

Post Construction Stormwater Management/Site Restoration Plans Narrative

Atlantic Sunrise Project Phase 1

Compressor Station 610
Orange Township
Columbia County
Pennsylvania

Prepared For:



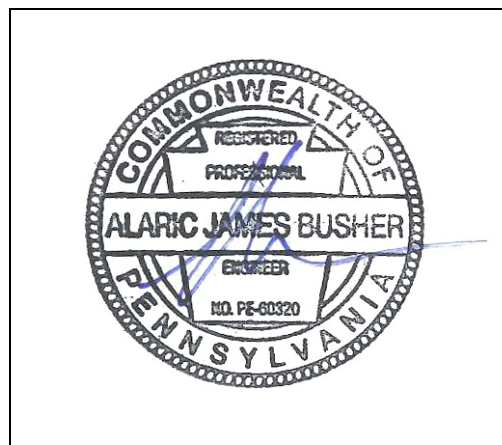
Transcontinental Gas Pipe Line Company, LLC
2800 Post Oak Blvd
Houston, TX, 77251

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BL Project No. 14C4909

Prepared By:

BL Companies
4242 Carlisle Pike, Suite 260
Camp Hill, PA 17011



Alaric J Busher, PE
P.E. 60320

CONTENTS

<u>Part</u>	<u>Description</u>	<u>Page</u>
1.0	GENERAL INFORMATION	1
1.1	Topographic Features	
	USGS Site Location Map	3
	Aerial Location Map	4
1.2	Soil Characteristics	5
1.3	Earth Disturbance Activity Characterization.....	7
1.4	Stormwater Management Calculation Methodology & Net Change in Volume and Rate of Runoff	9
1.5	Surface Water Classification.....	10
1.6	BMP Description Narrative.....	11
1.7	BMP Installation Sequence Narrative	12
1.8	Supporting Calculations	15
1.9	Plan Drawings.....	15
1.10	Long Term Operation and Maintenance Schedule	15
1.11	Material Recycling and Disposal.....	17
1.12	Soil Conditions and Geologic Formations	22
1.13	Thermal Impacts	22
1.14	Riparian Forest Buffer Management Plan.....	23
1.15	Antidegradation Requirements	23
1.16	Preparedness Prevention and Contingency Plan	23

APPENDICES

<u>Part</u>	<u>Description</u>
Appendix A	Compressor Station 610 Supporting Calculations
	A.1 Pre-Development Calculations
	A.2 Post Development Calculations
	A.3 Conveyance Calculations
	A.4 PCSM BMP Calculations
	A.5 Water Quality Worksheets
	A.6 Site Characterization Assessment
	A.7 Supporting Documentation
Appendix B	Preparer Qualifications

Appendix C

United States Department of Agriculture
(USDA) Natural Resources Conservation
Service (NRCS) Custom Soil Resource Report

1.0 GENERAL INFORMATION

The following narrative was prepared as a supplement to the Transcontinental Gas Pipe Line Company, LLC.'s (Transco's) Environmental Construction Plan (ECP) provided in Section 4 of the Erosion and Sediment Control General Permit 2 (ESCGP-2) Notice of Intent (NOI), which was prepared for the Atlantic Sunrise Project ("Project"). This narrative is intended to describe the post construction stormwater management/site restoration (PCSM/SR) design for the Compressor Station 610 ("Site") to be constructed as part of the Project, within Orange Township, Columbia County, Pennsylvania. Similar narratives were prepared, under separate cover, for facilities in other affected counties, as well as for the pipeline construction.

The facility proposed to be constructed as part of Phase 1 of the Atlantic Sunrise Project in Columbia County is the following:

