pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

July 3, 2019

PennEast Pipeline Company, LLC
c/o Ms. Amber Holly
Environmental Project Manager
835 Knitting Mills Way
Wyomissing, PA 19610

Re: Technical Deficiency Letter – Erosion and Sediment Control General Permit (ESCGP)
PennEast Pipeline Project
Bear Creek Township, Dallas Township, Jenkins Township, Kingston Township, Plains Township, West Wyoming Borough, & Wyoming Borough, Luzerne County
Kidder Township, Lower Towamensing Township, Penn Forest Township, & Towamensing Township, Carbon County
Bethlehem Township, East Allen Township, City of Easton, Lower Nazareth Township, Lower Saucon Township, Moore Township, Upper Nazareth Township & Williams Township, Northampton County
Eldred Township, Monroe County
Durham Township & Riegelsville Borough, Bucks County

Dear Ms. Holly:

The Department of Environmental Protection (DEP) and the following County Conservation Districts (CCDs), Luzerne, Carbon, Monroe, Northampton and Bucks, have reviewed the above referenced NOI from PennEast Pipeline Company LLC ("PennEast") and have identified the following technical deficiencies. The deficiencies are based on applicable laws and regulations, and the guidance sets forth the DEP's established means of satisfying the applicable regulatory and statutory requirements. The Pennsylvania Erosion and Sediment Pollution Control Program Manual (E&SPC Manual) and the Pennsylvania Stormwater Best Management Practices Manual (PCSM Manual) include information that will aid you in responding to some of the deficiencies listed below.

General technical deficiencies are identified that appear to be a reoccurring technical deficiency throughout the plan narratives and drawings. Specific examples of the general deficiencies are provided for reference. However, all of the specific instances may not have been identified. PennEast Pipeline, LLC should review the entire project submittal to ensure all specific technical deficiencies and general technical deficiencies are addressed.

1. ***§102.5 Permit Requirements.***

a. Please make the following revisions to the Notice of Intent (NOI):

i. Section E, Project Information, Questions 10 and 11. Please provide a reference to the section of the application which addresses impaired waters for Question 10 and geological conditions for Question 11.
ii. Section F, Erosion and Sediment Control Plan, Item e. This box should be checked yes since not all discharges from the project will be directly to surface waters. The E&S and PCSM plans should include the demonstration that the discharge will not cause erosion, damage or a nuisance to off-site properties (i.e., site restoration maintaining existing drainage patterns and discharge points). Similar information and revisions should be made to Section H, Item d.
iii. NOI Section F.b.: Erosion and Sedimentation Control - Clarification is requested on the use of alternative E&S BMPs as indicated on pg. 7 of the NOI. This does not appear to be consistent with the NOI E&S plan summary provided in Section F.
iv. NOI Section F.e.: Offsite Discharge Analysis - Please clarify the response provided on pg. 8 of NOI as the response is not consistent with the PCSM discharges proposed for the Hellertown Launcher and the TCO &UGI-LEH Interconnects.
v. NOI Section H.1. PCSM Plan: Act 167 Verification - Please clarify the LVPC Act 167 Stormwater Management plan adopted on or after January 2005 that is being followed. PCSM should be designed to be watershed specific.
vi. NOI Section H.g. Critical Stages - Critical stages proposed appear inconsistent with plan view.
vii. NOI Section I Antidegradation Analysis: Part 1 Non-discharge Alternatives Evaluation - The sections referenced in the NOI did not provide an explanation of why non-discharge BMPs are not utilized.

b. Proof of Receipt of municipal notifications should be provided with the permit application: Hellertown Borough notification letter was not sent/no proof of receipt PCSM Worksheet #1 indicates Hellertown Borough is to be impacted during construction of the Hellertown Launcher.

c. A complete PNHP search should be provided with the permit application: Disturbed search area is inconsistent with the NOI.

d. **General** - Fully completed, properly signed and notarized Notice of Intent Form (1 original and 2 copies):
   i. Section F.b.: Erosion and Sedimentation Control: E&S Plan BMP design - Clarification is requested on the use of alternative E&S BMPs as indicated on pg. 7 of the NOI. This does not appear to be consistent with NOI E&S plan summary provided in Section F.
   ii. Section F.e.: Offsite Discharge Analysis - Please clarify the response provided on pg. 8 of NOI as the response is not consistent with the PCSM discharges proposed for the Hellertown Launcher, TCO &UGI-LEH Interconnects, Mainline Block Valve #6, and Mainline Block Valve #7.
   iii. Section H.g.: Critical Stages: All Critical stages proposed appear inconsistent with plan view.
   iv. Section I., Part 1: Antidegradation Analysis: Non-discharge Alternatives Evaluation: The sections referenced in the NOI did not provide an explanation of why non-discharge BMPs are not utilized.

2. ***§102.4(b)(5)(i) The existing topographic features of the project site and the immediate surrounding area.***

a. For plan clarity, all closed contours should be labeled (top of page 398 in the E&S Manual).

3. ***§102.4(b)(5)(vi) A narrative description of the location and type of perimeter and onsite BMPs used before, during and after the earth disturbance activity.***

   a. Table 1.1.2 of the project Narrative (Access Roads for the Project) identifies that improvements are needed to AR-048CN in Monroe County. In addition, the Access Road detail on Drawing 000-03-03-035.2 indicates a road width of 9-10 feet and a disturbed area of 30 feet in width. The E&S plans should identify the extent of the improvements required for the access road and include E&S BMPs during construction and requirements for restoration of the access roads upon project completion.

   b. Section 2.1.1 of the Geologic Mitigation Plan notes certain project areas are susceptible to landslides, particularly the area between MP 40.7R2 and MP53.2R3 (within Monroe County). The same section also notes "the majority of locations were evaluated to be of low risk.... not requiring specific design changes to E&S measures." What measures should be taken for areas "not in the majority"? It is unclear whether these areas and special measures are shown on the plans. Please clarify and identify these areas and what measures should be undertaken during construction.

   c. Table 11.3, 11.4, and 11.5 in the E&S General Notes mentions use of Crown Vetch in seeding mixtures. DEP does not recommend use of Crown Vetch. PennEast should remove these seed mixture options and consider using native upland seed mixtures as an alternative.

   d. The temporary equipment bridge detail has the wooden side boards being 6 inches high. As per the Erosion and Sediment Control Manual, the side rails should be a minimum of 12 inches in height. Please revise the detail accordingly.

   e. The Erosion and Sediment Control Plans indicate that, "Seeding is not required in cultivated croplands unless requested by the landowner." Please revise the temporary stabilization methods, stating that temporary stabilization may be required on the cultivated croplands within the right-of-way should construction cease for 4 consecutive days or longer.

4. ***§102.4(b)(5)(vii) A 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.***

   a. Please make the following changes to the sequence of construction provided on Drawing 000-01-01-003D:
      i. *Site Clearing and Grubbing Section:* The grubbing activity in Step 1 should not occur until after Step 4 (installation of temporary E&S control measures).
      ii. *Site Clearing and Grubbing Section:* Installation of temporary access roads (step 2) should include the installation of E&S BMPs associated with the access roads.
      iii. *Site Grading Section:* Step 4 should include the stripping of topsoil in non-forested areas.
      iv. *Pipeline Construction Section:* The pipeline construction sequence should specify the disposal/spreading or stockpiling of material from the trenching operation.

v. *Streams, Wetlands and other Waterbody Utility Crossings that will be Open Cut:* Step 1 states that no work shall be done in inclement weather.

vi. *Streams, Wetlands and other Waterbody Utility Crossings that will be Open Cut:* This sequence section should include the trenching activities, segregation of streambank materials, installation of concrete encasement or flotation devices (if required), backfilling the pipe, redistribution of streambed materials, and restoration requirements.

vii. *Wetland Crossings:* This sequence section should include the trenching activities, segregation of wetland materials, and installation of concrete encasement or flotation devices (if required).

viii. *Conventional Bores:* Step 3 should include the stockpiling of material from the pit excavation in the Work Area.

ix. As stated in the permit, "Project related impacts to agricultural areas along the pipeline route would be limited to the Project construction period and the time required for vegetative regrowth after construction is completed." Please discuss in further detail how the agriculture land handover will be conducted. Please address which BMPs will be required to remain until crop cover is sufficient for erosion control, Ag E&S methods are reached, or project NOT is signed; how sensitive resources will be protected; how proper vegetation establishment will be assured (i.e., which BMPs will remain and who will maintain them or what if the farmer now wants to plant in new flat land which otherwise should be reestablished back into woody vegetation); and how PennEast will manage land if the farmer is not able to plant directly after construction (i.e., time of year prevents planting).

5. ***§102.4(b)(5)(viii) Supporting calculations and measurements.***

a. A design calculation example should be provided for the slope pipe and level spreader design. The design should utilize the worst-case scenario and include anticipated discharge velocities below the level spreader. It appears the discharge velocity through the holes was not taken into account. For example, the discharge pipe from swale DS 50.66_6 specifies a five-foot pipe length with 6 holes (3/8" size) at a 1.94" spacing. A five-foot pipe will have 30 rows of holes, or 180 total holes, which results in a discharge velocity in excess of 10 fps. Please revisit the level spreader design to meet the allowable velocity requirements outlined in the E&S Manual, page 141.

b. The diversion swale calculations (using diversion socks) indicate a freeboard of 0.33 feet (4") in accordance with the manufacturer's recommendation. The E&S Manual requires a minimum of 6 inches of freeboard for swales. In addition, over time the socks will flatten or compress as the filler material compacts. Please revise the swale calculations and size of the socks utilized for the diversions to provide the freeboard in accordance with the E&S Manual.

c. NAG design printouts should be provided to verify the design and matting stability for each type of erosion control matting specified for the clean water diversion channels and slope areas. Please utilize the worst-case scenario (combination of maximum slope and design flow) for each blanket type.

6. ***§102.4(b)(5)(iv) The volume and rate of runoff from the project site and its upstream watershed area.***

a. Maximum during construction drainage areas to the proposed inlet protection should be provided on the E&S plan drawing to support the BMP design, (e.g. inlet drainage area table, etc.) Where

filter-bag inlet protection is exceeded by the maximum calculated drainage area, alternative BMPs should be provided. (For example, see page 123 of the E&SPC Manual.)

7. ***§102.4(b)(5)(ix) Plan drawings.***

   a. Additional information should be provided for the level spreader detail, including dimensions for the rock envelope around the pipe, perforation requirements, and the anchorage of the pipe and stone on slope areas (if required). In addition, please address how the pipe will be removed and reset during trenching and pipe installation operations when the slope pipe conflicts with these operations.

   b. Notes should be added to the slope pipe, level spreader and waterbar details that these items should be field adjusted to maximize runoff discharges to natural drainage courses. Please make similar changes to the Site Restoration Plans.

   c. Please add a note below the Wetland Seed Mix and Riparian Buffer Mix Tables on Drawing 000-01-01-003C that changes to the specified seed mixes are subject to approval by PA DEP and/or the local Conservation District. Please make similar changes to the Site Restoration Plans.

   d. Figures 1F ((Typical Open Cut Waterbody Crossing) and Figure 1G (Typical Dam and Pump Waterbody Crossing) include Note 3 which states that straw bales may be used in lieu of compost filter socks around topsoil stockpiles from the crossing operation. This note should be revised to specify that straw bales may be used only in non-special protection watersheds. Please provide similar notes on all other details that only apply to non-special protection waters.

   e. The Access Road Cross Section detail (Figure 1I) includes a note to "Coordinate with the County Conservation District if access road widening is needed". Please revise this note to read "If roadway widening is required, contact and coordinate with the appropriate County Conservation District to determine permitting requirements prior to widening the roads. Upon project completion, access roads will be restored to original conditions unless appropriately sized PCSM BMPs are provided".

   f. The typical Turnout detail should include notes regarding the design of these features as noted on page 33 of the E&S Manual, specifically to discharge to natural drainage courses or vegetative buffers, and the use of compost socks and sumps at the discharge points.

   g. The project does not have a Site Restoration Plan as required by 25 Pa Code §102.8(n). Please provide a Site Restoration Plan for the project.

   h. Please show on the Soil Erosion and Sediment Control Plans the proposed pipeline and cover above the pipeline for the project.

   i. Please provide the type of stream bank stabilization proposed on the Erosion and Sediment Control Plan/Site Restoration Plans.

   j. <u>Temporary Clean Water Slope Pipe</u>:

i. Several temporary clean water slope pipes are proposed throughout the project. What is the condition of the area downslope of the proposed slope pipes?
ii. As submitted, the detail on the plan drawings for the temporary slope pipe does not match the detail on page 155 of the E&S Manual. Please clarify.
iii. In several locations, (Ex. station 1252+00, 1264+00) the outlet of the temporary slope pipe is close to the outlet of an adjacent waterbar. Will the discharge from the waterbar compromise the discharge from the level spreader that is part of the temporary slope pipe? Is there a need for additional BMPs? Will these outlets properly discharge due to the close proximity to each other?

k. Permanent/Temporary Waterbar (with sump and compost filter sock end treatment)
i. According to the waterbar detail, the sump and filter sock is to be removed once the site is stabilized. Due to the fact that several of these waterbars are proposed in steep slope areas, will there be a need for a dissipater after construction is completed?
ii. Show the location of the sump and filter sock on the plan drawings for each proposed waterbar.
iii. A waterbar is proposed to outlet directly to the south side of the Lehigh River, rather than a vegetated filter area, at the Luzerne County/Carbon County line. Should there be additional/different BMPs (i.e., silt sock) proposed in this area instead of the waterbar?
iv. Several waterbars are proposed in very steep slope areas. Is there a need for a protective lining in the conveyance portion of those waterbars in these steep slope areas that are close to a watercourse?

l. Compost Filter Sock:
i. Overall, the proposed compost filter sock icon is hard to identify on the plan drawings. Please revise to make it easier to identify.

m. Wetland Crossing/Timber Mats:
i. There are areas where a wetland crossing is anticipated but do not show the use of timber mats or any other BMP (i.e. station 1423+00, 1445+00, 1604+00, 1730+00). What BMPs is PennEast proposing to use to minimize wetland impact in these areas?
ii. Station 1568+00 shows an anticipated stream crossing, however, there is no callout on the plans that shows how this stream will be crossed. Please clarify.
iii. Several stream crossings are proposed throughout the project. It is recommended to add notation referencing the typical construction detail on how the stream crossing will be installed.
iv. Station 2165+00 shows a stream located in the LOD area. Is there enough room to avoid impact to this stream?

8. ***§102.8(f)(6) A written description of the location and type of PCSM BMPs including construction details for permanent stormwater BMPs including permanent stabilization specifications and locations.***

a. Section 9.3 of the E&S narrative notes that the access roads will be restored in accordance with the landowner agreements. Access roads should be restored to original conditions upon project completion or additional PCSM BMPs may be required in order to manage changes in runoff rate, volume and water quality. Please identify any access roads which will not be restored to original

conditions upon project completion and provide all additional PCSM BMPs needed to manage changes in runoff rate, volume and water quality.

b. Section 9.6 of the E&S Narrative notes that "Property will be restored as close to original conditions as practical unless otherwise specified by the landowner". Please add a statement to the E&S narrative and a prominent note to the plans that any restoration activities which entail a post construction change in land use shall be evaluated for post construction stormwater impacts, approved by PA DEP and/or the appropriate conservation district, and may require the installation of PCSM BMPs to manage stormwater rate, volume and water quality impacts.

