mulching before seeding, increase mulch applications on all slopes within 100 feet of waterbodies and wetlands to a rate of 3 tons/acre of straw or equivalent.

3. Apply mulch on all slopes (except in cultivated cropland) concurrent with or immediately after seeding, where necessary, to stabilize the soil surface and to reduce wind and water erosion. Spread mulch uniformly over the ROW as specified in the table above.
4. Ensure that mulch is anchored to minimize loss by wind and water. Anchoring may be achieved by wet soil conditions, when approved by the EI, mechanical means, or use of liquid mulch binders.
5. When anchoring with liquid mulch binders, use rates recommended by the manufacturer. Do not use liquid mulch binders within 100 feet of wetlands and waterbodies, except where the product is certified environmentally non-toxic by the appropriate state or federal agency or independent standards-setting organization.
6. Install erosion control fabric or blankets in accordance with the E&SCP.

10.11.4 Compost for Erosion Control

Install erosion control fabric or blankets in accordance with the E&S drawings.

Compost should be placed evenly and should provide 100 percent soil coverage. No soil should be visible. On highly unstable soils, use compost in conjunction with appropriate structural measures. Spread the compost uniformly, and then track, or compact, the compost layer using a bulldozer or other appropriate equipment. Alternatively, apply compost using a pneumatic, or blower, unit. Project compost directly at soil, thereby preventing water from moving between the soil-compost interface. Apply compost layer approximately 3 feet beyond the top of the slope or overlap it into existing vegetation. Follow by seeding or ornamental planting.

Where planning immediate grass, wildflower, or legume seeding or ornamental planting, use only a well-composted product that contains no substances toxic to plants. Very coarse composts should be avoided if the slope is to be landscaped or seeded, as it will make planting and crop establishment more difficult. Composts containing fibrous particles that range in size produce a more stable mat. **Note: Compost should not be used instead of erosion control blanketing.**

10.11.5 Frozen Condition Winter Construction

Winter weather may not provide suitable conditions for soil handling or restoration of disturbed areas. In the event that the construction occurs too late in the year for cleanup activities to adequately proceed or if construction is planned to occur during winter weather conditions, DTI will develop a project-specific Winter Construction Plan that addresses:

- Winter construction procedures (e.g., snow handling and removal, access road construction and maintenance, soil handling under saturated or frozen conditions, topsoil stripping);
- Stabilization and monitoring procedures if ground conditions will delay restoration until the following spring (e.g., mulching and erosion controls, inspection and reporting, stormwater control during spring thaw conditions); and
- Final restoration procedures (e.g., subsidence and compaction repair, topsoil replacement, seeding).

Section 7(c) and prior notice projects are required to file the Winter Construction Plan for review and written approval by the FERC. (The requirement to file a plan does not apply to projects constructed under the automatic authorization provisions in the FERC’s regulations).

10.11.6 Unauthorized Vehicle Access to ROW

DTI will offer to install and maintain measures to control unauthorized vehicle access to the ROW based on requests by landowners. These measures may include:

- Signs;
- Fences with locking gates;
- Permanent access roads;
- Slash and timber barriers, pipe barriers, or a line of boulders across the ROW; or
- Conifers or other appropriate shrubs with a mature height of 4 feet or less across the ROW.

10.12 OTHER CONTROLS

10.12.1 Vehicles

All equipment will be refueled with extreme care under continual surveillance and away from the identified water resources south of the Project site. On-site mobile fuel tanks shall be located in the staging areas with double walls to provide containment without the additional structure on the truck or trailer. Fueling vehicles shall only take place within the staging areas unless otherwise approved by an EI. A DTI representative and EI must be present if refueling occurs within a restricted refueling area, and refueling must be approved by the EI. No refueling will take place within 100 feet of a stream or wetland. If any fuel is spilled, the fuel-impacted soil material and fuel residue shall be cleaned up and disposed of properly and the spill shall be reported to the PADEP per the PCC Plan available on-site. Fuel dispensers shall be locked during non-construction hours.

All equipment will be maintained in good operating condition and inspected regularly for leaks. Routine scheduled maintenance and identified necessary maintenance shall only take place within the staging areas unless equipment is not able to be moved to staging areas for unplanned, emergency repairs. In the event of planned major maintenance, the vehicle should be transported

off-site for service. Any liquids leaked during maintenance shall be cleaned up and disposed of properly.

Repairs shall only be made outside of the staging area if equipment requires emergency repairs on-site (e.g., unexpected hydraulic hose rupture or similar) and cannot be moved to the staging area without the potential to have additional impacts. As soon as equipment can be safely moved, the equipment shall be moved to staging areas for continued maintenance. The EI shall be notified of all necessary emergency repairs prior to them occurring. Proper containers and/or disposable sorbent materials shall be placed under the equipment to collect drips and leaked liquids. Impacted soils and spilled material shall be properly cleaned up, contained, and disposed of properly and the spill shall be reported to the PADEP per the PCC Plan available on-site.

Rock construction entrances with wash racks will be used wherever soil and/or traffic conditions require washing the construction vehicle wheels prior to exiting the site to avoid excessive tracking of mud onto a highway and within high quality watersheds. Access to the site will be limited to the stabilized entrance(s). Wash racks in construction entrances will be used for washing of tires only. No vehicle washing will occur on site, except in the case of field maintenance. Non-native invasive species washing stations may be on the ROW to help reduce or prevent the spread of invasive species.

All equipment operating on site will have sufficient spill containment equipment on board to provide for prompt cleanup in the event of a release. All equipment will also carry tools necessary to stop leaks and, if possible, make repairs.

10.12.2 Staging Areas

Staging areas should be maintained on site throughout the construction activities. The staging areas should be used as a place to store equipment, construction materials, waste, and additional construction-related material. The staging areas shall be in an area away from concentrated stormwater drainage paths. The contractor is responsible for storing and securing all tools, materials, and waste.

10.12.3 Washout Area

A washout area for excess concrete and cleaning of concrete delivery vehicles shall be constructed near areas where concrete pours will occur. Concrete wash water or green concrete shall be managed to minimize the potential for this material to reach identified water and wetland resources.

The washout area shall be installed in an upland area away from potential wetlands and streams. It shall be above grade, with a minimum width of 10 feet. The base and sides of the washout area shall be covered with a plastic sheeting at least 10 mils thick without any holes or tears. The wash area shall be inspected for any leaks, holes, and tears in the plastic on a daily basis. If the washout area reaches 75 percent capacity, the area will be cleaned out. Once all concrete mixing

activities are completed, the concrete waste area should be allowed to harden, be broken up, and then disposed of properly.

11.0 SPECIAL CONSTRUCTION METHODS

DTI will utilize the following specialized construction procedures for agricultural areas, road crossings, and residential areas along the pipeline Project, when applicable. The Project E&S drawings, Line Lists, and Construction Contract will indicate the locations where specialized construction methods will be used.

11.1 AGRICULTURAL AREAS

Special construction procedures and best practices for activities within actively cultivated or rotated land used for the production of crops including but not limited to corn, grains, orchards, vineyards, and hayfields may be needed in agricultural areas. These activities will be implemented according to the PA ESC Manual.

In actively cultivated and rotated croplands, pastures, orchards, nurseries, and residential areas, topsoil will be removed and segregated in accordance with the FERC Upland Erosion Control, Revegetation, and Maintenance Plan. Typically, topsoil will be removed over the entire width of the construction ROW (with the exception of areas beneath topsoil stockpiles). Following pipeline installation, the subsoil will be returned to the ditch and the topsoil replaced in the area from which it was removed. As necessary, the working side of the ROW will be de-compacted prior to final grading and restoration. Where livestock fences (including electric fences) need to be cut to access the construction ROW, DTI will brace and secure the fencing prior to construction and repair the fences to preconstruction condition or better during the restoration phase of the Projects. Further, DTI will work with landowners to remove livestock to alternate fields during construction or maintain adequate temporary fencing in grazing areas. If cattle or other livestock are present during construction, DTI will install temporary fencing around the ROW in areas where the pipe trench is left open overnight. Additionally, DTI will confer with landowners regarding a potential grazing deferment to allow vegetation to establish within the ROW after construction of the Projects is complete.

DTI will work with landowners to identify drain tile systems in advance of construction, and mark the locations of any tile broken during pipeline trenching operations. DTI will implement temporary tile line repairs to maintain the functionality of tile drainage systems during construction. Prior to backfilling the trench, DTI will employ a qualified tile contractor for permanent tile repairs. Following completion of construction and restoration, DTI will work with landowners to repair or correct tile drainage problems due to construction of the Projects.

In agricultural lands, the pipelines will be buried at depths sufficient to provide a minimum of 4 feet of cover to avoid potential impacts associated with typical agricultural activities, such as plowing. In consultation with landowners, the pipeline may be buried deeper in certain locations to facilitate the passage of heavy equipment, such as logging equipment.

As part of the land acquisition process, DTI will seek easement agreements with affected landowners for the pipeline rights-of-way across actively cultivated areas. Compensation for financial impacts associated with crop damage or losses caused by construction of the Project will be addressed during easement discussions.

11.2 ROAD CROSSINGS

The "bore" method will typically be used when installing the pipeline across roads, resulting in limited disturbance to the road. The "open cut" method may be used when installing the pipeline across small roads. Traffic is diverted while the trench is excavated across the road and the pipeline is installed. An open cut crossing may involve closing the road to all traffic and constructing an adequate detour around the crossing area, or excavating one-half of the roads at a time allowing through traffic to be maintained. Any detour constructed around the crossing area must remain within the approved construction workspace. After completing the crossing, all backfill is compacted, the road bed is repaired and the road surface is replaced.

Access roads shall be used and maintained in accordance with Section 10.3.

11.3 RESIDENTIAL AREAS

In residential areas, construction activities will be completed as expediently as practicable to minimize disturbance to residents. While constructing in these areas, DTI will maintain access to the residences for the duration of construction activities. Where the TL-636 pipeline will cross roads necessary for access to residential properties and no alternative entrances exist, DTI will implement measures, such as plating over the open portion of the trench, to maintain passage for landowners and emergency vehicles.

In general, DTI will reduce the width of the construction ROW or adjust the pipeline centerline to avoid occupied structures. For any residences within 50 feet of a construction work area, DTI will implement the following mitigation measures during construction:

- avoiding the removal of mature trees and landscaping unless necessary to construct the pipeline or for safe operation of construction equipment;
- restoring lawns and landscaping within the construction work area after backfilling the trench; and
- installing construction fencing at the edge of the construction work area for a distance of 100 feet on either side of the residence, and maintaining the fencing throughout the open trench phases of construction.

Prior to construction, DTI will take photographs or record video of residential properties to assist in post-construction restoration. Following construction, debris will be removed and residential properties will be restored as practicable to preconstruction condition or as negotiated with the landowner. DTI will coordinate with residential landowners to attempt to meet special requests regarding restoration.

In addition to the procedures above, smaller “spreads” of labor and equipment, operating independent of the mainline work force, will utilize either the stove pipe or drag section pipeline construction techniques in those areas of congestion where a minimum distance of 25 feet cannot be maintained between the residence (or business establishment) and the edge of the construction work area. In no case shall the temporary work area be located within 10 feet of a residence unless the landowner agrees in writing, or the area is within the existing maintained ROW.

The following techniques shall be utilized for a distance of 100 feet on either side of the residence or business establishment at the locations identified in the E&SCP. Cessation of activity for at least 4 days or more requires temporary stabilization. Immediate stabilization is required as soon as any graded area reaches final grade.

11.3.1 Stove Pipe Techniques

The stove pipe construction technique is a less efficient alternative to the mainline method of construction, typically used when the pipeline is to be installed in very close proximity to an existing structure or when an open trench would adversely impact a commercial/industrial establishment. The technique involves installing one joint of pipe at a time whereby the welding, weld inspection, and coating activities are all performed in the open trench. At the end of each day after the pipe is lowered-in, the trench is backfilled and/or covered with steel plates or timber mats. The length of excavation performed each day cannot exceed the amount of pipe installed.

11.3.1.1 Drag Section Technique

The drag section construction technique, while less efficient than the mainline method, is normally preferred over the stove pipe alternative. This technique involves the trenching, installation, and backfill of a prefabricated length of pipe containing several segments all in one day. At the end of each day after the pipe is lowered-in, the trench is backfilled and/or covered with steel plates or timber mats. Use of the drag section technique will typically require adequate staging areas outside of the residential and/or commercial/industrial congestion for assembly of the prefabricated sections.

11.3.1.2 Residential Area Cleanup and Restoration

Restore all lawn areas and landscaping immediately following cleanup operations, or as specified in landowner agreements, including:

Perform appropriate soil compaction mitigation in severely compacted residential areas.

Remove excess rock from at least the top 12 inches of soil in all cultivated or rotated cropland, managed pastures, hayfields. The size, density, and distribution of rock on the construction work area shall be similar to adjacent areas not disturbed by construction. The landowner or land management agency may approve other provisions in writing.

Importation of topsoil is an acceptable alternative to topsoil segregation. Soils imported for use within residential areas are to be certified as free of noxious weeds and soil pests, unless otherwise approved by the landowner.

Reseed all disturbed lawns with a seed mixture acceptable to landowner or comparable to the adjoining lawn.

In residential areas, complete final grading, topsoil replacement, and installation of permanent erosion control structures within 10 days after backfilling of the trench. Mulch all disturbed areas before seeding if final grading and installation of permanent erosion control measures will not be completed within 10 days after the trench in that area is backfilled in residential areas. If seasonal or other weather conditions prevent compliance with these time frames, maintain temporary erosion controls (i.e., temporary slope breakers, sediment barriers, and mulch) until conditions allow completion of cleanup.

Landowners shall be compensated for damages in a fair and reasonable manner, and as specified in the damage provision within the controlling easement on each property.

12.0 BEST MANGEMENT PRACTICES USED FOR EARTH DISTURBANCE ACTIVITY

The erosion and sediment control BMPs for this earth disturbance activity have been planned to minimize the extent and duration of the proposed earth disturbance, maximize protection of existing drainage features and vegetation, minimize soil compaction, and employ measures and controls that minimize the generation of increased runoff. Specific BMPs have been selected for this site in order to achieve these broad goals. The location of each proposed BMP is shown on the E&SCP drawings in Appendix A.

Each planned erosion and sediment control BMP is specified for implementation to address a specific aspect of the proposed earth disturbance. The various BMPs were chosen based on their effectiveness for the planned use. Erosion and sediment control will primarily be achieved using temporary and permanent water bars. Where necessary, upstream diversion berms will be used to direct clean upslope runoff away from the proposed earth disturbance. Primary downslope perimeter control will be achieved by installing compost filter sock. Additional perimeter controls (i.e., additional compost filter sock) may be necessary at the contractor's discretion should unexpected erosion be encountered during grading activities. Erosion control blankets will be installed within 50 feet of streams and 100 feet of wetlands.