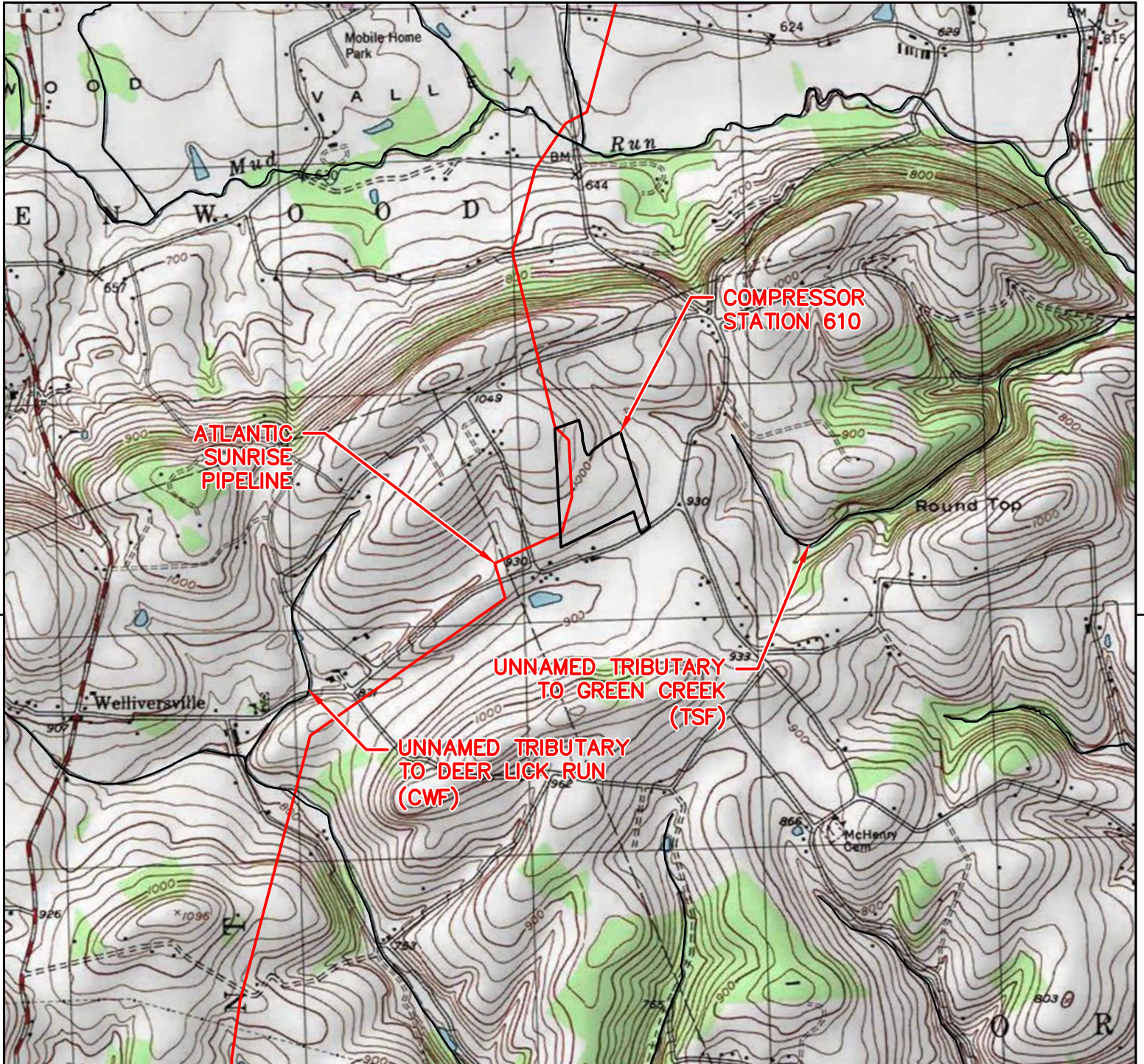
Facility Name	Facility Description	Facility Coordinates
Compressor Station 610	Compressor Station	N41°06'24.47", W76°26'57.38"

The Compressor Station 610 will be approximately 33.70 acres in area including a 1,526 linear foot new access road, 287,277 square feet (6.59 acres) of new gravel pad, and 138,943 square feet (3.19 acres) of impervious area. The Site will utilize existing public and private roads for access to the Site during and after construction. PCSM/SR Best Management Practices (BMPs), in accordance with the requirements of 25 Pa. Code § 102.8(b) and the standards and specifications in the Pennsylvania Department of Environmental Protection's (PADEP's) "Pennsylvania Stormwater BMP Manual," Document No. 363-0300-002, as amended and updated (PCSM Manual) will be implemented to minimize and/or avoid potential adverse environmental impacts due to the construction, operation and maintenance activities associated with the Site. The proposed practices are designed to maximize volume reduction technologies, eliminate 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. The intent is to keep the post construction runoff volume and flow rate no greater than the pre-construction conditions while maintaining water quality. Impervious areas, land clearing and soil compaction are minimized and natural drainage features and vegetation are protected wherever possible. Heavy equipment will be restricted from infiltration areas. E&SC and PCSM BMP measures will be installed and maintained as needed to control stormwater movement in the Site area.

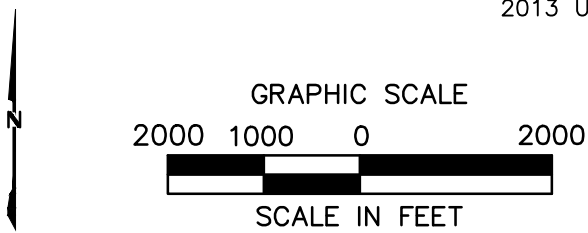
Refer to the ECP (**Section 4 of the ESCGP-2 NOI**) for overall Project information.

There are no impacts to regulated wetlands associated with this proposed Site. Refer to the Wetland Delineation Report provided in **Section 5 of the ESCGP-2 NOI** for information supporting wetland mapping as shown on the Erosion and Sediment Control (E&SC) Plans (**Section 2 of the ESCGP-2 NOI**).


1.1 Topographic Features



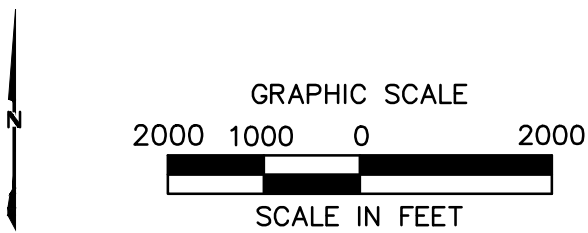
2013 USGS BLOOMSBURG QUADRANGLE




ATLANTIC SUNRISE PROJECT
COMPRESSOR STATION 610
USGS LOCATION MAP
ORANGE TOWNSHIP
COLUMBIA COUNTY, PENNSYLVANIA



NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY:	DATE:	ISSUED FOR BID:	SCALE:
0	08-28-15	BL	ISSUED FOR PADEP PERMIT SUBMITTAL	1161505	SMK		JEC	04/03/15		1"=2,000'
1	12-02-15	BL	ISSUED FOR PADEP RESUBMITTAL	1161505	AJB					
							CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	
							APPROVED BY:	DATE:	DRAWING NUMBER:	SHEET
							WO:		CS 610 LOCATION	1 OF 1



ATLANTIC SUNRISE PROJECT
COMPRESSOR STATION 610
AERIAL LOCATION MAP
ORANGE TOWNSHIP
COLUMBIA COUNTY, PENNSYLVANIA



NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY:	JEC	DATE:	04/03/15	ISSUED FOR BID:	SCALE:	1"=2,000'
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							WO:	1161505					1 OF 1

1.2 Soil Characteristics

In addition to the below use limitations and resolutions, refer to Appendix C for the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Custom Soil Resource Report for the Site.