9. ***§102.22(a) Permanent stabilization. Upon final completion of an earth disturbance activity or any stage or phase of an activity, the site shall immediately have topsoil restored, replaced, or amended, seeded, mulched or otherwise permanently stabilized and protected from accelerated erosion and sedimentation.***

a. The Site Restoration Narrative notes that the pipeline areas will be restored to existing conditions or to meadow in good condition. However, the various seed mixtures on the Site Restoration Plans contain non-meadow species and there are multiple options for the seed mix restoration seed mixes. Please be more specific in the seed mix which should be used to achieve a meadow in good condition post development land use.

Luzerne County

1. ***102.2 (a) & (b) "Scope and purpose."***

a. Proposed BMPs are not shown on the PCSM plan for the Springville Interconnect and Mainline Valve 2 projects. Please correct the PCSM plan to show the proposed BMPs.

b. Infiltration calculations are not provided for the Mainline Valve 1 and Springville Interconnect volume BMPs. Please provide the infiltration calculations.

c. The proposed infiltration trench for the Mainline Valve 1 project is not shown on the Erosion and Sediment Control Plans. Please correct the plans to show the proposed infiltration trench.

d. The construction sequence is not provided for Mainline Valve 1 project. Please provide the construction sequence.

e. Proposed infiltration berms 3 and 4 within the Wyoming Interconnect site do not appear to be installed along existing level grade. Please revise.

f. There appears to be a concentrated flow (proposed channel 1) above proposed infiltration berm 4. Please revise.

2. ***§102.4 (b)(5)(iii) Characteristics of the earth disturbance activity.***

a. The location of proposed access road AR01 detail sheet has not been provided. Please provide access road AR01 detail sheet.

3. ***§102.4 (b)(5)(iv) Volume and rate of runoff.***

a. Springville Interconnect and Auburn/Leidy Interconnect sites: The plan map(s) show sediment trap/stormwater basin and diversion berm discharging to an area that is not identified as a surface water. If this is a non-surface water discharge, provide a discharge analysis that meets the standards of Item 4 on page 2 and Item 15 on page 161 of the E&SPC Manual. §102.11(a)(1)

b. The *maximum* drainage area(s) during construction for all BMPs (ex. sediment traps) have not been outlined and labeled on the plan drawing.

4. ***§102.4 (b)(5)(vii) Sequence of BMP installation and removal.***

a. The construction sequence does not address soil segregation, in agricultural and forested areas.

b. The construction sequence does not provide erosion controls for spoils between approximate stations 13-25, 127-135, 173-176, 196-188, 210-217, 229-237, and 263-267.

c. The construction sequence does not provide adequate erosion controls from Lower Demunds Road to Gypsy Lane.

d. The construction sequence does not provide adequate erosion controls at river crossings and associated staging areas.

e. The construction sequence does not provide adequate erosion controls on the downslope side of proposed trenching between approximate stations 530-536, 576-588, 617-625, 748-752, 761-777, 799-793, 808-818, and 893-909.

f. Please indicate the BMPs to be installed prior to general clearing and grubbing (Step 1) (see bottom of page 8 of the E&SPC Manual). §102.11(a)(1)

g. Please explain what CWS stands for.

h. Please explain the purpose of a Site Grading construction sequence.

i. The construction sequence should specify additional erosion controls for dewatering of trenches along steep slopes to avoid re concentration of sediment laden runoff, sediment to adjacent waterways and discharge onto downslope disturbed areas.

j. The Springville Interconnect sequence does not provide adequate erosion controls downslope of all disturbed areas, as well as below the sediment trap. Please revise.

k. The Springville Interconnect sequence Step 7 calls to install the proposed sediment trap and infiltration basin at the same time. Please revise the sequence of construction to correctly instruct the contractor when to install the infiltration basin. The infiltration basin should be installed once permanent stabilization is established. Please revise accordingly.

l. Provide instructions for removal/conversion of the proposed sediment trap within Springville Interconnect and Auburn/Leidy sites to a stormwater management facility. See the bottom of page 10 in the E&SPC Manual for guidance. §102.11(a)(1)

m. Describe how PCSM BMPs within the Springville and Wyoming Interconnect sites will be protected from sedimentation until construction is completed and the site stabilized (see bottom of pages 10 and 262 in the E&SPC Manual). §102.11(a)(1)

n. The Springville Interconnect sequence should specify which erosion controls are to be removed, upon permanent stabilization.

5. ***§102.4 (b)(5)(viii) Supporting calculations and measurements.***

a. Provide peak flow calculations for diversion berms. See Chapter 5 in E&SPC Manual for guidance on runoff calculations. Standard E&S Worksheets #9 and #10 are recommended for the Rational Equation. An acceptable alternative is the use of the standard multipliers at the top of Standard E&S Worksheet #11. §102.11(a)(1)

b. Wherever temporary channel linings are proposed, specific calculations to demonstrate flow capacity and stability during its use should be provided. Separate calculations should be provided for the vegetated condition.

c. Provide calculations to show that compost sediment traps provide the required 2,000 cubic feet per acre storage capacity. §102.11(a)(1) Standard E&S Worksheet #14 is recommended for this purpose.

6. ***§102.4 (b)(5)(ix) Plan drawings.***

a. It appears that a stabilized construction entrance is needed at the start of pipe trenching on sheet 0301001. See pages 13 through 17 in the E&SPC Manual for guidance regarding stabilized construction entrances. §102.11(a)(1)

b. Please specify with a line on sheet 0301001 where work in Luzerne County ends.

c. A spot check found maximum slope lengths were exceeded at Waterbody 092414_GO_1001_P and Waterbody 071416_GM_1002_E_IN, on sheet 001 and approximately at station 511. All maximum slope lengths should conform to those provided in Figure 4.2 of the E&SPC Manual. §102.11(a)(1)

d. There is a potential for sediment laden runoff to be discharged off site from between sock sections. Please revise.

e. The E&S plan shows an insufficient spacing for temporary waterbars throughout the project. Please revise.

f. Proposed access roads 9 or 9A could not be located on plan sheet 000-03-03-007. Please verify location of all roads on E&S plans.

g. The typical temporary access road detail shows a depth for existing road and a labeling for existing ground. Please explain whether earth disturbance is proposed for widening and provide erosion controls for the temporary access roads.

h. Erosion and sediment control BMP verbiage and proposed erosion controls shown on detail sheet 000-03-08-001 are inconsistent with the erosion and sediment control plan sheets for the same area showing the proposed line. Please address the inconsistency.

i. The Access Road Cross Section detail (Figure 1I) includes a note to "Coordinate with the County Conservation District if access road widening is needed". Please revise this note to read "If roadway widening is required, contact and coordinate with the appropriate County Conservation District to determine permitting requirements prior to widening the roads. Upon project completion, access roads will be restored to original conditions unless appropriately sized PCSM BMPs are provided."

j. The effective height of the proposed stacked 32-inch compost filter sock is inadequate. Please revise to properly size the compost filter sock.

k. The compost sock diversion does not specify the type of filter media. Please revise to specify the type of filter media.

l. The Department may approve alternative BMPs (not contained in E&SCP Manual or using a different design method or standards than those described in the E&SCP Manual) that maintain and protect existing water quality and existing and designated uses, this appears to be the case with Durasoxx. However, the burden of proof that the proposed BMPs are appropriate for the intended use lies with the plan designer. Sufficient supporting documentation (calculations, manufacturer's specs, etc.) should be included with the application to allow the reviewer to make an informed decision. For more information regarding new products and procedures, see Chapter 12.

m. Springville Interconnect:
   i. Provide a typical detail for each type of channel and diversion berm proposed (Item 9, page 5 of the E&SPC Manual) §102.11(a)(1).
   ii. Rock filters can only be used within proposed channels while the temporary liner is being installed. Please revise.
   iii. Provide a typical detail for a proposed stilling basin.

n. Please provide the location of sediment trap clean out stakes on the E&S plans.

Carbon County

1. ***§102.4(b)(5)(ix) Plan Drawings.***

   a. Kidder Compressor Station:
      i. As proposed, there is a large area between Industrial Drive and the Temporary Swale in the LOD. Should there be any earth disturbance within this area, please include the proposed grading and any work that is to be done. Also, please show any erosion and sediment control BMPs necessary to prevent a sediment pollution event.
      ii. As submitted, there are several staging areas called out throughout the plan. Should there be any earth disturbance within this area, please include the proposed grading and any work that is to be done. Also, please show any erosion and sediment control BMPs necessary to prevent a sediment pollution event.
      iii. As per the construction sequence, there is a temporary parking area called out. Please indicate where this temporary parking area is located on the existing plan drawings or revise the plan drawings to include this area.
      iv. Please clarify how the water will be bypassed during the box culvert installation.

   b. Kidder Side Valve:
      i. As proposed, there is an existing wall to be removed. Is the wall only to be removed in the LOD area? Please clarify.

   c. Towamensing Side Valve:
      i. As per the plan, the LOD area is very wide. Should there be any earth disturbance within this area, please include the proposed grading and any work that is to be done. Also, please show any erosion and sediment control BMPs necessary to prevent a sediment pollution event.

   d. Other Concerns:
      i. Please provide a separate sequence handout for each compressor/side valve project.
      ii. Please provide a more specific location map for each compressor/side valve project. Example: Towamensing side valve is located off Stagecoach Road East has been shown on the Location Map and is acceptable. The location maps for the compressor station and side valve project should be provided with the same details as the Towamensing side valve location map.

2. ***§102.6(b)(3) Permit fees.***

   a. The fee for service of the next submittal is $9,837.50, payable to "Carbon Conservation District".

Monroe County

1. ***§102.4(b)(5)(ix) Plan drawings.***

   a. The PA Fish and Boat letter dated May 17, 2018 recommends conservation measures for rattlesnakes located along the pipeline section in Monroe County. These measures should be provided on the plans, including instructions on how workers should proceed should rattlesnakes be encountered on the project.

b. The waterbars shown on the plan sheets from Station 2699+70 to 2724+70 (Monroe County) should be reversed in direction to discharge runoff away from the work area. Please make similar changes to the Site Restoration Plans.

2. ***§102.6(b)(3) Permit fees.***

a. The fee for service the next submittal is $1,125.00, payable to "Monroe County Conservation District".

Northampton County

1. ***§102.4(b)(5)(i) The existing topographic features of the project site and the immediate surrounding area.***

a. Hellertown Launcher
   i. Indicate the type and extent of vegetative cover on the plan drawing.
   ii. Please provide a mapping symbols legend that conforms to the standards on page 397 of the E&SPC Manual. The legend should define the symbol depicted in plan view on the floor of the sediment trap.

b. Mainline Block Valve #6
   i. Indicate the type and extent of vegetative cover on the plan drawing.
   ii. Please provide a complete/ consistent mapping symbols legend or identifying labels. E.g., the brown line with small squares could not be identified. That was the case for several other mapping symbols.

2. ***§102.4(b)(5)(iii) The characteristics of the earth disturbance activity, including the past, present, and proposed land uses and the proposed alteration to the project site.***

a. All features of the E&S plan drawings should be readily identifiable. Please revise the E&S plan to conform to the standards in Appendix D (page 397 of the E&SPC Manual first paragraph). (For example, compost filter socks are not readily distinguishable in plan view and the color variations between sock diameters are indistinguishable). Please label the socks with their proposed size in plan view for identification purposes.

b. Describe how the access roads for construction will be stabilized and provide permanent contours for those access roads that are to remain.
   i. The E&S Plan notes indicate that temporary access roads may be left in place at request of the property owner. The note should be revised to indicate that a permit amendment would be required if access roads are left in place.

c. Hellertown Launcher
   i. Describe the actual land uses for the past 50 years or longer if known, at the project site, as described in Item 3 on page 2 of the E&SPC Manual, as well as identification of any potential pollutants that might be located at the project site.

3. ***§102.4(b)(5)(iv) The volume and rate of runoff from the project site and its upstream watershed area.***

   a. Maximum drainage areas to the proposed inlet protection during construction should be provided on the E&S plan drawing to support BMP design, (e.g., inlet drainage area table). Where the capacity of filter-bag inlet is exceeded by the maximum allowable drainage area, alternative BMPs should be provided. (re: page 123 of the E&SPC Manual.)

   b. Hellertown Launcher
      i. Please provide a drainage area map (including topography) that clearly identifies each proposed swale and sediment trap. The swales and trap locations should be shown on the drainage area mapping and identified watersheds should be the maximum contributing drainage area tributary to the BMP.
      ii. The plan drawing shows the sediment trap discharging to an area that is not identified as a surface water. If this is a non-surface water discharge, provide a discharge analysis that meets the standards of Item 4 on page 2, and Item 15 on page 161 of the E&SPC Manual. (reference Item 9 below)

   c. Mainline Block Valve #6
      i. Maximum drainage areas during construction to proposed Swale 1 should be provided on the E&S plan drawing to support BMP design, (re: page 123 of the E&SPC Manual.)

   d. TCO & UGI-LEH Interconnects
      i. Please provide a drainage area map (including topography) that clearly identifies each proposed swale and sediment trap. The swale and trap locations should be shown on the drainage area mapping and identified watersheds should be the maximum contributing tributary to the BMP.
      ii. The plan drawing(s) show outfall HW-1 discharging to an area that is not identified as a surface water. If this is a non-surface water discharge, provide a discharge analysis that meets the standards of Item 4 on page 2, and Item 15 on page 161 of the E&SPC Manual. (reference Item 9 below)

4. ***§102.4(b)(5)(v) The location of all surface waters of this Commonwealth which may receive runoff within or from the project site and their classification pursuant to Chapter 93.***

   a. The Chapter 93 designated use appears to be incomplete for all watersheds identified in Northampton County. At a minimum, the migratory fishery designation was missed. Please review the Chapter 93 designated uses for the watersheds in Northampton County and provide a complete listing of all designated uses.

   b. Hellertown Launcher
      i. The designated use of the Lehigh River is incorrect in the E&S Narrative and Drawing (sheet 2) and NOI. Please provide the correct designated use.

5. ***§102.4(b)(5)(vi) A narrative description of the location and type of perimeter and on site BMPs used before, during, and after the earth disturbance activities.***

a. Hellertown Launcher
   i. Page 3 of the E&S Narrative references utilizing a sediment basin. A sediment basin is not proposed. Please address this inconsistency.