A rock construction entrance will be used to control sediment tracking from the construction site at all ingress/egress points. Wash racks will be used in place of rock construction entrances within high quality watersheds. Where necessary, roadside channels will be used to collect runoff from site access roads. They will convey runoff to sediment traps, where feasible or other appropriate stabilized outlets (e.g., well vegetated areas or riprap aprons) appropriate for the specific site conditions. Site access roads and pads will be stabilized with an aggregate (e.g., rock, stone, and gravel) surface as soon as possible during construction. This will greatly reduce the opportunity for erosion and sedimentation from these heavily trafficked areas. Additional BMPs include planned soil stockpile locations with appropriate perimeter controls, temporary seeding of inactive stockpiles, seeding, and mulching all proposed vegetated areas immediately upon reaching design elevations, and erosion control matting of all slopes 3H:1V or steeper.

12.1 MINIMIZE EARTH DISTURBANCE

Limiting the extent and duration of earth disturbance to that necessary to construct the proposed facility is the simplest and most effective BMP available. The LOD depicted on the E&SCP drawings has been established to restrict construction activities to the minimum area needed to effectively and efficiently construct the proposed facility. Construction of the JB Tonkin Compressor Station modifications was designed to restrict earth disturbance to within the existing and new chain-link security fenced-in site and minimal impervious surface added to the site. In addition to limiting the extent of the proposed earth disturbance, construction activities have been planned to limit the duration of earth disturbance.

The proposed Project will involve two primary stages of activity: 1) construction and 2) site restoration. The majority of earth disturbance will occur in the first stage of the Project, with a much smaller earth disturbance occurring during site restoration in the final stage of the Project. The contractor shall make every reasonable effort to complete final cleanup of an area within 20 days, pending seasonal and weather restrictions. The entire site, where applicable, will be stabilized using permanent or temporary stabilization techniques as described in this plan. Limiting the duration of this critical stage of the Project is one of the most effective BMPs.

12.2 GENERAL EROSION AND SEDIMENT CONTROL PLAN REQUIREMENTS

The BMPs listed in this plan shall be installed and maintained in accordance with the PA ESC Manual. These BMPs shall be installed as shown prior to earth disturbance (including clearing and grubbing) within the drainage area of the BMP in question. Appropriate BMPs shall be provided for each stage of activity. Each BMP shall be kept functional until all earth disturbances within the drainage area are completed and a minimum vegetative cover (uniform 70 percent coverage of perennial vegetation over the entire disturbed area) has been achieved or other suitable permanent erosion protection has been installed.

PA One Call will be notified at least 3 days prior to earth disturbance activities. At least 7 days prior to starting any earth disturbance activities (including clearing and grubbing), the owner and/or operator shall invite all contractors, the landowner, appropriate municipal officials, the E&SCP preparer, the SR/PCSM Plan preparer, and a representative from the applicable Conservation District office to an on-site preconstruction meeting.

Prior to commencement of any earth disturbance activity including clearing and grubbing, the owner and/or operator shall clearly delineate sensitive areas, riparian forest buffer boundaries, areas proposed for infiltration practices, the limits of clearing, and trees that are to be conserved within the Project site. These parties shall also install appropriate barriers where equipment may not be parked, staged, operated, or located for any purpose.

E&S measures and facilities shall be installed and operational as indicated in the construction schedule prior to any earthmoving activities. Control measures must be in place and operational at the end of each workday. Where it is possible, the disturbed area will be permanently stabilized immediately after the final earthmoving has been completed. For disturbed areas not able to be permanently stabilized, interim stabilization in the form of temporary seeding and

mulching will be implemented. Until the site is permanently stabilized, all E&S measures must be maintained properly by the contractor.

After permanent stabilization is achieved, temporary E&S measures will be removed. Areas disturbed during removal of the controls must be stabilized immediately. For vegetated areas, permanent stabilization is defined as a uniform 70 percent perennial vegetative cover.

Minor modification to the approved E&SCP shall be noted on the plan that is available at the site and initialed by the appropriate Conservation District staff. Minor changes to the Plan may include adjustments to BMPs and locations within the permitted boundary to improve environmental performance, prevent potential pollution, change in ownership or address, typographical errors and on-site field adjustments such as the addition or deletion of BMPs, or alteration of earth disturbance activities to address unforeseen circumstances.

Major modifications to the approved E&SCP involving new or additional earth disturbance activity other than those described as minor modifications above, and/or the addition of a discharge will require prior approval by the reviewing entity and may require the submittal of a new plan.

13.0 SEQUENCE OF EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE INSTALLATION

This sequence of BMP installation is intended to provide a general course of action during Project construction to conform to applicable regulatory agency requirements for temporary and permanent erosion and sediment control installation. It shall be the responsibility of the contractor to comply with the conservation district and any other applicable local, state, and federal regulations including but not limited to, the manner, direction, location, and condition of the waste disposal site. Any necessary tasks for proper and complete execution of work pertaining to this Plan, whether specifically mentioned or not, are to be performed by the contractor. The contractor shall comply with the requirements listed in this section. The contractor may be required to alter controls based on effectiveness of controls or differing site conditions encountered.

The following is a general narrative description of the planned sequence of BMP installation and removal. The entire construction sequence, listing all steps to be taken from initial site clearing through final stabilization, is included on the cover of the E&SCP drawings. Refer to the E&SCP drawings for additional site-specific installation information (see Appendix A).

The first BMP to be installed at the site will be the rock construction entrances. Immediately following installation of the rock construction entrances, any planned upslope diversions and all perimeter controls (e.g., compost filter sock, waterbars, etc.) will be placed prior to any earth disturbance (including clearing and grubbing). Wash racks will be installed in addition to the rock construction entrance for construction within high quality watersheds. Specific function BMPs such as sediment traps, channels, culverts, or outlet protection will be installed at the appropriate time as construction progresses. All planned E&S BMPs shall be in place and functional before any earth disturbance occurs within the drainage area for the planned BMP.

Unless specifically stated otherwise in this plan, all BMPs will remain in place until the SR/PCSM Plan has been implemented and final stabilization has been achieved.

13.1 TEMPORARY EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE REMOVAL

Temporary erosion control BMPs will not be removed until 70 percent permanent vegetation is achieved, the site is inspected by the Conservation District to confirm site stabilization, and the Notice of Termination is filed. All erosion and sediment control BMPs shall remain functional as such until implementation of the SR/PCSM Plan. In no cases, except when replaced by another BMP approved by the PADEP or Conservation District, shall any erosion and sediment control BMPs be removed prior to all areas with the potential to be impacted by runoff achieving permanent stabilization.

After final stabilization has been achieved, temporary erosion and sediment control BMPs may be removed if they are not necessary for implementation of the SR/PCSM Plan. Areas disturbed during removal or conversion of the BMPs to SR/PCSM BMPs must be stabilized immediately.

14.0 SUPPORTING CALCULATIONS

A primary component of this E&SCP was the design of erosion and sediment control BMPs to minimize and control accelerated erosion and minimize the generation of increased runoff. All proposed erosion and sediment control BMPs have been designed per design guidance provided in the PA ESC Manual. Erosion and sediment control design calculation worksheets showing the design information for all proposed erosion and sediment control BMPs are included in the supporting calculations provided in Appendix E of this Plan.

15.0 PLAN DRAWINGS

A complete set of E&SCP drawings is included in Appendix A of this plan. These drawings depict the existing and proposed conditions relevant to the proposed Project, including but not limited to existing and proposed topography, pertinent existing features, proposed site facilities, and proposed E&SCP information.

The E&SCP drawings include all information necessary for a contractor to correctly install, operate, and maintain the proposed erosion and sediment control BMPs. Proposed E&SCP information includes the proposed LOD, the proposed permit boundary, proposed erosion and sediment control BMPs, construction sequence, plan notes, construction details, seeding, mulching and soil amendment specifications, and maintenance instructions.

16.0 MAINTENANCE PROGRAM

A maintenance program that provides for routine inspection, as well as repair and replacement as necessary, is essential to effective and efficient operation of the proposed erosion and sediment control BMPs. Implementation of the following maintenance plan is a key component in achieving the intent of this E&S Plan and minimizing accelerated erosion and sedimentation

from the proposed earth disturbance. The permittee and any co-permittees shall be responsible for implementing the following maintenance program:

16.1 INSPECTIONS

Per PADEP Requirements, the contractor shall inspect all erosion and sediment BMPs after each runoff event and on a weekly basis, at a minimum and record observations in the PADEP Visual Site Inspection Form, provided as Appendix F. This inspection shall include a general review of the performance of all of the erosion and sediment control facilities as well as an examination of each individual BMP, noting when maintenance (e.g., cleanout, repair, replacement, regrading, restabilizing) is required, when specific deficiencies exist, and/or signs of potential future problems are present. The progress of vegetation cover shall also be included in this inspection. All inspections shall be documented in a written report summarizing each inspection and shall include a schedule for repair of all noted deficiencies. All preventive and remedial maintenance work, including clean out, repair, replacement, regrading, reseeding, mulching, and renetting must be scheduled for immediate corrective action. If any installed BMPs are identified as failing to perform as expected, corrective modifications or replacement BMPs shall be scheduled for installation.

An erosion and sediment control BMP inspection log shall be maintained on site and be made available to regulatory agency officials at the time of inspection. The log shall contain inspection dates, observed deficiencies, and remediation dates. The SR/PCSM Plan, inspection reports, and monitoring records shall be available for review and inspection by the PADEP or the conservation district.

16.1.1 Role and Responsibility of the Environmental Inspector

EIs will have the authority to stop activities that violate the environmental conditions of the FERC's Orders (if applicable), stipulations of other environmental permits or approvals, or landowner easement agreements, as well as order appropriate corrective action.

The EI will have peer status with all other activity inspectors and will report directly to the Chief Inspector who has overall authority on the construction spread or project.

At least one EI having knowledge of the wetland and waterbody conditions in the Project area is required for each construction spread. The number and experience of EIs assigned to each construction spread shall be appropriate for the length of the construction spread and the number/significance of resources affected. On Section 7(c) and other large construction projects, the person designated as the EI will typically be a dedicated role for each construction spread. On small construction activities carried out under this E&SCP, the EI role may be carried out by the Chief Inspector or another designated and properly trained Company Inspector on site, at the discretion of the Company. In such instances, the Company may employ additional periodic oversight of the EI(s) by an environmental specialist.

At a minimum, the EI shall be responsible for:

1. Inspecting construction activities for compliance with the requirements of this E&SCP, the construction drawings, the environmental conditions of the FERC's Orders (if applicable), proposed mitigation measures, other federal or state and local (if applicable) environmental permits and approvals, and environmental requirements in landowner easement agreements;
2. Identifying, documenting, and overseeing corrective actions, as necessary to bring an activity back into compliance;
3. Verifying that the limits of authorized construction work areas and locations of access roads are visibly marked before clearing, and maintained throughout construction;
4. Verifying the location of signs and highly visible flagging marking the boundaries of sensitive resource areas, including waterbodies and wetlands, or areas with special requirements along the construction work area;
5. Identifying erosion/sediment control and soil stabilization needs in all areas;
6. Ensuring that the design of slope breakers will not cause erosion or direct water into sensitive resource areas, including cultural resource sites, wetlands, waterbodies, and sensitive species habitats;
7. Verifying that dewatering activities are properly monitored and do not result in the deposition of sand, silt, and/or sediment into sensitive resource areas, including wetlands, waterbodies, cultural resource sites, and sensitive species habitat; stopping dewatering activities if such deposition is occurring and ensuring the design of the discharge is changed to prevent reoccurrence; and verifying that dewatering structures are removed after completion of dewatering activities;
8. Ensuring that subsoil and topsoil are tested in agricultural and residential areas to measure compaction and determine the need for corrective action;
9. Advising the Chief Inspector when environmental conditions (such as wet weather, severe storm events or frozen soils) make it advisable to restrict or delay construction activities to avoid topsoil mixing or excessive compaction;
10. Ensuring restoration of contours and topsoil;
11. Verifying that the soils imported for agricultural or residential use have been certified as free of noxious weeds and soil pests, unless otherwise approved by the landowner, and are considered clean and free of hazardous materials;
12. Ensuring that the appropriate erosion/sediment control and stabilization needs are implemented in all areas, including ensuring that erosion and sediment controls are properly installed and maintained daily to prevent sediment flow into sensitive resource areas (e.g., wetlands, waterbodies, cultural resource sites, sensitive species habitats) and onto roads, and determining the need for additional erosion control devices;

13. Inspecting and ensuring the maintenance of temporary erosion and sediment control measures at least:
 - a. On a daily basis in areas of active construction or equipment operation;
 - b. On a weekly basis in areas with no construction or equipment operation; and
 - c. Within 24 hours of each stormwater event (runoff from precipitation, snowmelt, surface runoff and drainage, as defined by Pennsylvania Chapter 102 Regulations), including rainfall events resulting in 0.5 inches or more.
14. Ensuring the repair of all ineffective temporary erosion and sediment control measures within 24 hours of identification, or as soon as conditions allow if compliance with this time frame would result in greater environmental impacts;
15. Documenting inspection on the PADEP Visual Site Inspection Report in Appendix F;
16. Identifying areas that should be given special attention to ensure stabilization and restoration after the construction phase;
17. Ensuring proper seed mixes, rates and restoration methods are used, and obtaining documentation;
18. Ensuring that the contractor implements and complies with DTI's PPC Plan, DTI's *Waste Management Plan*, and other Company environmental documents and standard operating procedures;
19. Verifying that locations for any disposal of excess construction materials for beneficial reuse comply with this E&SCP and any applicable permits/clearances; and
20. Keeping records of compliance with the environmental conditions of the FERC's Orders and the mitigation measures proposed by DTI in the application submitted to FERC (if applicable), and other federal or state environmental permits during active construction and restoration. Records should include photo documentation.

16.1.2 Environmental Training for Construction

Prior to the start of construction, DTI will conduct environmental and field training for company and contractor personnel. The training program will be focused on the PA ESC Manual, the FERC's Plan and Procedures; this E&SCP; applicable permit conditions and other applicable construction, restoration, and mitigation plans as identified. DTI will provide large-group training sessions before each work crew commences construction with follow-up training for groups of newly assigned personnel.

Environmental training will be given to both DTI personnel and contractor personnel whose activities have the potential to impact the environment during TL-636 pipeline and compressor station construction and modifications. All construction personnel will go through an environmental training program. The level of training will be commensurate with the type of

duties of the personnel. At the discretion of DTI, environmental training for personnel may also be required on projects where it is not required by FERC.

Training will be given prior to the start of construction and throughout the construction process, as needed, and will cover the following issues:

- Specifics of this E&SCP and other DTI plans;
- Job or activity specific permit requirements;
- DTI policies and commitments;
- Cultural resource procedures and restrictions;
- Threatened and endangered species procedures and restrictions; and
- Any other pertinent information related to the job.

In addition to the EI, all other construction personnel are expected to play an important role in maintaining strict compliance with all permit conditions, and to promptly report any conditions that are perceived as having the potential to threaten environmental protection to the appropriate inspector during construction.