Soil Type and Use Limitations

Map Symbol	Soil Name	Slope	Cut Banks Cave	Corrosive to Concrete or Steel	Droughty	Easily Erodible	Flooding	High Water Table	Hydric/Hydric Inclusions	Low Strength	Slow Percolation	Piping	Poor Source of Topsoil	Frost Action	Shrink-Swell	Potential Sinkhole	Ponding	Wetness
AeB2	Allenwood silt loam, moderately eroded	3-12%	X	C/S					X	X	X	X	X	X				
HhC3	Hartleton channery silt loam, severely eroded	12-20%	X	C	X					X	X	X	X	X				
HhB2	Hartleton channery silt loam,	3-12%	X	C	X					X	X	X	X	X				
WbB2	Watson silt loam, , moderately eroded	3-8%	X	C/S	X			X	X	X	X	X		X	X			
WcC2	Weikert channery silt loam, moderately eroded	12-20%	X	C/S	X				X	X	X	X	X	X				

Source: Appendix E, Table E-1, PADEP, *Erosion and Sediment Pollution Control (E&S) Program Manual* Technical Guidance Number 363-2134-008.

Soil Use Limitations Resolutions

Limitation	Resolution
Cut Banks Cave	Excavations will be properly supported by sheeting and shoring to prevent caves.
Corrosive to Concrete or Steel	No concrete or steel piping is proposed without appropriate coatings and protection.
Droughty	Existing suitable topsoil and soil amendments will be used during construction.
Easily Erodible	Temporary and permanent erosion control BMPs will be employed throughout the Site.
Flooding	Ensure that the Site has proper drainage.
High Water Table	A geotechnical investigation was conducted to minimize conflicts with saturated zones.
Hydric/Hydric Inclusions	A wetland investigation was completed to determine no wetlands are present in the development area.
Low Strength	A maximum of 3:1 slopes are proposed.
Slow Percolation	A field investigation of percolation rates at the infiltration areas was performed to verify the soils percolation capacity.
Piping	Watertight pipe, antiseep collars, clay cores through basin berms, and concrete endwalls will be used to minimize the danger of piping.
Poor Source of Topsoil	Existing topsoil, which has proven to be suitable, will be reused on the Site.
Frost Action	Pavement subbase will be provided to minimize frost effects.
Shrink-Swell	Stone base will be provided to prevent shrink-swell from effecting pavement.
Potential Sinkhole	Geotechnical engineer of record recommendations will be followed for any potential occurrences.
Ponding	Surface grading and drainage facilities will be provided to minimize ponding affects.
Wetness	Wet weather construction recommendations, per the geotechnical engineer's recommendations, will be employed to minimize the effects of wetness during construction, surface grading. Surface grading and drainage will be provided to minimize wetness affects after construction.

1.3 Earth Disturbance Activity Characterization

Proposed Improvements and Land Use

The proposed Compressor Station 610 will be constructed in Orange Township, Columbia County, Pennsylvania. The Project will involve the construction of a natural gas compressor station. The earthmoving activity will involve the stripping and stockpiling of top soil, Site grading, Site excavation, placement of fill, trenching and backfill, construction of buildings and equipment with gravel pad/parking lot, construction of an asphalt access drive, construction of a stormwater management system, finish grading, and stabilization of disturbed surfaces. Approximately 138,943 square feet (3.19 acres) of additional impervious area and 287,277 square feet (6.59 acres) of additional gravel surface will result on-site. Areas outside the Site LOD may be used for staging of equipment and materials, but no earth disturbance will occur in these areas.

Present/Past Land Use

This section identifies the land requirements for construction and operation of the proposed CPL North, CPL South, and Associated Facilities. Table 1.3.1 summarizes the land requirements for the proposed Compressor Station 610 associated with the CPL North and CPL South mainlines.

The characterization of land use within the proposed CPL North, CPL South, and Associated Facilities project areas is based on interpretation of aerial photographs taken in the spring of 2014 and information gathered from field surveys conducted during 2014 and 2015. Transco classified land uses within the proposed CPL North, CPL South, and Associated Facilities project areas into the following eight broad types:

- Agricultural Land – land associated with active cultivation of row and field crops; areas of grasses planted for livestock grazing or for the production of hay crops; orchards; and specialty crops, including vineyards, Christmas trees, and fruits and vegetables.
- Upland Forest/Woodland – includes upland deciduous forest, evergreen forest, and mixed (deciduous and evergreen) forest, but does not include forested wetlands.
- Industrial/Commercial Land – land used for mines or quarries and associated processing plants; manufacturing or other industrial facilities; and land developed for commercial or retail uses, including malls, strip plazas, business parks, and medical facilities.

- Transportation Land – land used for transportation purposes, including interstate highways; state, county, and local highways and roads; and railroad lines.
- Residential Land – residential areas, including yards of individual residences.
- Open Land – non-forested and undeveloped land not classified for another use, including land maintained as utility ROWs for overhead and underground electric transmission, natural gas transmission, and oil transmission facilities.
- Wetlands – includes wetlands covered with emergent, scrub-shrub, and forested vegetation.
- Open Water – include rivers, streams, creeks, canals, and other linear waterbodies, as well as lakes, ponds, and other non-flowing waterbodies.

