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: **Relteva,LLC**

Project Site Name: **Relteva Development - One Red Lion Road**

Surface Water Name(s): **UNT to Pennypack Creek**

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

E&S PLAN INFORMATION

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

The project site was previously used as a golf course and is relatively flat across the entire site. There are mounds, ponds and other features utilized by the golf course throughout. The site is bounded by Red Lion Road to the south, exsting industrial sites to the east and north, and a proposed residential development to the west. There are very minimal, is any, off site areas that drain into the project site.

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
UdB	**Urban Land-Chester Complex, 0-8% slopes**	**129.7**	**B**	**87.0**	**full**	☐
UugB	**Urban Land-Udorthents, 0-8% slopes**	**18.9**	**B**	**13.0**	**full**	☐
						☐

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

The soil limitations are described in the E&S Narrative on Pages 3-4, and on the E&S Notes Plan, Sheet3.

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.

The site is currently vacant, most recently utilized as an 18-hole golf course and driving range. Historically the site was utilized for industrial purposes, including the manufacturing of military aircraft during wartime efforts, passenger rail cars, and automobiles. In 1987, industrial operations ceased and environmental characterization and remediation efforts ensued. Remedial efforts have been driven by Polychlorinated Biphenyls (PCBs), specifically Aroclor 1248, and select metals in soil and volatile organic compounds (VOCs) in soil and groundwater. Prior remediation has included a combination of source removal, hydraulic control of the groundwater plume, and exposure pathway elimination. The Pennsylvania Department of Environmental Protection (PADEP) approved remedial efforts in 2000 which utilized Site-Specific Standards and leaving impacted soil and groundwater in place. Engineering and institutional controls documented in a deed notice remain in effect to eliminate exposure pathways.

Existing environmentally sensitive areas are represented on the plans provided herein. These areas will be addressed by the appropriate BMPs outlined in this NPDES Application and the attached Soil Management Plan.

The following regulated substances have been documented in soil and/or groundwater at the subject site.

Contaminant **Maximum Concentration**

Soil

Polychlorinated Biphenyls
(PCB and/or chlorodiphenyl) >750 mg/kg
Vanadium 440 mg/kg
Beryllium 62 mg/kg
Arsenic 73 mg/kg
Antimony 60 mg/kg
Boron 330 mg/kg
Cobalt 12,000 mg/kg
Lead 1,100 mg/kg
Selenium 35 mg/kg
Thallium 62 mg/kg
Tetrachloroethylene (PCE) 42 mg/kg
Cis-1,2-Dichloroethylene (cis-1,2-DCE) 8.7 mg/kg
Vinyl Chloride 17 mg/kg
Benzene 67 mg/kg
Toluene 350 mg/kg
Ethylbenzene 150 mg/kg
Total Xylenes 2,200 mg/kg
Trichlorobenzene (TCB) 1,530 mg/kg
Groundwater
Tetrachloroethylene (PCE) 390 µg/L
Trichloroethylene (TCE) 1,626 µg/L
Cis-1,2-Dichloroethylene (cis-1,2-DCE) 3,200 µg/L
Vinyl Chloride 520 µg/L
Carbon Tetrachloride 5.4 µg/L
Benzene 4,400 µg/L
1,2-Dichloropropane 9 µg/L
Methylene Chloride 42 µg/L

The Erosion and Sedimentation Control Plans have been annotated to manage the contaminated soil during construction. The standard erosion and sedimentation best management practices shown on the plans, and the procedures outlined on the Soil Management Plan provided under separate cover, will be used to manage the contaminated media during construction. Contaminated groundwater, if encountered during construction, will be properly managed as directed by the Environmental Consultant.

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 site is currently vacant, most recently utilized as an 18-hole golf course and driving range. Historically the site was utilized for industrial purposes, including the manufacturing of military aircraft during wartime efforts, passenger rail cars, and automobiles. The proposed land use is to stockpile fill materials.