Contractors will provide spill prevention and response training to their work crews as well as educate work crews on how to conduct daily inspections of erosion and sediment control BMPs. The training program will be designed to improve awareness of potential hazards, pollution control laws, and proper operation and maintenance of equipment. Contractors will train all employees who handle fuels and other regulated substances to prevent spills and to quickly and effectively contain and clean up spills that may occur in accordance with applicable regulations. Contractors will also train all employees on the methods by which to inspect, properly install, and repair erosion and sediment control structures, as well as response procedures to implement in the event an erosion and sediment control structure fails. Copies of blank training records are included as Appendix G.

16.2 GENERAL MAINTENANCE

DTI shall be responsible for the continuous maintenance of all erosion and sediment control measures and devices for the duration of the Project until which time the area is stabilized with a minimum uniform perennial 70 percent vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated erosion, and the contractor has received written approval of Notice of Termination.

Areas void of vegetation shall promptly be reseeded and mulched to establish protection. Accumulated sediment will be removed when it reaches half the aboveground height of the sediment barrier. BMPs will be repaired or replaced (as necessary) to ensure effective and efficient operation. Solid waste disposal is the responsibility of the contractor. The contractor is responsible for proper trash disposal, recycling of materials, proper materials handling, and spill prevention and cleanup to reduce the potential for construction site wastes to be mobilized by stormwater runoff and conveyed to surface waters. Under no circumstances may BMPs be used

for temporary storage of demolition materials or construction wastes. All necessary repairs will be made immediately after any deficiencies have been observed.

16.3 SPECIFIC MAINTENANCE

The contractor shall be responsible for the specific maintenance activities throughout the duration of the Project. Specific maintenance activities for individual BMPs are identified on the E&SCP drawings in Appendix A.

16.3.1 Riprap Apron Maintenance

Inspect riprap aprons at culvert locations for scour around the pipe. The specified stone depth shall be maintained at all times. All aprons shall be inspected at least weekly and after each runoff event. Displaced riprap within the apron shall be replaced immediately.

The riprap apron shall be maintained free of sediment deposits and other debris. When present, remove sediment and debris to the extent possible. In the event the apron becomes too clogged with sediment and debris to remain effective, the apron shall be removed and replaced.

16.3.2 Seeding and Mulching Maintenance

Inspect seeded and mulched areas for evidence of erosion; immediately repair and re-seed areas disturbed by erosion or slope movement. Identify vegetated areas in need of additional erosion control measures until permanent vegetative cover is established.

Inspect seeded and mulched areas for displaced mulch cover and uneven vegetative growth. For displaced mulch, replace mulch at original application rate or greater. Reseed bare areas at original seed application rates.

16.3.3 Rock Construction Entrance Maintenance

Rock construction entrance thickness shall be constantly maintained to the specified dimensions by adding rock. A stockpile shall be maintained on site for this purpose. All sediment deposited on paved roadways shall be removed and returned to the construction site immediately. If excessive amounts of sediment are being deposited on the adjacent roadway(s), extend the length of the corresponding rock construction entrance by 50-foot increments until the condition is alleviated or install a wash rack. Washing the roadway or sweeping the deposits into roadway ditches, sewers, culverts, or other drainage courses is not acceptable.

16.3.4 Rock Construction Entrance with Wash Rack Maintenance

Rock construction entrance thickness shall be constantly maintained to the specified dimensions by adding rock. A stockpile of rock material shall be maintained on site for this purpose. Drain space under wash rack shall be kept open at all times. Damage to the wash rack shall be repaired prior to further use of the rack. All sediment deposited on adjacent roadways shall be removed and returned to the construction site immediately. Washing the roadway or sweeping the deposits into roadway ditches, sewers, culverts, or other drainage courses is not acceptable.

17.0 RECYCLING AND DISPOSAL PROCEDURES

Building materials and other construction site wastes must be properly managed and disposed of to reduce potential for pollution to surface and ground waters as per 25 Pa. Code § 102.4(b)(5)(xi). All building materials and wastes shall be removed from the site and recycled or disposed of in accordance with the PADEP's Solid Waste Management Regulations at 25 Pa. Code 260.1 et seq., 271.1 and 287.1 et. seq. No building materials, wastes, or unused building materials shall be burned, buried, dumped, or discharged at the site. No off-site disposal area has been identified as part of this plan. Construction waste will be disposed of properly by the contractor at a facility approved by PADEP and DTI or recycled.

The contractor will develop and implement procedures that will detail the proper measures for disposal and recycling of materials associated with or from the Project site in accordance with PADEP regulations. Construction wastes include, but are not limited to, excess soil materials, building materials, concrete wash water, and sanitary wastes that could adversely affect water quality. The contractor will inspect the Project area weekly and properly dispose of all construction wastes. Measures will be planned and implemented for housekeeping materials management and litter control. Wherever possible, reusable wastes will be segregated from other waste and stored separately for recycling.

The contractor shall be responsible for submitting an E&SCP for any borrow or waste areas required to complete the work. Disposal locations for excess soil/rock waste will implement appropriate BMPs. The disposal locations must be verified with the PADEP to show compliance with wetland and floodplain regulations. If an off-site location is used for borrow or disposal, the contractor is responsible for developing and implementing an adequate E&SCP and submitting the plan(s) to the PADEP for review and approval. The contractor must immediately stabilize the waste site upon completion of any stage or phase of earth disturbance activity at the waste site.

18.0 GEOLOGIC FORMATIONS OR SOIL CONDITIONS WITH POTENTIAL TO CAUSE POLLUTION

18.1 JB TONKIN COMPRESSOR STATION

General Geology

The bedrock unit beneath the JB Tonkin Compressor Station is comprised of the Glenshaw Formation of the Conemaugh Group. The Glenshaw Formation is comprised of repeated sequences of sandstone, siltstone, shale, claystone, limestone, and coal. The claystone layers of the Glenshaw Formation include red bed clays. The Glenshaw Formation generally thickens in a northeasterly direction, ranging from 280 feet to 410 feet.

Regionally, the water table varies based on topographic setting and water-bearing zone head. The water levels in valleys and upland are shallow and become deeper with increasing elevation to hilltops. The depth to water varies with rock type, physiography, and precipitation. The median well depth in the Glenshaw Formation is 118.0 feet below ground surface. The minimum casing length of these wells is 5.60 feet. The median static water level for the wells

within the Glenshaw Formation is 45.0 feet. The median specific capacity for wells in this formation is 2.50 feet and the minimum specific capacity is 0.07 feet. The median water yield for wells in the Glenshaw formation is 10.0 gallons per second.

Surficial Geology

According to the Murrysville, Pennsylvania USGS 7.5 Minute Quadrangle Map, the JB Tonkin compressor station is approximately 1,030 to 1,160 feet above mean sea level near the township of Murrysville. The topography consists of very hilly with narrow hilltops and steep-sloped narrow valleys that have been modified by fluvial erosion and periglacial mass wasting. Detailed NRCS soil reports are included in Appendix B.

Landslide Susceptibility

The USGS Preliminary Landslide Overview Map of the Conterminous United States, indicates the proposed area is in an area of high landslide incidence. This hazard can be further mitigated by implementing proper sloping and drainage controls. DTI is implementing a comprehensive Geohazards Analysis Program to assess potential geohazards, including slope failures, along the proposed pipeline route and at aboveground facility sites.

Earthquake Probability

Westmoreland County, Pennsylvania has a very low earthquake risk. According to the Pennsylvania Geologic Data Exploration web-mapping application (PaGEODE) online services, the nearest earthquake to the JB Tonkin Compressor Station occurred in 1965, at magnitude 3.3. The largest known earthquake to occur in Pennsylvania, the Pymatuning Earthquake, had an epicenter in Jamestown, approximately 80 miles northwest of the JB Tonkin Compressor Station. The Pymatuning Earthquake had a magnitude of 5.2, causing light property damage.

The USGS maintains a database containing information on surface and subsurface faults and folds in the United States that are believed to be sources of earthquakes of greater than 6.0 magnitude during the past 1.6 million years. The proposed Project pipeline route and associated aboveground facilities would not cross any of the surface or subsurface faults identified in the USGS database.

Potential Geologic Hazards

According to the available coal resource information, there has been no underground mining at the proposed site area, however, mined areas are located near the site, with the closest active mine over two miles to the south. Two abandoned mines are also located approximately two miles south of the site, along with two inactive mines and one reclaimed mine. Although there has not been any mining at the site specific location, the proposed compressor station is close to areas of bedrock with potentially acid-producing sulfide minerals. Coal beds in the Glenshaw Formation are sporadically mined, and include Harlem, Bakerstown, Wilgus, Brush Creek, Mahoning, and Upper Freeport coal seams. Active or historic underground operations may exist in the area, and as such, acidic drainage could be a potential hazard. Acidic drainage would adversely affect ecological receptors in any stream receiving such discharges from the site.

The primary mitigation of this potential geologic hazard will be avoidance. The maximum depth of excavation for the proposed Project is 12 feet below existing grade, with the majority of the proposed earth moving activities occurring at much shallower depths. At these relatively shallow depths, it is possible that the proposed construction activities will encounter the noted bedrock with potentially significant acid-producing sulfide minerals. Nonetheless, if the coal layers or rocks with acid producing minerals are encountered during construction activities, it would be a small amount.

There are no karst features within SHP project area within Westmoreland County.

In the event that bedrock with potentially significant acid-producing sulfide minerals is encountered during excavation for the proposed facility, the following mitigation measures are to be followed:

- Material with the potential to provide significant acid-producing sulfide minerals encountered during pad construction is not to be used as fill material on-site. This material shall be exported off-site and disposed of in the proper manner.
- Material with the potential to provide significant acid-producing sulfide minerals exposed during pad construction is to be addressed through site-specific analysis and design of appropriate mitigation measures. Possible mitigation measures for small quantities could be blending the materials with acid-neutralizing materials, such as limestone; covering the material with soil or glacial till and layering with lime or limestone.

18.2 TL-636 PIPELINE

General Geology

The bedrock unit beneath the northern approximately 2.5-mile section of the TL-636 pipeline is comprised of the Glenshaw and Casselman Formations of the Conemaugh Group. The Glenshaw Formation is comprised of repeated sequences of sandstone, siltstone, shale, claystone, limestone, and coal. The claystone layers of the Glenshaw Formation include red bed clays. The Casselman Formation is characterized by locally persistent red beds, calcareous claystones, freshwater limestones, thin sandstones, shales, siltstones, and thin, economically insignificant, coal beds. The Glenshaw Formation generally thickens in a northeasterly direction, ranging from 280 to 410 feet. The Casselman Formation thickens in a southeasterly direction, ranging from 230 to 575 feet. The bedrock unit beneath the southern approximately 1.4-mile section of the TL-636 pipeline is the Pittsburgh Low Plateau Section. The Pittsburgh Low Plateau Section is comprised of smooth to irregular, undulating surfaces, with narrow, shallow valleys with interspersed strip mines and reclaimed lands. Specifically, the station is located within the Monongahela Group of the Pittsburgh Low Plateau Section, which consists of cyclic sequences of limestone, shale, sandstone, and coal. The Monongahela Group ranges in thickness from about 275 to 410 feet.

Regionally, the water table varies based on topographic setting and water-bearing zone head. The water levels in valleys and upland are shallow and become deeper with increasing elevation

to hilltops. The depth to water varies with rock type, physiography, and precipitation. The 3.9-mile stretch of pipeline associated with the TL-635 pipeline is situated across 3 different geologic formations: Glenshaw, Casselman, and Monongahela.

The median well depth in the Glenshaw Formation is 118.0 feet below ground surface. The minimum casing length of these wells is 5.60 feet. The median static water level for the wells within the Glenshaw Formation is 45.0 feet. The median specific capacity for wells in this formation is 2.50 feet and the minimum specific capacity is 0.07 feet. The median water yield for wells in the Glenshaw formation is 10.0 gallons per second.

The median well depth in the Casselman Formation is 135.0 feet below ground surface. The minimum casing length of these wells is 9.0 feet. The median static water level for the wells within the Casselman Formation is 40.0 feet. The median and minimum specific capacity for wells in this formation is 0.00 feet. The median water yield for wells in the Casselman Formation is 10.0 gallons per second.

The median well depth in the Monogahela Formation is 126.0 feet below ground surface. The minimum casing length of these wells is 9.0 feet. The median static water level for the wells within the Monogahela Formation is 35.0 feet. The median and minimum specific capacity for wells in this formation is also 0.00 feet. The median water yield for wells in the Monogahela Formation is 5.0 gallons per second.

Surficial Geology

According to the Murrysville and Slickville Pennsylvania USGS 7.5 Minute Quadrangle maps, the TL-636 pipeline is proposed along elevations of approximately 1,020 to 1,280 feet above mean sea level near the township of Murrysville. The topography consists of very hilly with narrow hilltops and steep-sloped narrow valleys that have been modified by fluvial erosion and glacial mass wasting. Detailed NRCS soil reports are included in Appendix B.

Earthquake Probability

Westmoreland County has a very low earthquake risk. According to the PaGEODE online services, the nearest earthquake to the TL-636 pipeline occurred in 1965, at magnitude 3.3. The largest known earthquake to occur in Pennsylvania, the Pymatuning Earthquake, had an epicenter in Jamestown, approximately 80 miles northwest of the proposed pipeline MP 3.8. The Pymatuning Earthquake had a magnitude of 5.2, causing light property damage.

The USGS maintains a database containing information on surface and subsurface faults and folds in the United States that are believed to be sources of earthquakes of greater than 6.0 magnitude during the past 1.6 million years. The proposed TL-636 pipeline route and associated aboveground facilities would not cross any of the surface or subsurface faults identified in the USGS database.

Potential Geologic Hazards

According to the available coal resource information, there has been no underground mining at the proposed site area, however, there are two active, two inactive, two abandoned, and two reclaimed mine sites within approximately two miles of the proposed pipeline, located primarily northeast and southwest of the southern portion of the pipeline. The Delmont Mine is an abandoned mine located between MP 0.0 and 0.3 of the proposed pipeline. The proposed pipeline is close to areas of bedrock with potentially acid-producing sulfide minerals. The Pittsburgh Coal, which marks the base of the Monongahela Group, can range in depth from surface to 2,000 feet below ground surface. Coal beds in the Glenshaw Formation are sporadically mined, and include Harlem, Bakerstown, Wilgus, Brush Creek, Mahoning, and Upper Freeport coal seams. Coal seams in the Casselman Formation are not typically considered economically viable. Active or historic underground operations may exist in the area, and as such, acidic drainage could be a potential hazard. Acidic drainage would adversely affect ecological receptors in any stream receiving such discharges from the site.

The primary mitigation of this potential geologic hazard will be avoidance. The maximum depth of excavation for the proposed Project is 12 feet below existing grade, with the majority of the proposed earth moving activities occurring at much shallower depths. At these relatively shallow depths, it is possible that the proposed construction activities will encounter the noted bedrock with potentially significant acid-producing sulfide minerals. Nonetheless, if the coal layers or rocks with acid producing minerals are encountered during construction activities, it would be a small amount.