6. ***§102.4(b)(5)(vii) A 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.***

   a. The sequence for upland area pipeline installation suggests clearing and grading activities as well as installation of access roads will occur without E&S BMPs. All E&S BMPs should be installed prior to earth disturbance.

   b. The construction sequence for upland locations should more clearly describe the timing of the installation and repair of temporary waterbars in relation to pipeline trenching and backfills.

   c. Please clarify use of the activity termed "grading". Step 2 of the sequence describes grading of construction work areas, however, there are no proposed contours depicted.

   d. Clarify post construction sequence Step 3 in relation to temporary water bar removal. The timing of the temporary water bar removal should be clearly specified in the sequence.

   e. The sequence should address the timing of the construction of the Mainline Block Valves #6 & 7, Hellertown Launcher and TCO & UGI-LEH Interconnects, as it relates to the mainline construction. (i.e., E&S installation, repair and removal)

   f. The sequence should specify that no more than 15,000 square feet of disturbed area reach final grade before initiating seeding and mulching operations (page 262 of the E&SPC Manual). §102.11(a)(1)

   g. The sequence should specify that cessation of activity for 4 days or longer requires temporary stabilization (page 260 of the E&SPC Manual).

   h. Specify critical stages when the licensed professional must be present to oversee installation of structural PCSM BMP(s) as required by §102.8 (k).

   i. Mainline Block Valve #6
      i. The plan indicates a temporary waterbar conflict with Swale 1 and Mainline Block Valve #6 improvements, please clarify installation, repair and removal of the temporary waterbar in the construction sequence for Mainline Block Valve #6.

   j. Hellertown Launcher
      i. The sequence calls for the installation of topsoil stockpiles, however, there are no topsoil stockpiles currently identified on the plan drawing(s). Please make all necessary corrections (see Chapter 2 in the E&SPC Manual).

ii. A check of the plan drawing found the following BMPs were not addressed by the BMP sequence: Outlet basin, clean out stake, level spreader (during sediment trap phase).
iii. The sequence indicates construction of the sediment trap which would discharge to a level spreader system that, under the sequence, is not yet constructed. Please revise the sequence to provide for the logical installation of proposed BMPs.

k. TCO & UGI-LEH Interconnects
i. The sequence calls for the installation of topsoil stockpiles and GeoWeb Panel System, however, the topsoil stockpiles and GeoWeb Panel System are not currently identified on the plan drawing(s). Please make all necessary corrections (see Chapter 2 in the E&SPC Manual).
ii. Clarification is requested as to when Swales 3 & 4 are to be installed. Sequence **step 6** calls for weighted sediment filter tubes to be installed in Swales 3 & 4, however, Swales 3 & 4 are not proposed to be constructed until sequence **step 14**. Please revise as necessary.
iii. Clarification is requested as to how Swales 1 & 2 will be constructed in sequence step 15. Compost Sock Sediment Traps 2, 3, & 4 appear to be partly located in the proposed Swale 2. The sequence does not address moving or removing the traps for swale construction.
iv. Clarification is requested as sequence step 11 calls for installation of inlet protection to CB-1, CB-2, and CB-3, however, CB-3 does not appear to be installed or addressed in the sequence.

7. ***§102.4(b)(5)(viii) Supporting calculations and measurements.***

a. Please provide the information requested by Standard E&S Worksheet #1 for all proposed compost filter socks. (e.g., Sock No. 377-6+00, 377-7+00, 377-8+00) (See pages 5 & 8 of the E&SPC Manual).

b. Standard Worksheet #11: The Channel Calculations provided on the Worksheet are inconsistent with the standards found in the E&SPC Manual. All channels require a minimum of 6" of freeboard (calculations for diversion socks should be based off maximum effective heights when considering proposed depths).

c. A spot check indicated the 2yr/1hr storm used to calculate rain fall intensity is not consistent with Figure 5.2 (Channel 53-50-1). Please provide source of depths on Standard Worksheet #10 (Channels).

d. Hellertown Launcher
i. For vegetated channels, the analysis for manufactured linings without vegetation and with vegetation should be provided on Standard Worksheet #11 in separate columns. The analysis of the manufactured lined condition of Swales 1, 2 and 3 should be provided.
ii. Please correct the response provided for the Project Location section on Standard Worksheet #11.
iii. The Manning's n value used for Swales 1 & 2 in the non-reinforced vegetation condition does not conform to Table 6.3. Either show supporting evidence for the n value used or adjust the n value used to conform to Table 6.3.
iv. Sediment clean out (storage) elevation of sediment trap should be a minimum of 1 foot above basin bottom. Please adjust accordingly.

v. Required 2:1 flow length in the proposed sediment trap appears to be undersized based on the discharge point of Swale 3. Baffles may be required.
vi. Standard Worksheet #19 data infers there is an embankment spillway. An embankment spillway is not part of a riser style trap. Please clarify what type of sediment trap is being proposed at this location.
vii. Calculations should be provided to show that the barrel riser spillway provides 1.5 cfs/acre discharge capacity. Please provide Standard Worksheet #17 or supporting calculations.

e. Mainline Block Valve #6
   i. Supporting calculations should be provided for proposed Swale 1, standard worksheet #11 is recommended for this purpose.

f. TCO & UGI-LEH Interconnects
   i. For vegetated channels, the analysis for manufactured linings without vegetation and with vegetation should be provided on Standard Worksheet #11. The analysis of the manufactured lined condition of Swales 1 & 2 should be provided. It appears that Landlok TRM-435 is proposed according to Figure 49 on sheet 024-03-04-003 (See page 382 of the E&SPC Manual).
   ii. The Manning's n value used for Swales 1 & 2 in the non-reinforced vegetation condition does not conform to Table 6.3 (pg. 131 of the E&SPC Manual). Either show supporting evidence for the n value used or adjust the n value used to conform to Table 6.3.
   iii. The proposed size of the riprap at HW-1 appears to be inconsistent with Figure 9.3 of the E&SPC Manual. Figure 9.3 should be used to size riprap aprons for minimum tailwater conditions.
   iv. Supporting calculations should be provided for the proposed compost filter sock sediment traps. Standard Worksheet #19 is recommended for this purpose.

8. ***§102.4(b)(5)(ix) Plan drawings.***

a. Provide a typical detail for the proposed weighted sediment filter tube(s) (Item 9, page 5 of the E&SPC Manual). Standard Construction Detail # 4-3, 4-4, and/or 4-5 as appropriate is recommended for this purpose. Revise the plan accordingly.

b. Provide a construction detail for the sediment trap emergency spillway (Item 9, page 5 of the E&SPC Manual) §102.11(a)(1). Standard Construction Detail # 7-13 is recommended for this purpose. Revise the plan accordingly.

c. The details provided for the proposed access road appear inconsistent with the plan view. Access roads should be designed according to Chapter 3 of the E&SPC Manual.

d. Clarification is requested for General Note #19 that references comment #4 on E&S drawing sheet 003A. Comment #4 provided appears unrelated. Please clarify.

e. Specify the type of lime to be applied for permanent seeding (page 265 of the E&SPC Manual). Table 11.2 is recommended.

f. Complete constructions details should be provided on the E&S drawing for the proposed channels. Please check all proposed swales along the pipeline route, mainline block valves, interconnects and the Hellertown Launcher to show the correct staple patterns and matting type as per the design.

g. Figure 9 (Waterbar Detail) is inconsistent with Standard Construction Detail #3-5 of the E&SPC Manual.

h. Figure 12 (Trench Plug Detail) provided is inconsistent with Standard Construction Detail #13-4 and the plug material is inconsistent with Table 13.1 of the E&SPC (Manual pg. 291).

i. The inlet protection and broad based dips were specified in the plan narrative and detail sheets but were not observed in plan view or legend. Please revise the plan view and/or legend to address these.

j. Please provide the appropriate manufacturer's media specifications for the proposed Filtrexx Diversion socks.

k. Please provide the appropriate manufacturer's media specifications and construction details for the proposed Filtrexx Durasoxx.

l. Rock Construction Entrances (RCE) should not impede access points to public or private entrances. It appears some RCEs cross private driveways, for example at mile post 74.9. Please review all RCEs to ensure that they do not impede public and/or private entrances. For those RCEs that impede public and/or private entrances, please revise the RCEs to address this issue.

m. It appears that additional E&S BMPs are necessary for installation and removal of the temporary and permanent access roads. Please review the plans for the installation and removal of the temporary and permanent access roads. Please revise and provide additional E&S BMPs where appropriate.

n. It does not appear that adequate access has been provided to Pipeyard (PE-D-05) and the BMPs on the south side of Hope Road.

o. Any PCSM BMPs impacted by construction of the pipeline should be identified in plan view. For example, Pipeyard (PE-D-05) on the south side of Hope Road, appears to be constructed within the soil amendments. These soil amendments are being utilized for post construction stormwater management to address stormwater volume and water quality for that site. Please reference existing NPDES permit# PAG02004814019. Please review the project (pipeline route, launchers, mainline valves, pipeyards, contractor yard, interconnects, etc.) for PCSM BMPs. If the pipeline route or any ancillary construction impact existing PCSM BMPs along the route, this will need to be compensated for with additional PCSM BMPs or expansion of existing PCSM BMPs.

p. Clarification is requested for the proposed location of some of the water bars as they appear to conflict with existing features which may not allow complete installation or functionality of the BMP or could cause accelerated erosion. For example, stone walls and existing drainage ways are in the immediate vicinity of some of the proposed water bars.

q. Clarify Figures 9 and 10 to indicate if the details are for permanent or temporary waterbars or both.

r. Clarify Figure 33 to indicate the location of the pipeline trench. Additional instructions should be added to clarify the timing of installation and removal of slope pipes in relation to trenching and backfilling. Additional details may be required if slope pipe is to span the trench.

s. Provide a complete construction detail that depicts the water body crossing method "Dry Crossing if No Flow". The detail should depict the extent and type of restoration method(s) proposed to be used.

t. Provide adequate sediment control BMPs downslope of earth disturbance to protect the existing downslope waterbodies during construction and after backfilling (See Sheet 125 for an example of waterbodies not being protected from accelerated erosion, etc.).

u. Hellertown Launcher
   i. The provided Standard Construction Detail #6-1 appears to be altered and is not standard as provided. The detail fails to provide a column for specifying matting type.
   ii. Provide a construction detail for the proposed sediment trap outlet basin. Standard Construction Detail #8-6 is recommended for this purpose.
   iii. Please clarify/label the plan view location of the proposed sediment trap outlet basin. It appears to be located within the level spreader.
   iv. Completed Standard Construction Detail #8-2 should be provided on the plan drawings for the sediment trap.
   v. A baffle, silt curtain or forebay detail should be provided if additional flow length is required.
   vi. A cleanout stake detail should be provided in the plan and detail view.
   vii. The plan drawing shows compost socks located in concentrated flow at the discharge point of Swale 3. Revise the location to avoid concentrated flow.
   viii. The sediment trap contours on the plan drawing should depict the elevations required for construction of the sediment trap. A separate or inset drawing should be provided that depicts the proposed conversion and associated BMPs.

v. TCO & UGI-LEH Interconnects
   i. Clarification is requested as to whether a Staging/Stockpile Area will be required for the proposed project. If a Staging/Stockpile Area will be required, the location of the proposed Staging/Stockpile Area should be provided in E&S plan view within the ESCGP and LOD boundaries with adequate access and E&S BMPs and should be addressed in the sequence. (See Item #10 on pg. 325 of the E&SPC Manual)
   ii. A spot check of the channels found that the dimensions/protective lining specified for Swales 1 & 2 in the calculations are not consistent with those shown on the detail sheets (page 127 of the E&SPC Manual). Please check the calculations for all channels and address all inconsistencies.
   iii. Please specify either an appropriate filter stone or geotextile underlayment for the proposed riprap lined Swales 3 & 4 on figure 50 (Standard Construction Detail #6-3 on sheet 024-03-04-003) consistent with page 135 and 142 of the E&SPC Manual.

9. ***§102.4(b)(5)(x) A maintenance program which provides for the operation and maintenance of BMPs and the inspection of BMPs on a weekly basis and after each stormwater event, including the repair or replacement of the BMPs to ensure effective and efficient operation.***

    a. Provide complete disposal directions for sediment removed from the various BMPs. Note #18 on sheets 024-03-02-002 and 024A-03-02-002 and Note #19 on sheet 000-01-01-003A references disposal directions, however, these references do not address complete disposal directions. Please provide adequate disposal directions for sediment removal for Erosion and Sediment Control BMPs for the project.

10. ***§102.4(b)(5)(xii) Identification of the naturally occurring geologic formations or soil conditions that may have the potential to cause pollution during earth disturbance activities and include BMPs to avoid or minimize potential pollution and its impact from the formations.***

    a. Provide instructions for proper handling of the karst soils identified as having potential to cause pollution to the surface waters. See, for example, sheet 024A-03-02-002.

Bucks County

1. ***Provisions of subsections of §102.22(b) regarding temporary and permanent stabilization.***

    a. Drawing sheet (D) 000-01-01-003B, "Temporary and Permanent Stabilization" items A and B. Please revise notation in item A to specify that temporary stabilization is required in areas where earth disturbance ceases for more than 4 days and revise notation in item B to specify that erosion control blankets are recommended in areas of steep slopes or concentrated flow.

2. ***§102.4(b)(5)(vii) A 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.***

    a. D 000-01-01-003D
    BCCD concurs with comments provided by Monroe County regarding sequencing of site grubbing, E&S installations, and access road construction and requests these revisions be applied to the plan set to be resubmitted to Bucks County as well. No site grubbing, or access road construction should begin until adequately sized perimeter controls have been installed downslope of proposed disturbance.

3. ***§102.4(b)(5)(vi) A narrative description of the location and type of perimeter and onsite BMPs used before, during and after the earth disturbance activity.***

    a. D 000-03-09-003
    Please clarify the proposed compost sock size for the waterbar sump in figure 10. The detail contains conflicting references to 12" and 18" diameter sock.

    b. D 000-03-01-153 and D 000-03-03-055
    BCCD recommends providing a rock construction entrance at the terminus of access road AR-079

at the area of interface between the existing gravel road and the work area. If this area is to be used for long-term staging, BCCD recommends addressing this proposed use on the E&S plan (For example, show E&S controls, stable staging area, provide provisions for post-construction stabilization, and any other details appropriate for using this area for long-term staging.)

c. D 000-03-01-154
Please clarify location of clean water slope pipe relative to diversion sock at approximate station 4059+00.

Post Construction Stormwater Management Plans Project Wide

1. ***§102.8(f)(6) A written description of the location and type of PCSM BMPs including construction details for permanent stormwater BMPs including permanent stabilization specifications and locations.***

   a. It appears that there are permanent water bars that will be discharging within the riparian buffer of streams. The locations of the permanent waterbars should not create an outlet where the banks of the stream have the potential to erode. The permanent waterbars should outlet to mimic the existing conditions and provide sheet flow to then discharge into a surface water. Also, to the greatest extent practicable, the permanent waterbars should be located outside of the riparian buffer.

   b. It appears that there are permanent waterbars that will be constructed upslope of wetlands. These permanent waterbars should not be diverting surface water away from the wetland as this may cause a secondary impact to the wetlands. Please provide information elaborating on the potentially affected wetland(s) hydrology and demonstrating that the proposed permanent waterbars will not cause secondary impacts to those wetland(s).

   c. Credit cannot be taken for multiple BMPs that are located within one another. Each BMP has certain design criteria. Even though these design criteria may overlap, the actual BMPs may not overlap. Each BMP must remain separate. Please revise the PCSM Plans, Narrative and Worksheets accordingly. For example, the Wyoming Interconnect is proposing an infiltration berm and minimize soil compaction areas that appear to overlap. Please review all PCSM BMPs throughout project with respect to proposed PCSM BMPs that may overlap and/or located within one another.

