



Transcontinental Gas Pipe Line Company, LLC

Response to Technical Deficiency
Pennsylvania Department of Environmental Protection

Atlantic Sunrise Project

October 2016

DEP File No. ESG03000150001

Cleveland, Franklin, Greenwood, Hemlock, Jackson, Montour, Mount Pleasant, Orange, Rapho & Sugarloaf Townships, Columbia County
Conestoga, Drumore, East Donegal, Eden, Manor, Martic, Pequa, Rapho & West Hempfield Townships and Mount Joy Borough, Lancaster County
Cold Springs, East Hanover, North Annville, North Lebanon, South Annville, South Londonderry, Swatara & Union Townships, Lebanon County
Dallas, Fairmont, Harveys Lake, Jenkins, Lake, Lehman & Ross Townships, Luzerne County
Coal, East Cameron & Rapho Townships, Northumberland County
Eldred, Frailey, Hegins, Pine Grove, Porter & Tremont Townships, Schuylkill County
Lenox Township, Susquehanna County
Clinton, Eaton, Falls, Monroe, Nicholson, Northmoreland & Overfield Townships, Wyoming County

Table 1
Transco's Responses to DEP July 29, 2016 Technical Deficiencies Letter

Technical Deficiency Number	Technical Deficiency Description	Response
Notice of Intent (NOI) for Coverage under the Erosion and Sediment Control General Permit (ESCGP-2)		
1	Section C.17 is answered as 'N/A'. Why is this Section not applicable, as it appears that redoximorphic features were identified for the majority of the Test Pits at the River Road Regulator Station? Make all revisions necessary. 25 Pa. Code § 102.6(a)(l)	The NOI in the revised application has been has been updated to reflect the groundwater characteristics identified in the completed test pits.
2	In Section D.1, identify A (the E&S Plan was designed per the recommendations or the E&S Manual) or B (the E&S Plan was designed to alternative BMPs and design standards). Select the correct sub-section. § 102.6(a)(l)	The NOI in the revised application submittal will select selects section B "E&S plan is designed using an alternative BMP or design standard" and includes a summary and detailed justification of where and why the project deviates from the E&S Manual.
3	In Section F.1, identify A (the PCSM Plan is consistent with a DEP approved Act 167 Plan) or B (the PCSM Plan meets the standard design criteria in 25 Pa. Code §§ 102.8(g)(2) & 102.8(g)(3)). Select the correct sub-section or identify which discharges are designed to which standard. § 102.6(a)(l)	The NOI in the revised Application submittal has been has been updated to indicate where the project was designed in accordance with an approved Act 167 Plan, or the design criteria in 25 Pa. Code §§ 102.8(g)
4	Section F.6 references the E&S Plan and Section 2 (which is refers to the E&S Plans). This is not appropriate, as Section F.6 is for the thermal impact analysis for the PCSM Plans. The E&S Plan shall be separate from the PCSM Plan (and vice versa). Make all revisions necessary. §§ 102.4(b)(5)(xiv), 102.6(a)(l) & 102.S(d)	The revised Application submittal will provide provides additional information in the Thermal Impact discussion for Project access roads, facilities, and pipeline in the narratives. Further, the PCSM plans will reference the PCSM section of NOI. Road-specific thermal impact analyses have been added to each access road narrative. The E&S Plan and the PCSM Plan have been separated.
5	Provide a separate Section G for each point of discharge requiring an antidegradation analysis. § 102.6(a)(l)	The revised Application submittal will include includes a narrative within Section G discussing each proposed discharge into special protection watershed (overland to HQ/EV waterbody and or EV wetland) or directly into a waterbody. Within the narrative, Transco will include a table that quantifies the number of proposed discharges.

6	Identify the activities beyond the CPL North and South (e.g. regulator stations, temporary access roads, permanent access roads, etc.) in Section 1.2.8. § 102.6(a)(l)	Section 1.2.8 within the revised Application submittal will identify identifies activities beyond the CPL North and South (e.g. regulator stations, temporary access roads, permanent access roads, etc.).
7	Ensure that Sections 1.2. 9 & 1.2.10 are properly filled out based upon the type of plan that is required. For example, Section 1.2.10 is identified as the supplement to Section E (related to Site Restoration Plans). However, Section 1.2.10 has information and sites that are subject to a Post Construction Stormwater Management Plan (which would be Section F). The temporary access roads and the CPL North & South lines would be subject to a Site Restoration Plan, while the permanent access roads, stations, etc. would be subject to a Post Construction Stormwater Management Plan. Make all revisions necessary. § 102.6(a)(l)	The revised Application submittal will include includes individual PCSM, E&S, and site restoration plans and narratives.
Erosion and Sediment Control Plans		
1	The Erosion and Sediment Control Plans identify a "LOD" and a "LOD 5' Buffer". If the 5-ft. buffer is intended to be disturbed, then identify it as such. All E&S BMPs are required to be inside the limit of earth disturbance. If the Disturbed Acreage Fee increases due to the inclusion of the 5-ft. buffer being disturbed, then the proper Fee will be required to be paid. Make all revisions necessary throughout all documents within the application. § 102.4(b)(5)(iii), 102.4(b)(5)(ix) & 102.6(b)(l)	Erosion and Sediment Control Plans has been have been provided in the revised application that clearly identify the limits of disturbance and BMPs within that line. All references to a "LOD 5' Buffer" have been removed from all Erosion and Sediment Control Plans.
2	The Trench Plug Installation detail provided in the Best Management Practices and Quantities Plan Sets is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11 (a)(l) & 102.11 (b)	The revised Application submittal will include includes a trench plug detail in the BMP plan sets that is in conformance with the current set of standard details from the E&S Manual.
3	The E&S Plan Narratives identify that the E&S Plans and E&S BMPs are designed in accordance with the recommendations of the E&S Manual. However, there are numerous instances where the E&S Plans and E&S BMPs are not in accordance with the E&S Manual. If the E&S Plans and/or E&S BMPs' design are not within the recommendations of the E&S Manual, then revise the narrative and provide the appropriate information related to the alternative BMP and design standards. §§ 102.4(b)(5)(vi), 102.4(b)(5)(viii), 102.11 (a)(l) & 102.11(b)	The revised Application submittal will ensure ensures E&S Plans and E&S BMPs are in accordance with the E&S Manual. Additionally, as outlined in the E&S Narrative, Transco is only requesting approval of alternate BMPs for the Clean Water Crossing (Flume Crossing) and the Waterbar End Treatment in Non-Special Protection Watersheds. Refer to Section 1.6 and Appendix C of the E&S Narratives.