In the event that bedrock with potentially significant acid-producing sulfide minerals is encountered during excavation for the proposed facility, the following mitigation measures are to be followed:

- Material with the potential to provide significant acid-producing sulfide minerals encountered during pad construction is not to be used as fill material on-site. This material shall be exported off-site and disposed of in the proper manner.
- Material with the potential to provide significant acid-producing sulfide minerals exposed during pad construction is to be addressed through site-specific analysis and design of appropriate mitigation measures. Possible mitigation measures for small quantities could be blending the materials with acid-neutralizing materials, such as limestone; covering the material with soil or glacial till and layering with lime or limestone.

There are five known oil and gas wells within 0.25 miles of the T-636 pipeline, four of which are active. The closest well is 475.8 feet west of MP 3.8, and is an active CNX Gas Co., LLC well.

19.0 THERMAL IMPACTS TO SURFACE WATERS

The proposed Project was analyzed for potential thermal impacts associated with the planned activities and how potential impacts could be avoided, minimized, or mitigated. Thermal impacts resulting from activities similar to the proposed Project are primarily due to the negative impacts of increased impervious area. The following opportunities for negative thermal impacts exist for projects similar to the one being proposed:

- Heat transfer from impervious cover to surface runoff;
- Solar heat gain in ponded surface water;
- Increased surface temperatures caused by removal of vegetation;
- Reduced thermal buffering of stormwater due to reduction in site’s infiltration capacity; and
- Increased stream temperatures due to reduced base flow caused by reduction in site’s infiltration capacity.

Siting of the proposed gas facilities was limited by the location of the existing facilities and pipelines that they will service, surface restrictions such as regulatory setbacks from building and waterways, and existing property boundaries. From this perspective, the potential to limit thermal impacts by altering the location of the Project is limited. However, Table 19.0-1 below depicts several site layout criteria that were used for the proposed Project and how they help prevent or minimize thermal impacts to receiving waters:

Table 19.0-1: Thermal Impact Benefits of Site Layout Criteria

Site Layout Criteria	Thermal Impact Benefits
Avoid impacts to all surface waters and wetlands to the maximum extent possible	Maintain existing hydrology and encourage natural thermal buffering
Locate proposed facilities as close as possible to existing facilities	Minimize proposed impervious cover
Choose areas with minimal existing tree cover	Reduce removal of existing tree canopy

In addition to the above site selection criteria, several BMPs will be used to help mitigate negative thermal impacts from the proposed Project. Minimizing the LOD and the limit of tree clearing to the minimum area necessary to construct the proposed facilities will preserve existing vegetative cover and maintain the infiltration and evapotranspiration capacity of undisturbed areas to the maximum extent practicable. In addition, disturbed areas will be immediately re-vegetated to help cool runoff prior to discharge.

20.0 EROSION AND SEDIMENT CONTROL PLAN CONSISTENCY WITH THE POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN

A SR/PCSM Plan has been developed for this Project to maximize replication of the natural hydrologic cycle, protect the structural integrity of receiving waters, and protect and maintain existing and designated uses of the Commonwealth waters. It was developed in accordance with the requirements of 25 Pa. Code § 102, as well as the Clean Streams Law (35 P.S. § 691.1001), as amended, utilizing guidelines and BMP information provided in the PA ESC Manual.

This E&SCP was planned and designed to support the management of stormwater for erosion and sediment control during earth disturbance activities in a manner that is compatible with the proposed SR/PCSM Plan. This Plan complements the SR/PCSM Plan and is consistent with Pa. Code § 102.8.

Post-construction monitoring, maintenance, and reporting will be discussed in the SR/PCSM Plan narrative in Section 5 of the ESCGP-2 application package.

21.0 RIPARIAN BUFFERS

21.1 EXISTING RIPARIAN BUFFERS

Construction of the TL-636 pipeline is anticipated to include waterbody crossings of Turtle Creek, Kemerer Hollow, Steels Run, and Haymakers Run, and their unnamed tributaries, in Westmoreland County. Crossings and their respective E&S controls are shown on the E&S drawings included as Appendix A. A list of waterbody crossings is included in Section 2 of the ESCGP-2 application package. Permitting under sections 401 and 404 of the Clean Water Act is ongoing through the PADEP and COE for waterbody crossings.

Waterbody, riparian, and floodway areas disturbed as part of the Project construction will be revegetated in accordance with DTI's post-construction management practices such that the proposed installation of the TL-636 pipeline will have minimal impacts to existing riparian buffers and minimal thermal impact to streams within the action area. Additionally, riparian forest buffers will be protected to the extent practicable in accordance with DTI's post-construction management practices. Riparian forest buffers are shown on the E&S drawings included as Appendix A.

Construction of the TL-636 pipeline will result in temporary and permanent impacts to wetlands. Permanent impacts are considered the width of the pipe beneath the wetland. Wetland crossings and their respective E&S controls are shown on the E&S drawings included as Appendix A. A list of wetland crossings is included in Section 2 of the ESCGP-2 application. Permitting under sections 401 and 404 of the Clean Water Act is ongoing through the PADEP and COE for wetland crossings. Impacts to palustrine forest (PFO) wetlands are located along the 3.9-mile segment of TL-636, which minimizes individual wetland impacts. Following construction, areas outside of the permanent 50-foot right of way will be allowed to revegetate to natural conditions, including tree canopy closure. A 30-foot right of way will be maintained for access roads.

Existing access roads are used, where possible, along the existing and proposed ROW, which minimizes further vegetative removal. Where new access roads are constructed in proximity to streams or wetlands, vegetation removal will be minimized and roads will be designed to avoid removal of riparian buffer areas where possible.

Construction at the JB Tonkin Compressor Station in Westmoreland County is anticipated to result in impacts to Haymakers Run, unnamed tributaries to Haymakers Run, along with an associated wetland and floodway. Approximately 0.02 acre of a PEM wetland will be permanently impacted from installation of new equipment at the JB Tonkin Compressor Station. Vegetation within the action area portion of the Haymakers Run floodway consists primarily of maintained grasses and shrubs, with a few trees; therefore, impacts to vegetation within the floodway of Haymakers Run would not significantly alter existing riparian buffers or increase thermal impacts.

21.2 RIPARIAN BUFFER WAIVER/EXEMPTION

The SHP Project in Westmoreland County qualifies for a riparian forest buffer exemption under Pa. Code § 102.14(d)(1)(vii) & 102.14(d)(1)(ix) for the aboveground facilities. Existing riparian forest buffers within the project area are identified on the E&S Plan drawings in Section 4. Existing riparian forest buffers will be protected to by minimizing the limit of disturbance at stream crossings to 75 feet. In addition, DTI also requests a waiver under Pa. Code § 102.14(d)(2)(ii) and 102.14(d)(2)(vi) for construction areas within 150 feet of surface waters.

All earth disturbance activities have been reduced to the maximum extent possible. Additionally, riparian forest buffers will be protected to the extent practicable in accordance with DTI's post-construction management practices. DTI has limited the disturbance to 75 feet at all stream crossings within the riparian forest buffer where possible. Workspaces that provide additional space for stream crossing activities have been placed outside of the riparian forest buffers where possible. The LOD has been reduced to the extent feasible to allow for safe and successful installation of the pipeline and associated facilities. Any further reduction would compromise the safety and success of the Project construction and operation. In addition, JB Tonkin Compressor Station is currently located within the 150 foot forested riparian buffer and therefore is not expected to meet the 150 foot riparian buffer requirement per Pa. Code § 102.14(d)(2)(vi).

22.0 ANTIDegradation

As some of the streams within the action area are classified as high quality-cold water habitats, the following anti-degradation analysis has been prepared in accordance with Pa. Code, §102.3(b)(6). Additionally, anti-degradation best available combination of technology (ABACT) standards will be applied to this Project within high quality watersheds.

These BMPs, in conjunction with additional BMPs outlined in this E&SCP, serve to minimize or eliminate sediment laden water discharges to all waters of the Commonwealth of Pennsylvania, including high quality-cold water streams.

22.1 NONDISCHARGE ALTERNATIVES

Earth disturbance activities within special protection watersheds are required to implement cost-effective and environmentally sound nondischarge alternatives to the greatest extent possible. Alternatives for the Project have been designed to:

- Minimize or eliminate accelerated erosion and sedimentation during the earth disturbance activity;
- Minimize net change from pre-development to post-development volume with addition of 0.27 acre of impervious area for the Project. Minimize the rate and concentration of pollutants in stormwater runoff up to and including the 2-year/24-hour storm when compared to the stormwater rate, volume, and quality prior to earth disturbance activities;
- Protect and maintain existing water quality of the receiving surface waters of Pennsylvania; and
- Preserve existing baseflow.

DTI has implemented the following nondischarge alternatives for the Project.

22.1.1 Alternative Siting

The site layout has taken into account the preservation of riparian buffers, vegetative filter strips, and natural watercourses where possible. Additionally, the use of cuts and fills has been minimized.

22.1.2 Limited Disturbed Area

Access to the site has been limited to the use of construction entrances that were designed to use existing roads and avoid stream and wetland crossings where possible.

Sediment barriers and traps proposed for use during construction primarily include compost type BMPs and are selected and designed based on site-specific conditions, including slope and soil type. Temporary slope breakers and waterbars will divert stormwater from the ROW to well vegetated areas and sediment traps. Temporary stream and wetland crossings were designed according to the E&SCP to minimize impacts from construction and vehicular traffic.

Upon completion or temporary cessation of earth disturbance activities, disturbed areas will be stabilized; soil stabilizers and blanketing will be used as necessary. Disturbed areas will be revegetated in accordance with DTI's SR/PCSM Plan.

22.1.3 Limited Extent and Duration of the Disturbance

The Project earth disturbance activities will be staged so that not all areas of the Project are disturbed at once. DTI will keep current with interim and final stabilization requirements, such as seeding and mulching, blanketing, or otherwise stabilizing sub-areas as they achieve final grade.

22.1.4 Riparian Forest Buffer

As previously stated, under Pa. Code, §102.14(d), the Project qualifies for a waiver for riparian forest buffers. The Project has taken into account existing riparian buffers within the Project area and has designed construction measures to minimize disturbance to the existing riparian buffers to the extent practicable.

22.2 ANTIDEGREDATION BEST AVAILABLE COMBINATION OF TECHNOLOGIES

As demonstrated in the previous section, nondischarge alternatives will be used to the maximum extent possible. Environmentally sound and cost-effective ABACT BMPs will be utilized to minimize change in stormwater runoff rate, volume, or quality will maintain and protect the existing quality and water uses of receiving surface waters and preserve existing baseflow. The E&S drawings provided in Appendix A depict the locations of all planned ABACT BMPs and details for construction of these facilities. The following is a summary of the combination of ABACT BMPs that have been incorporated into the site design.

22.2.1 Sediment Barriers

- Compost filter sock, compacted earth, sand bags, or other appropriate materials, as detailed in the plan sheets, utilized for linear perimeter control.
- The use of rock and filter fabric type BMPs will be minimized and the use of compost BMPs will be maximized.
- A 6-inch compost layer will be securely anchored on top of filter stone on rock filters and on stone inlet protection.

22.2.2 Site Layout

- Preserve riparian buffers to a minimum of 150 feet wherever possible.
- Vegetative filter strips will be preserved wherever possible.
- Additionally, natural waterbodies will be preserved wherever possible and DTI will minimize cuts and fills.
- Staging areas should be located at least 50 feet from the edge of the wetland. Wherever wetland crossings can be affected by boring, that is the preferred method. If boring is not a viable option in any watershed, the following guidance should be followed:
- Movement of vehicles across the wetland must be minimized. Where vehicles need to cross wetlands, the use of temporary pads or mats shall be used due to the potential for rutting.
- Excavated topsoil with the vegetative root mass shall be carefully removed and stockpiled separately from the subsoil, unless there is standing water or the soil is too saturated to segregate.

- BMPs, including trench plugs, shall be installed to prevent the trench from draining the wetlands or changing its hydrology.
- Lime and fertilizer are not to be applied to the backfilled trench.
- Annual ryegrass may be applied at the rate of 40 pounds/acre where needed to areas without standing water. Straw mulch should be used at the rate of 3 tons/acre and without binding agents.

22.2.3 Site Access

- Wash racks will be used on rock construction entrances within high quality watersheds.
- Stream and wetland crossings have been avoided to the extent practical.

22.2.4 Channels

- Temporary channels will be designed to convey the peak discharge from a 10-year storm event.
- Suitable protective lining will be provided for all channels.
- DTI will minimize the use of riprap and maximize the use of vegetative linings, where feasible.

22.2.5 Pollution Prevention

- A PPC Plan has been prepared and will be available on-site to reduce the probability and risk of a potential spill or release of oil or hazardous materials during construction-related activities.
- Details of the PPC Plan are outlined in Section 23.0.

22.2.6 Stabilization

- Upon completion or temporary cessation of earth disturbance activity, the disturbed area will be immediately stabilized.
- Exposed soils with high clay content will be stabilized with anionic polyacrylamide and within 100 feet from high-quality streams,.
- Disturbed areas within 50 feet of a receiving surface water and on slopes 3H:1V or steeper will be blanketed.

23.0 SPILL PREVENTION AND RESPONSE

23.1 SPILL PREVENTION, CONTROL AND COUNTERMEASURE PLAN AND PREPAREDNESS, PREVENTION AND CONTINGENCY PLAN

DTI has prepared a PPC Plan as part of the ESCGP-2 permit for the Project. A copy of the PPC Plan will be maintained at the Project site.

The purpose of the PPC plan is to reduce the probability and risk of a potential spill or release of oil or hazardous materials during construction-related activities. The objectives of these plans are to identify and address:

- The type and quantity of material handled, stored, or used on site during construction;
- Measures to be taken for spill preparedness and prevention;
- Emergency response procedures;
- Spill incident reporting/notification procedures; and
- Local emergency response team arrangements.

An SPCC Plan (Spill Prevention, Control and Countermeasure Plan) is, in general terms, required if a facility has an aggregate aboveground storage capacity of oil greater than 1,320 gallons. DTI does not intend to store more than the permitted threshold.

23.2 SPILL PREVENTION AND RESPONSE PROCEDURES

Potential spills may occur anywhere within the LOD, but specifically in areas where refueling, equipment maintenance, and chemical storage is occurring. When refueling or maintaining equipment, proper buffer areas must be maintained at streams, wetlands, and other water conveyance channels. Additional details on buffer areas, material handling procedures, and storage requirements are provided in the PPC Plan.

DTI will report any noncompliance to the appropriate contact in Table 23.2-1 that may endanger health or the environment immediately after becoming aware of the circumstances. If a spill occurs, the federal and state agencies listed in Table 23.2-1 shall be contacted.

