



robert e. blue consulting engineers, p.c.

September 13, 2023

Ms. Jessica Buck
Montgomery County Conservation District
143 Level Road
Collegeville, PA 19426-3313

**Re: NPDES Permit Application No. PAC460811
Technical Deficiency Letter
222 Church Road – Cheltenham Township
REB #2154-10**

Dear Ms. Buck:

On behalf of our client, 222 Church Road LLC, the following information is being submitted in support of the NPDES Application for the project located at 222 Church Road. The revisions incorporated comments from the following review email:

- Technical Deficiency Letter: email sent by Jeffrey McKenna, dated August 16, 2023.

This letter shall serve as the response letter and includes how the concerns are addressed. The comments from the review letter are indicated in italics with the response in **bold**.

E&S Comments

Compost Filter Socks / Silt Fencing

- 1. Sizing information / calculations for the proposed diversion berm were not located.*

RESPONSE: Channel calculations for the proposed filtrex diversion berm have been provided in the E&S Report. Refer to Appendix B, pages B-8 through B-9. In addition, a drainage area boundary for the proposed filtrex diversion berm has been added to the E&S Plan, Sheet 27.

Sediment Traps

- 2. Please provide Worksheet 19 and stage storage information for the compost sock sediment trap.*

RESPONSE: Compost Filter Sock Sediment Trap calculations including stage storage information have been provided in the E&S Report. Refer to Appendix B, page B-5. The information from Standard E&S Worksheet #19 relevant to the design of a compost sock sediment trap has been included in the provided calculations.

- 3. Please check the compost sock sediment trap top of trap elevation provided on the detail sheet.*

RESPONSE: The compost sock sediment trap top of trap elevation on Sheet 28 has been revised to be consistent with the E&S Plan and accompanying compost sock sediment trap calculations.

CIVIL ENGINEERS • LAND SURVEYORS • SITE PLANNERS

1149 Skippack Pike, Blue Bell, Pennsylvania 19422 • Telephone 610-277-9441 • Facsimile 610-277-9897
www.robertblue.com • e-mail: rblue@robertblue.com

Other BMPs

4. *What controls are proposed for the installation of the level spreader?*

RESPONSE: Compost filter sock (designated CFS-5) has been provided downstream of the level spreader to be in place during and prior to level spreader installation. Once the level spreader and sediment trap are operational and the area downstream of the level spreader is stabilized, this strip of filter sock can be removed. This procedure has been included in the sequence of construction. Refer to the E&S Plan, Sheet 27.

Notice of Intent

5. Stormwater Discharge Information Questions Question 1-2 Discharge Point

Clarify if DP-002 shown on the plans is a discharge point following the guidance provided for identifying discharge points in the NOI instructions. Note that per the NOI instructions, where there will be no discharge points to a particular receiving water (i.e. all flow is sheet flow or shallow concentrated flow), the applicant must still complete the information under the heading “Receiving Waters.”

RESPONSE: Per discussion with MCCD on 9/8/2023, it was agreed that POD#002 meets the criteria of a discharge point as defined in the NOI instructions, being an area where the existing remnants of an old mill raceway direct runoff from upslope areas towards an existing Wetland (noted on the plans as Wetland ‘A’). This concentrated runoff at POD#002 then drains to the southeast through an opening in the berm until it reaches the Tookany Creek. An Off-Site Discharge Analysis has been provided which includes additional discussion of POD#002 and the off-site flow path to the receiving waters. As such, the NOI will continue to list POD#002 as a discharge point. Refer to Appendix A of the PCSM Report for the Off-Site Discharge Analysis.

6. Stormwater Discharge Information Question 5

Verify the response of ‘no’ provided. It appears that DP-001 is a new discharge point.

RESPONSE: Stormwater Discharge Information Question #5 of the NOI has been revised to indicate ‘yes’. Additional discussion of runoff conditions in the vicinity of POD#1, the flow path from POD#1 to the receiving waters (Tookany Creek), and measures taken to prevent accelerated erosion are provided in the Off-Site Discharge Analysis. Refer to Appendix A of the PCSM Report.

