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January 5, 2023

Project Number: 3746-5

Staci Spertzel Black, Erosion & Sedimentation Technician
Huntingdon County Conservation District
10605 Raystown Road - Suite A
Huntingdon, PA 16652

RE: RUTTER'S HUNTINGDON STORE #93 – GENERAL NPDES RESUBMISSION
SMITHFIELD TOWNSHIP, HUNTINGDON COUNTY, PA

Dear Ms. Spertzel Black:

On behalf of Rutter's, we hereby submit revised documents relating to the above referenced project. In regard to the Technical Deficiency Letter dated November 21, 2022 we offer the following responses:

1. Technical Deficiency 20 from DEP's Technical Deficiency Letter dated August 10, 2022 has not been adequately addressed: Provide conveyance calculations to verify that the pipe sizes and inlets were designed appropriately for the 10-year through 100-year flows to each stormwater facility to provide the designed rate control. [25 Pa. Code §102.8(f)(8) and §102.8(f)(9)]

The DEP acknowledges the response that the pipes have been analyzed for the 100-year/24-hour storm. Provide a demonstration that the inlets have the capacity to allow the stormwater from the 100-year/24-hour to flow into the pipes.

RESPONSE – Additional stormwater conveyance calculations have been included with the resubmitted documents. The inlet system has been modeled to show that elevation of the 100-year/24-hour storm does not exceed the curb height including at Inlet 1 which is the lowest location of the site.

2. Technical Deficiency 36 from DEP's Technical Deficiency Letter dated August 10, 2022 has not been adequately addressed: Several BMPs are in close proximity with differing floor elevations. Clarify how captured stormwater will be prevented from migrating and leaching into a neighboring BMP, potentially overloading the downslope BMP and circumventing the designed management. [25 Pa. Code §102.8(f)(6)]

The DEP acknowledges the response; however, the response does not address the larger concern of along the length of the BMPs in close proximity. Clarify what will prevent stormwater from migrating between BMPs 5 and 6 and between BMPs 3 and 4. In addition, given the utility lines that are shown between the referenced BMPs, clarify how stormwater will be prevented from migrating along the backfill material of the water and sewer lines.

RESPONSE – Groundwater Barrier slurry walls have been added to the plan between the BMPs to impede horizontal groundwater migration. Anti-seep collars have been added to the utility lines adjacent to the BMPs. Additionally the elevations of the water and sewer lines are above the BMP floor elevations which would limit the viability of the utility trenches as a hydraulic flow path. Details for the Groundwater Barrier and Anti-seep Collar have been added to Sheet PCSM3.

3. Technical Deficiency 39 from DEP's Technical Deficiency Letter dated August 10, 2022 has not been adequately addressed: Wetlands are a surface water. The proposed earth disturbance activities redirect the existing surface stormwater sheet flows to discrete point source discharges to the receiving surface water, in addition to redirecting stormwater that would have otherwise percolated into the ground. Provide an analysis demonstrating that the stormwater rate, volume, and water quality are maintained in a manner that mimics pre-construction hydrology, both surface and subsurface and will maintain the existing use functions and values of the wetlands. The analysis should account for the construction activities (cuts, fills, and compaction) immediately adjacent to the wetlands. The DEP notes that multiple points along the wetland may need analyzed to demonstrate all areas of the wetland will be maintained. [25 Pa Code §102.8(b)(1), §102.8(g)(2)(iv) and §102.8(g)(3)(iii)]

The DEP acknowledges the response; however, the response is speculative with no additional documentation referenced or provided supporting the assertions. No additional points were analyzed to demonstrate rate control, volume management, and water quality would be maintained to all areas of the wetland nor was a discussion regarding construction activities (cuts, fills, and compaction) immediately adjacent to the wetlands provided. The DEP notes that the retaining wall should be considered in the discussion of the construction activities. Provide additional, site specific testing and/or documentation supporting the conclusion that the wetland will not be negatively impacted by the earth disturbance activities.

RESPONSE – The Project site has been designed in a manner that will maintain contributing surface runoff and potential supporting groundwater hydrology to wetlands located adjacent to the Project site. Adjacent wetlands are part of a wetland mitigation site that was constructed in 1997. According to the most recent wetland monitoring report dated July 22, 2021, this wetland system is comprised of two areas which are controlled by a permanent outlet structure. This outlet structure helps maintain hydrologic conditions within the constructed wetland. Sources of contributing hydrology to the wetland are referenced as groundwater and overland surface flow.

Wetlands adjacent to the Project site exhibit varying levels of saturation. Portions of the wetland system to the south, southwest, and west of the site contain areas of ponding and appear to be inundated to saturated throughout the majority of the year. Localized topographic relief within the wetland system promotes ponding. The existing outlet structure aids in retaining captured surface runoff, thus maintaining a more consistent level of saturation across most of the wetland throughout the year. This outlet structure will continue to provide the same function in promoting ponding throughout a large portion of the wetland following construction of the proposed Project. The eastern edge/fringe portion of the wetland system which extends along the boundary of the Project site exhibits much drier hydrologic conditions and is likely only seasonal saturated. Site runoff and potential groundwater seepage which support this portion of the wetland will be maintained post construction via methods discussed below.