<p>4</p>	<p>The provided riparian buffer/riparian forest buffer waiver information appears to be for the project as a whole, and is too vague for the specific riparian buffer/riparian forest buffer waiver being requested for each specific location. Provide the required information for the specific locations of where the riparian buffer/riparian forest buffer waiver is being requested. The additional information should include, but not necessarily be limited to, stream impairments/TMDLs (the UNT to Trout Run has a TMDL for the overall watershed), length of time required for the disturbance, plans clearly identifying the areas for waivers, description of why the alignment is required to change, description of why additional workspace is required at the particular location. § 102.14(d)(2)</p>	<p>The revised Application submittal will include additional information for each location that a riparian buffer/riparian forest buffer waiver is being requested, including stream impairments/TMDLs within the site and for the overall watershed, the length of time required for waivers, a description of why the alignment is required to change, and description of why additional workspace is required at the particular location. The E&S Plan sheets will be revised to clearly identify all the requested locations. <i>E&SC Narrative Section 1.15 of the revised Application provides additional information for each specific location where riparian buffer/riparian forest buffer waivers are being requested. The information includes the location (by milepost), the Soil Erosion and Sedimentation Control Plan / Site Restoration Plan Sheet Number where the watercourse and surrounding riparian buffer is located, and any associated impairments/TMDLs for the individual watercourse. A discussion on Route Selection is also included in Section 1.15 of the E&SC Narrative, as well as an Alternatives Analysis which describes workspace requirements. Section 1.16 – Antidegradation of the E&SC Narrative states that, “At wetland and stream crossings, all pipe installation and temporary restoration is proposed to be completed within a 48-hour period.” Finally, Transco has developed and will incorporate several LOD modifications to avoid and minimize impacts to watercourses and their riparian buffers, which are discussed in detail within Attachment P of the revised Chapter 105 Application.</i></p>
<p>5</p>	<p>The antidegradation analyses are not adequate, as they are too vague and do not contain sufficient information. Make the antidegradation analysis specific to the site for which the E&S Plan covers (i.e. each discharge along the pipeline, each temporary access road, each permanent access road, etc.). The analyses should evaluate and include nondischarge alternatives in the E&S Plans. If nondischarge alternatives do not exist for the project, then make the demonstration and include in the E&S Plans the</p>	<p>The revised Application submittal will include <i>includes</i> revised antidegradation analyses specific to the portions of the right-of-way (ROW) in HQ/EV watersheds, and for EV wetlands. The analysis is an overall watershed approach that will address the pipeline, temporary and permanent access roads, and facilities. <i>Refer to Section 1.16 of the E&SC Narratives.</i></p>

	<p>antidegradation best available combination of technologies (ABACT) BMPs. Make all revisions necessary. § 102.4(b)(6)</p>	
<p>6</p>	<p>The following technical deficiencies are related to the restoration activities during the earth disturbance activities (as part of the E&S Plans) and post construction (as part of the Site Restoration Plans):</p> <ul style="list-style-type: none"> a. A Site Restoration Plan narrative shall be provided for the mainline pipeline construction. This narrative can be part of the E&S Plan narrative for the mainlines, and it is required to be in conformance with 25 Pa. Code § 102.8(n). §§ 102.8(b), 102.8(c), 102.8(e), 102.8(f), 102.8(h), 102.8(i), 102.8(l) & 102.8(m) b. Provide more identification in the narratives and on the plan drawings related to topsoil segregation. §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.8(f)(3), 102.8(f)(6) & 102.8(f)(9) c. Provide more identification in the narratives and on the plan drawings related to loosening of compacted soils prior to topsoil placement and stabilization (at the temporary access roads, topsoil stockpiles, access routes along the mainline, etc.). §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.8(f)(3), 102.8(f)(6) & 102.8(f)(9) d. Provide a discussion of measures that will be taken to avoid and minimize compaction to the maximum extent practicable and where compaction occurs, what measures will be taken to ensure adequate infiltration and successful vegetation of the right of way. §§ 102.4(b)(4), 102.S(b) & 102.22. The Department recommends you evaluate Section 6.7 (Restoration BMPs) of the PCSM Manual. Ensure notes are included on the drawings and in the documents that will be provided to the construction contractors. e. Describe how your planning and design requirements satisfy 25 Pa. Code §§ 102.4(b)(4) & 102.8(b) and are minimizing the extent and duration of the construction and the minimizing any increase in stormwater runoff. Identify how these measures are satisfied when the ROW is in close proximity or is crossings surface waters or wetlands. 	<p>The revised Application submittal will:</p> <ul style="list-style-type: none"> a. Include includes a Site Restoration Plan narrative for the mainlines that conforms with 25 Pa. Code § 102.8(n). §§ 102.8(b), 102.8(c), 102.8(e), 102.8(f), 102.8(h), 102.8(i), 102.8(l) & 102.8(m). Refer to Section 1.17 of the E&S Narratives. b. Provide provides additional identification in the narratives and on the plan drawings related to topsoil segregation. Refer to Section 1.17 of the E&S Narratives. c. Provide provides additional identification in the narratives and on the plan drawings related to loosening of compacted soils prior to topsoil placement and stabilization. Refer to Section 1.17 of the E&S Narratives. d. Provide provides revised E&S plans that include additional information and further clarity on soil restoration and deep till measures to be employed at pipeline, access roads, and facilities. Refer to Section 1.17 of the E&S Narratives. e. Provide provides a discussion on how the planning and design requirements satisfy 25 Pa. Code §§ 102.4(b)(4) & 102.8(b), minimize the extent and duration of the construction, and minimize any increase in stormwater runoff. The discussion will also identify how these measures are satisfied when the ROW is in close proximity or is crossings surface waters or wetlands. f. provides antidegradation analysis for the portions of the ROW in HQ/EV watersheds and for EV wetlands. Adequate BMPs to control the volume, rate, and water quality have been provided in areas where there may be concentrated stormwater runoff. Refer to Section 1.16 of the E&S Narratives. f. Provide