Table 23.2-1: Spill Response Notification Contacts

Agency	Telephone Number
PADEP Southwest Regional Office	412-442-4000
PADEP Dept. of Field Operation	717-787-5028
Pennsylvania Emergency Management Agency	717-651-2001
EPA Region III Hotline	215-814-9016
Federal National Response Center	800-424-8802
U.S. Coast Guard National Response Center	800-424-8802
Pennsylvania Fish and Boat Commission	814-445-8974
Chemical Transportation Emergency Center	800-424-9300
Regional Poison Information Center	800-222-1222

Owners and operators must provide written notification to the appropriate regional office and to the local municipality with 15 days of the reportable release. DTI’s Environmental Incident Report form should be submitted in accordance with the above-listed requirements. For spills

not deemed reportable, it is strongly recommended that that facts concerning the incident be documented and a record maintained for 1 year.

RIPARIAN BUFFER WAIVER REQUEST

The Supply Header Project in Westmoreland County qualifies for a riparian forest buffer waiver under PA Code § 102.14(d)(1)(vii) & Chapter 102.14(d)(1)(ix). Existing riparian forest buffers within the project area are identified on the E&S Plan drawings in Section 4. DTI also requests a waiver under PA Code § 102.14(d)(2)(ii) and 102.14(d)(2)(vi) for construction areas within 150 feet of surface waters.

All earth disturbance activities have been reduced to the maximum extent possible. Additionally, riparian forest buffers will be protected to the extent practicable in accordance with DTI's post-construction management practices. DTI has limited the disturbance to 75 feet at all stream crossings within the riparian forest buffer where possible. Workspaces that provide additional space for stream crossing activities have been placed outside of the riparian forest buffers where possible. The LOD has been reduced to the extent feasible to allow for safe and successful installation of the pipeline and associated facilities. Any further reduction would compromise the safety and success of the Project construction and operation. In addition, JB Tonkin Compressor Station is currently located within the 150 foot forested riparian buffer and therefore is not expected to meet the 150 foot riparian buffer requirement per PA Code § 102.14(d)(2)(vi).

DOMINION TRANSMISSION, INC.

SUPPLY HEADER PROJECT

SECTION 4 – EROSION AND SEDIMENT CONTROL PLAN (ESCP)

APPENDIX A - EROSION AND SEDIMENT CONTROL PLAN DRAWINGS

- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY - UTM WITH NAD83 DATUM, ZONE 17, US SURVEY FOOT, CENTRAL MERIDIAN 81° W.
- CONTOURS AND TOPOGRAPHIC FEATURES WERE DERIVED FROM LIDAR DATA AND GPS SUB-METER GROUND SURVEY PERFORMED BY GAI CONSULTANTS, INC FROM 10-13-2014 TO 04-07-2015.
- AERIAL IMAGERY IS TAKEN FROM A SPRING 2015 FLIGHT BY KUCERA INTERNATIONAL INC..
- THE PROPERTY LINES SHOWN ARE BASED ON GIS & TAX ASSESSMENT RECORDS (PROVIDED BY OTHERS). GAI CONSULTANTS MAKE NO GUARANTEE EITHER EXPRESSED OR IMPLIED AS TO THE ACCURACY OF THE RECORDS AS SHOWN ON THESE DRAWINGS.
- STREAM AND WETLAND DATA SHOWN ON THE DRAWINGS WAS PROVIDED BY ERM.
- ALL STATIONING SHOWN IS SLOPE STATIONING.
- ERM AND J. LAWRENCE HOOSIER, PA P.E. NO. 25926-E (HEREAFTER COLLECTIVELY REFERRED TO AS ERM) HAVE DEPICTED EROSION AND SEDIMENTATION CONTROL (E&S) BEST MANAGEMENT PRACTICES (BMPs) ON THESE ALIGNMENT PLAN SHEETS PREPARED BY GAI CONSULTANTS, INC. FOR USE BY CONTRACTOR TO CONTROL EROSION AND SEDIMENTATION DURING CONSTRUCTION OF THIS PROJECT. ERM IS SOLELY RESPONSIBLE FOR THE NATURE AND LOCATION OF THE DEPICTED BMPs AS OF THE DATE SIGNED AND SEALED BASED ON THE SOURCE DATA PROVIDED AND AS DESCRIBED IN THE GENERAL NOTES SECTION OF THIS PLAN SET. NO RESPONSIBILITY IS ASSUMED FOR INACCURACIES OF SOURCE DATA PROVIDED BY OTHERS. ERM RETAINS NO RESPONSIBILITY OF LIABILITY FOR INFORMATION DEVELOPED, PREPARED OR OTHERWISE PROVIDED BY OTHER, OR FOR INACCURACIES OF SOURCE DATA PROVIDED BY OTHER. ERM ASSUMES NO RESPONSIBILITY OR LIABILITY FOR DESIGNS OR WORK PRODUCTS OF ANY TYPE TO THE EXTENT THAT THEY ARE BASED UPON OR DERIVED FROM SUCH INCORRECT INFORMATION OR DATA.



Dominion

DOMINION TRANSMISSION, INC.
925 WHITE OAKS BLVD. BRIDGEPORT, WV 26330

LEGEND

- PROPERTY LINE
- FENCE
- STREAM
- EXISTING GAS PIPELINE
- OVERHEAD ELECTRIC LINES
- OVERHEAD TELEPHONE LINES
- PROPOSED GAS PIPELINE
- STORM SEWER
- WATER LINE
- SANITARY SEWER
- EDGE OF GRAVEL
- PROPOSED PERMANENT EASEMENT
- PROPOSED ACCESS ROAD
- UTILITY POLE
- METAL BALLARD
- EXTRA WORK SPACE
- WETLAND
- PROPOSED TEMPORARY R.O.W.
- TOPSOIL SEGREGATION AREA
- DO NOT DISTURB AREA

SUPPLY HEADER, (PENNSYLVANIA) DRAWING INDEX		
SHEET NO.	REV.	SHEET TITLE
1		COVER SHEET
2		E&S CONTROLS (STA. 0+00 TO 56+00)
3		E&S CONTROLS (STA. 56+00 TO 112+00)
4		E&S CONTROLS (STA. 112+00 TO 166+00)
5		E&S CONTROLS (STA. 166+00 TO 203+55)
6		ACCESS ROAD DETAIL
7		ACCESS ROAD DETAIL
8		ACCESS ROAD DETAIL

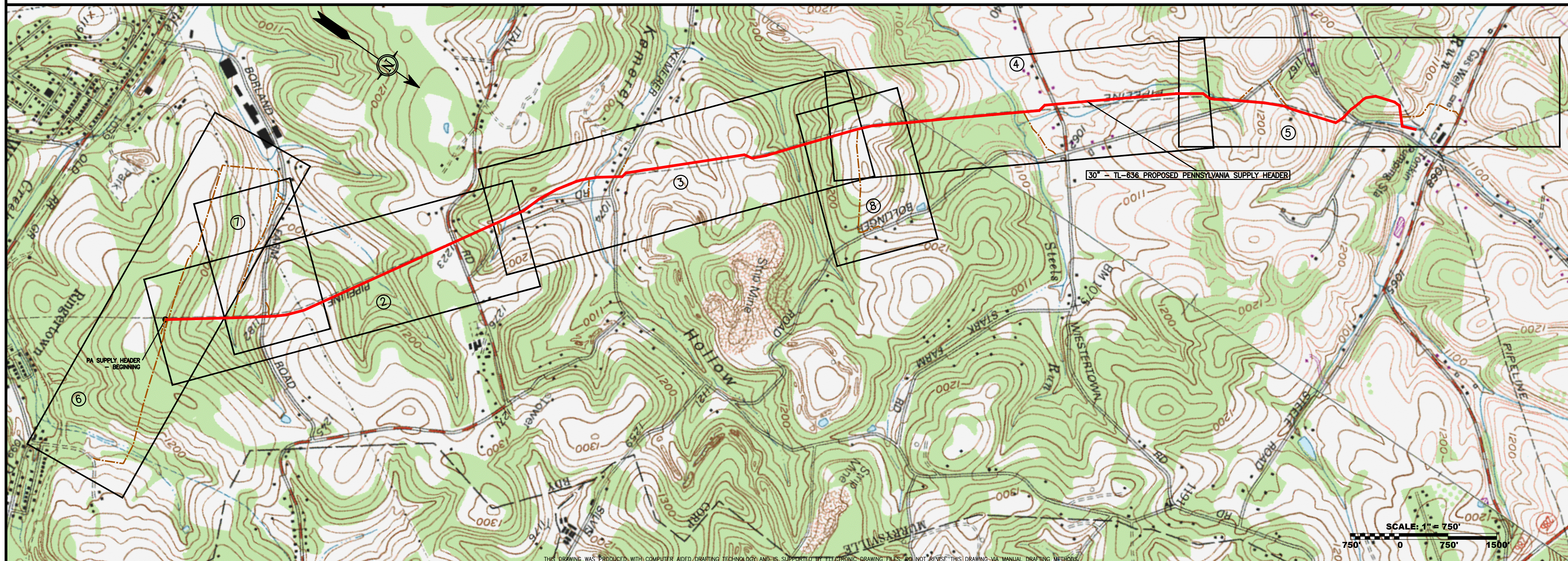
CALL BEFORE YOU DIG!
PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL
Pennsylvania One Call System, Inc.



1-800-242-1776

PENNSYLVANIA ACT 287 OF 1974, AS AMENDED BY PA ACT 181 OF 2006, REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH, CALL PENNSYLVANIA ONE CALL SYSTEM, INC. AT 1-800-242-1776 BEFORE ANY DISTURBANCE.

PA SUPPLY HEADER PROJECT 30" TL-636 PIPELINE EROSION AND SEDIMENT CONTROL PLANS



NO.	DATE	BY	CHKD.	APPVD.	DESCRIPTION
1	06/09/17	CAF	DWN		REVISED PERC PLANS

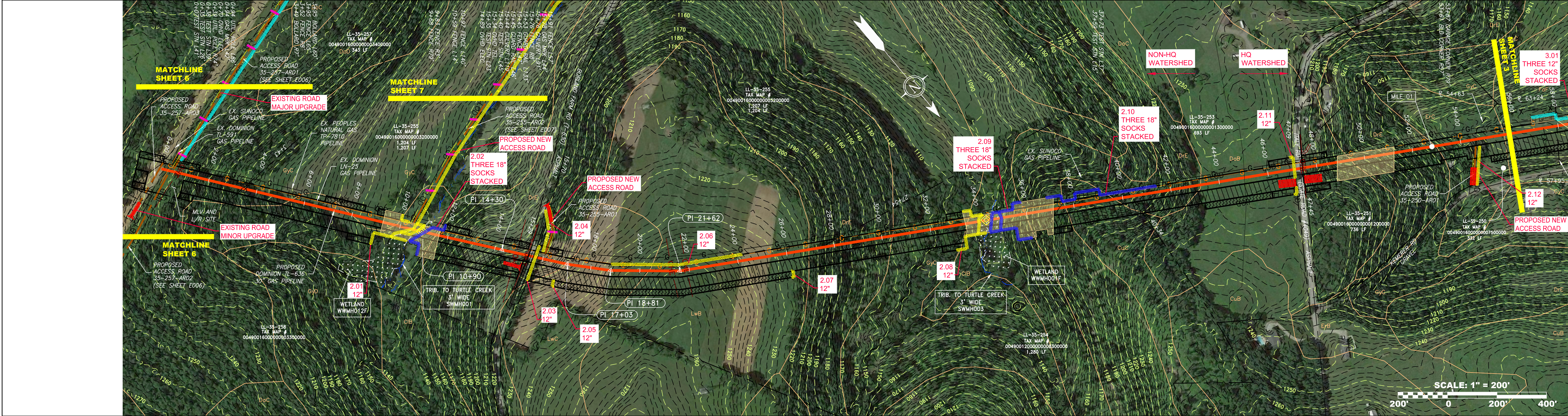
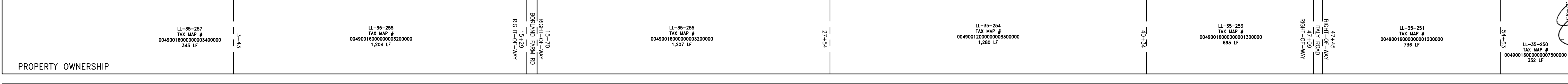
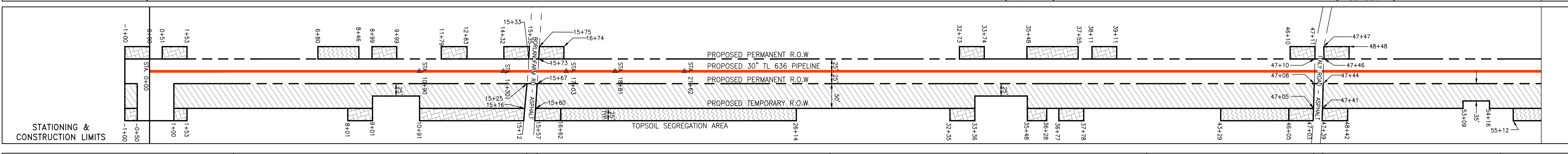
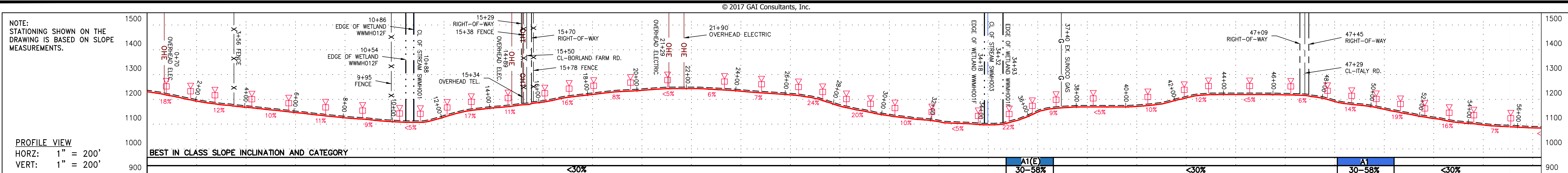
PA SUPPLY HEADER PROJECT - 30" TL-636 PIPELINE
EROSION AND SEDIMENT CONTROL PLANS - COVER SHEET
MURRYSVILLE BOROUGH, WESTMORELAND COUNTY, PENNSYLVANIA
DOMINION TRANSMISSION, INC.
925 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330

SCALE:	AS SHOWN
DATE:	06/09/17
DRAWN:	EILERAC
CHECKED:	HOOSIDL
APPROVED:	TYSSONE

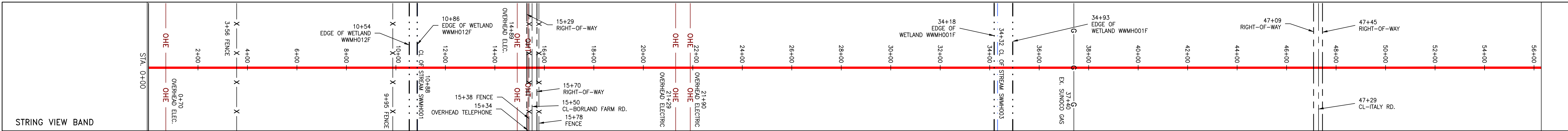
gai consultants
SOUTHPOINTE OFFICE
8600 TOWN CENTER BLVD
SUITE 300 EAST
CANONSBURG, PA 15317
724-873-3545

PROJECT NO./DASH NO.	C141330-01
TASK NO. SUB TASK NO.	005 00
GROUP ID DRAWING NO.	D E001
SHEET	1 OF 8

GAI CAD FILE NO. Z:\ENERGY\2014\C141330.01 - DTI - SUPPLY HEADER - SUR\CAD\SUR\C141330.01\CONSTRUCTION_ALIGNMENT - PA.DWG - PREVIOUS FERC FILING DWGS - ALIGNMENT SHEETS\C141330-01-000-00-E-002-EC08.DWG



PIPE SPECIFICATION table with columns for pipe type, size, and material.