New MLVs will be wholly located within the permanent ROWs for the proposed CPL North and CPL South mainlines. Construction will primarily occur within the proposed CPL North and CPL South construction ROWs. Land uses appear to have been similar over the past 50 years.

**Table 1.3.1
Land Requirements for the New Aboveground Facilities^a**

Facility	Milepost	County	Agricultural Land (acres)		Upland Forest / Woodland (acres)		Open Land (acres)		Total (acres)	
			Cons	Op	Cons	Op	Cons	Op	Cons	Op
New Compressor Station 610	CPL South 112.5	Columbia	32.8	32.8	0.7	0.7	0.0	0.0	33.5	33.5
Compressor Station 610 Subtotal			32.8	32.8	0.7	0.7	0.0	0.0	33.5	33.5
Notes:										
^a Land use acreages for construction and operation are provided for reference only. Acreages provided were calculated by using kmz files and prepared as part of the June 8, 2015 FERC Supplement. Refer to plans and ESCGP-2 NOI for actual site conditions.										
Key:										
Cons = Construction										
L = Leidy Line system milepost										
Op = Operation										

Please refer to the PCSM/SR Plans and Detail Sheets, as provided in **Section 3 of the ESCGP-2 NOI**, and Section 1.2 and Appendix C of this PCSM/SR Narrative for information on the Site soils.

1.4 Stormwater Management Calculation Methodology & Net Change in Volume and Rate of Runoff

Runoff volume and rate calculations have been performed for the Site are included in Appendix A.

Pre-development and Post Development runoff hydrographs were developed for the 1-, 2-, 10-, 25-, 50-, and 100-year storm events using the Soil Conservation Service's TR-55 Method. The PCSM/SR BMPs will meet the volume reduction and water quality requirements of Control Guideline 1 (CG 1). Water Quality Worksheet #4 was used to complete the CG 1 volume analysis for the 2-year storm event. Stormwater models were created using the HydroCAD Version 7.10 computer program produced by HydroCAD Software Solutions, LLC. Stormwater conveyance calculations were performed using Worksheet 11 of the Pennsylvania Erosion and Sediment Pollution Control (E&S) Program Manual. (Analysis of rates and flows at each point of interest (POI) were completed to meet CG 1 Requirements.) National Oceanic Atmospheric Administration (NOAA) Atlas 14 rainfall intensities were used in the calculations. See Appendix A for calculations and results.

Drainage Area Summary:

The proposed Compressor Station 610 will be located at a highpoint that drains into two primary drainage areas. The first drainage area is comprised of Drainage Area A and Drainage Area C, with a combined POI located at POI C. The combined drainage area flows to an unnamed tributary to Deer Lick Run. However, Drainage Areas A and C were analyzed separately to demonstrate that there will be no increase in discharge from the site to the roadside swale at the adjacent property line. The second drainage area discharges to POI B and drains to the east to an unnamed tributary of Green Creek. The peak rate discharges for all three drainage areas have been analyzed to demonstrate that there will be no increase in runoff from the site for the 1, 2, 5, 10, 25, 50 and 100 year storm events. A list of the POIs is given below:

POI Summary:

POI A: Roadside swale south of the Site; Combines with POI C.

POI B: Offsite point of convergence of roadside swales east of the Site.

POI C: Roadside swale south of the Site; Combines with POI A.

Overall Site: Susquehanna River Watershed

Volume Summary Table

WATERSHED	2- YR PRE (FT ³)	2- YR POST (FT ³)	2- YR VOLUME INCREASE (FT ³)	2- YR STRUCTURAL AND NONSTRUCTURAL CREDITS (FT ³)	REDUCTION (FT ³)
<i>UNT. to Deer Lick Run</i>	<i>17453</i>	<i>77877</i>	<i>60424</i>	<i>65139</i>	<i>4906</i>
<i>UNT. To Green Creek</i>	<i>11861</i>	<i>8514</i>	<i>-3347</i>	<i>0</i>	<i>3347</i>

*See Appendix A for calculations.

Runoff Rate Summary Table

STORM EVENT	POINT OF INTEREST A			POINT OF INTEREST B			POINT OF INTEREST C		
	PRE (CFS)	POST (CFS)	REDUCTION (CFS)	PRE (CFS)	POST (CFS)	REDUCTION (CFS)	PRE (CFS)	POST (CFS)	REDUCTION (CFS)
1-yr	<i>0.44</i>	<i>0.39</i>	<i>0.05</i>	<i>2.41</i>	<i>2.28</i>	<i>0.13</i>	<i>0.54</i>	<i>0.41</i>	<i>0.13</i>
2-yr	<i>1.57</i>	<i>1.03</i>	<i>0.54</i>	<i>8.96</i>	<i>8.49</i>	<i>0.47</i>	<i>1.68</i>	<i>1.26</i>	<i>0.42</i>
5-yr	<i>4.46</i>	<i>2.57</i>	<i>1.89</i>	<i>24.74</i>	<i>23.45</i>	<i>1.29</i>	<i>4.59</i>	<i>3.44</i>	<i>1.15</i>
10-yr	<i>8.15</i>	<i>4.23</i>	<i>3.92</i>	<i>44.21</i>	<i>41.91</i>	<i>2.30</i>	<i>8.11</i>	<i>6.07</i>	<i>2.04</i>
25-yr	<i>14.69</i>	<i>8.74</i>	<i>5.95</i>	<i>78.97</i>	<i>74.85</i>	<i>4.12</i>	<i>14.11</i>	<i>10.57</i>	<i>3.54</i>
50-yr	<i>20.89</i>	<i>18.95</i>	<i>1.94</i>	<i>112.40</i>	<i>106.54</i>	<i>5.86</i>	<i>19.79</i>	<i>14.82</i>	<i>4.97</i>
100-yr	<i>28.08</i>	<i>26.72</i>	<i>1.36</i>	<i>151.36</i>	<i>143.47</i>	<i>7.89</i>	<i>26.37</i>	<i>19.74</i>	<i>6.63</i>