	f. Provide an antidegradation analysis addressing the requirements of 25 Pa. Code § 102.8(h) for the portions of the project that drain to HQ or EV surface waters. Ensure that areas where there may be concentrated stormwater runoff that there are adequate BMPs to control the volume, rate and water quality from the site. § 102.8(f)(6)	
Columbia County		
Erosion and Sediment Control Plan Narrative – Proposed Central Penn North		
1	Flume Crossing at 91.1 appears to be in an established drainage swale. Installation of a level spreader at the end of the flume may create more problems than a good energy dissipater shaped to discharge directly back into the swale. It is also questionable if the 27-foot level spreader can be installed at a level grade on the contour within the right of way. § 102.1 l(a)(l)	The flume crossing has been removed in this location and replaced with an energy dissipater in the revised Application submittal. Flume Crossing 91.1 has been modified to remove the level spreader and is being replaced with a riprap apron energy dissipater. Additionally, a note, “Maintain Existing Channel” and “Provide Rock Filter” is located adjacent to Flume Crossing 91.1 in the established drainage swale. Refer to Temporary Diversion Summary table in Appendix B of the E&SC Narrative or the BMP plan set.
2	Clarification is needed related to the time that a particular section of trench will be open. Page 62 of the narrative seems to imply that a 25 -30-mile section of pipeline in Columbia County will be tested at the same time based on the volume of water required. If this is the case, how long will it be before between initial disturbance and final stabilization? § 102.4(b)(5)(vi)	The revised Application submittal will clarify clarifies the length of time a section of trench may be open, and will state that the trench must be backfilled prior to hydrotesting of the pipeline in the Erosion and Sediment Control Plan Narrative within Section 1.7. The anticipated length of time between initial disturbance and final stabilization is outlined within Section 1.17 of the narrative.
Erosion and Sediment Control Plan Narrative – Proposes Central Penn South		
1	The following technical deficiencies are associated with the Contractor Staging Areas CSA-CO-4-002.1/002.2: a. Page 1 of the Narrative identifies that the erosion and sediment control (E&S) best management practices (BMPs) are designed in accordance with the E&S Manual. However, there are numerous instances where the design is not within the recommendations of the E&S Manual. If the design is not within the recommendations of the E&S Manual the appropriate information should be provided related to the alternative BMP and design	The revised Application submittal will: a. See the response to the Erosion and Sediment Control Plans Technical Deficiency 3. The revised Application submittal ensures E&S Plans and E&S BMPs are in accordance with the E&S Manual. Additionally, as outlined in the E&SC Narrative, Transco is only requesting approval of alternate BMPs for the Clean Water Crossing (Flume Crossing) and the Waterbar End Treatment in Non-Special

	<p>standards. §§ 102.4(b)(5)(vi), 102.4(b)(5)(viii), 102.11(a)(l) & 102.11(b)</p> <p>b. The sediment basin does not provide the recommended minimum dewatering zone depth of 3 ft. (Page 159 of the E&S Manual). § 102.4(b)(5)(viii)</p> <p>c. Based upon the calculations, the provided dewatering zone storage is 33,138 cf (47,226 cf at elevation 775.0 minus 14,088 cf at elevation 773.0). However, the recommended minimum dewater zone storage is 5,000 cf per acre of contributing drainage area, and the recommended minimum dewatering zone storage is 36,800 cf (7.46 ac. times 5,000 cf/ac.). § 102.4(b)(5)(viii)</p> <p>d. The anti-seep collars are recommended to be below the phreatic line, it appears that anti-seep collar will be located above the phreatic line (based upon the spacing to the first collar). § 102.4(b)(5)(viii)</p> <p>e. The rule of thumb may not be used to determine the number of holes in the riser of a basin located in a Special Protection watershed (see Page 174 of the E&S Manual). § 102.11(a)(1)</p> <p>f. The principle outlet structure discharge capacity appears low. Please recheck the available head and provide revised calculations for the outlet barrel capacity if necessary. Adjust outlet protection accordingly. § 102.4(b)(5)(viii)</p> <p>g. It appears that E&S BMPs will be required for the site during final stabilization after replacement of the topsoil to address the concentrated flow paths of the original contours. § 102.4(b)(5)(vi)</p>	<p>Protection Watersheds. Refer to Section 1.6 and Appendix C of the E&S Narratives.</p> <p>b. Include includes a revised narrative that provides the recommended dewater zone depth The recommended dewatering zone calculations are provided in the Erosion and Sediment Control Plan Narrative, Appendix E.2 CS-CSA-CO-4-002.1/002.2 Contractor Yard – Site Specific Narrative and Calculations.</p> <p>c. Provide provides dewatering zone storage volume calculations on worksheet 12 provided in the Erosion and Sediment Control Plan Narrative, Appendix E.2 CS-CSA-CO-4-002.1/002.2 Contractor Yard – Site Specific Narrative and Calculations in accordance with the recommendations in § 102.4(b)(5)(viii). The sediment basin design has been revised to provide the minimum required storage volume (Sv+Sd).</p> <p>d. Identify revised anti-seep collars to be below the phreatic line as shown on Worksheet # 18 in the Erosion and Sediment Control Plan Narrative, Appendix E.2 CS-CSA-CO-4-002.1/002.2 Contractor Yard – Site Specific Narrative and Calculations.</p> <p>e. Use page 174 of the E&S Manual to determine the number of holes in the riser of a basin located in a Special Protection watershed. The watershed was re-evaluated to determine the suitability of using the “rule of thumb.” Upon further review, it was determined the watershed is not a special protection watershed. As a result, we utilized the rule of thumb. The revised watershed boundary is shown on the Soil Erosion and Sediment Control Plan / Site Restoration Plan sheet 4 of 32.</p> <p>f. Provide revised calculations for the outlet barrel capacity and will adjust the outlet protection accordingly. We have verified the discharge</p>
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		<p>capacity calculations and they appear to be correct. The calculations are shown on Worksheet # 17 in the Erosion and Sediment Control Plan Narrative, Appendix E.2 CS-CSA-CO-4-002.1/002.2 Contractor Yard – Site Specific Narrative and Calculations</p> <p>g. Provide E&S BMPs for the site during final stabilization after replacement of the topsoil to address the concentrated flow paths of the original contours. Provides revised Site Restoration Plans for Contractor Staging Area CSA-CO-4-002.1/002. Restoration plans have been revised to include hydro applied erosion control blanket to control erosion.</p>
<p>Erosion and Sediment Control Plan and Post Construction Stormwater Management/Site Restoration Plan Narrative – Temporary and Permanent Access Roads</p>		
<p>1</p>	<p>For existing access roads, it appears that ideal placement for the rock construction entrance (RCE) is at the intersection of the pipeline disturbed areas and the existing access roads. This would help keep the access roads mud free and reduce maintenance of them especially when the access use is with shared with landowners. For example, access road AR-CO-091 is an 1800 ft. long access road with the RCE shown at the intersection with the public road. This will allow mud to be scattered for 1800 feet from the pipeline work area until it is cleaned from the tires and force other landowners to drive through this. Provide discussion as to why the RCE is proposed at the existing access road and the existing public road. § 102.4(b)(5) (vi)</p>	<p>The RCE for AR-CO-091 was shown at the connection to the public road because the road improvements require earth disturbances along the entire length of the access road. An additional RCE has been added to the access road at the connection to the pipeline ROW to minimize the amount of mud tracked onto the access road. The RCE locations for all other access roads were reviewed. For select access roads with proposed improvements, an additional RCE was added at the pipeline ROW. For the existing roads with no improvements, the RCEs were relocated to the pipeline ROW.</p>
<p>Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings – Proposed 30” Central Penn North</p>		
<p>1</p>	<p>Show on the drawings the grading required for the HDD of the river and Rte. 80. In addition, the temporary access road will be subject to excessive traffic from these vehicles and should be constructed to withstand the extra traffic. §§ 102.4(b)(5) and 102.11(a)(l)</p>	<p>The revised Application submittal will show shows on the drawings the grading required for the HDD of the river and Rte. 80. The temporary access road cross section has been designed to accommodate the anticipated construction traffic. Refer to the Erosion and Sediment Control And Layout Plans for Access Roads and temporary facilities plans.</p>
<p>2</p>	<p>Modify the check dam detail (CDM) to show a 6-inch depression in the top of the rock in the center of the channel compared to the rock at the outside edges of the channel to assure storm water will not</p>	<p>The check dam detail is not being utilized in this county. Therefore, the detail has been crossed out in the BMP plan set.</p>