The off-site discharge analysis provided as Appendix A of the PCSM Report appears to be incomplete. Refer to the FAQ noted above. Identify all properties and property owners that will or may receive off-site stormwater discharges from the project site until discharges reach surface waters. Identify soil types, erodibility factors, and vegetation of the flow path from the discharge point to the confluence with the surface water. Provide an analysis that demonstrates the proposed stormwater discharge will avoid, minimize, or mitigate accelerated erosion with calculations consistent with PA DEP E&S and PCSM manuals. Note a demonstration of meeting pre-construction runoff rates would not be sufficient where postconstruction runoff is concentrated in

comparison to pre-construction conditions. Photos of the downstream flow path from the level spreader which will travel across trail and slope should be provided.

RESPONSE: The Off-Site Discharge Analysis (Appendix A of the PCSM Report) has been revised to include additional photos of the flow path and discussion of soil types, erodibility factors, vegetation, and measures taken to prevent accelerated erosion.

PCSM Plan Drawings §102.8(f)

- 7. Verify that the drawing(s) depict accurate existing topography with appropriate contour labels, especially in the area of the recently constructed trail.*

RESPONSE: Note that the topography on the REBPC plans is referenced to Cheltenham Sewer Vertical Datum, while the Township Trail plans are referenced to the NAVD88 vertical datum. The Cheltenham Sewer Datum is 4.76 feet lower than NAVD88: (Cheltenham Sewer = NAVD88 – 4.76ft)

Minor revisions have been made to the existing contours in the vicinity of the recently constructed Township trail and associated footbridge crossing of the Tacony Creek. The existing topography depicted on the REBPC plans is generally consistent with the topography on the Township Trail E&S Plans and field observations. A copy of the reference Township Trail plans has been included with this submission.

- 8. All hatches and linetypes used on the plan should be identified.*

RESPONSE: All linetypes and hatch patterns have been clarified in the Plan Legend.

- 9. Clarify the turf reinforcing mat on existing grade as shown in Level Spreader #1 Detail. What product is specified?*

RESPONSE: The Level Spreader #1 on the PCSM Details, Sheet 24, has been revised to indicate North American Green SC-250 turf reinforcement mat and provide a specification for the SC-250 matting. A specification for the NAG SC250 mat is also provided on the E&S Details, Sheet 28, since the level spreader is to be constructed in conjunction with the Sediment Trap.

- 10. Clarify hatching on spillway of BMP-001. Is this a reinforcing material? Stone?*

RESPONSE: The legend on the PCSM Plan, Sheet 21, and the BMP ID 001 Plan View depiction on the PCSM Details, Sheet 24, have been revised to describe the spillway hatching of BMP-001 as Concrete Grass Pavers. A detail for the Concrete Grass Pavers has been provided on the PCSM Details, Sheet 24.

- 11. The 2-year and 100-year routed water surface elevations should be provided on a detail for BMP-001.*

RESPONSE: The Basin Design Schedule for BMP ID 001 on the PCSM Details, Sheet 24, has been revised to include the 2-year and 100-year routed water surface elevations and depths.

12. *The proposed media to be used in BMP-001 should be consistently referenced throughout the plans. It appears filter media, planting soil, and amended soils are referenced throughout plans.*

RESPONSE: The proposed media to be used in BMP ID 001 has been revised throughout the plans to be referenced as amended soils.

13. *Clarify what is meant by prepared subgrade in section A-A of the BMP ID 001 Detail.*

RESPONSE: Section A-A of the BMP ID 001 Detail on PCSM Details, Sheet 24, has been revised to indicate ‘uncompacted subgrade’ in lieu of ‘prepared subgrade’.

14. *Clarify if a geotextile is proposed between the filter media and subgrade of BMP-001.*

RESPONSE: A note has been added to the BMP ID 001 Detail Section A-A and Section B-B indicating that the amended soils are to have direct contact with the uncompacted subgrade, and that the subgrade is to be scarified before placement of amended soils. No geotextile is proposed to reduce risk of clogging that could prevent the BMP from infiltrating. Refer to the PCSM Details, Sheet 24.

15. *Notes should be added to the anti-seep collar detail indicating that anti-seep collars should not be located closer than 2 feet to a pipe joint, and anti-seep collars and their connections to the pipe, or barrel, should be watertight.*

RESPONSE: Standard Construction Detail #7-16 (Anti-Seep Collar) on the PCSM Details and E&S Details, Sheets 24 and 29, have been revised to include the notes described in the above comment.