*See Appendix A.1 for Pre-Development Calculations with Mapping and Appendix A.2 for Post Development Calculations with Mapping.

Act 167 Summary

The Site is not located within a current, PADEP approved Act 167 Stormwater Management Watershed Plan. Therefore, the Site was designed to meet CG 1 requirements.

1.5 Surface Water Classification

The PCSM/SR drawings in **Section 3 of the ESCGP-2 NOI** depict the locations of the streams and wetlands in and near the LOD for the Site. The Site area surface water runoff drains in two directions. To the east runoff drains to an unnamed tributary (UNT) to Green Creek, which is designated as Trout Stocking (TSF) under PA Code 25 Chapter 93. To the south, runoff drains to an UNT to Deer Lick Run, which is designated as Cold Water Fishery (CWF) under PA Code 25 Chapter 93. Both of these

receiving waters are part of the Fishing Creek Watershed. The Site's watersheds are not listed as impaired in the PADEP Chapter 93 Integrated List.

1.6 BMP Description Narrative

The structural PCSM BMPs listed below are to be used for this Site. The calculations used to design the PCSM BMPs are included in Appendix A. The locations of the PCSM BMPs are shown on the PCSM/SR Plans and Detail Sheets (**Section 3 of the ESCGP-2 NOI**).

Vegetated Swales with Earthen Check Dams: Three vegetated swales will be utilized to infiltrate post construction stormwater runoff from the proposed facilities. This BMP is proposed to meet both volume reduction and nitrate removal.

Infiltration Basin/Rain Garden: The overall infiltration basin system has two components. The infiltration area portion will be utilized to infiltrate post construction stormwater runoff volume and provide runoff rate control. The rain garden portion will also provide runoff rate and volume control but will also provide nitrate removal.

Landscape Restoration: Landscape restoration will be utilized to improve onsite soil conditions to provide for greater infiltration. This BMP is not proposed to account for a portion of the required volume reduction credit, however it is used to comply with water quality nitrate requirements.

Minimize Total Disturbed Area: Minimizing the total disturbed area serves to conserve the existing site vegetation. Construction activities will be conducted in a manner that avoids affecting and encroaching upon these areas wherever practical so that the valuable functions are preserved. This BMP is proposed to comply with water quality nitrate requirements.

Street Sweeping: Street Sweeping of the site impervious surfaces will be performed on a regular schedule. This BMP is being proposed to meet the nitrate removal credit.

Reduce parking impervious area: Impervious parking areas will be minimized to the maximum extent practicable. Overflow parking will be on gravel areas.

Disconnected Non-Roof Impervious Areas: Non-roof impervious areas will be directed to vegetated areas rather than being directly connected to storm sewers. This BMP is proposed to meet required volume reduction credits

1.7 BMP Installation Sequence Narrative

1. At least 7 days prior to starting any earth disturbance activities, including clearing and grubbing, the owner and/or operator shall invite all contractors, Environmental Inspectors, the landowner, appropriate municipal officials, the E&S plan preparer, the PCSM plan preparer, the licensed professional responsible for oversight of critical stages of implementation of the PCSM plan, and a representative from the local conservation district to an on-site preconstruction meeting.
2. At least 3 days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Pennsylvania One Call System Inc. shall be notified at 1-800-242-1776 for the location of existing underground utilities.
3. Install orange construction fence around areas to be protected.
4. Locate staging areas and access points including construction entrances. Field locate limits of disturbance.
5. Install rock construction entrances (RCEs).
6. Remove brush to effectively install perimeter controls, level side cuts to grant access for vehicles and workers to safely perform the installation of sediment barriers on the Site as shown on the construction drawings.
7. The Compliance Manager shall provide PADEP and CCD at least three days' notice prior to bulk earth disturbance and upon completed installation of perimeter erosion controls.
8. Install compost filter sock 2, 3 and 4. Install swale 1 and immediately seed and stabilize.
9. *** Install Sediment Basin 1 berm including clay core, outfall structure, aprons, and antiseep collars immediately after installing compost filter sock 2, 3 and 4 and prior to any other disturbance on site. Excavate temporary swales to allow for the discharge of the pad culverts into the basin.**
10. Install CFS Sediment Trap 1.
11. *** Install remainder of Sediment Basin 1 including slope liners, cleanout stake, and associated improvements. Install Filter Sock Diversions 1 and 2 only after basin is completed.**