	flow around the rock at the edges. See Page 379 in the ESPC Manual. § 102.11(a)(l)	
3	Provide the details to indicate the site specific BMPs and permanent streambank stabilization that will be used at each specific stream crossing. § 102.4(b)(5)(vii)	Please refer to the SBR detail shown on sheet 7 of 11 in with each the BMP plan set.
4	Provide a stabilized construction entrance at each place were the pipeline crosses a public road especially the sites that also act as access to contractor staging areas. § 102.11(a)(l)	The staging area plan view maps has been have been revised to depict each rock construction entrance and have been provided in the revised Soil Erosion & Sediment Control Plan / Site Restoration Plan, Above Ground Facilities and Associated Permanent Access Roads . Rock construction entrances will also be specified for each road crossing in the E&S Detail Band of the E&S Alignment Sheet.
5	The filter sock diversion detail (FD) drawing references a note #7 that is not included. § 102.4(b)(5)(ix)	The revised Application submittal will include includes a revised filter sock diversion detail drawing in the BMP plan set on sheet 3 of 11 that includes note #7 which refers to the effective height of the filter sock.
6	The filter sock diversion detail (FD) should require proper staking and "keying in" of the upslope edge of the geotextile to prevent water from getting under the fabric. § 102.11(a)(l)	The revised Application submittal will include includes a revised filter sock diversion detail in the BMP plan set.
7	More information is needed related to the stability of hydrostatic test dewatering locations. The discharge points are on steep grades and do not appear to be near streams. §§ 102.4(b)(5)(ix) & 102.4(b)(5)(vi)	The revised Application submittal will include includes additional information regarding the stability of hydrostatic test dewatering locations on the Soil Erosion & Sediment Control Plan / Site Restoration Plan, alignment sheets. The discharge locations are on flat stable ground. The previously submitted documents showed test water withdrawal areas, only.
Best Management Practices and Quantities Plan Set – Proposed 30” Central Penn North		
1	The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(l) & 102.11(b)	The revised Application submittal will include includes a trench plug detail on sheet 8 of 11 of the BMP plan set that is in conformance with the current set of standard details from the E&S Manual.
Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings – Proposed 42” Central Penn South		
1	Contractor Spread Yard cs-cy/cy -CO-4-10 a. Sediment Basin	The revised Application submittal will: a. Sediment Basin i. Provide provides three feet of dewatering depth for basin 1.