LEGEND and NOTES section containing symbols for property lines, fences, streams, pipelines, and various engineering notes regarding stationing and construction.

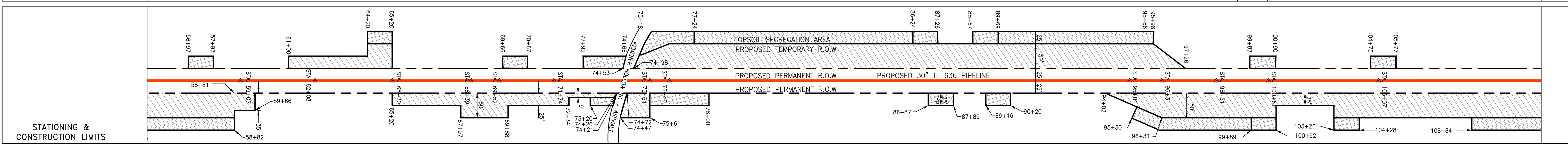
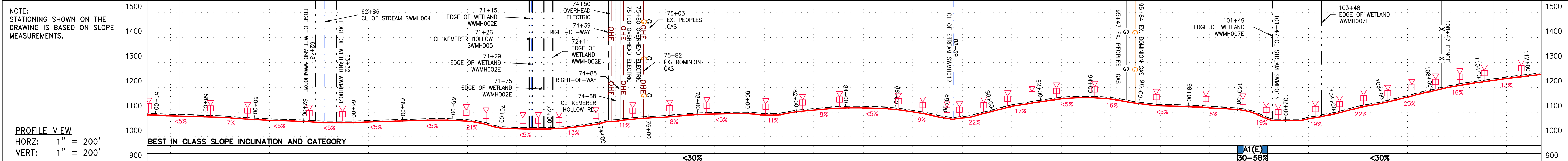
REVISIONS table with columns for NO., DATE, DWN., CHD., APPD., and DESCRIPTION.

Professional Engineer seal for J. Lawrence Hoshmer, State of Pennsylvania, No. 025208-E.

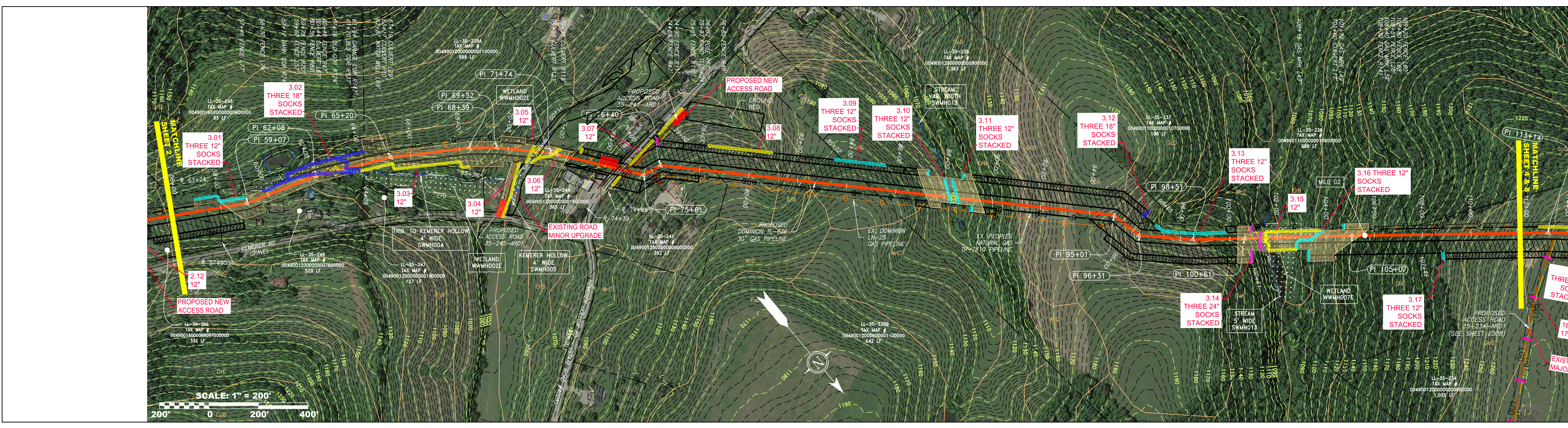
Project information including title 'PA SUPPLY HEADER PROJECT - 30" TL-636 PIPELINE', client 'DOMINION TRANSMISSION, INC.', and sheet number '2 OF 8'.

GAI CAD FILE NO. Z:\ENERGY\2014\C141330.01\CONSTRUCTION_ALIGNMENT - PA.DWG - PREVIOUS FERC FILING DWGS - ALIGNMENT SHEETS\C141330-01-000-00-E-002-EC08.DWG

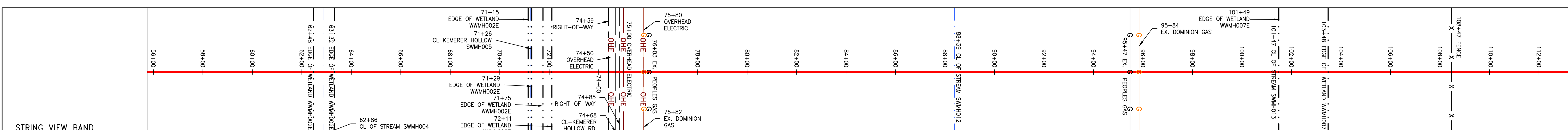
© 2017 GAI Consultants, Inc.



PROPERTY OWNERSHIP table with columns for stationing, tax map #, and acreage. Includes entries for LL-35-250, LL-35-249, LL-35-248, LL-35-247, LL-35-241, LL-35-244, LL-35-239, LL-35-237, LL-35-236, and LL-35-234.



PIPE SPECIFICATION table with columns for stationing, pipe size, and material. Includes entries for 30" TL 636 pipe.



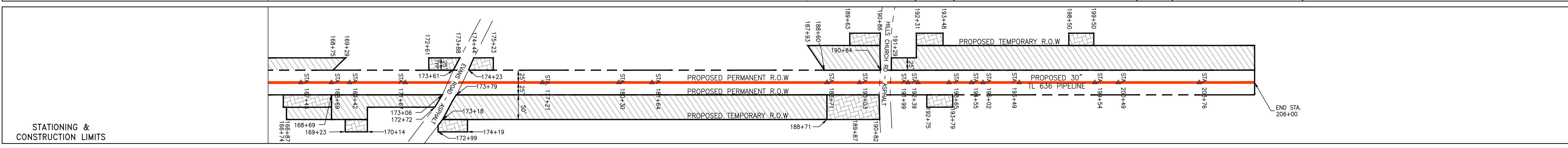
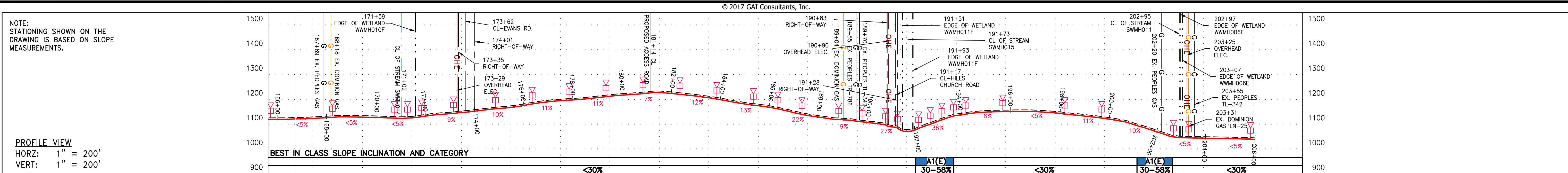
LEGEND and NOTES section. Legend includes symbols for Property Line, Fence, Stream, Existing Gas Pipeline, Overhead Electric Lines, Proposed Gas Pipeline, Proposed Access Road, Storm Sewer, Water Line, Sanitary Sewer, Edge of Gravel, Proposed Permanent Easement, Extra Work Space, Wetland, Do Not Disturb Area, Proposed Temporary R.O.W., Topsoil Segregation Area, Metal Ballard, Utility Pole, Permanent Waterbar/Slope Breaker, Temporary Waterbar/Slope Breaker, Trench Breaker/Plug, Stream Crossing, Construction Entrance with Ditch, Culvert as Needed, Construction Entrance with Wash Rack, Sediment Barrier Identification, Typical Bic Slope Category, Slope Inclination, Limit of Disturbance, 12" Compost Filter Sock (CFS), Three 12" CFS Stacked, Three 18" CFS Stacked, Three 24" CFS Stacked, Temporary Diversion Watershed Boundary, Culvert, Access Road Waterbar, Soil Type, and Erosion Control Matting. Notes include 1-13 regarding coordinate system, data sources, and construction requirements.

REVISIONS table with columns for No., Date, Dwn., Chgd., Appd., Description. Includes a professional seal for J. Lawrence Hoshmer, Engineer, No. 025208-E, State of Pennsylvania, dated 07.31.2017.

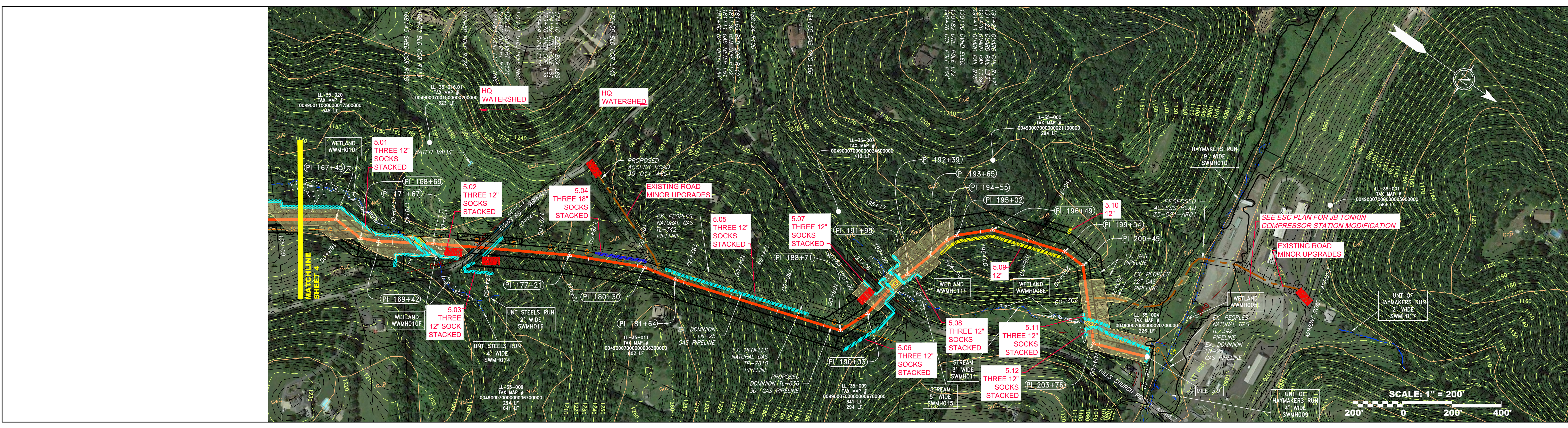
PA SUPPLY HEADER PROJECT - 30" TL-636 PIPELINE
EROSION AND SEDIMENT CONTROLS STA. 56+00 TO 112+00
MURRYSVILLE BOROUGH, WESTMORELAND COUNTY, PENNSYLVANIA
DOMINION TRANSMISSION, INC.
925 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330

SCALE: AS SHOWN
DATE: 06/09/17
DRAWN: EILERAC
CHECKED: HOOSIDLE
APPROVED: TYSONNE
PROJECT NO./DASH NO. C141330-01
TASK NO. SUB TASK NO. 005 00
GROUP ID DRAWING NO. D E003
SHEET 3 OF 8

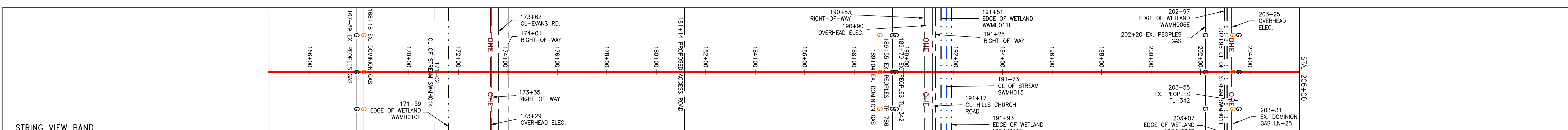
GAI CAD FILE NO. Z:\ENERGY\2014\C141330.01\CONSTRUCTION_ALIGNMENT - PA.DWG - PREVIOUS FERC FILING DWGS - ALIGNMENT SHEETS\C141330-01-000-00-E-002-EC08.DWG



PROPERTY OWNERSHIP table listing tax map numbers, acreages, and owner names for various parcels along the pipeline route.



PIPE SPECIFICATION table detailing the requirements for the proposed gas pipeline, including material and construction standards.



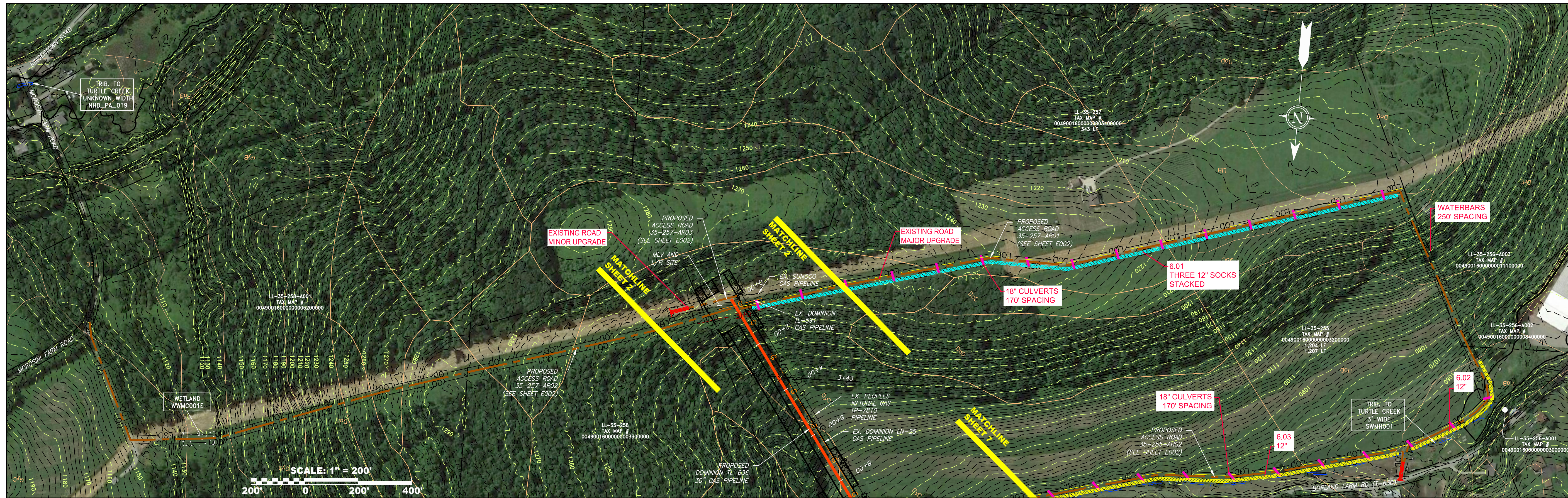
LEGEND and NOTES section. The legend defines symbols for property lines, fences, streams, gas pipelines, overhead lines, wetlands, and various engineering features. The notes provide detailed instructions for construction, including requirements for erosion control, sedimentation, and wetland protection.