2. ***§ 102.8(h)PCSM implementation for special protection waters.***

   a. The antidegradation analyses states that they are not applicable for each site, which does not adequately address the required anti-degradation requirements. They are too vague and do not contain sufficient information for each specific site. Make the antidegradation analysis specific to each site that the PCSM Plan covers. This analysis should evaluate and include nondischarge alternatives. If nondischarge alternatives do not exist for each site, then make that demonstration and include in the PCSM Plans antidegradation best available combination of technologies (ABACT) BMPs.

Northampton County

1. ***Complete PCSM/SR Plans.***

   a. NOI Checklist # 7.h.: Supporting Calculations
      i. Please provide a County specific Worksheet #10 for each proposed impervious facility.
      ii. Mainline Block Valve #6, Worksheet #4 total site area and managed areas are inconsistent with Worksheets #1 and #3.
      iii. Please clarify which Saucon Township listed on Worksheet #1 of the Hellertown Launcher supporting calculations is being referenced.

   b. Section 9.3 of the E&S narrative notes that the access roads will be restored in accordance with the landowner agreements. Access roads should be restored to original conditions upon project completion or additional PCSM BMPs may be required to manage changes in runoff rate, volume and water quality. Please identify any access roads which will be permanently improved and provide PCSM BMPs as appropriate.

   c. Section 9.6 of the E&S Narrative notes that "Property will be restored as close to original conditions as practical unless otherwise specified by the landowner". Please add a statement to the E&S narrative and a prominent note to the plans that any restoration activities which entail a post construction change in land use shall be evaluated for post construction stormwater impacts approved by PA DEP and/or the appropriate conservation district and may require the installation of PCSM BMPs to manage stormwater rate, volume and water quality impacts.

2. ***§102.8(f)(8) Supporting calculations.***

   a. Worksheet #4 has calculated the Existing Conditions and Developed Conditions for the entire drainage area to the point of interest. For Worksheet #4, please calculate the Existing Conditions and Developed Conditions using just the managed area.

   b. The Managed Area should be the Total Site Area minus the Protected Site Area. This does not appear to be consistent in the application. For example, the Springville interconnect PCSM Report, Page 70 of 368 shows a Total Site Area of 3.03 acres and the Managed Area of 1.79 acres; but there is not any Protected Site Area that would decrease the Managed Area. Please revise all Worksheet #4 throughout the application to have consistency with respect to the Total Site Area, Protected Site Area, and Managed Area.

   c. Please provide the Pond Report for all the proposed infiltration basins using the 2-year storm event.

   d. Should water quality compliance not be demonstrated with the use of PCSM Worksheet #10 at each specific site, please show water quality compliance using PCSM Worksheets #12 and #13 for each specific site as applicable.

3. ***§102.22(a) Permanent stabilization. Upon final completion of an earth disturbance activity or any stage or phase of an activity, the site shall immediately have topsoil restored, replaced, or amended,***

seeded, mulched or otherwise permanently stabilized and protected from accelerated erosion and sedimentation.

a. The Site Restoration Narrative notes that the pipeline areas will be restored to existing conditions or to meadow in good condition. However, the various seed mixtures on the Site Restoration Plans contain non-meadow species and there are multiple options for the seed mix restoration seed mixes. Please be more specific in the seed mix which should be used to achieve a meadow in good condition post development land use.

b. The Maintenance Activities to be done as needed on the PCSM Plans indicates that, "Plant alternative grass species in the event of unsuccessful establishment." The PCSM Plans should indicate specific grass species in the event of unsuccessful establishment. Please revise the PCSM Plans to be more specific regarding alternative grass species to be utilized in the event of unsuccessful establishment within the right-of-way, interconnect, compression station, and main line valve restorations. Primary consideration should be given to the use of native grass species.

c. The proposed infiltration berms have top of berm heights that appear to be at grade. Please revise the PCSM Plans to include berm heights that will impound the proposed stormwater volume as designed.

d. It appears that the proposed infiltration berm ponding area will be cut into the existing grade to provide the ponding as shown on the PCSM Plans. This is not acceptable. The intent of an infiltration berm is to limit the disturbance of the surrounding area and provide infiltration area. Please revise the PCSM Plans to include the infiltration berm and infiltration berm height. Please be advised that the maximum allowable infiltration berm height is 2 feet.

Wyoming Interconnect Post Construction Stormwater Management (PCSM)

1. ***§102.8(f)(6) A written description of the location and type of PCSM BMPs including construction details for permanent stormwater BMPS including permanent stabilization specification and locations.***

   a. Please be advised that the PCSM BMP vegetated swales with bed slopes greater than 3 percent but less than 6 percent are acceptable as a water quality BMP only if check dams or earthen check berms are provided and designed according to the PCSM Manual, Chapter 6. Should the PCSM BMP vegetated swales be credited as a water quality BMP, please revise the design of the swales to include the check dams.

2. ***§102.8(f)(8) Supporting calculations.***

   a. Table 7 has loading ratios for the Basin only. Please provide the loading ratios for the other PCSM BMPs provided on the site.

   b. Credit for minimization of the total disturbed area has not been carried through to Worksheet #3. For credit to apply for this PCSM BMP, please include the acreage of minimized total disturbed area to Worksheet #3.

c. The PCSM Narrative indicates that a hydrodynamic separator is being proposed at the inlet of the proposed infiltration basin and thus the loading ratio for the infiltration basin is zero. Please provide the loading ratio to the basin for both the maximum impervious loading ratio and maximum loading ratio for the infiltration basin as if the hydrodynamic separator was not proposed.

d. If check dams are utilized for the vegetated swale, please include all applicable calculations relating to the length between each check dam, height, ponding time, and number of check dams.

e. Please provide the proposed vegetated swales on Worksheet #5, including the area and the storage volume of stormwater that will be treated by the proposed vegetated swale.

f. Please provide loading ratios for the proposed infiltration berms. Please note that the maximum impervious loading ratio is 5:1 (impervious area to infiltration bed area) and the total maximum loading ratio is 8:1 (total area to infiltration area).

g. Please provide the calculations showing the volume being detained upslope of the infiltration berms.

h. Please provide the Pond Report for the infiltration basin for the 2-year storm frequency.

3. ***§102.8(f)(9) Plan drawings***

a. Please delineate and label on the PCSM Plans the location of the proposed areas of minimized earth disturbance.

b. Please provide the following notations on the PCSM Plans for the areas proposed to be protected from earth disturbance :
   i. The protected areas are not to be subject to grading or movement of existing soils.
   ii. Existing native vegetation is not to be removed from the protected area.
   iii. Additional planting of native vegetation is allowed within the protected area.
   iv. Pruning or other required maintenance of vegetation is allowed in the protected area.
   v. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   vi. Any protected areas that have been disturbed/compacted during construction may require soil amendment and restoration.

c. If using the minimization of soil compaction as a PCSM BMP, please provide the following notations on the PCSM Plans:
   i. The protected area shall not be stripped of existing topsoil.
   ii. The protected areas are not to be subject to excess equipment movement, storage or stockpile of equipment or material of any kind.
   iii. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   iv. Soil amendment or additional topsoil and light grading is permitted in the protected area.

v. Should the minimum soil compaction areas be disturbed/compacted, they may require soil amendment and restoration.

d. Please delineate and label on the PCSM Plans the location of the proposed areas for protection of sensitive/special value features.

e. Please provide a land preservation agreement, protection agreement, deed restriction or other enforceable instrument that ensures perpetual protection of the protected sensitive/special value features.

f. Please provide specific coordinates (metes and bounds) that are to be used within the enforceable instrument for those areas where you propose to protect sensitive/special value features.

g. Please provide the following notations on the PCSM Plan with respect to protection of sensitive/special value features:
   i. The protected areas shall be clearly delineated in the field and protected prior to any construction activities taking place.
   ii. The protected feature shall not be disturbed during construction except for temporary impacts for mitigation or restoration efforts.

h. Credit for protecting sensitive/special value features has not been followed through to BMP Worksheet #3. In order for this credit to apply Worksheet #3 must also include the BMP. Please revise accordingly.

i. Please show on the PCSM Plans the area(s) where infiltration will be taking place for the infiltration berms.

j. Please provide the detail for the check dams.

k. Please provide the locations of the proposed soil amendments and restoration on the PCSM Plans.

l. Please provide the following notations on the PCSM Plan with respect to the soil amendments and restoration:
   i. Soil amendment and restoration should not take place within the drip line of trees or tree line.
   ii. Soil amendment and restoration should not take place over utility installations within 30 inches of the surface.
   iii. Soil amendment and restoration should not take place where trenching/drainage lines are installed.
   iv. Soil amendment and restoration should not take place where compaction of the soils by design is required.
   v. The methodology should only be performed when the soil conditions are dry.
   vi. The methodology should only be performed using a solid shank ripper, not a disk or plow due to their ineffectiveness.

m. Please provide the type of methodology to be used for the soil amendment and restoration.

n. Please provide on the PCSM Plans for the use of the ratio of soil to compost of 2:1 (soil:compost) as per the PCSM Manual, Chapter 6.

o. Please indicated the depth of till for minor compaction and major compaction as per the PCSM Manual.

p. Please show on the PCSM Plans the areas of landscape restoration.

q. Please provide the following notations on the PCSM Plans regarding the proposed landscape restoration:
   i. If forest restoration is utilized for the landscape restoration:
      1. Tree seedlings should range from 12 to 18 inches in height.
      2. Shrubs should range from 18 to 24 inches in height.
      3. Trees and shrubs should be planted on 8-foot centers or as recommended by the vegetation guidelines.
   ii. In the sequence of construction, the site preparation should occur in the fall prior to planting in order to eliminate undesired species and prep soil.
   iii. Should the landscape restoration areas become disturbed and/or compacted, soils amendment and restoration may be required.
   iv. All buffer boundaries shall be delineated and clearly marked prior to any construction activity taking place.
   v. Weed control methods such as organic mulch, weed control fabrics, shallow cultivation, pre-emergent herbicides, or mowing as applicable is allowed.
   vi. Deer control, tree protection, stream buffer fencing and/or other types of vegetation protection as applicable is required.
   vii. Monitoring of the new landscaped restoration areas shall be done four times a year for four years.
   viii. The use of significant amounts of chemicals, fertilizers, herbicides and pesticides on the landscape restoration is not allowed.

Springville Interconnect

1. ***§102.8(f)(8) Supporting Calculations.***

   a. Please provide loading ratios for the proposed infiltration berms. Please note that the maximum impervious loading ratio is 5:1 (impervious area to infiltration bed area) and the total maximum loading ratio is 8:1 (total area to infiltration area).

   b. Please provide the calculations showing the volume being detained upslope of the infiltration berms. Please be advised that the maximum infiltration period for the infiltration berms should not exceed 72 hours.

2. ***§102.8(f)(9) Plan drawings.***

   a. If using the minimization of soil compaction as a PCSM BMP, please provide the following notations on the PCSM Plans:

i. The protected area shall not be stripped of existing topsoil.
ii. The protected areas are not to be subject to excess equipment movement, storage or stockpile of equipment or material of any kind.
iii. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
iv. Soil amendment or additional topsoil and light grading is permitted in the protected area.
v. Should the minimum soil compaction areas be disturbed/compacted, they may require soil amendment and restoration.

b. Please provide the following notations on the PCSM Plans for the areas proposed to be protected from earth disturbance:
i. The protected areas are not to be subject to grading or movement of existing soils.
ii. Existing native vegetation is not to be removed from the protected area.
iii. Additional planting of native vegetation is allowed within the protected area.
iv. Pruning or other required maintenance of vegetation is allowed in the protected area.
v. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
vi. All protected areas that have been disturbed/compacted during construction may require soil amendment and restoration.

c. Please delineate and label on the PCSM Plans those areas where you propose to protect and/or utilize the natural drainage features as a PCSM BMP.

d. Please provide a land preservation agreement, protection agreement, deed restriction or other enforceable instrument that ensures perpetual protection of the area where you propose to protect/utilize natural drainage features.

e. Please provide specific coordinates (metes and bounds) that are to be used within the enforceable instrument for those areas where you propose to protect/utilize natural drainage features.

f. The credit for the protection/utilization of natural drainage features as a PCSM BMP has not been followed through to the BMP Worksheet #3. In order for this credit to apply, Worksheet #3 must include this BMP.

g. Please label on the PCSM Plans the swales or section of swales that are being utilized as a vegetated filter swale. Please note that swales that have bed slopes greater than 6 percent cannot be used as a PCSM BMP.

h. Please show on the PCSM Plans the area(s) where infiltration will be taking place for the infiltration berms.

i. Please provide the following notations on the PCSM Plan with respect to the soil amendment and restoration:
i. Soil amendment and restoration should not take place within the drip line of trees or tree line.
ii. Soil amendment and restoration should not take place over utility installations within 30 inches of the surface.

iii. Soil amendment and restoration should not take place where trenching/drainage lines are installed.
iv. Soil amendment and restoration should not take place where compaction of the soils by design is required.
v. The methodology should only be performed when the soil conditions are dry.
vi. The methodology should only be performed using a solid shank ripper, not a disk or plow due to their ineffectiveness.

j. Please provide the type of methodology to be used for the soil amendment and restoration.

k. Please provide on the PCSM Plans that the ratio of soil to compost should be 2:1 (soil:compost) as per the PCSM Manual, Chapter 6.

l. Please the proposed depth of till for minor compaction and major compaction as per the PCSM Manual.

m. Please show on the PCSM Plans the areas of landscape restoration.

n. Please provide the following notations on the PCSM Plans regarding the landscape restoration:
   i. Should forest restoration be utilized for the landscape restoration:
      1. Tree seedlings should range from 12 to 18 inches in height.
      2. Shrubs should range from 18 to 24 inches in height.
      3. Trees and shrubs should be planted on 8-foot centers or as recommended by the vegetation guidelines.
   ii. In the sequence of construction, the site preparation should occur in the fall prior to planting to eliminate undesired species and soil preparation.
   iii. If the landscape restoration areas become disturbed and/or compacted, soil amendment and restoration may be required.
   iv. Any buffer boundaries shall be delineated and clearly marked prior to any construction activities taking place.
   v. Weed control methods such as organic mulch, weed control fabrics, shallow cultivation, pre-emergent herbicides, or mowing as applicable are allowed.
   vi. Deer control, tree protection, stream buffer fencing and/or other types of vegetation protection as applicable is required.
   vii. Monitoring of the new landscaped restoration areas shall be done four times a year for four years.
   viii. The use of significant amounts of chemicals, fertilizers, herbicides and pesticides on the landscape restoration is not allowed.

Auburn-Leidy Interconnect

1. ***§102.8(f)(6) A written description of the location and type of PCSM BMPs including construction details for permanent stormwater BMPS including permanent stabilization specification and locations.***

   a. The proposed PCSM BMP of re-vegetating and reforestation of disturbed areas using native

species has been selected on Worksheet #10. It is unclear whether this BMP will be protecting existing vegetation or will be for new vegetation. Please clarify.