12. Install vegetated roadside swales, culverts and riprap outlet protection.
13. * **Install Earthen Check Dams and drainage channel aprons as soon as swale grading is complete.**
14. Begin construction staking for grading.
15. Begin grading and strip and stockpile topsoil within the area of improvements and install sediment barriers around stockpiles.
16. Upon temporary cessation of an earth disturbance activity or any stage of an activity where the cessation of earth disturbance activities will exceed four days, the site shall be immediately seeded, mulched, or otherwise protected from accelerated erosion and sedimentation pending future earth disturbance activities. For an earth disturbance activity or any stage of an activity to be considered temporarily stabilized, the disturbed areas shall be covered with one of the following: A minimum uniform coverage of mulch and seed, with a density capable of resisting accelerated erosion and sedimentation, or an acceptable BMP which temporarily minimizes accelerated erosion and sedimentation. Temporary stabilization will not occur on active vehicular travel ways within the ROW. The on-site Environmental Inspector will log daily activity within the LOD and notify the contractor of areas requiring temporary stabilization (i.e., areas where work has ceased for at least four days).
17. Grade the compressor station pads and access roads, including stormwater runoff conveyance features as shown on the E&SC and PCSM/SR Plans (**Sections 2 and 3 of the ESCGP-2 NOI**).
18. Immediately stabilize side slopes with erosion control matting when slopes are 3:1 or greater. See PCSM/SR Plans and Detail Sheets, as provided in **Section 3 of the ESCGP-2 NOI**, (patterns differ by slope category). Install rip rap slope stabilization where shown on the PCSM/SR Plans.
19. Remove FSD 2. Maintain drainage to the sediment basin while placing fill.
20. Construct facility including access roads.
21. Establish final grade.
22. Spread topsoil.

23. Surface Stabilization, apply permanent stabilization measures immediately to any disturbed areas where work has reached final grade.
24. Upon completion of all earthwork activities and permanent stabilization of all disturbed areas, the Owner and/or Operators shall contact the local CCD for an inspection prior to the removal/conversion of the E&SC BMPs.
25. *** Remove compost filter sock sediment trap and immediately seed and stabilize landscape restoration areas.**
26. *** Install Vegetated Swale 3. Remove FSD 1.**
27. *** After all upslope disturbed areas are stabilized, remove accumulated sediments and *raise basin bottom to final grade*, convert sediment basin to proposed infiltration management basin , including construction of berm, berm diversion piping, level spreader and infiltration area located within drive island and place engineered soil. Remove temporary skimmer from permanent outlet structure and install watertight plug in orifice. Remove temporary plate over permanent orifice in outlet structure and install top grate.**
28. All material removed from temporary basins, traps and infiltration berms to be removed from site.
29. After finish grading and topsoil placement is completed, disturbed areas shall be fertilized, seeded, and mulched. Seed mixtures, fertilizer and mulch applications rates and dates shall conform to the tables provided on the PCSM/SR Plans and Detail Sheets (**Section 3 of the ESCGP-2 NOI**), land owner agreements and/or the **ECP (Section 4 of the ESCGP-2 NOI)**.
30. After seeding, fertilizing and mulching is complete, install ECBs as required or ordered or on slopes of 3:1 or greater.
31. After the Site is permanently stabilized and upon PADEP or local CCD and Owner approval of stabilization and re-vegetation, remove temporary erosion and sediment control measures and stabilize areas disturbed by removal.
32. Complete Site stabilization. Including seed application, ECB and mulching.

33. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the Owner and/or Operators shall contact the local CCD for a final inspection.
34. Maintain E&SC BMPs until Site work is complete and uniform 70% perennial vegetative cover is established.
35. Remove and properly dispose/recycle E&SC BMPs. Remove orange construction fence. Repair and permanently stabilize areas disturbed during E&SC BMP removal upon establishment of uniform 70% vegetative cover.

*** indicates a critical stage of PCSM installation to be observed by a licensed professional or designee. Contractor to provide three working days' notice to Design Engineer.**

1.8 Supporting Calculations

Supporting calculations are included in Appendix A.

1.9 Plan Drawings

PCSM/SR Plans, including sensitive resource mapping, are included in **Section 3 of the ESCGP-2 NOI**.

1.10 Long Term Operation and Maintenance Schedule

Monitoring

Transco's personnel (Operations) will perform visual inspections on an annual basis after permit closure, by qualified personnel, trained and experienced in PCSM/SR, to ascertain that the BMPs are functioning and operating effectively to ensure Compressor Station 610 is causing no undue burden on the property owner or adjacent owners. Repairs of deficiencies will be initiated within ten business days of discovery.

Maintenance

The Contractor will be responsible for the maintenance of the system during construction. After construction, the stormwater management facilities will be owned and maintained by Transco.

Where maintenance of the storm system after acceptance by the Owner will primarily consist of routine cleaning of accumulated sediment and debris by facility

staff or private contractors, the specific maintenance steps and schedule are listed below:

1. Infiltration Basin/Rain Garden

Inspect detention/infiltration facility annually and inspect soil, repair eroded areas and remove litter and debris as needed. Inspect twice a year for sediment buildup, erosion and vegetative conditions. Remove and replace dead and diseased vegetation. Any litter, debris, sediment, vegetation, or other items removed during maintenance activities will be disposed of in a manner consistent with the ESCGP-2 requirements. Compaction of the basin bottom shall be prevented.

2. Vegetated Swales with Earthen Check Dams

Vegetated swales with Earthen Check Dams are to be inspected annually for sediment, build-up, erosion debris, and damage due to traffic. Ditches should be maintained to ensure that the specified design dimensions and vegetative lining are available at all times. No more than one-third of the shoot (grass leaf) shall be removed in any mowing. Grass height shall be maintained between 3 and 6 inches unless otherwise specified. Excess vegetation shall be removed from permanent channels to ensure sufficient channel capacity. Any litter, debris, sediment, vegetation, or other items removed during maintenance activities will be disposed of in a manner consistent with the ESCGP-2 requirements.