REVISIONS table with columns for revision number, date, description, and approver. It includes a circular professional engineer seal for J. Lawrence Hoshmer, No. 025206-E, State of Pennsylvania.

PA SUPPLY HEADER PROJECT - 30" TL-636 PIPELINE
EROSION AND SEDIMENT CONTROLS STA. 166+00 TO 203+55
DOMINION TRANSMISSION, INC.
925 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330

Project information table including scale (AS SHOWN), date (06/09/17), drawing number (EILERAC), and sheet number (5 OF 8).

GAI CAD FILE NO. Z:\ENERGY\2014\C141330.01\CONSTRUCTION_ALIGNMENT - PA.DWG - PREVIOUS FERC FILING DWGS - ALIGNMENT SHEETS\C141330-01-000-00-E-E002-E008.DWG



ACCESS ROAD DETAIL



LEGEND

	PROPERTY LINE
	FENCE
	STREAM
	EXISTING DOMINION GAS PIPELINE
	EXISTING GAS PIPELINE (OTHER)
	OVERHEAD ELECTRIC LINES
	OVERHEAD TELEPHONE LINES

	PROPOSED GAS PIPELINE
	PROPOSED ACCESS ROAD
	STORM SEWER
	WATER LINE
	SANITARY SEWER
	EDGE OF GRAVEL
	PROPOSED PERMANENT EASEMENT

	EXTRA WORK SPACE
	WETLAND
	DO NOT DISTURB AREA
	PROPOSED TEMPORARY R.O.W.
	TOPSOIL SEGREGATION AREA

	METAL BALLARD
	UTILITY POLE

	PERMANENT WATERBAR/SLOPE BREAKER
	TEMPORARY WATERBAR/SLOPE BREAKER
	TRENCH BREAKER/PLUG
	STREAM CROSSING
	CONSTRUCTION ENTRANCE WITH DITCH
	CULVERT AS NEEDED
	CONSTRUCTION ENTRANCE WITH WASH RACK
	SEDIMENT BARRIER IDENTIFICATION
	TYPICAL BIC SLOPE CATEGORY
	SLOPE INCLINATION

	LIMIT OF DISTURBANCE
	12" COMPOST FILTER SOCK (CFS)
	THREE 12" CFS STACKED
	THREE 18" CFS STACKED
	THREE 24" CFS STACKED
	ROADSIDE DITCH
	TEMPORARY DIVERSION
	WATERSHED BOUNDARY
	CULVERT
	ACCESS ROAD WATERBAR
	SOIL TYPE
	EROSION CONTROL MATTING

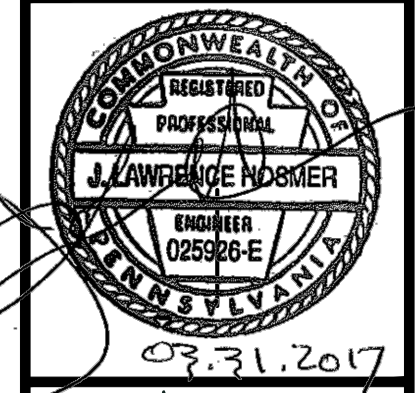
NOTES

- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY - UTM WITH NAD83 DATUM, ZONE 17, US SURVEY FOOT, CENTRAL MERIDIAN 81° W, THRU 11-07-2014.
- CONTOURS AND TOPOGRAPHIC FEATURES WERE DERIVED FROM LIDAR DATA AND GPS SUB-METER GROUND SURVEY PERFORMED BY GAI CONSULTANTS, INC FROM 11-03-2014.
- IMAGERY TAKEN FROM GOOGLE EARTH.
- THE PROPERTY LINES SHOWN ARE BASED ON GIS & TAX ASSESSMENT RECORDS (PROVIDED BY OTHERS). GAI CONSULTANTS MAKE NO GUARANTEE EITHER EXPRESSED OR IMPLIED AS TO THE ACCURACY OF THE RECORDS AS SHOWN ON THESE DRAWINGS.
- STREAM AND WETLAND DATA SHOWN ON THE DRAWINGS WAS PROVIDED BY ERM.
- EROSION AND SEDIMENTATION CONTROL ELEMENTS MAY BE SHOWN OUTSIDE OF THE WORK AREAS FOR CLARITY ONLY. ACTUAL INSTALLATION SHALL BE WITHIN THE WORK AREAS.
- ALL STATIONING SHOWN IS SLOPE STATIONING.
- COMPOST FILTER SOCK SHALL BE INSTALLED PARALLEL TO CONTOUR TO EXTENT PRACTICABLE IN ACCORDANCE WITH STANDARD DETAIL. SEDIMENT BARRIER LOCATIONS ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS WITH APPROVAL FROM THE PROJECT ENVIRONMENTAL INSPECTOR.
- BEST IN CLASS (BIC) STEEP SLOPE CATEGORY INFORMATION CAN BE FOUND IN THE EROSION AND SEDIMENT CONTROL PLAN.
- EROSION CONTROL MATTING SHALL BE PLACED IN AREAS OF 30% SLOPE AND GREATER, WHICH ARE INDICATED ON THE BEST IN CLASS STEEP SLOPES BAND.
- ACCESS ROADS HAVE BEEN GROUPED INTO FOUR CATEGORIES: 1) EXISTING ROADS NO IMPROVEMENTS, 2) EXISTING ROADS MINOR IMPROVEMENTS, 3) EXISTING ROADS MAJOR IMPROVEMENTS AND 4) NEW ROADS. APPROPRIATE EROSION AND SEDIMENT CONTROLS WILL BE PROVIDED FOR ROADS IN CATEGORIES 2, 3 AND 4. ROADS IN CATEGORIES 1 AND 2 HAVE ADEQUATE EXISTING DRAINAGE; DRAINAGE FEATURES WILL BE PROVIDED FOR ROADS IN CATEGORIES 3 AND 4.
- ERM IS SOLELY RESPONSIBLE FOR THE NATURE AND LOCATION OF THE DEPICTED RUMPS AS OF THE DATE SIGNED AND SEALED BASED ON THE SOURCE DATA PROVIDED AND AS DESCRIBED IN THE NOTES SECTION OF THE INDEX SHEET OF THIS PLAN SET.
- THE CONSTRUCTION RIGHT-OF-WAY (ROW) WILL BE RESTORED TO PRE-CONSTRUCTION CONTOURS IN ACCORDANCE WITH SECTION V.A.5 FEDERAL ENERGY REGULATORY COMMISSION (FERC) UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN, SECTION V.A.5. IN ADDITION, WETLAND AND WATERBODY CROSSINGS WILL BE RESTORED TO PRE-CONSTRUCTION CONTOURS IN ACCORDANCE WITH NATIONWIDE PERMIT 12 (NWP) ISSUED BY THE U.S. CORPS OF ENGINEERS.

NOTE: THE PE SEAL AND SIGNATURE APPLIES ONLY TO THE E&S CONTROL DESIGN COMPLETED BY ERM (SEE NOTE 12).

THIS DRAWING WAS PRODUCED WITH COMPUTER AIDED DRAFTING TECHNOLOGY AND IS SUPPORTED BY ELECTRONIC DRAWING FILES. DO NOT REVISE THIS DRAWING VIA MANUAL DRAFTING METHODS.

NO.	DATE	BY	CHKD.	APPD.	DESCRIPTION
1	04/08/16	CJF	DLH	NET	REVISED FERC FILING



07.31.2017
ERM

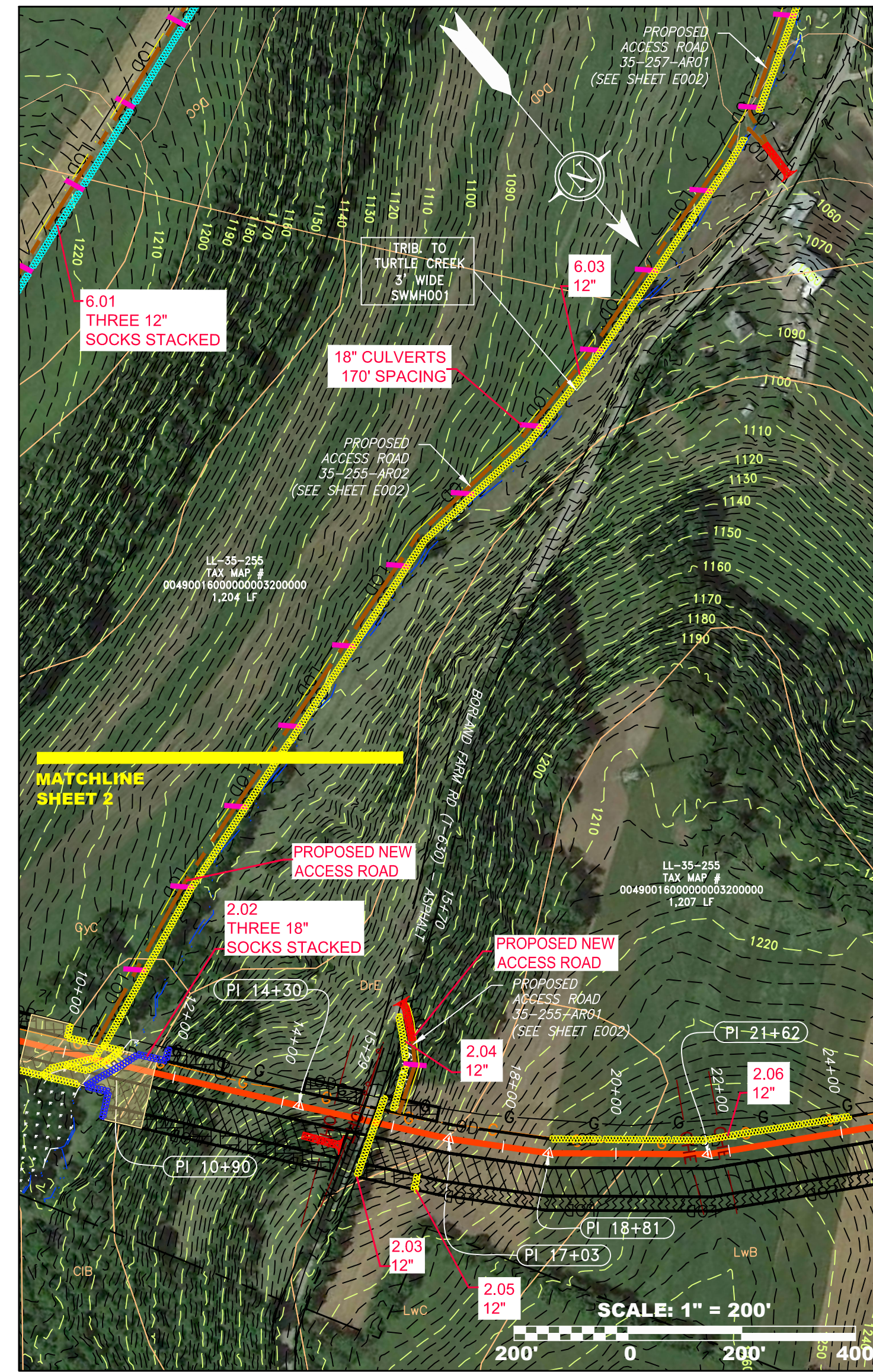
PA SUPPLY HEADER PROJECT - 30" TL-636 PIPELINE
EROSION AND SEDIMENT CONTROLS-ACCESS ROAD DETAIL
MURRYSVILLE BOROUGH, WESTMORELAND COUNTY, PENNSYLVANIA
DOMINION TRANSMISSION, INC.
925 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330

SCALE:	AS SHOWN
DATE:	06/09/17
DRAWN:	EILERAC
CHECKED:	HOOSIDL
APPROVED:	TYSSONE



PROJECT NO./DASH NO.	C141330-01	
TASK NO. SUB TASK NO.	005	00
GROUP ID	D	DRAWING NO. E006
SHEET	6	OF 8

6/7/2017 10:39 AM



ACCESS ROAD DETAIL

LEGEND

	PROPERTY LINE		PROPOSED GAS PIPELINE		EXTRA WORK SPACE		METAL BALLARD		PERMANENT WATERBAR/SLOPE BREAKER		L100	LIMIT OF DISTURBANCE
	FENCE		PROPOSED ACCESS ROAD		WETLAND		UTILITY POLE		TEMPORARY WATERBAR/SLOPE BREAKER		L120	12" COMPOST FILTER SOCK (CFS)
	STREAM		STORM SEWER		DO NOT DISTURB AREA				TRENCH BREAKER/PLUG		L180	THREE 12" CFS STACKED
	EXISTING DOMINION GAS PIPELINE		WATER LINE		PROPOSED TEMPORARY R.O.W.				STREAM CROSSING		L240	THREE 18" CFS STACKED
	EXISTING GAS PIPELINE (OTHER)		SANITARY SEWER		TOPSOIL SEGREGATION AREA				CONSTRUCTION ENTRANCE WITH DITCH		L300	THREE 24" CFS STACKED
	OVERHEAD ELECTRIC LINES		EDGE OF GRAVEL						CONSTRUCTION ENTRANCE WITH WASH RACK		L360	ROADSIDE DITCH
	OVERHEAD TELEPHONE LINES		PROPOSED PERMANENT EASEMENT						SEDIMENT BARRIER IDENTIFICATION		L420	TEMPORARY DIVERSION