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

N/A - This will be addressed in a future phase.

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			
☐ 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			
☒ Pumped Water Filter Bag	1-10	23	
☐ Sump Pit			
☐ Waste Management			
☐ Concrete Washout			
☒ Compost Filter Sock	1-10	23	
☐ 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	1-10	23	
☒ Stone Inlet Protection	1-10	23	
☐ Runoff Conveyance (Channel)			
☐ Bench			
☐ Top-of-Slope Berm			
☐ Temporary Slope Pipe			
☐ Sediment Basin			
☐ Sediment Trap			
☐ Riprap Apron			
☐ Flow Transition Mat			
☐ Stilling Basin (Plunge Pool)			
☐ Stilling Well			
☐ Energy Dissipater			
☐ Drop Structure			
☐ Earthen Level Spreader			
☐ Structural Level Spreader			
☐ Surface Roughening			
☐ Vegetative Stabilization			
☒ Erosion Control Blanket	1-10	23	
☐ Soil Binders			
☐ Sodding			
☐ Cellular Confinement Systems			
☒ Alternative: **Alternative Rock Construction Entrance**	1-10	23	
☐ 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.

Sheet 23

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).: **Sheet 23**

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).: **Sheet 23**

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 following is a list that includes, but that is not limited to, the potential construction wastes that may exist on-site:

- concrete curb and sidewalk

- asphalt

- e&s bmp - compost filter socks

- e&s bmp - temporary riser

- e&s bmp - erosion control matting

- e&s bmp - stone inlet protection

- soil deemed unacceptable for reuse on-site or export as clean fill.

All building materials and wastes shall be removed from the site and recycled or disposed of in accordance with the department's solid waste management regulations at 25 pa. Code 260.1 et seq., 271.1, and 287.1 et seq. No building materials or wastes or unused building materials shall be burned, buried, dumped, or discharged at the site. Below is a list of methods for the proper recycling/disposal of various materials:

1.) Soil - soil deemed unacceptable for reuse on-site or export as clean fill shall be transported to an appropriate disposal facility pursuance to applicable local, state and federal regulations.

2.) Dust control - construction traffic must enter and exit the site at the stabilized construction entrance. The purpose is to trap dust and mud that would otherwise be carried off-site by construction traffic. Water trucks will be used as needed during construction to reduce dust generated on the site. Dust control must be provided by the contractor to a degree that is acceptable to the local conservation district. After construction, the site will be stabilized, which will reduce the potential for dust generation.

3.) Solid waste disposal - no solid materials, including building materials, are allowed to be discharged from the site with stormwater. All solid waste, including disposable materials incidental to the major construction activities, must be collected and placed in containers. The containers will be emptied as necessary by a contract trash disposal service and hauled away from the site.

4.) Sanitary facilities - all personnel involved with construction activities must comply with state and local sanitary or septic system regulations. Temporary sanitary facilities will be provided at the site throughout the construction phase. They must be utilized by all construction personnel and will be serviced by a licensed commercial operator.

5.) Water source - non-stormwater components of site discharge must be clean water. Water used for construction which discharges from the site must originate from a public water supply or private well approved by the state health department. Water used for construction that does not originate from an approved public supply must not discharge from the site.

6.) Concrete waste from concrete ready-mix trucks - discharge of excess or waste concrete and/or wash water from concrete trucks will be allowed on the construction site, but only in specifically designated diked areas prepared to prevent contact between the concrete and/or wash water and stormwater that will be discharged from the site.

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.

    Based on the site's due diligence, a portion of this site's soils are considered contaminated. Please refer to the environmental plan, sheet 2, and the associated soil management plan for procedures to manage contaminated or potentially contaminated materials.

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.

    N/A - no discharges are proposed in the Phase 1, E&S phase. This will be addressed in Phase 2.

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:	**Cornelius Brown, PE**	Title:	**Principal**
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Cornelius Brown — March 30, 2020

E&S Plan Developer Signature **Date**