PCSM Plan Stormwater Analysis

16. *102.11(a)(2) – PCSM BMPs have been designed in accordance with the BMP Manual.*

It appears a seed mix has been proposed. Verify that the proposed seed mix is adequate and appropriate. Proper plan selection is essential for bioretention areas to be effective. Typically, native floodplain plant species are best suited to the variable environmental conditions encountered. If shrubs and trees are included in a bioretention area (which is recommended), at least three species of shrub and tree should be planted at a rate of approximately 700 shrubs and 300 trees per acre (shrub to tree ratio should be 2:1 to 3:1). An experienced landscape architect is recommended to design native planting layout.

RESPONSE: The proposed ERNST ERNMX-180 seed mix is a raingarden seed mix with a wide variety of native perennial forbs and grasses suitable for stormwater management facilities. The manufacturer also recommends supplementing the seed mix with a cover crop which is reflected on the plans. Refer to the PCSM Details, Sheet 24, for the seed mix specification.



17. 102.8(f)(7) – *A sequence of PCSM BMP implementation in relation to earth disturbance activities and a schedule of inspections for critical stages of BMP implementation were provided.*

Consider making the installation of Sediment Trap #1 a critical stage to ensure appropriate measures are taken to avoid over-excavation and compaction to the area which will be converted into proposed infiltration PCSM BMP-1.

RESPONSE: Installation of Sediment Trap #1 has been indicated as a critical stage in the sequence of construction. Refer to the PCSM Notes, Sheet 20, and E&S Plan, Sheet 27.

The PCSM sequence must include the installation and construction steps necessary to construct and implement each PCSM BMP. For example: the sequence for PCSM BMP-1 does not appear to reference outlet structure modification; the sequence does not appear to describe what is meant by “prepared subgrade” on the BMP-001 detail; clarify the proposed media which is referred to as “planting soil” in the sequence, “filter media” in the detail, and “amended soil” in the notes; clarify how soils should be installed as the PCSM Manual indicates 18-inch maximum lifts; Step 14.5 indicates “other plantings” which could not be located.

RESPONSE: Step #14 of the Sequence of Construction has been revised to:

- **reference outlet structure modifications (i.e. permanent watertight plugging of temporary dewatering holes),**
- **remove reference to the ‘prepared subgrade’ and instead instruct the contractor to scarify the uncompacted subgrade,**
- **refer to placement of ‘amended soils’ within the BMP instead of ‘filter media’ or ‘planting soil’,**
- **specify that the amended soils shall be installed in 18-inch maximum lifts, and**
- **replace the reference to ‘other plantings’ with a reference to the cover crop that must accompany the specified seed mix.**

Refer to the PCSM Notes, Sheet 20, and E&S Plan, Sheet 27.

18. 102.8(f)(8) – *Supporting calculations for the design of PCSM BMPs were provided and are technically sound.*

Verify time of concentration (Tc) calculations are accurate. For example: the 2-year/24-hour rainfall depth used in the Tc calculations conflicts with the 2- year/24-hour rainfall depth identified elsewhere in the calculations and application; sheet flow exceeds 100 feet for pre-development DP-002; Manning roughness coefficient for post-development DP-001 appears to be inaccurate.

RESPONSE: The rainfall depth used in the Tc calculations has been revised to be 3.30 inches which is consistent with the rest of the calculations. The Tc calculations for pre-development DP-002 have been revised to use a maximum of 100 feet for sheet flow. The Tc calculations for post-development to BMP ID 001 have been revised to include Manning’s n coefficients for segments EF and FG that are consistent with the proposed subsurface stormwater piping. Refer to Appendix B of the PCSM Report, pages B-18 to B-22.



19. 102.8(f)(10) – *A long-term O&M schedule for PCSM BMPs including BMP repair and maintenance activities was provided and is consistent with the Stormwater BMP Manual or is otherwise technically sound.*

O&M notes should be specific to the proposed PCSM BMPs. Provide specific information for the personnel expected to maintain the PCSM BMP. Provide structure identification as shown on the plans (e.g. FES #1, OS#1). Clarify O&M notes referencing rip rap channels and pervious pavement.

RESPONSE: Maintenance notes for BMP ID 001 and Level Spreader #1 have been added to the PCSM Details, Sheet 24. These notes include project-specific maintenance criteria such as inspection frequency, maintenance procedures, failure indicators, and procedures for repair or replacement with reference to specific storm structures. The O&M note referencing riprap channels and pervious pavement on PCSM Notes, Sheet 20, has been removed from the plan for clarity.