	PERMANENT WATERBAR/SLOPE BREAKER		L120	LIMIT OF DISTURBANCE
	TEMPORARY WATERBAR/SLOPE BREAKER		L180	12" COMPOST FILTER SOCK (CFS)
	TRENCH BREAKER/PLUG		L240	THREE 12" CFS STACKED
	STREAM CROSSING		L300	THREE 18" CFS STACKED
	CONSTRUCTION ENTRANCE WITH DITCH		L360	THREE 24" CFS STACKED
	CONSTRUCTION ENTRANCE WITH WASH RACK		L420	ROADSIDE DITCH
	SEDIMENT BARRIER IDENTIFICATION		L480	TEMPORARY DIVERSION
	TYPICAL BIC SLOPE CATEGORY		L540	WATERSHED BOUNDARY
	SLOPE INCLINATION		L600	CULVERT
			L660	ACCESS ROAD WATERBAR
			L720	SOIL TYPE
			L780	EROSION CONTROL MATTING

NOTES

- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY - UTM WITH NAD83 DATUM, ZONE 17, US SURVEY FOOT, CENTRAL MERIDIAN 81° W.
- CONTOURS AND TOPOGRAPHIC FEATURES WERE DERIVED FROM LIDAR DATA AND GPS SUB-METER GROUND SURVEY PERFORMED BY GAI CONSULTANTS, INC FROM 11-03-2014 THRU 11-07-2014.
- IMAGERY TAKEN FROM GOOGLE EARTH.
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- COMPOST FILTER SOCK SHALL BE INSTALLED PARALLEL TO CONTOUR TO EXTENT PRACTICABLE IN ACCORDANCE WITH STANDARD DETAIL. SEDIMENT BARRIER LOCATIONS ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS WITH APPROVAL FROM THE PROJECT ENVIRONMENTAL INSPECTOR.
- BEST IN CLASS (BIC) STEEP SLOPE CATEGORY INFORMATION CAN BE FOUND IN THE EROSION AND SEDIMENT CONTROL PLAN.
- EROSION CONTROL MATTING SHALL BE PLACED IN AREAS OF 30% SLOPE AND GREATER, WHICH ARE INDICATED ON THE BEST IN CLASS STEEP SLOPES BAND.
- ACCESS ROADS HAVE BEEN GROUPED INTO FOUR CATEGORIES: 1) EXISTING ROADS NO IMPROVEMENTS, 2) EXISTING ROADS MINOR IMPROVEMENTS, 3) EXISTING ROADS MAJOR IMPROVEMENTS AND 4) NEW ROADS. APPROPRIATE EROSION AND SEDIMENT CONTROLS WILL BE PROVIDED FOR ROADS IN CATEGORIES 2, 3 AND 4. ROADS IN CATEGORIES 1 AND 2 HAVE ADEQUATE EXISTING DRAINAGE; DRAINAGE FEATURES WILL BE PROVIDED FOR ROADS IN CATEGORIES 3 AND 4.
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- THE CONSTRUCTION RIGHT-OF-WAY (ROW) WILL BE RESTORED TO PRE-CONSTRUCTION CONTOURS IN ACCORDANCE WITH SECTION V.A.5 FEDERAL ENERGY REGULATORY COMMISSION (FERC) UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN, SECTION V.A.5. IN ADDITION, WETLAND AND WATERBODY CROSSINGS WILL BE RESTORED TO PRE-CONSTRUCTION CONTOURS IN ACCORDANCE WITH NATIONWIDE PERMIT 12 (NWP) ISSUED BY THE U.S. CORPS OF ENGINEERS.

NO.	DATE	BY	CHKD.	APPVD.	DESCRIPTION
1	04/08/16	CF	DLH	NET	REVISED FERC FILING



07.31.2017
ERM

PA SUPPLY HEADER PROJECT - 30" TL-636 PIPELINE
EROSION AND SEDIMENT CONTROLS-ACCESS ROAD DETAIL
MURRYSVILLE BOROUGH, WESTMORELAND COUNTY, PENNSYLVANIA
DOMINION TRANSMISSION, INC.
925 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330

SCALE:	AS SHOWN
DATE:	06/09/17
DRAWN:	EILERAC
CHECKED:	HOOSIDLE
APPROVED:	TYSONNE

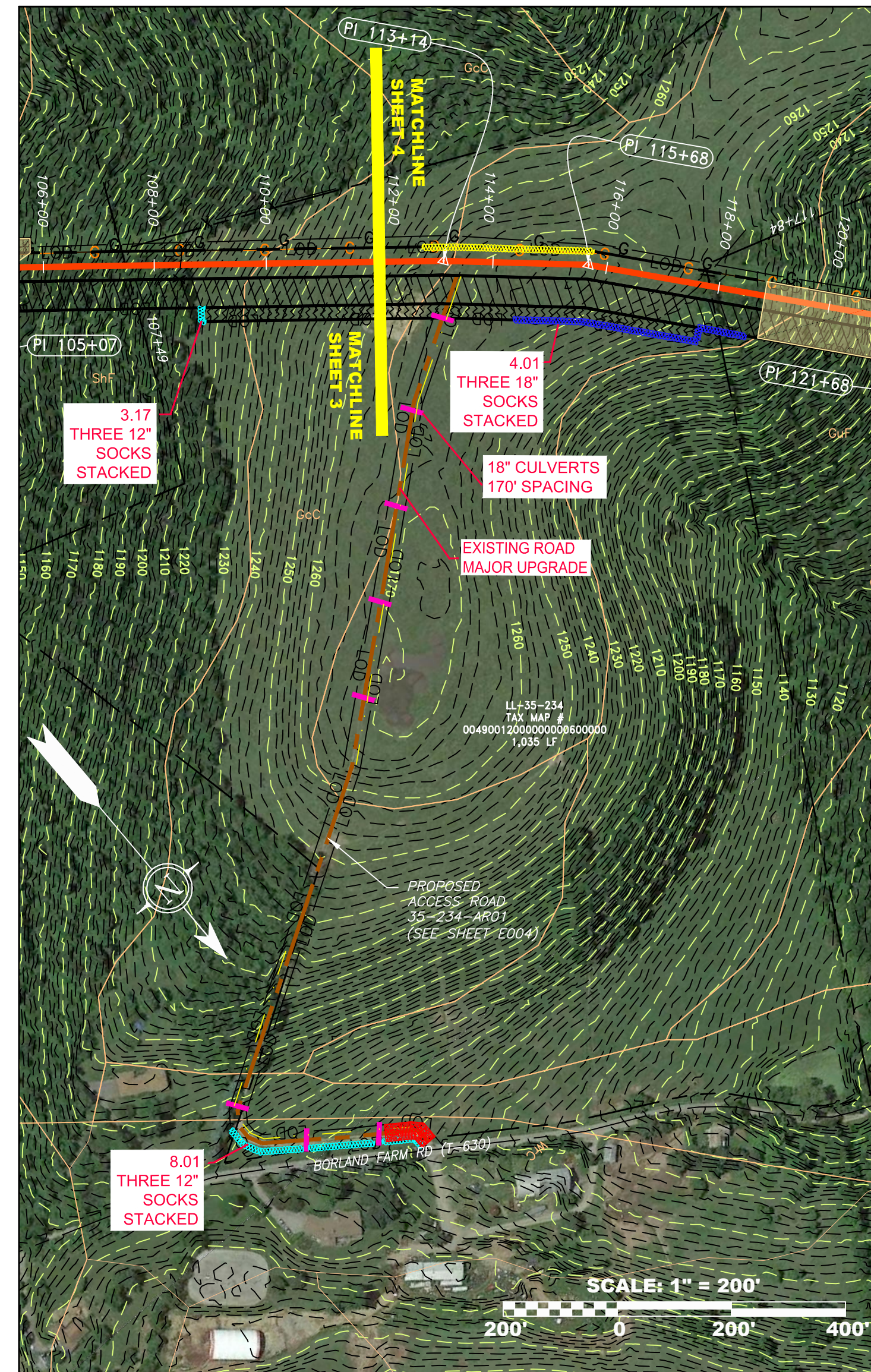
gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD
SUITE 300 EAST
CANONSBURG, PA 15317
724-873-3545

PROJECT NO./DASH NO.
C141330-01

TASK NO. SUB TASK NO.
005 00

GROUP ID DRAWING NO.
D E007

SHEET **7** OF **8**



ACCESS ROAD DETAIL

LEGEND

	PROPERTY LINE		PROPOSED GAS PIPELINE		EXTRA WORK SPACE		METAL BALLARD		PERMANENT WATERBAR/SLOPE BREAKER		L100	LIMIT OF DISTURBANCE
	FENCE		PROPOSED ACCESS ROAD		WETLAND		UTILITY POLE		TEMPORARY WATERBAR/SLOPE BREAKER		L120	12" COMPOST FILTER SOCK (CFS)
	STREAM		STORM SEWER		DO NOT DISTURB AREA				TRENCH BREAKER/PLUG		L180	THREE 12" CFS STACKED
	EXISTING DOMINION GAS PIPELINE		WATER LINE		PROPOSED TEMPORARY R.O.W.				CONSTRUCTION ENTRANCE WITH DITCH		L240	THREE 18" CFS STACKED
	EXISTING GAS PIPELINE (OTHER)		SANITARY SEWER		TOPSOIL SEGREGATION AREA				CONSTRUCTION ENTRANCE WITH WASH RACK		L300	THREE 24" CFS STACKED
	OVERHEAD ELECTRIC LINES		EDGE OF GRAVEL						SEDIMENT BARRIER IDENTIFICATION		L360	ROADSIDE DITCH
	OVERHEAD TELEPHONE LINES		PROPOSED PERMANENT EASEMENT						TYPICAL BIC SLOPE CATEGORY		L420	TEMPORARY DIVERSION

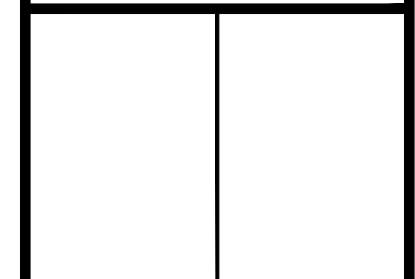
	PERMANENT WATERBAR/SLOPE BREAKER		SEDIMENT BARRIER IDENTIFICATION
	TEMPORARY WATERBAR/SLOPE BREAKER		111.03 A1 (E) 30-58%
	TRENCH BREAKER/PLUG		TYPICAL BIC SLOPE CATEGORY
	CONSTRUCTION ENTRANCE WITH DITCH		SLOPE INCLINATION
	CONSTRUCTION ENTRANCE WITH WASH RACK		

NOTE: THE PE SEAL AND SIGNATURE APPLIES ONLY TO THE E&S CONTROL DESIGN COMPLETED BY ERM (SEE NOTE 12).

NOTES

- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY - UTM WITH NAD83 DATUM, ZONE 17, US SURVEY FOOT, CENTRAL MERIDIAN 81° W.
- CONTOURS AND TOPOGRAPHIC FEATURES WERE DERIVED FROM LIDAR DATA AND GPS SUB-METER GROUND SURVEY PERFORMED BY GAI CONSULTANTS, INC FROM 11-03-2014 THRU 11-07-2014.
- IMAGERY TAKEN FROM GOOGLE EARTH.
- THE PROPERTY LINES SHOWN ARE BASED ON GIS & TAX ASSESSMENT RECORDS (PROVIDED BY OTHERS). GAI CONSULTANTS MAKE NO GUARANTEE EITHER EXPRESSED OR IMPLIED AS TO THE ACCURACY OF THE RECORDS AS SHOWN ON THESE DRAWINGS.
- STREAM AND WETLAND DATA SHOWN ON THE DRAWINGS WAS PROVIDED BY ERM.
- EROSION AND SEDIMENTATION CONTROL ELEMENTS MAY BE SHOWN OUTSIDE OF THE WORK AREAS FOR CLARITY ONLY. ACTUAL INSTALLATION SHALL BE WITHIN THE WORK AREAS.
- ALL STATIONING SHOWN IS SLOPE STATIONING.
- COMPOST FILTER SOCK SHALL BE INSTALLED PARALLEL TO CONTOUR TO EXTENT PRACTICABLE IN ACCORDANCE WITH STANDARD DETAIL. SEDIMENT BARRIER LOCATIONS ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS WITH APPROVAL FROM THE PROJECT ENVIRONMENTAL INSPECTOR.
- BEST IN CLASS (BIC) STEEP SLOPE CATEGORY INFORMATION CAN BE FOUND IN THE EROSION AND SEDIMENT CONTROL PLAN.
- EROSION CONTROL MATTING SHALL BE PLACED IN AREAS OF 30% SLOPE AND GREATER, WHICH ARE INDICATED ON THE BEST IN CLASS STEEP SLOPES BAND.
- ACCESS ROADS HAVE BEEN GROUPED INTO FOUR CATEGORIES: 1) EXISTING ROADS NO IMPROVEMENTS, 2) EXISTING ROADS MINOR IMPROVEMENTS, 3) EXISTING ROADS MAJOR IMPROVEMENTS AND 4) NEW ROADS. APPROPRIATE EROSION AND SEDIMENT CONTROLS WILL BE PROVIDED FOR ROADS IN CATEGORIES 2, 3 AND 4. ROADS IN CATEGORIES 1 AND 2 HAVE ADEQUATE EXISTING DRAINAGE; DRAINAGE FEATURES WILL BE PROVIDED FOR ROADS IN CATEGORIES 3 AND 4.
- ERM IS SOLELY RESPONSIBLE FOR THE NATURE AND LOCATION OF THE DEPICTED BMPs AS OF THE DATE SIGNED AND SEALED BASED ON THE SOURCE DATA PROVIDED AND AS DESCRIBED IN THE NOTES SECTION OF THE INDEX SHEET OF THIS PLAN SET.
- THE CONSTRUCTION RIGHT-OF-WAY (ROW) WILL BE RESTORED TO PRE-CONSTRUCTION CONTOURS IN ACCORDANCE WITH SECTION V.A.5 FEDERAL ENERGY REGULATORY COMMISSION (FERC) UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN, SECTION V.A.5. IN ADDITION, WETLAND AND WATERBODY CROSSINGS WILL BE RESTORED TO PRE-CONSTRUCTION CONTOURS IN ACCORDANCE WITH NATIONWIDE PERMIT 12 (NWP) ISSUED BY THE U.S. CORPS OF ENGINEERS.

NO.	DATE	DWN.	CHGD.	APPRD.	DESCRIPTION
1	06/09/17	CF	DEL	NET	REVISED FERC FILING



PA SUPPLY HEADER PROJECT - 30" TL-636 PIPELINE
 EROSION AND SEDIMENT CONTROLS-ACCESS ROAD DETAIL
 MURRYSVILLE BOROUGH, WESTMORELAND COUNTY, PENNSYLVANIA
 DOMINION TRANSMISSION, INC.
 925 WHITE OAKS BLVD.
 BRIDGEPORT, WV 26330

SCALE:	AS SHOWN
DATE:	06/09/17
DRAWN:	EILERAC
CHECKED:	HOOSIDLE
APPROVED:	TYSONNE

gai consultants
 SOUTHPOINTE OFFICE
 6000 TOWN CENTER BLVD
 SUITE 300 EAST
 CANONSBURG, PA 15317
 724-873-3545

PROJECT NO./DASH NO.
C141330-01

TASK NO. SUB TASK NO.
005 00

GROUP ID DRAWING NO.
D E008

SHEET **8** OF **8**