3. Landscape Restoration

Vehicle access will be restricted in Landscape Restoration areas. Responsibilities will be assigned for watering, weeding, mowing and maintenance. Annually areas will be inspected for growth and potential problems. Areas will be mowed, weeded and reseeded as needed for meadow establishment.

4. Disconnection from Storm Sewers

Disconnected impervious areas shall be directed to infiltration areas and vegetated swales as shown on the PCSM/SR Plans.

5. Minimize Total Disturbed Area

Replant suitable species in the event of dead or dying vegetation and reseed bare areas and install appropriate erosion controls when soil is exposed as needed. Biannually, inspect and ensure protected areas remain undisturbed after construction activities cease.

6. Reduce Parking Area Imperviousness

Gravel areas will be maintained in good condition and will not be paved without obtaining prior approval from the PADEP or the County Conservation District.

7. Street Sweeping

Paved areas will be swept as needed but at a minimum of semi-annually in the Spring and Fall.

8. Annual Records of Maintenance Procedures

The facility shall maintain a checklist whenever the storm system is inspected and cleaned. An annual list of inspections and major cleaning operations and repairs (pumping, sweeping parking lots, cleaning catch basin, etc.) shall be maintained. The local CCD or enforcement officials shall have access to those records.

9. ESCGP-2

The facility Owner and Operator shall ensure compliance with ESCGP-2 requirements by meeting all ongoing record, keeping maintenance, and other applicable ESCGP-2 and PADEP permit conditions.

10. Level Spreader

The receiving area should be immediately restored to design conditions after any disturbance and sediment and debris should be routinely removed as needed. Inspections shall be made following rainfall events exceeding 1-inch. The performance of the level spreader shall be monitored and the area below the level spreader should be inspected for clogging, density of vegetation, damage by foot or vehicle traffic, excessive accumulation and channelization. This shall be done four time the first two years and semiannual thereafter. Catch basins and inlets drainage to the level spreader should be inspected and cleaned and unwanted or invasive growth removed annually.

1.11 Material Recycling and Disposal

The restoration of the temporary gravel will require the removal of the temporary materials. The temporary materials include, but may not be limited to, stone surface and

associated geotextiles. The contractors are required to dispose of materials at suitable disposals or recycling sites and in compliance with local, state and federal regulations.

Transco has prepared a Spill Plan for Oil and Hazardous Materials to assist in prevention of any spills that may occur at the Site and to respond to any spills that do occur. The Contractor will be required to become familiar with the Spill Plan for Oil and Hazardous Materials and its contents prior to commencing any construction-related activities. The Spill Plan for Oil and Hazardous Materials is included as **Attachment 9 to the ECP** provided as **Section 4 of the ESCGP-2 NOI**.

Contractors are required to inventory and manage their construction site materials. The goal is to be aware of the materials on-site; ensure they are properly maintained, used, and disposed of; and to make sure the materials are not exposed to stormwater.

Silt, sediment, trash, construction wastes and all other wastes generated during operation and maintenance activities shall be properly managed and disposed of in accordance with local, state and federal requirements.

Materials Covered

The following materials or substances are expected to be present on-site during construction (**Note: this list is not an all-inclusive list and the Materials Management Practices can be modified to address additional materials used on-site**):

- Acids
- Detergents
- Fertilizers (nitrogen/phosphorus)
- Hydroseeding mixtures
- Petroleum based products
- Sanitary wastes
- Soil stabilization additives
- Solder
- Solvents
- Other

These materials must be stored as appropriate and shall not contact storm or non-stormwater discharges. Contractor shall provide a weather proof container to store chemicals or erodible substances that must be kept on the Site. Contractor is responsible for reading, maintaining, and making employees and subcontractors aware of safety data sheets (SDSs).

Material Management Practices

The following are material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

1. Good Housekeeping Practices

The following good housekeeping practices will be followed on Site during construction:

- Store only enough material required to do the job.
- Store materials in a neat, orderly manner.
- Store chemicals in watertight containers or in a storage shed, under a roof, completely enclosed, with appropriate secondary containment to prevent spill or leakage. Drip pans shall be provided under dispensers.
- Substances will not be mixed with one another unless recommended by the Manufacturer.
- Manufacturer's recommendations for proper use and disposal will be followed.
- Inspections will be performed to ensure proper use and disposal of materials.
- Cover and berm loose stockpiled construction materials that are not actively being used (i.e. Soil, spoils, aggregate, etc.).
- Minimize exposure of construction materials to precipitation.
- Minimize the potential for off-site tracking of loose construction and landscape materials.

2. Hazardous Products

These practices will be used to reduce the risks associated with hazardous materials. SDSs for each substance with hazardous properties that is used on the job site(s) will be obtained and used for the proper management of potential wastes that may result from these products. A SDS will be posted in the immediate area where such product is stored and/or used and another copy of each SDS will be maintained in a file at the job site construction trailer office. Each employee,

who must handle a substance with hazardous properties, will be instructed on the use of SDS and the specific information in the applicable SDS for the product he/she is using, particularly regarding spill control techniques.

- Products will be kept in original containers with the original labels in legible condition.
- Original labels and SDSs will be produced and used for each material.
- If surplus product must be disposed of, manufacturers or local/state/federal recommended methods for proper disposal will be followed.

3. Hazardous Wastes

All hazardous waste materials will be disposed of by the Contractor in the manner specified by local, state, and/or federal regulations and by the manufacturer of such products. Site personnel will be instructed.