2. ***§102.8(f)(8) Supporting Calculations.***

   a. Please provide the void space of the material used in the subsurface infiltration bed. Also, please show within the basin dewatering time calculations that the void space was included within the dewatering time, or if the 4-foot perforated pipes will have the capacity to contain the required 2-year volume to be infiltrated.

3. ***§102.8(f)(9) Plan drawings.***

   a. Please label on the PCSM Plans the swales or section of swales that are being utilized as a vegetated filter swale.

   b. Please show on the PCSM Plans the type of protective lining being proposed for the swales.

   c. If using the minimization of soil compaction as a PCSM BMP, please provide the following notations on the PCSM Plans:
      i. The protected area shall not be stripped of existing topsoil.
      ii. The protected areas are not to be subject to excess equipment movement, storage or stockpile of equipment or material of any kind.
      iii. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
      iv. Soil amendment or additional topsoil and light grading is permitted in the protected area.
      v. Should the minimum soil compaction areas be disturbed/compacted, they may require soil amendment and restoration.

   d. Please delineate and label on the PCSM Plans those areas where you propose to protect and/or utilize the natural drainage features as a PCSM BMP.

   e. You must provide a land preservation agreement, protection agreement, deed restriction or other enforceable instrument that ensures perpetual protection of those areas where you propose to protect/utilize natural drainage features.

   f. Please provide specific coordinates (metes and bounds) that are to be used within the enforceable instrument for the areas that you propose to protect/utilize natural drainage features.

   g. The credit has not been followed through to the BMP Worksheet #3 for the protection/utilization of the natural drainage features. In order for this credit to apply, Worksheet #3 must include this BMP.

   h. Please show on the PCSM Plans the area(s) where infiltration will be taking place for the infiltration berms.

   i. Please provide the following notations on the PCSM Plan with respect to the soil amendment and

restoration:

i. Soil amendment and restoration should not take place within the drip line of trees or tree line.
ii. Soil amendment and restoration should not take place over utility installations within 30 inches of the surface.
iii. Soil amendment and restoration should not take place where trenching/drainage lines are installed.
iv. Soil amendment and restoration should not take place where compaction of the soils by design is required.
v. The methodology should only be performed when the soil conditions are dry.
vi. The methodology should only be performed using a solid shank ripper, not a disk or plow due to their ineffectiveness.

j. Please provide the type of methodology to be used for the soil amendment and restoration.

k. Please indicated on the PCSM Plans that the ratio of soil to compost is 2:1 (soil:compost) as per the PCSM Manual, Chapter 6.

l. Please indicate the proposed depth of till for minor compaction and major compaction as per the PCSM Manual.

m. Please show on the PCSM Plans the areas of landscape restoration.

n. Please provide the following notations on the PCSM Plans regarding the landscape restoration:
   i. If forest restoration is utilized for the landscape restoration:
      1. Tree seedlings should range from 12 to 18 inches in height.
      2. Shrubs should range from 18 to 24 inches in height.
      3. Trees and shrubs should be planted on 8-foot centers or as recommended by the vegetation guidelines.
   ii. In the sequence of construction, the site preparation should occur in the fall prior to planting in order to eliminate undesired species, prep soil, etc.
   iii. If the landscape restoration areas become disturbed and/or compacted, soil amendment and restoration may be required.
   iv. Weed control methods such as organic mulch, weed control fabrics, shallow cultivation, pre-emergent herbicides, or mowing as applicable is allowed.
   v. Deer control, tree protection, stream buffer fencing and/or other types of vegetation protection as applicable is required.
   vi. Monitoring of the new landscaped restoration areas shall be done four times a year for four years.
   vii. The use of significant amounts of chemicals, fertilizers, herbicides and pesticides on the landscape restoration is not allowed.

o. Please provide the minimum cover for the proposed subsurface infiltration basin between the top of the 4-foot perforated pipe and the finished grade.

p. If using re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP for this site, please provide the following notations on the PCSM Plans:

i. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
ii. Construction limits shall not encroach within 10 feet of the drip line of trees.
iii. Any trees which are to be protected shall be maintained and protected for the life of the project (50 years) or until redevelopment occurs.
iv. Pruning or required maintenance of existing trees is permitted.

q. The use of re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP has not been provided on Worksheet #3. To receive water quality credits, the BMP must be provided on Worksheet #3. Please revise accordingly.

r. Please provide the following notations on the PCSM Plan with respect to soil amendment and restoration:
i. Soil amendment and restoration should not take place within the drip line of trees or tree line.
ii. Soil amendment and restoration should not take place over utility installations within 30 inches of the surface.
iii. Soil amendment and restoration should not take place where trenching/drainage lines are installed.
iv. Soil amendment and restoration should not take place where compaction of the soils by design is required.
v. The methodology should only be performed when the soil conditions are dry.
vi. The methodology should only be performed using a solid shank ripper, not a disk or plow due to their ineffectiveness.

s. Please provide the type of methodology to be used for the soil amendment and restoration.

Kidder Compression Station

1. ***§102.8(f)(6) A written description of the location and type of PCSM BMPs including construction details for permanent stormwater BMPS including permanent stabilization specification and locations.***

a. The proposed PCSM BMP of re-vegetating and reforestation of disturbed areas using native species has been selected on Worksheet #10. It is unclear whether this BMP will be protecting existing vegetation or will be for new vegetation. Please clarify.

2. ***§102.8(f)(8) Supporting Calculations.***

a. Please be advised that vegetated filter swale that have bed slopes greater than 3 percent and less than 6 percent cannot be utilized as a water quality BMP unless check dams or earthen check berms are provided and designed according to the PCSM Manual. It appears that Swale 3 has a bed slope greater than 3 percent. Please revise accordingly.

b. Please provide the calculations relating to the length between each check dam, height, ponding time, and number of check dams for each proposed vegetated filter swale that will need to use check dams.

3. ***§102.8(f)(9) Plan drawings.***

   a. Please label on the PCSM Plans the swales or section of swales that are being utilized as a vegetated filter swale.

   b. Please show on the PCSM Plans the type of protective lining being proposed for the swales.

   c. Please provide the applicable details relating to the check dams on the PCSM Plans. The details should have all elevations, dimensions, sizes, depths, slopes, materials, products, notations for construction, and any other applicable information used for construction of the BMP.

   d. Please delineate and label on the PCSM Plans those areas where you propose to protect and/or utilize the natural drainage features as a PCSM BMP.

   e. Please provide a land preservation agreement, protection agreement, deed restriction or other enforceable instrument that ensures perpetual protection of the area where you propose to protect/utilize natural drainage features.

   f. Please provide specific coordinates (metes and bounds) that are to be used within the enforceable instrument for those areas where you propose to protect/utilize natural drainage features.

   g. The credit for the protection/utilization of natural drainage features as a PCSM BMP has not been followed through to the BMP Worksheet #3. In order for this credit to apply, Worksheet #3 must include this BMP.

   h. If using the minimization of soil compaction as a PCSM BMP, please provide the following notations on the PCSM Plans:
      i. The protected area shall not be stripped of existing topsoil.
      ii. The protected areas are not to be subject to excess equipment movement, storage or stockpile of equipment or material of any kind.
      iii. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
      iv. Soil amendment or additional topsoil and light grading is permitted in the protected area.
      v. Should the minimum soil compaction areas be disturbed/compacted, they may require soil amendment and restoration.

   i. Please provide the following notations on the PCSM Plans for the areas proposed to be protected from earth disturbance:
      i. The protected areas are not to be subject to grading or movement of existing soils.
      ii. Existing native vegetation is not to be removed from the protected area
      iii. Additional planting of native vegetation is allowed within the protected area.
      iv. Pruning or other required maintenance of vegetation is allowed in the protected area.
      v. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
      vi. Any protected areas that have been disturbed/compacted during construction may require soil

amendment and restoration.

j. Please provide the following notations on the PCSM Plan with respect to soil amendment and restoration:
   i. Soil amendment and restoration should not take place within the drip line of trees or tree line.
   ii. Soil amendment and restoration should not take place over utility installations within 30 inches of the surface.
   iii. Soil amendment and restoration should not take place where trenching/drainage lines are installed.
   iv. Soil amendment and restoration should not take place where compaction of the soils by design is required.
   v. The methodology should only be performed when the soil conditions are dry.
   vi. The methodology should only be performed using a solid shank ripper, not a disk or plow due to their ineffectiveness.

k. Please provide the type of methodology to be used for the soil amendment and restoration.

l. Please provide on the PCSM Plans for the use of the ratio of soil to compost of 2:1 (soil:compost) as per the PCSM Manual, Chapter 6.

m. Please indicate the proposed depth of till for minor compaction and major compaction as per the PCSM Manual.

n. Please show on the PCSM Plans the areas of landscape restoration.

o. Please provide the following notations on the PCSM Plans regarding the landscape restoration:
   i. If forest restoration is utilized as the landscape restoration:
      1. Tree seedlings should range from 12 to 18 inches in height.
      2. Shrubs should range from 18 to 24 inches in height.
      3. Trees and shrubs should be planted on 8-foot centers or as recommended by the vegetation guidelines.
   ii. In the sequence of construction, the site preparation should occur in the fall prior to planting in order to eliminate undesired species, prep soil, etc.
   iii. If the landscape restoration areas become disturbed and/or compacted, soil amendment and restoration may be required.
   iv. Weed control methods such as organic mulch, weed control fabrics, shallow cultivation, pre-emergent herbicides, or mowing as applicable is allowed.
   v. Deer control, tree protection, stream buffer fencing and/or other types of vegetation protection as applicable is required.
   vi. Monitoring of the new landscaped restoration areas shall be done four times a year for four years.
   vii. The use of significant amounts of chemicals, fertilizers, herbicides and pesticides on the landscape restoration is not allowed.

p. If using re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP for this site, please provide the following notations on the PCSM Plans:

i. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
ii. Construction limits shall not encroach within 10 feet of the drip line of trees.
iii. Any trees which are to be protected shall be maintained and protected for the life of the project (50 years) or until redevelopment occurs.
iv. Pruning or required maintenance of existing trees is permitted.

q. The use of re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP has not been provided on Worksheet #3. To receive water quality credits, the BMP must be provided on Worksheet #3. Please revise accordingly.

s. Please provide the following notations on the PCSM Plan with respect to soil amendment and restoration:
i. Soil amendment and restoration should not take place within the drip line of trees or tree line.
ii. Soil amendment and restoration should not take place over utility installations within 30 inches of the surface.
iii. Soil amendment and restoration should not take place where trenching/drainage lines are installed.
iv. Soil amendment and restoration should not take place where compaction of the soils by design is required.
v. The methodology should only be performed when the soil conditions are dry.
vi. The methodology should only be performed using a solid shank ripper, not a disk or plow due to their ineffectiveness.

t. Please provide the type of methodology to be used for the soil amendment and restoration.

TCO & UGI LEH Interconnect

1. ***§102.8(f)(6) A written description of the location and type of PCSM BMPs including construction details for permanent stormwater BMPS including permanent stabilization specification and locations.***

a. The proposed PCSM BMP of re-vegetating and reforestation of disturbed areas using native species has been selected on Worksheet #10. It is unclear whether this BMP will be protecting existing vegetation or will be for new vegetation. Please clarify.

2. ***§102.8(f)(8) Supporting Calculations.***

a. Please provide the void space of the material used in the subsurface infiltration bed. Also, please show within the basin dewatering time calculations that the void space was included within the dewatering time, or if the 4-foot perforated pipes will have the capacity to contain the required 2-year volume to be infiltrated.

3. ***§102.8(f)(9) Plan drawings.***

a. Please label on the PCSM Plans the swales or section of swales that are being utilized as a

vegetated filter swale.

b. Please show on the PCSM Plans the type of protective lining being proposed for the swales.

c. Please delineate and label on the PCSM Plans those areas where you propose to protect and/or utilize the natural drainage features as a PCSM BMP.

d. Please provide a land preservation agreement, protection agreement, deed restriction or other enforceable instrument that ensures perpetual protection of the area where you propose to protect/utilize natural drainage features.

e. Please provide specific coordinates (metes and bounds) that are to be used within the enforceable instrument for those areas where you propose to protect/utilize natural drainage features.

f. The credit for the protection/utilization of natural drainage features as a PCSM BMP has not been followed through to the BMP Worksheet #3. In order for this credit to apply, Worksheet #3 must include this BMP.

g. Please provide the following notations on the PCSM Plans for the areas proposed to be protected from earth disturbance:
   i. The protected areas are not to be subject to grading or movement of existing soils.
   ii. Existing native vegetation is not to be removed from the protected area
   iii. Additional planting of native vegetation is allowed within the protected area.
   iv. Pruning or other required maintenance of vegetation is allowed in the protected area.
   v. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   vi. Any protected areas that have been disturbed/compacted during construction may require soil amendment and restoration.

h. Please show on the PCSM Plans the areas of landscape restoration.

i. Please provide the following notations on the PCSM Plans regarding the landscape restoration:
   i. If forest restoration is utilized for the landscape restoration:
      1. Tree seedlings should range from 12 to 18 inches in height.
      2. Shrubs should range from 18 to 24 inches in height.
      3. Trees and shrubs should be planted on 8-foot centers or as recommended by the vegetation guidelines.
   ii. In the sequence of construction, the site preparation should occur in the fall prior to planting in order to eliminate undesired species, prep soil, etc.
   iii. If the landscape restoration areas become disturbed and/or compacted, soil amendment and restoration may be required.
   iv. Weed control methods such as organic mulch, weed control fabrics, shallow cultivation, pre-emergent herbicides, or mowing as applicable is allowed.
   v. Deer control, tree protection, stream buffer fencing and/or other types of vegetation protection as applicable is required.
   vi. Monitoring of the new landscaped restoration areas shall be done four times a year for four

years.

vii. The use of significant amounts of chemicals, fertilizers, herbicides and pesticides on the landscape restoration is not allowed.

j. If using re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP for this site, please provide the following notations on the PCSM Plans:
   i. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   ii. Construction limits shall not encroach within 10 feet of the drip line of trees.
   iii. Any trees which are to be protected shall be maintained and protected for the life of the project (50 years) or until redevelopment occurs.
   iv. Pruning or required maintenance of existing trees is permitted.

k. The use of re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP has not been provided on Worksheet #3. To receive water quality credits, the BMP must be provided on Worksheet #3. Please revise accordingly.

l. Please provide the following notations on the PCSM Plan with respect to soil amendment and restoration:
   i. Soil amendment and restoration should not take place within the drip line of trees or tree line.
   ii. Soil amendment and restoration should not take place over utility installations within 30 inches of the surface.
   iii. Soil amendment and restoration should not take place where trenching/drainage lines are installed.
   iv. Soil amendment and restoration should not take place where compaction of the soils by design is required.
   v. The methodology should only be performed when the soil conditions are dry.
   vi. The methodology should only be performed using a solid shank ripper, not a disk or plow due to their ineffectiveness.

m. Please provide the type of methodology to be used for the soil amendment and restoration.

Hellertown Launcher

1. ***§102.8(f)(6) A written description of the location and type of PCSM BMPs including construction details for permanent stormwater BMPS including permanent stabilization specification and locations.***

   a. The proposed PCSM BMP of re-vegetating and reforestation of disturbed areas using native species has been selected on Worksheet #10. It is unclear whether this BMP will be protecting existing vegetation or will be for new vegetation. Please clarify.