	<ul style="list-style-type: none"> i. Three foot of dewatering depth has not been provided for basin 1 as per manual item 6 Page 159. § 102.11(a)(l) ii. Sediment basin 1 does not appear to provide the required dewatering volume between the clean out elevation and the top of the riser. § 102.11(a)(l) iii. Dewatering calculations are required because the discharge holes for the riser are not evenly spaced between the clean out elevation and the top of the riser. § 102.11(a)(l) Three foot of dewatering depth has not been provided for basin 1 as per manual item 6 Page 159. § 102.11(a)(l) iv. Sediment basin 1 does not appear to provide the required dewatering volume between the clean out elevation and the top of the riser. § 102.11(a)(l) v. Dewatering calculations are required because the discharge holes for the riser are not evenly spaced between the clean out elevation and the top of the riser. § 102.11(a)(l) vi. Clarify on the drawing if both principle outlet risers will be perforated and also specify this in the dewatering calculations. § 102.4(b)(5)(ix) vii. It is recommended that a soils engineer be on site during pond construction due to drainage areas involved and the soils in the area. The Lawrenceville soil in this area has a history of being very silty and susceptible to piping. § 102.11(a)(l) viii. Verify a minimum 2:1 flow length from filter sock diversion discharge to the outlets. § 102.11(a)(l) ix. The principle outlet structure discharge capacity appears low. Please recheck the available head and provide revised calculations for the outlet barrel capacity if necessary. Adjust outlet protection accordingly. § 102.4(b)(5)(viii) x. Notes on figure 9.3 for the pond outlet pipe indicate that the maximum velocity for R-4 riprap has been exceeded. The rock size must be increased or the discharge velocity reduced. § 102.11(a)(l) xi. The discharges from the pond outlet structures should be conveyed by a lined channel directly to 	<ul style="list-style-type: none"> ii. Provide provides the required dewatering volume between the clean out elevation and the top riser of Sediment basin 1. iii. Dewatering calculations Discharge holes are proposed to be evenly spaced between clean out and top of riser. Refer to Soil Erosion & Sediment Control Notes and Details, Sheet 2 of 3. iv. Clarify Clarifies on the drawing that both principle outlet risers has been are perforated and include includes the associated calculations. Refer to E&S plan set and E&S narrative, Appendix E.1- v. Include Includes revised drawings that require a soils engineer to be on-site during pond construction. Refer to sequence of construction step 8 on Soil Erosion & Sediment Control Notes and Details, Sheet 2 of 3. vi. Verify a A minimum 2:1 flow length has been verified from filter sock diversion discharge to the outlets. Refer to the baffle detail added to the Soil Erosion & Sediment Control Plan Sheet 1 of 3- vii. Not include revised calculations as the available head was rechecked and is correct. Proposes principle discharges have been checked and revised as necessary. viii. Revised E&S Plan drawings have been provided that reflect increased adequate rock size to reduce the discharge velocity. ix. Include a lined channel directly to the road culvert to convey discharged from the pond outlet structures. Includes a revised design that shows energy dissipaters can be installed. Refer to sheet 1 of 3 on the E&S plans. b. Provides an alternative design with an 11 ft wide channel or move the edge of the stone gravel
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	<p>the road culvert. Installing energy dissipaters this close to the road culvert is not practical. § 102.11(a)(l)</p> <p>b. The calculations for swale A require an 18 feet wide grassed channel for the flow area. The drawings do not provide adequate room for this. An alternative design with a narrow channel should be provided or the edge of the stone gravel area moved to provide adequate room for the channel. § 102.4(b)(5)(ix)</p> <p>c. Compost filter sock or other BMP is required between socks #4 and #5 to control the runoff from the dike in this area. The BMP should be placed so that it will not impede the discharge from the pipes. § 102.4(b)(5)(ix)</p> <p>d. This site currently contains several diversion terraces constructed to control erosion when cropped. Identify on the plans the location of these terraces and that these terraces will be replaced when the site is restored. § 102.4(b)(5)(i)</p> <p>e. The plan should address the disposal of the stone base placed on staging areas and access roads to assure the material ends up on approved sites or recycled. § 102.11(a)(l)</p>	<p>area to provide adequate room for the channel. Refer to sheet 1 of 3 on the E&S plans and Appendix E.1 of the E&S Narrative.</p> <p>c. Revised plans include compost filter socks #4 and #5 placed such that they will not impede the discharge from the pipes and protect upslope area. Refer to sheet 1 of 3 on the E&S plans.</p> <p>d. Identifies within the revised plans, the location of the diversion terraces and note that the terraces be replaced following site restoration. Refer to sheet 3 of 3 on the E&S plans.</p> <p>e. Includes in the narratives, a description addressing the measures for the disposal of the stone base following the site restoration that ensures that the material is recycled or moved to an approved site. A note has been also included in the general access roads notes. Refer to sequence of construction in E&S narrative. E&S plans sheet 2 of 3, step 15.</p>
2	<p>Contractor Staging Area CSA-CO-4-001,002: DEP will need to address the adequacy of this plan for thermal protection of the HQ water. The installation of the diversion berm attempts to temporarily collect the first flush only to allow it to mix with the later flows and discharge into the stream even for the two-year storm event. The plan also calls for installation of a 250 ft. section of diversion sock to trap the runoff and assumes that the overflow will be constant along the entire length of the sock. Installing sock with a level top elevation for this distance is not realistic. The applicant has not justified why this staging area must be placed as close as 30 feet of an HQ stream and associated wetlands. § 102.11(a)(l)</p>	<p>The revised Application submittal no longer includes these contractor staging areas.</p>
3	<p>Contractor Staging Area CSA-CO-4-003: The plans for this staging area show a RCE at the south west corner of the staging area implying access from AR-CO-095.4. The plans for the access road state that it will not be used during construction. Please clarify. § 102.11(a)(l)</p>	<p>The revised Application submittal will revise revises the CSA design so that AR-CO-095.4 is not used to access the contractor staging area. Refer to E&S plans, CS-CSA-CO4-003/004, sheet 1 of 2.</p>

4	Contractor Staging Area CSA-CO-4-004: Restoration of the site after removal of gravel should address stabilization of drainage swales in the disturbed areas. § 102.4(b)(5)(ix)	The revised Application submittal will provide provides restoration drawings that address stabilization of drainage swales in disturbed areas. Refer to E&S plans, CS-CSA-CO4-003/004 sheet 2 of 2.
Best Management Practices and Quantities Plan Set – Proposed 42” Central Penn South		
1	The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(I) & 102.1 I(b)	See the response to Erosion and Sediment Control Plans Technical Deficiency 2. The revised Application submittal will include includes a trench plug detail on sheet 8 of 11 Best Management Practices and Quantities Plan Set, Best Management Practices Details are in conformance with the current set of standard details from the E&S Manual.
Erosion and Sediment Control and Layout Plans Drawings – Access Roads		
1	Temp Access Road 094.1.1 <ul style="list-style-type: none"> a. Access road crosses over diversion swales at stations 2+00 and 6+50. The plans should address how this water in diversions will be diverted around the work area. § 102.4(b)(5)(ix) b. The rock construction entrance should be located near station 1+00 to make sure the access road remains mud free which will assist in protecting the adjacent stream. § 102.4(b)(5) c. Since this road is the access to the HDD site, it may be subject to considerable traffic. Consideration should be given to moving it outside of the floodway to provide a better buffer and allow more room to treat runoff from the road. 	AR-CO-094.1.1 has been has been removed from the revised Application and replaced with AR-CO-093.1. The new access road is has been located outside of the LOD floodway. <ul style="list-style-type: none"> a. AR-CO-094.1.1 has been has been removed from the revised Application. The comment is no longer applicable. b. The RCE to the HDD site has been is located at the intersection of the pipeline right of way and Legion Road. The RCE has been is a new access road called AR-CO-093.1. c. The new RCE location has been is located outside the floodway.
2	Temp Access Road 094.1 <ul style="list-style-type: none"> a. Show how the level spreader below timber crossing can be constructed on the contour within the LOD. In addition, the flow concentrates immediately below the crossing making the level spreader's value questionable. § 102.4(b)(5)(ix) b. Consideration should be given to discharging the upslope filter sock diversions at the timber crossing directly onto the timber mats rather than rock outlets. § 102.4(b)(5)(ix) c. The channel slope does not reflect the slope near the outlet. Recheck the channel calculations using the slope near the outlet. § 102.4(b)(5)(ix) 	AR-CO-094.1 has been has been removed from the revised Application. The comments specific to AR-CO-094.1 are no longer applicable.