4. Concrete and Other Wash Waters

Prevent disposal of rinse, wash waters, or materials on impervious or pervious surfaces, into streams, wetlands or other water bodies.

Concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water on the Site, but only in either (1) specifically designated diked areas which have been prepared to prevent contact between the concrete and/or washout and soil and stormwater having the potential to be discharged from the Site; or (2) in locations where waste concrete can be poured into forms to make riprap or other useful concrete products.

The hardened residue from the concrete washout diked areas will be disposed of in the same manner as other non-hazardous construction waste materials or may be broken up and used on the Site as deemed appropriate by the Contractor and Owner or Owner's representative. The Contractor will be responsible for seeing that these procedures are followed.

All concrete washout areas will be located in an area where the likelihood of the area contributing to stormwater discharge is negligible. If required, additional E&SC BMPs must be implemented to prevent concrete wastes from contributing to stormwater discharges. The location of the concrete washout area(s) must be identified, by the Contractor/Job Site Superintendent, on the job site copy of the E&SC Plans (**Section 2 of the ESCGP-2 NOI**) and in the E&SC Narrative.

5. Sanitary Wastes

All sanitary waste units will be located in an area where the likelihood of the unit contributing to stormwater discharges is negligible. Additional E&SC BMPs must be implemented, such as containment trays (provided by the rental company) or special containment created with 2" x 4" lumber, impervious plastic, and gravel. The location of the sanitary waste units must be identified on the job site copy of the E&SC Plans (**Section 2 of the ESCGP-2 NOI**), in the E&SC Narrative, by the Contractor/Job Site Superintendent.

6. Solid and Construction Wastes

All waste materials will be collected and stored in a securely lidded metal dumpster. The dumpster will comply with all local and state solid waste management regulations. The dumpster/container lids shall be closed at the end of every business day and during rain events. Appropriate measures shall be taken to prevent discharges from waste disposal containers to the receiving water.

7. Construction Access

A stabilized construction exit will be provided to help reduce vehicle tracking of sediments. The paved roads adjacent to the Site entrance will be inspected daily and swept as necessary to remove any excess mud, dirt, or rock tracked from the Site. Dump trucks hauling material from the construction site will be covered with a tarpaulin as necessary.

8. Petroleum Products

On-site vehicles will be monitored for leaks and receive regular preventative maintenance. Petroleum products will be stored in tightly sealed containers which are clearly labeled. Petroleum storage tanks on-site will have a dike or berm containment structure constructed around it to contain spills which may occur (containment volume to be 110% of volume stored). The dike or bermed area shall be lined with an impervious material such as a heavy duty plastic sheet. Drip pans shall be provided for all dispensers. Any asphalt substances used on the Site will be applied according to the manufacturer's recommendations.

9. Fertilizers and Landscape Materials

Fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to minimize the

potential for exposure to stormwater. Storage will be under cover. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to minimize the potential for spills. The bin shall be labeled appropriately.

Contain stockpiled materials, such as but not limited to, mulches, top soil, rocks and gravel, and decomposed granite, when they are not actively being used.

Apply erodible landscape material at quantities and application rates according to the manufacturer's recommendations or based on written specifications by knowledgeable and experienced field personnel. Discontinue the application of any erodible landscape material within two days prior to a forecasted rain event or during periods of precipitation.

10. Paints, Paint Solvents and Cleaning Solvents

Containers will be tightly sealed and stored when not in use. Excess paint and solvents will be properly disposed of according to the manufacturer's recommendations or local, state, and/or federal regulations.

11. Contaminated Soils

Any contaminated soils (resulting from spills of materials with hazardous properties) which may result from construction activities will be contained and cleaned up immediately in accordance with applicable local, state and federal regulations.

1.12 Soil Conditions and Geologic Formations

There are no naturally occurring geologic formations or soils on-site that are expected that may have the potential to cause pollution during earth disturbance activities. See E&SC Detail Sheets (**Section 2 of the ESCGP-2 NOI**) for Acid-Producing Soils and Bedrock Control Plan should any unexpected acid runoff producing soils be encountered.

1.13 Thermal Impacts

Thermal impacts associated with CPL North, CPL South, and Associated Facilities will be avoided to the maximum extent practicable. The following provisions related to thermal impacts are included in the **E&SC Plan** within **Section 2 of the ESCGP-2 NOI**:

- The minimum permanent changes in land cover, necessary to construct the required facilities are being proposed.

- Runoff from the permanent impervious areas will be collected as part of the Post Construction Stormwater Management/Site Restoration (PCSM/SR) Plan and routed to PCSM/SR BMPs. In addition, impervious areas will be gravel instead of asphalt wherever practical.
- PCSM/SR BMPs incorporate the use of infiltration facilities such as basins and vegetated swales with Rock Filter Check Dams.
- The removal of vegetation, especially tree cover, will be limited to only that necessary for construction.
- The amount of impervious surfaces will be limited to only that necessary to support the construction of CPL North, CPL South, and Associated Facilities and/or operation of the pipeline.

1.14 Riparian Forest Buffer Management Plan

There are no regulated riparian buffers within the Site area.

1.15 Antidegradation Requirements

The Site is not located in a special protection or siltation impaired watershed; therefore, no antidegradation analysis is necessary.

1.16 Preparedness Prevention and Contingency Plan

See Attachment 9 of the **ECP** within **Section 4 of the ESCGP-2 NOI** for the Preparedness Prevention and Contingency Plan provided.