2. ***§102.8(f)(8) Supporting Calculations.***

   a. Please be advised that vegetated filter swale that have bed slopes greater than 3 percent and less than 6 percent cannot be utilized as a water quality BMP unless check dams or earthen check berms

are provided and designed according to the PCSM Manual. It appears that Swale 2 has a bed slope greater than 3 percent. Please revise accordingly.

b. Please provide the calculations relating to the length between each check dam, height, ponding time, and number of check dams for each proposed vegetated filter swale that will need to use check dams.

c. It appears that instead of providing the infiltration berm calculations for the Hellertown Launcher, you have provided the Springville Interconnect infiltration berm volume calculations for IB-1. Please provide the infiltration berm volume calculations for the proposed infiltration berms at the Hellertown Launcher.

d. Please provide the infiltration period (draw down time) calculations for each proposed infiltration berm. Please be advised that the maximum infiltration period for each infiltration berm is 72 hours.

e. Please provide loading ratios for the proposed infiltration berms. Please note that the maximum impervious loading ratio is 5:1 (impervious area to infiltration bed area) and the total maximum loading ratio is 8:1 (total area to infiltration area).

3. ***§102.8(f)(9) Plan drawings***

a. Please label on the PCSM Plans the swales or section of swales that are being utilized as a vegetated filter swale.

b. Please show on the PCSM Plans the type of protective lining being proposed for the swales.

c. Please provide the applicable details relating to the check dams on the PCSM Plans. The details should have all elevations, dimensions, sizes, depths, slopes, materials, products, notations for construction, and any other applicable information used for construction of the BMP.

d. Please delineate and label on the PCSM Plans those areas where you propose to protect and/or utilize the natural drainage features as a PCSM BMP.

e. Please provide a land preservation agreement, protection agreement, deed restriction or other enforceable instrument that ensures perpetual protection of the area where you propose to protect/utilize natural drainage features.

f. Please provide specific coordinates (metes and bounds) that are to be used within the enforceable instrument for those areas where you propose to protect/utilize natural drainage features.

g. The credit for the protection/utilization of natural drainage features as a PCSM BMP has not been followed through to the BMP Worksheet #3. In order for this credit to apply, Worksheet #3 must include this BMP.

h. If using the minimization of soil compaction as a PCSM BMP, please provide the following notations on the PCSM Plans:

i. The protected area shall not be stripped of existing topsoil.
ii. The protected areas are not to be subject to excess equipment movement, storage or stockpile of equipment or material of any kind.
iii. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
iv. Soil amendment or additional topsoil and light grading is permitted in the protected area.
v. Should the minimum soil compaction areas be disturbed/compacted, they may require soil amendment and restoration.

i. Please provide the following notations on the PCSM Plans for the areas proposed to be protected from earth disturbance:
   i. The protected areas are not to be subject to grading or movement of existing soils.
   ii. Existing native vegetation is not to be removed from the protected area.
   iii. Additional planting of native vegetation is allowed within the protected area.
   iv. Pruning or other required maintenance of vegetation is allowed in the protected area.
   v. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   vi. Any protected areas that have been disturbed/compacted during construction may require soil amendment and restoration.

j. Please show on the PCSM Plans the areas of landscape restoration.

k. Please provide the following notations on the PCSM Plans regarding the landscape restoration:
   i. If forest restoration is utilized for the landscape restoration:
      1. Tree seedlings should range from 12 to 18 inches in height.
      2. Shrubs should range from 18 to 24 inches in height.
      3. Trees and shrubs should be planted on 8-foot centers or as recommended by the vegetation guidelines.
   ii. In the sequence of construction, the site preparation should occur in the fall prior to planting in order to eliminate undesired species, prep soil, etc.
   iii. If the landscape restoration areas become disturbed and/or compacted, soil amendment and restoration may be required.
   iv. Weed control methods such as organic mulch, weed control fabrics, shallow cultivation, pre-emergent herbicides, or mowing as applicable is allowed.
   v. Deer control, tree protection, stream buffer fencing and/or other types of vegetation protection as applicable is required.
   vi. Monitoring of the new landscaped restoration areas shall be done four times a year for four years.
   vii. The use of significant amounts of chemicals, fertilizers, herbicides and pesticides on the landscape restoration is not allowed.

l. Please provide the following notations on the PCSM Plan with respect to soil amendment and restoration:
   i. Soil amendment and restoration should not take place within the drip line of trees or tree line.
   ii. Soil amendment and restoration should not take place over utility installations within 30 inches of the surface.

iii. Soil amendment and restoration should not take place where trenching/drainage lines are installed.
iv. Soil amendment and restoration should not take place where compaction of the soils by design is required.
v. The methodology should only be performed when the soil conditions are dry.
vi. The methodology should only be performed using a solid shank ripper, not a disk or plow due to their ineffectiveness.

m. Please provide the type of methodology to be used for the soil amendment and restoration.

n. Infiltration Berm-1 and Infiltration Berm-2 as shown on the PCSM Plans appear to be cutting into the existing ground and will not be providing any ponding area. Please revise the PCSM Plans to provide adequate ponding area for the infiltration berms.

o. Please show on the PCSM Plans and Details the invert elevation of the inflow pipe discharging into the level spreader.

p. Please provide the bottom elevation of the proposed level spreader on the PCSM Plans.

Blue Mountain Interconnect

1. ***§102.8(f)(6) A written description of the location and type of PCSM BMPs including construction details for permanent stormwater BMPS including permanent stabilization specification and locations.***

   a. The proposed PCSM BMP of re-vegetating and reforestation of disturbed areas using native species has been selected on Worksheet #10. It is unclear whether this BMP will be protecting existing vegetation or will be for new vegetation. Please clarify.

2. ***§102.8(f)(8) Supporting Calculations.***

   a. The volume capacity calculations for the proposed subsurface infiltration basin shows that the depth will be 12 inches. However, the design of the subsurface infiltration bed shows that the orifice will be located approximately 9 inches above the bottom elevation of the subsurface infiltration basin. The volume capacity of the subsurface infiltration basin may not be adequate to infiltrate the required stormwater volume. Please either revise the design of the subsurface infiltration basin or change the capacity/infiltration calculations to show an accurate depiction of the subsurface infiltration bed.

   b. The subsurface basin dewatering time calculations show that the basin will be approximately 4 feet in depth. However, the PCSM Plan details show that the depth of the infiltration basin will be 3-feet, 10-inches in depth. Please revise accordingly.

   c. The proposed subsurface infiltration basin has 3-foot diameter perforated HDPE pipes and AASHTO #2 stone around the basin system. The basin dewatering time calculations need to be revised to show the void space with the stone for the subsurface infiltration basin volume capacity.

The calculations provided do not adequately show that the subsurface infiltration basin will have the required volume capacity to adequately infiltrate the proposed stormwater volume.

d. Please provide the infiltration period calculations (draw down time) for the infiltration area.

3. ***§102.8(f)(9) Plan drawings.***

a. Please label on the PCSM Plans the swales or section of swales that are being utilized as a vegetated filter swale.

b. Please provide the applicable details relating to the check dams on the PCSM Plans. The details should have all elevations, dimensions, sizes, depths, slopes, materials, products, notations for construction, and any other applicable information used for construction of the BMP.

c. Please delineate and label on the PCSM Plans those areas where you propose to protect and/or utilize the natural drainage features as a PCSM BMP.

d. Please provide a land preservation agreement, protection agreement, deed restriction or other enforceable instrument that ensures perpetual protection of the area where you propose to protect/utilize natural drainage features.

e. Please provide specific coordinates (metes and bounds) that are to be used within the enforceable instrument for those areas where you propose to protect/utilize natural drainage features.

f. The credit for the protection/utilization of natural drainage features as a PCSM BMP has not been followed through to the BMP Worksheet #3. In order for this credit to apply, Worksheet #3 must include this BMP.

g. If using the minimization of soil compaction as a PCSM BMP, please provide the following notations on the PCSM Plans:
   i. The protected area shall not be stripped of existing topsoil.
   ii. The protected areas are not to be subject to excess equipment movement, storage or stockpile of equipment or material of any kind.
   iii. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   iv. Soil amendment or additional topsoil and light grading is permitted in the protected area.
   v. Should the minimum soil compaction areas be disturbed/compacted, they may require soil amendment and restoration.

h. Please provide the following notations on the PCSM Plans for the areas proposed to be protected from earth disturbance:
   i. The protected areas are not to be subject to grading or movement of existing soils.
   ii. Existing native vegetation is not to be removed from the protected area.
   iii. Additional planting of native vegetation is allowed within the protected area.
   iv. Pruning or other required maintenance of vegetation is allowed in the protected area.
   v. The protected area must be clearly delineated in the field and protected prior to any

construction activities taking place.

vi. Any protected areas that have been disturbed/compacted during construction may require soil amendment and restoration.

i. Please show on the PCSM Plans the areas of landscape restoration.

j. Please provide the following notations on the PCSM Plans regarding the landscape restoration:
   i. If forest restoration is utilized for the landscape restoration:
      1. Tree seedlings should range from 12 to 18 inches in height.
      2. Shrubs should range from 18 to 24 inches in height.
      3. Trees and shrubs should be planted on 8-foot centers or as recommended by the vegetation guidelines.
   ii. In the sequence of construction, the site preparation should occur in the fall prior to planting in order to eliminate undesired species, prep soil, etc.
   iii. If the landscape restoration areas become disturbed and/or compacted, soil amendment and restoration may be required.
   iv. Weed control methods such as organic mulch, weed control fabrics, shallow cultivation, pre-emergent herbicides, or mowing as applicable is allowed.
   v. Deer control, tree protection, stream buffer fencing and/or other types of vegetation protection as applicable is required.
   vi. Monitoring of the new landscaped restoration areas shall be done four times a year for four years.
   vii. The use of significant amounts of chemicals, fertilizers, herbicides and pesticides on the landscape restoration is not allowed.

k. Please provide the following notations on the PCSM Plan with respect to soil amendment and restoration:
   i. Soil amendment and restoration should not take place within the drip line of trees or tree line.
   ii. Soil amendment and restoration should not take place over utility installations within 30 inches of the surface.
   iii. Soil amendment and restoration should not take place where trenching/drainage lines are installed.
   iv. Soil amendment and restoration should not take place where compaction of the soils by design is required.
   v. The methodology should only be performed when the soil conditions are dry.
   vi. The methodology should only be performed using a solid shank ripper, not a disk or plow due to their ineffectiveness.

l. Please provide the type of methodology to be used for the soil amendment and restoration.

m. If using re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP for this site, please provide the following notations on the PCSM Plans:
   i. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   ii. Construction limits shall not encroach within 10 feet of the drip line of trees.
   iii. Any trees which are to be protected shall be maintained and protected for the life of the project

(50 years) or until redevelopment occurs.

iv. Pruning or required maintenance of existing trees is permitted.

n. The use of re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP has not been provided on Worksheet #3. To receive water quality credits, the BMP must be provided on Worksheet #3. Please revise accordingly.

Blue Mountain Side Valve

1. ***§102.8(f)(6) A written description of the location and type of PCSM BMPs including construction details for permanent stormwater BMPS including permanent stabilization specification and locations.***

   a. The proposed PCSM BMP of re-vegetating and reforestation of disturbed areas using native species has been selected on Worksheet #10. It is unclear whether this BMP will be protecting existing vegetation or will be for new vegetation. Please clarify.

2. ***§102.8(f)(8) Supporting Calculations.***

   a. Please be advised that vegetated filter swale that have bed slopes greater than 3 percent and less than 6 percent cannot be utilized as a water quality BMP unless check dams or earthen check berms are provided and designed according to the PCSM Manual. It appears that Swale 2 has a bed slope greater than 3 percent. Please revise accordingly.

   b. Please provide the calculations relating to the length between each check dam, height, ponding time, and number of check dams for each proposed vegetated filter swale that will need to use check dams.

3. ***§102.8(f)(9) Plan drawings.***

   a. Please label on the PCSM Plans the swales or section of swales that are being utilized as a vegetated filter swale.

   b. Please show on the PCSM Plans the type of protective lining being proposed for the swales.

   c. Please provide the applicable details relating to the check dams on the PCSM Plans. The details should have all elevations, dimensions, sizes, depths, slopes, materials, products, notations for construction, and any other applicable information used for construction of the BMP.

   d. Please delineate and label on the PCSM Plans those areas where you propose to protect and/or utilize the natural drainage features as a PCSM BMP.

   e. Please provide a land preservation agreement, protection agreement, deed restriction or other enforceable instrument that ensures perpetual protection of the area where you propose to protect/utilize natural drainage features.

f. Please provide specific coordinates (metes and bounds) that are to be used within the enforceable instrument for those areas where you propose to protect/utilize natural drainage features.

g. The credit for the protection/utilization of natural drainage features as a PCSM BMP has not been followed through to the BMP Worksheet #3. In order for this credit to apply, Worksheet #3 must include this BMP.

h. If using the minimization of soil compaction as a PCSM BMP, please provide the following notations on the PCSM Plans:
   i. The protected area shall not be stripped of existing topsoil.
   ii. The protected areas are not to be subject to excess equipment movement, storage or stockpile of equipment or material of any kind.
   iii. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   iv. Soil amendment or additional topsoil and light grading is permitted in the protected area.
   v. Should the minimum soil compaction areas be disturbed/compacted, they may require soil amendment and restoration.

i. Please provide the following notations on the PCSM Plans for the areas proposed to be protected from earth disturbance:
   i. The protected areas are not to be subject to grading or movement of existing soils.
   ii. Existing native vegetation is not to be removed from the protected area
   iii. Additional planting of native vegetation is allowed within the protected area.
   iv. Pruning or other required maintenance of vegetation is allowed in the protected area.
   v. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   vi. Any protected areas that have been disturbed/compacted during construction may require soil amendment and restoration.

j. Please show on the PCSM Plans the areas of landscape restoration.

k. Please provide the following notations on the PCSM Plans regarding the landscape restoration:
   i. If forest restoration is utilized for the landscape restoration:
      1. Tree seedlings should range from 12 to 18 inches in height.
      2. Shrubs should range from 18 to 24 inches in height.
      3. Trees and shrubs should be planted on 8-foot centers or as recommended by the vegetation guidelines.
   ii. In the sequence of construction, the site preparation should occur in the fall prior to planting in order to eliminate undesired species, prep soil, etc.
   iii. If the landscape restoration areas become disturbed and/or compacted, soil amendment and restoration may be required.
   iv. Weed control methods such as organic mulch, weed control fabrics, shallow cultivation, pre-emergent herbicides, or mowing as applicable is allowed.
   v. Deer control, tree protection, stream buffer fencing and/or other types of vegetation protection as applicable is required.
   vi. Monitoring of the new landscaped restoration areas shall be done four times a year for four

years.

vii. The use of significant amounts of chemicals, fertilizers, herbicides and pesticides on the landscape restoration is not allowed.

l. Please provide the following notations on the PCSM Plan with respect to soil amendment and restoration:
   i. Soil amendment and restoration should not take place within the drip line of trees or tree line.
   ii. Soil amendment and restoration should not take place over utility installations within 30 inches of the surface.
   iii. Soil amendment and restoration should not take place where trenching/drainage lines are installed.
   iv. Soil amendment and restoration should not take place where compaction of the soils by design is required.
   v. The methodology should only be performed when the soil conditions are dry.
   vi. The methodology should only be performed using a solid shank ripper, not a disk or plow due to their ineffectiveness.

m. Please provide the type of methodology to be used for the soil amendment and restoration.

n. If using re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP for this site, please provide the following notations on the PCSM Plans:
   i. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   ii. Construction limits shall not encroach within 10 feet of the drip line of trees.
   iii. Any trees which are to be protected shall be maintained and protected for the life of the project (50 years) or until redevelopment occurs.
   iv. Pruning or required maintenance of existing trees is permitted.

n. The use of re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP has not been provided on Worksheet #3. To receive water quality credits, the BMP must be provided on Worksheet #3. Please revise accordingly.