As previously stated, we believe that the amount of contributing surface runoff from the Project site to adjacent wetlands is minimal with respect to the overall drainage area which supports the wetland. A Regional Drainage Map has been prepared and provided with the resubmitted documents. The maps show the drainage area to the subject wetlands as delineated by USGS StreamStats. The drainage area to the wetlands exceeds 250 acres while the Rutter's site area is approximately 7.5 acres. The Rutter's site contributes about 3% of the drainage to the subject wetland area which could be considered insignificant. Rate control, volume management and water quality are all addressed with BMP's on site with 2 discharge points which were selected to provide discharge flow to both the Palustrine Emergent Wetland and Palustrine Scrub Shrub Wetland. A subsurface discharge level spreader has been added to the outlet of Pipe 19 to promote groundwater recharge for the adjacent Palustrine Emergent Wetland. Pipe 1

discharges adjacent to the Palustrine Scrub Shrub Wetland which includes a wetland pond which has an area of approximately 2 acres. As discussed above, this ponded area appears to provide ample hydrology to the entire wetland region. Discharge from Pipe 1 will maintain any supporting hydrology from the Project site to this portion of the wetland. The locations of proposed discharge points are shown on the Wetland Area Regional Drainage Map. Included with the Wetland Area Regional Drainage Map are volume calculations showing the pre-development runoff volumes for the 2 subject site drainage areas and the overall contributory drainage area. The post-development volumes for the 2 discharge points are shown as well as the infiltration volumes. The post condition volumes show that the contributory hydrology to the wetland areas is relatively unchanged. Compared to the overall regional drainage area, the volume associated with the subject site area is approximately 0.7%, which could be considered insignificant in engineering terms.

With regards to concerns associated with the proposed retaining wall, the lowest elevation of the proposed retaining wall is approximately 665 feet which is 5 feet above the elevation of the adjacent wetland (See PCSM1 for proposed contour elevations). Based on the elevation of the proposed wall, we do not anticipate any dewatering effects to the associated wetland. Protective fencing and Erosion Control BMPs have been provided to protect the wetland area during construction. Please refer to plan drawings ES3 for fencing and BMP details.

In summary, based on the design of the adjacent mitigated wetland system and large supporting drainage area, we do not believe that construction of the proposed Rutters will result in lost functions and values within the wetland. The proposed Rutters site generates an insignificant amount of surface runoff to the adjacent wetlands. The outlet control structure within the mitigated wetland as well as localized topography will continue to facilitate ponding which provides the main source of hydrology supporting the entire wetland system. Contributing surface runoff and groundwater from the Rutters site will be maintained via stormwater BMPs which have been designed in a manner that will maintain existing hydrology from overland surface runoff and intercepted groundwater via stormwater BMPs which will discharge at two locations to the adjacent wetlands. A level spreader will be installed downslope from the proposed discharge point to promote a more natural recharge at multiple points across the emergent portion of the wetland.

4. The PCSM Plans have water quality filters at nine (9) stormwater inlets. Twelve (12) inlets that collect stormwater runoff from the parking areas and large trucks and other vehicular traffic have no water quality filters. Clarify how the inlets were chosen to have a water quality insert installed and how overall water quality compliance is achieved when the subsurface facilities will receive a mix of filtered and unfiltered stormwater. [25 Pa. Code §102.8(f)(6) and §102.8(g)(2)]

RESPONSE – Water quality filters were placed in what we had identified as “hot spots” from our experience in convenience store parking area design. The “hot spot” areas included inlets adjacent to and directly downslope of the fuel pumps. Additional water quality filters have been added to the remaining parking area inlets.

5. Clarify how the basins will achieve the infiltration volume shown on the PCSM spreadsheets when, as shown in the PCSM plans, the primary orifice is located at the same elevation as the basin floor. Revise the plans and supporting calculations, as needed. [25 Pa. Code §102.8(g)(2) and §102.8(g)(4)]

RESPONSE – The volume charts for the Terre Arch 48 product include the 12” base stone in the volume calculation per unit as noted on the Terre Arch 48 Design Details chart in the Volume Calculations section of the PCSM Report. The primary outlet orifice for the 6 BMPs is set 1.0’ above the floor elevation which equal to the structure bottom elevation. The 12” stone base provides the infiltration volume prior to the elevation of the primary outlet orifice.

This resubmission includes 2 sets of the following:

- Revised PCSM construction plan drawings Sheets PCSM1, PCSM2, PCSM3, and PCSM4
- Revised E&S construction plan drawings Sheets ES1, ES2, ES3, and ES4
- Revised PCSM Design Report (including Inlet Capacity Design Calculations & Wetland Regional Drainage Maps)
- Revised PCSM Module 2

Please contact me at bpiper@keller-engineers.com or call 814-696-7430 if you have any questions or would like additional information.

Sincerely,

A handwritten signature in blue ink, appearing to read 'B. Piper', with a stylized flourish at the end.

Ben Piper, PE
Land Development Division

cc: Eric Hershey, PE – Rutter's
file