<p>3</p>	<p>Temp Access Road 095</p> <ul style="list-style-type: none"> a. Consideration should be given to discharging the upslope filter sock diversions at the timber crossing directly onto the timber mats rather than rock outlets. § 102.4(b)(5)(ix) b. A four-foot cut is proposed near stat 10+00. Where will this material be stockpiled in the LOD? § 102.4(b)(5)(ix) 	<p>AR-CO-095 has been has been removed from the revised Application. The comments specific to AR-CO-095 are no longer applicable.</p>
<p>4</p>	<p>Perm. Access Road 095.4</p> <ul style="list-style-type: none"> a. The plans for this access road state that it will not be used during construction but the plans for the staging area CS-CSA-CO-4-003 shows it being used during construction. Please clarify and provide adequate stabilization if it is used during construction. § 102.4(b)(5)(vi) b. What permanent changes and site improvements will be required for the rectifier and cathodic equipment workspace that this access is to serve after construction? § 102.4(b)(5)(iii) 	<p>The revised Application submittal will includes the following:</p> <ul style="list-style-type: none"> a. The plan for the CSA has been revised to include an RCE off of Montour Blvd as seen on Sheet 1 of drawing CSA-CS-CSA-CO-4-003/004 of the Access Road Plan set accordingly. The grass access road is to be used after construction to access the rectifier and cathodic protection equipment. The plan for the CSA has been revised to include an RCE off of Montour Blvd as seen on Sheet 1 of drawing CSA-CS-CSA-CO-4-003/004 of the Access Road Plan set accordingly. The grass access road is to be used after construction to access the rectifier and cathodic protection equipment. b. The rectifier and cathodic protection improvements consist of drilling to install vertical cylindrical electrical equipment and installing a small concrete pad for a control box. The disturbance to existing ground has been minimal. The rectifier and cathodic protection improvements consist of drilling to install vertical cylindrical electrical equipment and installing a small concrete pad for a control box. The disturbance to existing ground has been minimal.
<p>Soil Erosion and Sediment Control Plan Drawings – Compressor Station 610</p>		
<p>1</p>	<p>More information is needed on the timing and construction details for the main line installation across the end of the area compared to the grading for the compressor station. What BMPs will be used for the pipeline installation? The main line drawings refer to the compressor station for BMPs in the area. § 102.4(b)(5)(vi)</p>	<p>The revised application will provide additional information regarding the timing and construction details for the mainline installation across the end of the area, and the BMPs used. Erosion control design shown on facilities plans accounts for all improvements within the facility LOD. The sequence of construction of the mainline versus facility may vary; however, no</p>

		construction of pipeline or facilities will occur without appropriate BMPs installed. Therefore, no plan or narrative changes are included in this submission in response to this comment.
2	Additional controls are needed to treat the runoff from the eastern side of the access road before it is discharged in culvert 4. § 102.4(b)(5)(vi)	The revised Application submittal will include includes plan drawings with additional controls a rock filter outlet to treat the runoff from the eastern side of the access road before it is discharged into culvert 4. See sheet 6 of 12.
3	Temporary filter sock diversion #3 appears to concentrate flow and discharge it upslope of the neighbor's house and driveway. What impact will this additional flow have? § 102.4(b)(5)(viii)	The revised Application submittal will include includes a revised design for temporary filter sock diversion #3 to redirect flow away from the neighboring house. See sheet 6 of 12.
4	Construction Sequence a. Item #3 - Identify the areas to be protected under this item. Make sure to include infiltration areas and minimum compaction areas. § 102.4(b)(5)(vii) b. Item 10-Don't install FSD #1 and FSD#2 until the basin is completed to minimize the clean water diverted to the work area. § 102.4(b)(5)(vii) c. Item 10 - Provide a stable discharge area for the basin outlet until Swale 1 is installed and stabilized. § 102.4(b)(5)(vii)	The revised Application submittal will: a. Identify identifies areas to be protected under Item #3 and include includes infiltration areas and minimum compaction areas. Refer to E&S plan set sheet 9 of 12 and E&S narrative section 1.7. b. Include includes revisions to the sequence of construction to reflect the installation of FSD #1 and FSD#2 following the completion of the basin. Steps 9-11 have been revised. Refer to E&S plan set sheet 9 of 12 and E&S narrative section 1.7. c. Include includes revision to the sequence of construction to include a stable discharge area for the basin outlet. until Swale 1 is installed and stabilized. Step 8 has been revised to include the installation of Swale 1. Refer to E&S plan set sheet 9 of 12 and E&S narrative section 1.7.
5	Channels and culverts a. Swale #3 appears to have slopes near the outlet greater than assumed in the calculations. Channel bed slopes may not be averaged (see Item 3 on Page 129 of the	The revised Application submittal will: a. Provide provides revised calculations that verify the capacity and stability on the maximum slope. Refer to App. A.1 of the E&S narrative.

	<p>E&S Manual). Verify capacity and stability on the maximum slope. § 102.4(b)(5)(viii)</p> <p>b. Please verify the slope of culvert #5. The calculations for the pipe and outlet protection do not appear to agree with the drawings. § 102.4(b)(5)(viii)</p> <p>c. Provide calculations for the pipe discharge velocity at the head of ditch 6B. § 102.4(b)(5)(viii)</p> <p>d. Culvert 5 outlets at elevation 963 but the end of the energy dissipater is shown at elevation 960. The energy dissipater should be installed with near zero grade between the pipe invert and the terminal end. Please correct and show how the grades will be blended. § 102.4(b)(5)(viii)</p> <p>e. Provide calculations showing that the concentrated discharges from the culverts feeding onto the infiltration berm areas in the post construction condition will not erode the newly placed soil amendments in the infiltration area. § 102.4(b)(5)(viii)</p>	<p>b. Provide Provides revised drawings that agree with the calculations. See Sheet 6 of 12. that agree with the drawings.</p> <p>c. Provide additional calculations for the pipe discharge velocity at the head of ditch 6B. Includes revised plans to remove ditch 6B and replaces it with ditch 6. Calculations are provided in App.A.1 of the E&S narrative.</p> <p>d. Provide Includes revised drawings that reflect the installation of the energy dissipater with near zero grade between the pipe invert and the terminal end and additional information on how the grades have been blended. Please note that the 962 contour ties into the concrete endwall to provide the near zero grades required.</p> <p>e. Provide provides riprap calculations showing that the concentrated discharges from the culverts feeding onto the infiltration berm areas in the post construction condition are reduced to non-erosive velocities. TRM lining is proposed for infiltration berms as shown in the infiltration details. will not erode the newly placed soil amendments in the infiltration area.</p>
6	<p>Sediment Basin</p> <p>a. Provide calculations showing the 4: 1 flow length has been met for the inflow from culvert #2. § 102.4(b)(5)(viii)</p> <p>b. Sheet 10 shows the temporary riser extension to have a lower elevation than the permanent riser. Please explain. § 102.4(b)(5)(viii)</p>	<p>The revised Application submittal will:</p> <p>a. Provide provides calculations showing that the 4:1 flow length has been met for the inflow from culvert #2. Refer to App. A.4 in E&S narrative.</p> <p>b. Include an explanation for why the temporary riser extension has a lower elevation than the permanent riser. has been revised to show the riser elevations as being equal. Refer to E&S detail sheet 10 of 12 Supporting calculations are provided in E&S Narrative App. A.4</p>
7	<p>Compost Filter Sock</p> <p>a. Filter sock barriers must be designed for the worst case conditions. Show how socks #3 and #4 will be adequate during the initial earthmoving to install the basin. § 102.4(b)(5)(viii)</p>	<p>The revised Application submittal will include revised compost filter sock locations. adjusts staging to provide appropriate use of filter socks 3 and 4. Refer to E&S narrative sequence step 9 shown in Section 1.7 and E&S plan set sheet 9 of 12.</p>

