COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGES OF STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES
EROSION AND SEDIMENT CONTROL (E&S) MODULE 1

Applicant: **Kennett Township**

Project Site Name: **Greenway Trail Along Chandler Mill Rd**

Surface Water Name(s): **West Branch of Red Clay Creek**

Surface Water Use(s): **MF, TSF**

E&S PLAN INFORMATION

1. Describe the existing topographic features of the project site and the immediate surrounding area.

The project is situated along Chandler Mill Road (T-408) between Hillendale Road (T-337) and Buck Toe Road (T-333) in Kennett Township, Chester County. The roadway follows a curvilinear route generally parallel to the West Branch of the Red Clay Creek with horizontal curves along its alignment. The topography of the surrounding area may be considered rolling. The roadside areas adjacent to Chandler Mill Road consist of both flat areas and cuts on the east side of the roadway, and flat-to-steep fills on the west (creek) side of the roadway.

2. Complete the following table for soils present at the project site.

Map Unit Symbol	Map Unit Name	Acres	HSG	% of Disturbed Area	Depth (ft)	Hydric
	See Attached Table for All Soil Types					☐
						☐
						☐

Discuss any soil limitations and how the E&S Plan was designed to address those limitations.

Soil limitations and special considerations are Identified in Appendix B of the E&SPC report. Soil limititations will be addressed with controlled trenching & excavation, immediate stabilization, and dewatering BMPs as required.

If Hydric soils are present, is a wetland determination attached to this module? ☒ Yes ☐ No ☐ N/A

If soils are known to be contaminated, 1) identify the pollutants exceeding Act 2 standards in the space provided below, 2) identify the extent of soil contamination on an E&S Plan Drawing that is attached to this module, and 3) describe the methods that will be used to avoid or minimize disturbance of the contaminated soils in the space provided below.

N/A

3. Describe the characteristics of the earth disturbance activity, including the past, present and proposed land uses and the proposed alteration to the project site.

The project includes the installation of a 6-foot-wide asphalt pedestrian path along the creek side of the Chandler Mill Road and placing comprehensive landscaping improvements along the corridor. Additionally, along Chandler Mill Road between approximately Sta. 49+00 and 54+10 the path will occupy an elevated boardwalk structure to preserve existing trees. Streambank stabilization measures will be constructed in three (3) separate locations where the existing West Branch Red Clay Creek threatens the stability of the existing roadway.

4. Describe the volume and rate of runoff from the project site and its upstream watershed area.

Existing stormwater discharge points (pipe culverts) will be maintained in the post construction condition, with the additions of extensions, outlet structures, and outlet protection. Much of the runoff produced by the project will travel as sheet flow to the Creek (as it does in existing conditions). Existing drainage patterns will not be altered by the proposed improvements. Stormwater runoff increases will be managed through collection in subsurface stone beds and outlet structures will conveying any overflows to existing crossing pipe culverts.

5. Check boxes to indicate all BMPs that will be installed or implemented, identify plan numbers for the BMPs, and describe any deviations from the E&S Manual.

E&S BMPs	Plan No(s). Identified	Plan No(s). for O&M	Deviation(s) from E&S Manual
☒ Rock Construction Entrance	**16**	**18**	**No flared ends due to its required location parallet to roadway**
☐ Rock Construction Entrance with Wash Rack			
☐ Rumble Pad			
☐ Wheel Wash			
☐ Temporary and Permanent Access Roads			
☐ Waterbar			
☐ Broad-based Dip			
☐ Open-top Culvert			
☐ Water Deflector			
☐ Roadside Ditch			
☐ Ditch Relief Culvert			
☐ Turnout			
☐ Compost Sock Sediment Trap			
☐ Temporary Stream Crossing			
☐ Temporary Wetland Crossing			
☐ Turbidity Barrier (Silt Curtain)			
☒ Dewatering Work Areas	**18**	**18**	
☒ Pumped Water Filter Bag	**6-16**	**17**	
☐ Sump Pit			
☐ Waste Management			
☐ Concrete Washout			
☒ Compost Filter Sock	**6-16**	**17**	
☐ Compost Filter Berm			
☐ Weighted Sediment Filter Tube			
☐ Rock Filter Outlet			
☐ Silt Fence (Filter Fabric Fence)			
☐ Reinforced Silt Fence			
☐ Super Silt Fence (Super Filter Fabric Fence)			