Mand Line Valve MLV-1

1. ***§102.8(f)(6) A written description of the location and type of PCSM BMPs including construction details for permanent stormwater BMPS including permanent stabilization specification and locations.***

   a. The proposed PCSM BMP of re-vegetating and reforestation of disturbed areas using native species has been selected on Worksheet #10. It is unclear whether this BMP will be protecting existing vegetation or will be for new vegetation. Please clarify.

2. ***§102.8(f)(8) Supporting Calculations.***

   a. The change in runoff volume calculations provided within the PCSM Narrative, Worksheet #4, states that the calculations are for the 1-year storm event. The volume calculations must be for the

2-year/24-hour storm event. Please revise the PCSM Narrative calculations to show the regulatory requirement of the 2-year/24-hour storm event calculations for the MLV-1 underground stormwater infiltration system.

b. The hydrologic calculations show that the infiltration trench will only receive 159 cubic feet of stormwater. However, Worksheet #5 indicates that the infiltration trench will be infiltrating 336 cubic feet of stormwater. The proposed infiltration trench cannot infiltration more stormwater than it is receiving. Please revise accordingly.

3. ***§102.8(f)(9) Plan drawings***

a. Please delineate and label on the PCSM Plans those areas where you propose to protect and/or utilize the natural drainage features as a PCSM BMP.

b. Please provide a land preservation agreement, protection agreement, deed restriction or other enforceable instrument that ensures perpetual protection of the area where you propose to protect/utilize natural drainage features.

c. Please provide specific coordinates (metes and bounds) that are to be used within the enforceable instrument for those areas where you propose to protect/utilize natural drainage features.

d. The credit for the protection/utilization of natural drainage features as a PCSM BMP has not been followed through to the BMP Worksheet #3. In order for this credit to apply, Worksheet #3 must include this BMP.

e. If using the minimization of soil compaction as a PCSM BMP, please provide the following notations on the PCSM Plans:
   i. The protected area shall not be stripped of existing topsoil.
   ii. The protected areas are not to be subject to excess equipment movement, storage or stockpile of equipment or material of any kind.
   iii. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   iv. Soil amendment or additional topsoil and light grading is permitted in the protected area.
   v. Should the minimum soil compaction areas be disturbed/compacted, they may require soil amendment and restoration.

f. Please provide the following notations on the PCSM Plans for the areas proposed to be protected from earth disturbance:
   i. The protected areas are not to be subject to grading or movement of existing soils.
   ii. Existing native vegetation is not to be removed from the protected area.
   iii. Additional planting of native vegetation is allowed within the protected area.
   iv. Pruning or other required maintenance of vegetation is allowed in the protected area.
   v. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   vi. Any protected areas that have been disturbed/compacted during construction may require soil amendment and restoration.

g. Please show on the PCSM Plans the areas of landscape restoration.

h. Please provide the following notations on the PCSM Plans regarding the landscape restoration:
   i. If forest restoration is utilized for the landscape restoration:
      1. Tree seedlings should range from 12 to 18 inches in height.
      2. Shrubs should range from 18 to 24 inches in height.
      3. Trees and shrubs should be planted on 8-foot centers or as recommended by the vegetation guidelines.
   ii. In the sequence of construction, the site preparation should occur in the fall prior to planting in order to eliminate undesired species, prep soil, etc.
   iii. If the landscape restoration areas become disturbed and/or compacted, soil amendment and restoration may be required.
   iv. Weed control methods such as organic mulch, weed control fabrics, shallow cultivation, pre-emergent herbicides, or mowing as applicable is allowed.
   v. Deer control, tree protection, stream buffer fencing and/or other types of vegetation protection as applicable is required.
   vi. Monitoring of the new landscaped restoration areas shall be done four times a year for four years.
   vii. The use of significant amounts of chemicals, fertilizers, herbicides and pesticides on the landscape restoration is not allowed.

i. Please provide the following notations on the PCSM Plan with respect to soil amendment and restoration:
   i. Soil amendment and restoration should not take place within the drip line of trees or tree line.
   ii. Soil amendment and restoration should not take place over utility installations within 30 inches of the surface.
   iii. Soil amendment and restoration should not take place where trenching/drainage lines are installed.
   iv. Soil amendment and restoration should not take place where compaction of the soils by design is required.
   v. The methodology should only be performed when the soil conditions are dry.
   vi. The methodology should only be performed using a solid shank ripper, not a disk or plow due to their ineffectiveness.

j. Please provide the type of methodology to be used for the soil amendment and restoration.

k. If using re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP for this site, please provide the following notations on the PCSM Plans:
   i. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   ii. Construction limits shall not encroach within 10 feet of the drip line of trees.
   iii. Any trees which are to be protected shall be maintained and protected for the life of the project (50 years) or until redevelopment occurs.
   iv. Pruning or required maintenance of existing trees is permitted.

l. The use of re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP has not been provided on Worksheet #3. To receive water quality credits, the BMP must be provided on Worksheet #3. Please revise accordingly.

Main Line Valve MLV-2

1. ***§102.8(f)(6) A written description of the location and type of PCSM BMPs including construction details for permanent stormwater BMPS including permanent stabilization specification and locations.***

   a. The proposed PCSM BMP of re-vegetating and reforestation of disturbed areas using native species has been selected on Worksheet #10. It is unclear whether this BMP will be protecting existing vegetation or will be for new vegetation. Please clarify.

   b. The PCSM Report shows that the vegetated swale, Swale 1, is being utilized as a water quality BMP. However, the design calculations and PCSM Plans show that Swale 1 has a bottom width of 0 feet. To take water quality credit for Swale 1, the bottom width must be a minimum of 2 feet and a maximum of 8 feet. Please revise the design of Swale 1 or remove Swale 1 from Worksheet #10 as a water quality BMP.

2. ***§102.8(f)(8) Supporting Calculations.***

   a. As per the PCSM Manual, Appendix C, Protocol 2, Page 14, "It is desired that soils underlying infiltration devices should have infiltration rates between 0.1 and 10 inches per hour". According to the infiltration testing results provided in the PCSM Report, the infiltration rate is 0.07 in/hr which is not within the acceptable range at the actual elevation of the BMP where the infiltration is to occur. Please provide the additional measures necessary to provide infiltration within the acceptable range.

3. ***§102.8(f)(9) Plan drawings.***

   a. Please delineate and label on the PCSM Plans those areas where you propose to protect and/or utilize the natural drainage features as a PCSM BMP.

   b. Please provide a land preservation agreement, protection agreement, deed restriction or other enforceable instrument that ensures perpetual protection of the area where you propose to protect/utilize natural drainage features.

   c. Please provide specific coordinates (metes and bounds) that are to be used within the enforceable instrument for those areas where you propose to protect/utilize natural drainage features.

   d. The credit for the protection/utilization of natural drainage features as a PCSM BMP has not been followed through to the BMP Worksheet #3. In order for this credit to apply, Worksheet #3 must include this BMP.

   e. If using the minimization of soil compaction as a PCSM BMP, please provide the following

notations on the PCSM Plans:

i. The protected area shall not be stripped of existing topsoil.
ii. The protected areas are not to be subject to excess equipment movement, storage or stockpile of equipment or material of any kind.
iii. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
iv. Soil amendment or additional topsoil and light grading is permitted in the protected area.
v. Should the minimum soil compaction areas be disturbed/compacted, they may require soil amendment and restoration.

f. Please provide the following notations on the PCSM Plans for the areas proposed to be protected from earth disturbance:
   i. The protected areas are not to be subject to grading or movement of existing soils.
   ii. Existing native vegetation is not to be removed from the protected area
   iii. Additional planting of native vegetation is allowed within the protected area.
   iv. Pruning or other required maintenance of vegetation is allowed in the protected area.
   v. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   vi. Any protected areas that have been disturbed/compacted during construction may require soil amendment and restoration.

g. Please show on the PCSM Plans the areas of landscape restoration.

h. Please provide the following notations on the PCSM Plans regarding the landscape restoration:
   i. If forest restoration is utilized for the landscape restoration:
      1. Tree seedlings should range from 12 to 18 inches in height.
      2. Shrubs should range from 18 to 24 inches in height.
      3. Trees and shrubs should be planted on 8-foot centers or as recommended by the vegetation guidelines.
   ii. In the sequence of construction, the site preparation should occur in the fall prior to planting in order to eliminate undesired species, prep soil, etc.
   iii. If the landscape restoration areas become disturbed and/or compacted, soil amendment and restoration may be required.
   iv. Weed control methods such as organic mulch, weed control fabrics, shallow cultivation, pre-emergent herbicides, or mowing as applicable is allowed.
   v. Deer control, tree protection, stream buffer fencing and/or other types of vegetation protection as applicable is required.
   vi. Monitoring of the new landscaped restoration areas shall be done four times a year for four years.
   vii. The use of significant amounts of chemicals, fertilizers, herbicides and pesticides on the landscape restoration is not allowed.

i. Please provide the following notations on the PCSM Plan with respect to soil amendment and restoration:
   i. Soil amendment and restoration should not take place within the drip line of trees or tree line.
   ii. Soil amendment and restoration should not take place over utility installations within 30 inches

of the surface.

iii. Soil amendment and restoration should not take place where trenching/drainage lines are installed.
iv. Soil amendment and restoration should not take place where compaction of the soils by design is required.
v. The methodology should only be performed when the soil conditions are dry.
vi. The methodology should only be performed using a solid shank ripper, not a disk or plow due to their ineffectiveness.

j. Please provide the type of methodology to be used for the soil amendment and restoration.

k. If using re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP for this site, please provide the following notations on the PCSM Plans:
i. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
ii. Construction limits shall not encroach within 10 feet of the drip line of trees.
iii. Any trees which are to be protected shall be maintained and protected for the life of the project (50 years) or until redevelopment occurs.
iv. Pruning or required maintenance of existing trees is permitted.

l. The use of re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP has not been provided on Worksheet #3. To receive water quality credits, the BMP must be provided on Worksheet #3. Please revise accordingly.

Main Line Valve MLV-3

1. ***§102.8(f)(6) A written description of the location and type of PCSM BMPs including construction details for permanent stormwater BMPS including permanent stabilization specification and locations.***

a. The proposed PCSM BMP of re-vegetating and reforestation of disturbed areas using native species has been selected on Worksheet #10. It is unclear whether this BMP will be protecting existing vegetation or will be for new vegetation. Please clarify.

b. The PCSM Report shows that the vegetated swale, Swale 1, is being utilized as a water quality BMP. However, the design calculations and PCSM Plans show that Swale 1 has a bottom width of 0 feet. To take water quality credit for the vegetated swale, the bottom width must be a minimum of 2 feet and a maximum of 8 feet. Please revise the design of Swale 1 or remove Swale 1 from Worksheet #10 as a water quality BMP.

2. ***§102.8(f)(8) Supporting Calculations.***

a. The Worksheet 5 within the PCSM Report shows that the proposed infiltration trench will infiltrate 1,426 cubic feet of stormwater. However, the hydrologic calculations show that the proposed infiltration trench will only receive approximately 491 cubic feet of stormwater during the 2-year storm event. The infiltration trench cannot infiltrate a larger amount of stormwater than it can

receive during the storm event. Please revise accordingly.

3. ***§102.8(f)(9) Plan drawings.***

   a. Please delineate and label on the PCSM Plans those areas where you propose to protect and/or utilize the natural drainage features as a PCSM BMP.

   b. Please provide a land preservation agreement, protection agreement, deed restriction or other enforceable instrument that ensures perpetual protection of the area where you propose to protect/utilize natural drainage features.

   c. Please provide specific coordinates (metes and bounds) that are to be used within the enforceable instrument for those areas where you propose to protect/utilize natural drainage features.

   d. The credit for the protection/utilization of natural drainage features as a PCSM BMP has not been followed through to the BMP Worksheet #3. In order for this credit to apply, Worksheet #3 must include this BMP.

   e. If using the minimization of soil compaction as a PCSM BMP, please provide the following notations on the PCSM Plans:
      i. The protected area shall not be stripped of existing topsoil.
      ii. The protected areas are not to be subject to excess equipment movement, storage or stockpile of equipment or material of any kind.
      iii. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
      iv. Soil amendment or additional topsoil and light grading is permitted in the protected area.
      v. Should the minimum soil compaction areas be disturbed/compacted, they may require soil amendment and restoration.

   f. Please provide the following notations on the PCSM Plans for the areas proposed to be protected from earth disturbance:
      i. The protected areas are not to be subject to grading or movement of existing soils.
      ii. Existing native vegetation is not to be removed from the protected area
      iii. Additional planting of native vegetation is allowed within the protected area.
      iv. Pruning or other required maintenance of vegetation is allowed in the protected area.
      v. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
      vi. Any protected areas that have been disturbed/compacted during construction may require soil amendment and restoration.

   g. Please show on the PCSM Plans the areas of landscape restoration.

   h. Please provide the following notations on the PCSM Plans regarding the landscape restoration:
      i. If forest restoration is utilized for the landscape restoration:
         1. Tree seedlings should range from 12 to 18 inches in height.
         2. Shrubs should range from 18 to 24 inches in height.

3. Trees and shrubs should be planted on 8-foot centers or as recommended by the vegetation guidelines.

ii. In the sequence of construction, the site preparation should occur in the fall prior to planting in order to eliminate undesired species, prep soil, etc.

iii. If the landscape restoration areas become disturbed and/or compacted, soil amendment and restoration may be required.

iv. Weed control methods such as organic mulch, weed control fabrics, shallow cultivation, pre-emergent herbicides, or mowing as applicable is allowed.

v. Deer control, tree protection, stream buffer fencing and/or other types of vegetation protection as applicable is required.

vi. Monitoring of the new landscaped restoration areas shall be done four times a year for four years.

vii. The use of significant amounts of chemicals, fertilizers, herbicides and pesticides on the landscape restoration is not allowed.

i. Please provide the following notations on the PCSM Plan with respect to soil amendment and restoration:
   i. Soil amendment and restoration should not take place within the drip line of trees or tree line.
   ii. Soil amendment and restoration should not take place over utility installations within 30 inches of the surface.
   iii. Soil amendment and restoration should not take place where trenching/drainage lines are installed.
   iv. Soil amendment and restoration should not take place where compaction of the soils by design is required.
   v. The methodology should only be performed when the soil conditions are dry.
   vi. The methodology should only be performed using a solid shank ripper, not a disk or plow due to their ineffectiveness.

j. Please provide the type of methodology to be used for the soil amendment and restoration.

k. If using re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP for this site, please provide the following notations on the PCSM Plans:
   i. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   ii. Construction limits shall not encroach within 10 feet of the drip line of trees.
   iii. Any trees which are to be protected shall be maintained and protected for the life of the project (50 years) or until redevelopment occurs.
   iv. Pruning or required maintenance of existing trees is permitted.

l. The use of re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP has not been provided on Worksheet #3. To receive water quality credits, the BMP must be provided on Worksheet #3. Please revise accordingly.