Please clarify the maintenance note indicating “mowing as indicated for the specific device.” How often should BMP-1 be mowed?

RESPONSE: Mowing instructions have been added to the ERNST ERNMX-180 Seed Mix specification on PCSM Details, Sheet 24.

Clarify how dewatering should be determined. Provide enough information for the person expected to maintain the BMP to know what to look for to determine appropriate dewatering (look in structure?).

RESPONSE: The Maintenance Notes for BMP ID 001 and Level Spreader #1 added to PCSM Details, Sheet 24, include failure indicators with specific instructions such as checking the raingarden footprint and outlet structure for standing water that does not dissipate within 72 hours after a storm event.

Clarify any required operation and maintenance for the level spreader (LS#1), which is a feature of PCSM BMP-1.

RESPONSE: The Maintenance Notes added to PCSM Details, Sheet 24, includes inspection, maintenance, and failure indicators for the level spreader (LS#1).

20. 102.8(b)(8) – *There are wetlands on the project site and adequate efforts have been made to ensure no significant changes to pre-construction hydrology that would affect the wetlands.*

The proposed site changes has the potential to alter surface and/or subsurface hydrology to the adjacent wetlands. The project must ensure that protection of the natural resources is maintained.

RESPONSE: Additional discussion of ‘Wetland A’ hydrology has been added to the Off-Site Discharge Analysis, refer to Appendix A of the PCSM Report. Note that DP-002 coincides with the upland portion of ‘Wetland A’. Per the DEP Spreadsheet results for DP-002, there is a minor reduction in runoff volume and peak rate to DP-002 that results from the proposed development, and a decrease in pollutant loading that results from the decrease

in runoff volume. Therefore, the proposed development is not anticipated to degrade the quality of the Wetland.

Further, discussion of ‘Wetland A’ including source hydrology information is provided in the Wetland/Waters Investigation prepared by VW Consultants LLC dated April 21, 2023 included with this application package. ‘Wetland A’ has two main portions, one being the small area of closed grading where surface water is present and the other being the lower portion downslope of the existing berm. For the upper portion that coincides with DP-002, it is believed to be fed by shallow groundwater and transmission of infiltrated water to this low point. The lower portion of the wetland is believed to be fed by regional groundwater discharge. Therefore, the slight reductions to surface runoff that will result from this development will have a de minimis impact on the source hydrology of the receiving wetland.

Public Comments

21. *Public comments were received for the project. The applicant should provide responses to the comments received from the public during the public comment period for the above referenced permit application [25 Pa. Code § 92a.82*

RESPONSE: Responses to the public comments have been provided in a separate document included with this resubmission package.

Overall Miscellaneous Comments

22. *Please submit two copies (one hard copy, one electronic copy) of a complete application package.*

RESPONSE: One hard copy and one electronic copy of the complete application package have been included in this resubmission.

23. *Please note that a resubmission fee is necessary. Please refer to the MCCD E&S Plan Review Application for further information.*

RESPONSE: A check in the amount of \$2,000.00 made payable to Montgomery County Conservation District has been provided with this resubmission package in accordance with the fee schedule listed on the MCCD E&S Plan Review Application.

24. *Please take note that MCCD will not accept “piecemeal” plan revisions. All revisions must be submitted as part of a complete application package unless specifically otherwise agreed and allowed by the reviewer. Additionally, “piecemeal” applications could lead to the project being withdrawn if the complete set is not submitted by the due date.*

RESPONSE: Acknowledged, this resubmission includes a complete application package.



*You must submit a response fully addressing each of the technical deficiencies set forth above. Please note that this information must be received within 30 calendar days from the date of this letter, on or before **September 15, 2023** or the District may deny or withdraw the NOI. Alternatively, you may consider a voluntary withdrawal.*

RESPONSE: Acknowledged.

Should you require any additional information, please contact me by phone at (610) 277-9441 (Ext 16) or by email at rblue@robertblue.com.

Sincerely,

A handwritten signature in blue ink, appearing to be 'R. Blue Jr.', is positioned above a horizontal line.

Robert E. Blue Jr., P.E., P.L.S.
President
Robert E. Blue Consulting Engineers, P.C.

Cc: Client
REB File #2154-10