8	<p>Infiltration Berm</p> <ol style="list-style-type: none"> a. The plans imply that the infiltration berm upslope of infiltration basin #1 will discharge by overtopping the 490-foot-long berm at a uniform depth of less than one inch. How is it possible to construct and maintain such tolerances permanently on the newly constructed berm? § 102.4(b)(5)(viii) b. If the infiltration berm is constructed as designed, it should be protected with a TRM lining at a minimum. § 102.4(b)(5)(vi) c. Clarify the top of the settling volume (WSE) for the basin. Several different elevations are shown in various locations of the drawings and calculations. § 102.4(b)(5)(viii) d. More details are needed for the conversion of the sediment basin into the stormwater basin. How will the permanent riser holes from the skimmer outlet be sealed? Where will the materials removed from the basin and the infiltration areas be placed? § 102.4(b)(5)(viii) 	<p>The revised Application submittal will:</p> <ol style="list-style-type: none"> a. revise includes revised infiltration berms to be as short as possible and therefore more constructible. Any concentrated flows due to berm settling has been protected by the turf reinforcement mat. b. Includes revised plans that depict a TRM lining for the infiltration berm. c. Clarify clarifies the top of the settling volume (WSE) for the basin in the plans and resolves any inconsistencies. Refer to App. A.4 in the E&S narrative and E&S plan sheet 10 of 12. d. Provide provides more details for the conversion of the sediment basin into the stormwater basin. Refer to sequence of construction in the E&S narrative Section 1.7 and E&S plan set sheet 9 of 12 – step 26.
Soil Erosion and Sediment Control Plan Drawings – West Diamond Regulator Station		
1	<p>Construction Sequence</p> <ol style="list-style-type: none"> a. The entire temporary access road should be installed and stabilized before any disturbance occurs on the remainder of the site. § 102.4(b)(4)(i) 	<p>The construction sequence has been has been revised to reflect the installation and stabilization of the entire temporary road prior to the commencement of any disturbance activities on the remainder of the site and has been provided in the revised Application submittal. See Note #8 - Regulator Station Sequence of Construction on E&S sheet 9 of 11</p>
2	<p>More details are needed on the conversion of the sediment trap to the stormwater basin.</p> <ol style="list-style-type: none"> a. All earthmoving associated with it should be done before the conversion of the trap riser. § 102.4(b)(5)(vii) b. Where will the material from the excavation of the additional area be placed and what BMPs will be used? § 102.4(b)(5)(vi) c. It is recommended that consideration be given to utilizing the permanent riser with a restriction over the 4-inch orifice for the sediment basin rather than requiring the complete replacement of the riser during conversion of the trap to the storm water basin. See standard construction detail #8-8 in the E&S manual. § 102.11(a)(1) 	<p>The revised Application submission will has been revised to:</p> <ol style="list-style-type: none"> a. Includes a revision to the sequence of construction to show all earthmoving associated with the conversion of the sediment trap to the stormwater basin being completed prior to the conversion of the trap riser. Note 22 and 23 have been revised in the Regulator Station Sequence of Construction to address this comment. See Regulator Station Sequence of Construction on E&S sheet 9 of 11. b. Identify the location for the placement of material from the excavation of the additional area and the associated BMPs. Update note #22 of the

		<p>Regulator Station Sequence of Construction to specify haul off of excess material generated by conversion of the trap to the permanent basin.</p> <p>c. Utilize the permanent riser with restrictor plates while the basin is being used as a sediment trap.</p> <p>Update the Dry Sediment Trap Temporary Riser Detail on sheet 9 of 11 of the West Diamond E&S Plan Set to eliminate the separate temporary riser. The conversion of the temporary riser to permanent configuration has been included in step 23 of the Regulator Station Sequence of Construction.</p>
<p>Lancaster County</p>		
<p>Erosion and Sediment Control Plan Narrative – Proposed Central Penn South</p>		
<p>1</p>	<p>Section 1.15 should be written specifically for the 42" CPL South portion of the project in Lancaster County. Make all revisions necessary. If a riparian buffer or riparian forest buffer waiver is required for any associated facilities that are covered under a separate E&S and/or PCSM Plan, then include the information required for those facilities should be included in their separate Plans. § 102.14(d)(2)</p>	<p>The revised Application submittal will include riparian buffer or riparian forest buffer waiver requests for any associated facilities within their separate Plans.</p> <p>E&S Narrative Section 1.15 of the revised Application provides additional information for each specific location where riparian buffer/riparian forest buffer waivers are being requested. The information includes the location (by milepost), the Soil Erosion and Sedimentation Control Plan / Site Restoration Plan Sheet Number where the watercourse and surrounding riparian buffer is located, and any associated impairments/TMDLs for the individual watercourse. A discussion on Route Selection is also included in Section 1.15 of the E&S Narrative, as well as an Alternatives Analysis which describes workspace requirements. Section 1.16 – Antidegradation of the E&S Narrative states that, “At wetland and stream crossings, all pipe installation and temporary restoration is proposed to be completed within a 48-hour period.” Finally, Transco has developed and will incorporate several LOD modifications to avoid and minimize impacts to watercourses and their riparian buffers, which are</p>

