

Post Construction Stormwater Management/Site Restoration Plans Narrative

Atlantic Sunrise Project Phase 2

West Diamond Regulator Station
Jackson & Sugarloaf Townships
Columbia County
Pennsylvania

Prepared For:

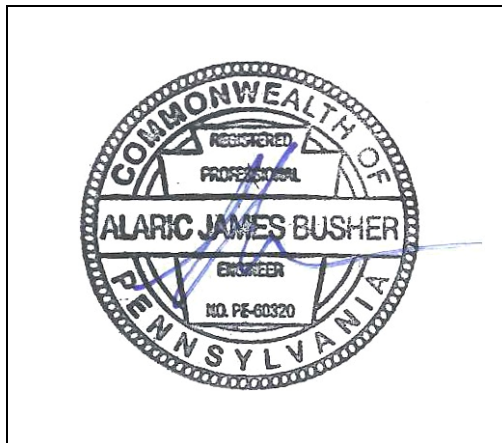


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CONTENTS

<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.....	12
1.6	BMP Description Narrative.....	12
1.7	BMP Installation Sequence Narrative	13
1.8	Supporting Calculations	16
1.9	Plan Drawings.....	16
1.10	Long Term Operation and Maintenance Schedule	16
1.11	Material Recycling and Disposal.....	19
1.12	Soil Conditions and Geologic Formations	24
1.13	Thermal Impacts.....	24
1.14	Riparian Forest Buffer Management Plan.....	25
1.15	Antidegradation Requirements	25
1.16	Preparedness Prevention and Contingency Plan	25

APPENDICES

<u>Part</u>	<u>Description</u>
Appendix A	West Diamond Regulator Station 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

20. Construct remainder of stormwater management Basin 1 area. All earth moving associated with this work shall be completed prior to converting temporary riser to the permanent riser configuration. Any excess excavation material that will not be used onsite shall be hauled offsite.
21. 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.
22. * **Convert trap to permanent Basin 1 configuration by removing all accumulated sediments, removing baffles and installing underdrains and engineered soils on basin bottom. Immediately seed and stabilize basin, install erosion control blanket on basin slopes, and install CFS and landscape restoration on interior toe of slope. Haul off site any excess material not used and left over from the conversion of the basin.**
23. * **Reconfigure temporary riser to permanent outlet structure by permanently sealing the 1" orifices, clean out sump. Install emergency spillway and snout over outfall.**
24. * **Once construction for the regulator station and the pipeline is complete and the areas are stabilized, relocate rock construction entrance to apron of permanent access road, install permanent access road and associated BMPs (RCE, vegetated roadside swales with earthen check dams, amend soils, erosion control blanket, rain garden 2, culverts, water bars and riprap outlet protection). Any portion of waterbars associated with the pipeline construction that are impacted by the construction of the permanent access road should be removed.**
25. Remove temporary access road. Restore temporary access road area to pre-development grades. De-compact, immediately seed and stabilize area disturbed during removal of access road.
26. ***Amend soils throughout remainder of site. Immediately seed and stabilize.**
27. 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)**.

28. After seeding, fertilizing and mulching is complete, install ECBs as required or ordered or on slopes of 3:1 or greater.
 29. 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.
 30. *** Complete Site stabilization, including soil amendment, seed application, ECB installation in basins, landscape restoration, and mulching.**
 31. Upon completion of all earth disturbance activities, the Owner and/or Operators shall contact the local CCD for a final inspection.
 32. Maintain E&SC BMPs until site work is complete and uniform 70% perennial vegetative cover is established.
 33. 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 West Diamond Regulator Station are 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. Rain Gardens

Inspect the rain gardens annually and inspect soil, landscaping, 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 rain garden bottoms 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. Disconnection from Storm Sewers

Disconnected impervious areas shall continue to be directed to infiltration areas and vegetated swales as shown on the PCSM/SR Plans (**Section 3 of the ESCGP-2 NOI**). Infiltration areas and vegetated swales shall be maintained as indicated on the PCSM/SR Plans (**Section 3 of the ESCGP-2 NOI**).

4. Soil Amendments and Restoration

Restrict vehicle access. Monitor settlement of amended soil areas annually. If settlement exceeds 2", repeat soil amendment process.

5. Landscape Restoration

Once the landscape restoration is established, seasonal mowing may be required to maintain meadow areas. Additionally, in the first year weeds must be mowed back to 4 to 6 inches tall when they reach 12 inches in height. In the second year weeds should continue to be mowed and rhizomatous weeds should be hand treated with herbicide. Sprayed herbicide shall not be used. In the beginning of the third season the meadow should be mowed close to the ground to encourage rapid soil warming.

6. Water Deflectors

The water deflectors shall be inspected weekly and after each rainfall event. Accumulated sediment shall be removed from deflector within 24 hours of inspection. Deflector belt shall be replaced when worn or no longer effective.

7. Reduce Parking Area/Street 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.

8. 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.

9. Water Quality Insert (Snout)

Monthly monitoring should occur for the first year of a new installation after the site has been stabilized. The structure should be cleaned, as needed, with a vacuum truck when the sump is half full. The structure should be cleaned, as needed, with a vacuum truck if a spill or other incident causes a larger than normal accumulation of pollutants in the structure. Annually inspect hoods and anti-siphon vent and access hatch. Flush the vent and open and close the access hatch.

10. Minimized Total Disturbed Area

- Protected Areas – Restrict vehicle access, do not clear vegetation, avoid earth disturbance.
- Minimum Disturbance Areas - Restrict vehicle access.

11. 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.

12. 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.

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.

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 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 **Earthen** 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.
- The impacts to existing riparian corridors will be limited to only that necessary for construction.

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.