E&S BMPs	Plan No(s). Identified	Plan No(s). for O&M	Deviation(s) from E&S Manual
☐ Sediment Filter Log (Fiber Log)			
☐ Wood Chip Filter Berm			
☐ Straw Bale Barrier			
☐ Rock Filter			
☐ Vegetative Filter Strip			
☒ Inlet Filter Bag	**6**	**19**	
☐ Stone Inlet Protection			
☒ Runoff Conveyance (Channel)	**8, 15-16**	**17**	
☐ Bench			
☐ Top-of-Slope Berm			
☐ Temporary Slope Pipe			
☐ Sediment Basin			
☐ Sediment Trap			
☒ Riprap Apron	**6-16**	**19**	
☐ Flow Transition Mat			
☐ Stilling Basin (Plunge Pool)			
☐ Stilling Well			
☐ Energy Dissipater			
☐ Drop Structure			
☐ Earthen Level Spreader			
☐ Structural Level Spreader			
☐ Surface Roughening			
☒ Vegetative Stabilization	**6-16 & Landscape Plans**	**4-5**	**Special Native Permanent Seeding Mixes 1&2 are shown on the Landscape Plans**
☒ Erosion Control Blanket	**6-16**	**17**	
☐ Soil Binders			
☐ Sodding			
☐ Cellular Confinement Systems			
☐ Alternative:			
☐ Alternative:			

Table 1 – For PAG-01 applicants, complete the requested information for each selected E&S BMP, where applicable.

Site Access BMPs									
BMP Name	**No.**	**Length (ft)**	**Width (ft)**	**% Slope**	**Spacing (ft)**	**Length of Upslope Drainage (ft)**	**Culvert Diameter (in)**	**Soil Type in Ditch**	**E&S Manual Figure/Detail No.**
Rock Construction Entrance (RCE)									
RCE with Wash Rack									
Temporary and Permanent Access Roads – Crowned Roadway									
Temporary and Permanent Access Roads – Insloped Roadway									
Waterbar									
Broad-based Dip									
Open-top Culvert									
Water Deflector									
Roadside Ditch									
Ditch Relief Culvert									

Sediment Barriers / Filters								
BMP Name	**DA (ac)**	**Diameter (in)**	**Storage Capacity (cf)**	**Trap Height (in)**	**% Slope**	**Slope Length Above Barrier (ft)**	**Barrier Height (in)**	**E&S Manual Figure/Detail No.**
Compost Sock Sediment Trap								
Compost Filter Sock								
Compost Filter Berm								
Silt Fence (Filter Fabric Fence)								
Super Silt Fence								
Sediment Filter Log								
Weighted Sediment Filter Tube								
Straw Bale Barrier								
Wood Chip Filter Berm								
Toe-of-Slope Berm								

Table 1 – For PAG-01 applicants, complete the requested information for each selected E&S BMP, where applicable.

Runoff Conveyance BMPs

BMP Name	Temporary	Design Storm	DA (ac)	Multiplier	Qr (cfs)	Q (cfs)	Manning's n	Va (fps)	V (fps)	D (ft)	d (ft)	Flow Depth Ratio	E&S Manual Figure/Detail No.
Vegetated Channel	☐												
Sodded Channel	☐												
Riprap Channel	☐												

Energy Reduction BMPs

BMP Name	Downstream Distance to Drainage Course (ft)	Downstream % Slope	DA (ac)	Discharge (cfs)	Manhole Depth (ft)	Inflow Pipe Diameter (in)	Outlet Pipe Diameter (in)	E&S Manual Figure/Detail No.
Level Spreader								
Drop Structure								

Stilling Basins / Wells

BMP Name	Pipe Diameter (in)	Discharge (cfs)	Well Diameter (in)	Depth of Well Below Invert (ft)	Basin Depth (ft)	Median Riprap Size (in)	Distance from Discharge Pipe to Basin Center (ft)	E&S Manual Figure/Detail No.
Stilling Basin								
Stilling Well								

Other BMPs

BMP Name	DA (ac)	Pipe Diameter (in)	Berm Height (in)	Length (ft)	% Slope	Vertical Spacing (ft)	Channel Depth (ft)	Riprap Size	Riprap Thickness (in)	Initial Width (ft)	Terminal Width (ft)	E&S Manual Figure/Detail No.
Temporary Slope Pipe												
Bench												
Rock Filter												
Riprap Apron												

For selected BMPs not identified in Table 1, report the name of the BMP and the Figure or Detail No. from the E&S Manual that will be used for design and implementation (PAG-01 only).

BMP Name	E&S Manual Figure/Detail No.	BMP Name	E&S Manual Figure/Detail No.

6. ☒ All applicable Standard E&S Worksheets from Appendix B of the E&S Manual have been completed and are attached.

7. ☒ Other worksheets or calculations equivalent to Appendix B of the E&S Manual have been completed and are attached.