Main Line Valve MLV-4

1. ***§102.8(f)(6) A written description of the location and type of PCSM BMPs including construction***

details for permanent stormwater BMPS including permanent stabilization specification and locations.

a. The proposed PCSM BMP of re-vegetating and reforestation of disturbed areas using native species has been selected on Worksheet #10. It is unclear whether this BMP will be protecting existing vegetation or will be for new vegetation. Please clarify.

2. ***§102.8(f)(8) Supporting Calculations.***

a. The soils on the project site exhibit excessive infiltration rates. To ensure that water quality is met and that the groundwater is not contaminated by any potential pollutants from the stormwater runoff, the rates must be reduced to acceptable levels. Please provide the procedure/notation on the PCSM Report and PCSM Plan to meet the target infiltration rates. Please revise accordingly.

b. The Worksheet 5 within the PCSM Report shows that the proposed infiltration trench will infiltrate 606 cubic feet of stormwater. However, the hydrologic calculations show that the proposed infiltration trench will only receive approximately 543 cubic feet of stormwater during the 2-year storm event. The infiltration trench cannot infiltrate a larger amount of stormwater than it can receive during the storm event. Please revise accordingly.

3. ***§102.8(f)(9) Plan drawings.***

a. Please delineate and label on the PCSM Plans those areas where you propose to protect and/or utilize the natural drainage features as a PCSM BMP.

b. Please provide a land preservation agreement, protection agreement, deed restriction or other enforceable instrument that ensures perpetual protection of the area where you propose to protect/utilize natural drainage features.

c. Please provide specific coordinates (metes and bounds) that are to be used within the enforceable instrument for those areas where you propose to protect/utilize natural drainage features.

d. The credit for the protection/utilization of natural drainage features as a PCSM BMP has not been followed through to the BMP Worksheet #3. In order for this credit to apply, Worksheet #3 must include this BMP.

e. If using the minimization of soil compaction as a PCSM BMP, please provide the following notations on the PCSM Plans:
   i. The protected area shall not be stripped of existing topsoil.
   ii. The protected areas are not to be subject to excess equipment movement, storage or stockpile of equipment or material of any kind.
   iii. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   iv. Soil amendment or additional topsoil and light grading is permitted in the protected area.
   v. Should the minimum soil compaction areas be disturbed/compacted, they may require soil amendment and restoration.

f. Please provide the following notations on the PCSM Plans for the areas proposed to be protected from earth disturbance:
   i. The protected areas are not to be subject to grading or movement of existing soils.
   ii. Existing native vegetation is not to be removed from the protected area
   iii. Additional planting of native vegetation is allowed within the protected area.
   iv. Pruning or other required maintenance of vegetation is allowed in the protected area.
   v. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   vi. Any protected areas that have been disturbed/compacted during construction may require soil amendment and restoration.

g. Please show on the PCSM Plans the areas of landscape restoration.

h. Please provide the following notations on the PCSM Plans regarding the landscape restoration:
   i. If forest restoration is utilized as the landscape restoration:
      1. Tree seedlings should range from 12 to 18 inches in height.
      2. Shrubs should range from 18 to 24 inches in height.
      3. Trees and shrubs should be planted on 8-foot centers or as recommended by the vegetation guidelines.
   ii. In the sequence of construction, the site preparation should occur in the fall prior to planting in order to eliminate undesired species, prep soil, etc.
   iii. If the landscape restoration areas become disturbed and/or compacted, soil amendment and restoration may be required.
   iv. Weed control methods such as organic mulch, weed control fabrics, shallow cultivation, pre-emergent herbicides, or mowing as applicable is allowed.
   v. Deer control, tree protection, stream buffer fencing and/or other types of vegetation protection as applicable is required.
   vi. Monitoring of the new landscaped restoration areas shall be done four times a year for four years.
   vii. The use of significant amounts of chemicals, fertilizers, herbicides and pesticides on the landscape restoration is not allowed.

i. Please provide the following notations on the PCSM Plan with respect to soil amendment and restoration:
   i. Soil amendment and restoration should not take place within the drip line of trees or tree line.
   ii. Soil amendment and restoration should not take place over utility installations within 30 inches of the surface.
   iii. Soil amendment and restoration should not take place where trenching/drainage lines are installed.
   iv. Soil amendment and restoration should not take place where compaction of the soils by design is required.
   v. The methodology should only be performed when the soil conditions are dry.
   vi. The methodology should only be performed using a solid shank ripper, not a disk or plow due to their ineffectiveness.

j. Please provide the type of methodology to be used for the soil amendment and restoration.

k. If using re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP for this site, please provide the following notations on the PCSM Plans:
   i. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   ii. Construction limits shall not encroach within 10 feet of the drip line of trees.
   iii. Any trees which are to be protected shall be maintained and protected for the life of the project (50 years) or until redevelopment occurs.
   iv. Pruning or required maintenance of existing trees is permitted.

l. The use of re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP has not been provided on Worksheet #3. To receive water quality credits, the BMP must be provided on Worksheet #3. Please revise accordingly.

4. ***§ 102.8(h)PCSM implementation for special protection waters.***

   a. The application does not clearly address the antidegradation requirements in §93.4c(b). The analyses are required to be undertaken as part of the antidegradation regulation compliance. The antidegradation analyses provided within the application for each site within a special protection watershed states, "not applicable." The antidegradation analysis provided does not satisfy these requirements. The antidegradation should be specific for each site for which the PCSM Plan covers. The analysis should evaluate and include non-discharge alternatives in the PCSM Plans as per 102.8(h)(1). Should the specific site make the demonstration that non-discharge alternatives do not exist, the PCSM Plan must include ABACT BMPs as per 102.8(h)(2). Please include a site specific antidegradation analysis for each specific site throughout the PennEast Pipeline project, including any interconnects, compression stations, mainline valves and any other area proposing permanent impervious area within a special protection watershed.

Main Line Valve MLV-6

1. ***§102.8(f)(6) A written description of the location and type of PCSM BMPs including construction details for permanent stormwater BMPS including permanent stabilization specification and locations.***

   a. The proposed PCSM BMP of re-vegetating and reforestation of disturbed areas using native species has been selected on Worksheet #10. It is unclear whether this BMP will be protecting existing vegetation or will be for new vegetation. Please clarify.

2. ***§102.8(f)(9) Plan drawings.***

   a. Please delineate and label on the PCSM Plans those areas where you propose to protect and/or utilize the natural drainage features as a PCSM BMP.

   b. Please provide a land preservation agreement, protection agreement, deed restriction or other enforceable instrument that ensures perpetual protection of the area where you propose to

protect/utilize natural drainage features.

c. Please provide specific coordinates (metes and bounds) that are to be used within the enforceable instrument for those areas where you propose to protect/utilize natural drainage features.

d. The credit for the protection/utilization of natural drainage features as a PCSM BMP has not been followed through to the BMP Worksheet #3. In order for this credit to apply, Worksheet #3 must include this BMP.

e. If using the minimization of soil compaction as a PCSM BMP, please provide the following notations on the PCSM Plans:
   i. The protected area shall not be stripped of existing topsoil.
   ii. The protected areas are not to be subject to excess equipment movement, storage or stockpile of equipment or material of any kind.
   iii. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   iv. Soil amendment or additional topsoil and light grading is permitted in the protected area.
   v. Should the minimum soil compaction areas be disturbed/compacted, they may require soil amendment and restoration.

f. Please provide the following notations on the PCSM Plans for the areas proposed to be protected from earth disturbance:
   i. The protected areas are not to be subject to grading or movement of existing soils.
   ii. Existing native vegetation is not to be removed from the protected area.
   iii. Additional planting of native vegetation is allowed within the protected area.
   iv. Pruning or other required maintenance of vegetation is allowed in the protected area.
   v. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   vi. Any protected areas that have been disturbed/compacted during construction may require soil amendment and restoration.

g. Please show on the PCSM Plans the areas of landscape restoration.

h. Please provide the following notations on the PCSM Plans regarding the landscape restoration:
   i. If forest restoration is utilized for the landscape restoration:
      1. Tree seedlings should range from 12 to 18 inches in height.
      2. Shrubs should range from 18 to 24 inches in height.
      3. Trees and shrubs should be planted on 8-foot centers or as recommended by the vegetation guidelines.
   ii. In the sequence of construction, the site preparation should occur in the fall prior to planting in order to eliminate undesired species, prep soil, etc.
   iii. If the landscape restoration areas become disturbed and/or compacted, soil amendment and restoration may be required.
   iv. Weed control methods such as organic mulch, weed control fabrics, shallow cultivation, pre-emergent herbicides, or mowing as applicable is allowed.
   v. Deer control, tree protection, stream buffer fencing and/or other types of vegetation protection

as applicable is required.

vi. Monitoring of the new landscaped restoration areas shall be done four times a year for four years.

vii. The use of significant amounts of chemicals, fertilizers, herbicides and pesticides on the landscape restoration is not allowed.

i. Please provide the following notations on the PCSM Plan with respect to soil amendment and restoration:
   i. Soil amendment and restoration should not take place within the drip line of trees or tree line.
   ii. Soil amendment and restoration should not take place over utility installations within 30 inches of the surface.
   iii. Soil amendment and restoration should not take place where trenching/drainage lines are installed.
   iv. Soil amendment and restoration should not take place where compaction of the soils by design is required.
   v. The methodology should only be performed when the soil conditions are dry.
   vi. The methodology should only be performed using a solid shank ripper, not a disk or plow due to their ineffectiveness.

j. Please provide the type of methodology to be used for the soil amendment and restoration.

k. If using re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP for this site, please provide the following notations on the PCSM Plans:
   i. The protected area must be clearly delineated in the field and protected prior to any construction activities taking place.
   ii. Construction limits shall not encroach within 10 feet of the drip line of trees.
   iii. Any trees which are to be protected shall be maintained and protected for the life of the project (50 years) or until redevelopment occurs.
   iv. Pruning or required maintenance of existing trees is permitted.

l. The use of re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP has not been provided on Worksheet #3. To receive water quality credits, the BMP must be provided on Worksheet #3. Please revise accordingly.

Main Line Valve MLV-7

1. ***§102.8(f)(6) A written description of the location and type of PCSM BMPs including construction details for permanent stormwater BMPS including permanent stabilization specification and locations.***

   a. The proposed PCSM BMP of re-vegetating and reforestation of disturbed areas using native species has been selected on Worksheet #10. It is unclear whether this BMP will be protecting existing vegetation or will be for new vegetation. Please clarify.

2. ***§102.8(f)(9) Plan drawings.***

a. Please delineate and label on the PCSM Plans those areas where you propose to protect and/or utilize the natural drainage features as a PCSM BMP.

b. Please provide a land preservation agreement, protection agreement, deed restriction or other enforceable instrument that ensures perpetual protection of the area where you propose to protect/utilize natural drainage features.

c. Please provide specific coordinates (metes and bounds) that are to be used within the enforceable instrument for those areas where you propose to protect/utilize natural drainage features.

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   v. Should the minimum soil compaction areas be disturbed/compacted, they may require soil amendment and restoration.

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   i. The protected areas are not to be subject to grading or movement of existing soils.
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m. The use of re-vegetation and reforestation of disturbed areas using native species as a PCSM BMP has not been provided on Worksheet #3. To receive water quality credits, the BMP must be provided on Worksheet #3. Please revise accordingly.

Other Comments

The DEP received the following comment from the Department of Conservation and Natural Resources, Bureau of State Parks:

DCNR has concerns with a slope stabilization technique PennEast introduced at a April 2019 post survey meeting. PennEast communicated the potential need for Self-Drilling SuperNails, anchoring wire mesh,

to stabilize soil and establish vegetation on the north slope of the Mud Run ravine. The Mud Run ravine is located in the Mud Run Natural Area in Hickory Run State Park (project mile maker 33.1-33.3). The Bureau of State Parks will not accept any stabilization technique requiring manufactured components. The Bureau of State Parks will prohibit any above ground structures in any potential Right of Way License with PennEast.

The DEP requests that PennEast consider a different type of permanent stabilization for this location. Please provide any calculations, details, and plans as per the E&S Pollution Control Manual.

Pursuant to 25 Pa. Code § 102.6(c) of DEP's rules and regulations, you must submit a response fully addressing each of the significant technical deficiencies set forth above. Please note that this information must be received within sixty (60) calendar days from the date of this letter, on or before **September 2, 2019** or DEP may consider the application to be withdrawn by the applicant.

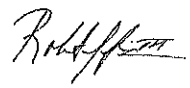
You may request a time extension in writing before **September 2, 2019** to respond to deficiencies beyond the sixty (60) calendar days. Requests for time extensions will be received by DEP and considered. You will be notified in writing of the decision either to grant or deny, including a specific due date to respond if the extension is granted. Time extensions should be in accordance with 25 Pa. Code § 102.6(c).

Please submit one (1) copy of the revised E&S/SR and PCSM Plan drawings & narratives to all of the County Conservation Districts and the one (1) copy of the revised E&S/SR and PCSM Plan drawings & narratives to Michael Luciani, Rachel Carson Building, 400 Market Street, Harrisburg, PA 17101

If you believe that any of the stated deficiencies are not significant, instead of submitting a response to that deficiency, you have the option of requesting that DEP to make a permit decision based on the information you have already provided regarding the subject matter of that deficiency. If you choose this option for any deficiency, you should explain and justify how your current submission satisfies that deficiency. Please keep in mind that if you fail to respond, your application will be considered withdrawn.

If you have any questions regarding the identified deficiencies, please contact Michael Luciani, Project Manager, at 570.826.2597, and refer to ESG0300015001, to discuss your concerns or to schedule a meeting. The meeting must be scheduled within the 60 calendar days allotted for your reply, unless otherwise extended by DEP.

Sincerely,



Robert J. Jevin III, P.E.
Environmental Group Manager
Regional Permit Coordination Office

cc: W. Michael Clark, P.E., Mott MacDonald
Sarah Binckley, AECOM

Luzerne Conservation District
Carbon County Conservation District
Monroe County Conservation District
Northampton County Conservation District
Bucks County Conservation District
Bear Creek Township
Dallas Township
Jenkins Township
Kingston Township
Plains Township
West Wyoming Borough
Wyoming Borough
Kidder Township
Lower Towamensing Township
Penn Forest Township
Towamensing Township
Bethlehem Township
East Allen Township
City of Easton
Lower Nazareth Township
Lower Saucon Township
Moore Township
Upper Nazareth Township
Williams Township
Eldred Township
Durham Township
Riegelsville Borough