8. Identify the E&S Plan Drawing number(s) that describes the sequence of BMP installation and removal in relation to the scheduling of earth disturbance activities, prior to, during and after earth disturbance activities that ensure the proper functioning of all BMPs.

   3-4

9. ☐ Supporting E&S calculations have been completed and are available upon request (PAG-01 only).

10. ☒ Supporting E&S calculations are attached to the NOI/application.

11. ☐ Plan drawings consist of standard Figures/Construction Details in E&S Manual (PAG-01 only).

12. ☒ Plan drawings have been developed for the project and are attached to the NOI/application.

13. ☒ BMPs will be inspected on a weekly basis and after measurable storm events (i.e., at least 0.25 inch).

14. Identify the following information relating to temporary stabilization measures on an E&S Plan Drawing and identify the Drawing No. below: 1) vegetative species, 2) % pure live seed, 3) seed application rate, 4) fertilizer type, 5) fertilizer application rate, 6) mulch type, 7) mulching rate, and 8) liming rate.

    E&S Plan Drawing No(s).: **3**

15. Identify the following information relating to permanent stabilization measures on an E&S Plan Drawing and identify the Drawing No. below: 1) vegetative species, 2) % pure live seed, 3) seed application rate, 4) fertilizer type, 5) fertilizer application rate, 6) mulch type, 7) mulching rate, 8) liming rate, 9) anchor material, 10) anchoring method, 11) rate of anchor material application, 12) topsoil placement depth, and 13) seeding season dates.

    E&S Plan Drawing No(s).: **4-5, and Landscape Plans**

16. Describe the procedures that will be taken to ensure that recycling or disposal of materials associated with or from the project site will be conducted properly.

    The contractor shall remove from the site, recycle, or dispose of all building materials and wastes in accordance with the Department's Solid Waster Management Regulations 25 PA CODE 260.1 ET SEQ., 271.1 ET SEQ., and 287.1 ET SEQ. The contractor shall no illegally bury, dump or discharge and building material or wastes. Construction wastes include, but aare not limited to excess soil materilas, building material, concrete wash water, santiary wastes, etc. which could adversely impact water quality. (Pg. 3 of E&SPC Plans)

17. Identify the presence of any naturally occurring geologic formations or soil conditions that may have the potential to cause pollution during earth disturbance activities. If such formations or conditions exist, identify BMPs that will be implemented to avoid or minimize potential pollution.

    No geologic formations of concern are located in the project area.

18. Identify whether the potential exists for thermal impacts to surface waters from the earth disturbance activity. If such potential exists, identify BMPs that will be implemented to avoid, minimize, or mitigate potential thermal impacts.

    Most runoff will pass through filtration devices (such as compost filter sock) during construction rather than through settlement methods which will prevent extended exposure to sun/warming. Potential for thermal impacts associated with additional impervious area will be avoided by the use of subsurface infiltration bed and and managed release concept beds. Disturbed areas will be immediately stabilized with vegetative cover. Native tree and shrub plantings will provide shade.

19. ☒ The E&S Plan has been planned, designed, and will be implemented to be consistent with the PCSM Plan.

20. If applicable, identify existing and proposed riparian forest buffers on E&S and PCSM Plan Drawings and identify the Drawing No(s) below (select N/A if not applicable).

E&S Plan Drawing No(s): ☒ N/A

PCSM Plan Drawing No(s):

E&S PLAN DEVELOPER

☒ I am trained and experienced in E&S control methods. ☒ I am a licensed professional.

Name:	**Brett Long**	Title:	**Water Resources Engineer**
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License Type:	**Professional Engineer**	Exp. Date:	**9/30/2023**

E&S Plan Developer Signature

9/8/2022

Date

Map Unit Symbol	Map Unit Name	Acres	HSG	% of Disturbed Area	Depth (ft)	Hydric
Co	Codorus silt loam	1.909	C	46.60850983	5	Yes
GaD	Gaila silt loam, 15 to 25% slopes	0.108	B	2.63886026	4	No
GgB	Glenelg silt loam, 3 to 8% slopes	0.160	B	3.901159488	6	No
GgC	Glenelg silt loam, 8 to 15% slopes	0.489	B	11.95163414	6	No
GlB	Glenville silt loam, 3 to 8% slopes	0.203	C/D	4.95762751	5	Yes
Ha	Hatboro silt loam	0.257	B/D	6.268371768	6	Yes
MaB	Manor loam, 3 to 8% slopes	0.199	B	4.848101665	7	No
MaC	Manor loam, 8 to 15% slopes	0.199	B	4.860929042	7	No
MaD	Manor loam, 15 to 25% slopes	0.569	B	13.90083173	7	No
MaE	Manor loam, 25 to 35% slopes	0.003	B	0.063974555	7	No