		discussed in detail within Attachment P of the revised Chapter 105 Application.
2	Revise the first paragraph on Page 40 to properly identify the requirements for riparian buffers and riparian forest buffers. A riparian buffer is required when the project site is located in an exceptional value or high quality watershed attaining its designated use (per 25 Pa. Code § 102.14(a)(1)). A riparian forest buffer is required when the project site is located in an Exceptional Value or High Quality watershed where there are waters failing to attain one or more designated uses (per 25 Pa. Code § 102.14(a)(2)).	The revised Application submittal will include properly identified requirements for riparian buffers and riparian forest buffers. E&SC Narrative Section 1.15 of the revised Application provides the requirements for riparian buffers and riparian forest buffers.
3	Identify why the request for waivers included an evaluation of Class A Wild Trout Streams and Wild Trout Streams. § 102.14(d)(2)	The revised Application submittal no longer includes an evaluation of Class A Wild Trout Streams and Wild Trout Streams in the request for waivers.
4	The provided riparian buffer/riparian forest buffer waiver information appears to be for the project as a whole, and is too vague for the specific riparian buffer/riparian forest buffer waiver being requested. Provide the required information for the specific locations of where the riparian buffer/riparian forest buffer waiver is being requested. The additional information should include, but not necessarily be limited to, stream impairments/TMDLs (the UNT to Trout Run has a TMDL for the overall watershed), length of time required for the disturbance, plans clearly identifying the areas for waivers, why the alignment is required to change, why additional workspace is required at the particular location. § 102.14(d)(2)	See response to the General Erosion and Sediment Control Plans Technical Deficiency 4. E&SC Narrative Section 1.15 of the revised Application provides additional information for each specific location where riparian buffer/riparian forest buffer waivers are being requested. The information includes the location (by milepost), the Soil Erosion and Sedimentation Control Plan / Site Restoration Plan Sheet Number where the watercourse and surrounding riparian buffer is located, and any associated impairments/TMDLs for the individual watercourse. A discussion on Route Selection is also included in Section 1.15 of the E&SC Narrative, as well as an Alternatives Analysis which describes workspace requirements. Section 1.16 – Antidegradation of the E&SC Narrative states that, “At wetland and stream crossings, all pipe installation and temporary restoration is proposed to be completed within a 48-hour period.” Finally, Transco has developed and will incorporate several LOD modifications to avoid and minimize impacts to watercourses and their riparian buffers, which are discussed in detail within Attachment P of the revised Chapter 105 Application.
5	Provide more information related to Table 1.15-2. An example is what the temporary versus permanent impacts are. § 102.14(d)(2)	Table 1.15-2 has been removed.

6	Drawing No. 24-1600-70-28-A/LL113_9 Sheet 4 of 34 identifies a Waterbody WB-T24-001 at approx. 57+00. Provide more information related to this waterbody; identify if this feature is a surface water, pond, stormwater management feature, etc. If it is a pond, then riparian buffer/riparian forest buffer will apply, and a waiver will need to be requested. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102.4(b)(5)(v), 102.8(f)(5) & 102.14(d)(2)	The revised Application submittal will provide more information related to this waterbody, including the type of waterbody, stormwater management feature, and riparian buffer request (if necessary) throughout the application document. This area was determined to be a detention basin for agricultural purposes. A riparian buffer does not apply and a riparian buffer waiver is not needed. This label has been revised to “Existing detention basin for agricultural purposes” on E&S plan sheet 4 of 34.
7	As stated in the Restoration Section of the Narrative, permanent waterbars will be maintained except for cultivated areas, wetlands and lawns. Identify the temporary waterbars separately from the permanent waterbars on the plan drawings. §§ 102.4(b)(5)(iii), 102.4(b)(5)(ix), 102.8(f)(3) & 102.8(f)(9)	The revised plan drawings will include a note detailing the location of temporary and permanent waterbars, as well as the associated land use type and will be provided in the revised Application package. The Waterbar Detail (WB) in the BMP plan set states that, “All waterbars are permanent except for those located in agricultural areas, wetlands, transportation facilities, and lawns.” The Land Use types on the E&S Alignment Sheets identify the location of each land use.
8	Provide in greater detail when the temporary waterbars can be removed. Clarify if waterbars in the areas of cropland, pasture, and residential land uses will be maintained until temporary/permanent stabilization is achieved. §§ 102.4(b)(5)(iii), 102.4(b)(5)(vii), 102.4(b)(5)(ix), 102.8(f)(3), 102.8(f)(7) & 102.8(f)(9)	The revised Application submittal clarifies when temporary water bars has been removed before restoration or during restoration. The construction sequence notes will reflect that determination. Refer to BMP Plan set General Notes Sheet 2 of 3.
9	Clearly identify if tree removal will/will not occur within the entire physical boundary of the limits of disturbance and clearly identify if some trees/vegetation be protected within the pipeline ROW. §§ 102.4(b)(5)(iii), 102.4(b)(5)(vii), 102.4(b)(5)(ix), 102.8(f)(3), 102.8(f)(7) & 102.8(f)(9)	The revised Application submittal will has clearly identified that tree removal will occur within the entire pipeline limits of disturbance. Refer to E&S narrative Section 1.0 General Information. Trees has been cut flush, leaving roots in place except in the trench line and areas of steep slopes.
10	How is the plan addressing 25 Pa. Code§ 102.4(a)(4)(ii) during site restoration for those areas within the pipeline ROW that will be returned to agricultural plowing and tilling activities. §§ 102.4(a)(4)(ii) & 102.8(n)	The revised Application submittal will include includes a narrative write up identifying proposed site restoration for areas within the pipeline ROW that has been returned to agriculture plowing and tilling activities. Refer to Section 1.17 of the E&SC Narrative.
11	Upon completion of the project, the stone that was used to temporarily stabilize the contractor staging areas, access roads, etc., will be removed and the site restored to preconstruction conditions. Clearly identify and provide the measures for disposal of the stone	The narrative has been has been revised to clearly identify and provide the measures for disposal of the stone following site restoration and a note added to the

	following site restoration. §§ 102.4(b)(5)(iii), 102.4(b)(5)(vii), 102.8(f)(3) & 102.8(f)(7)	general access road notes. These has been provided in the revised Application submittal.
Erosion and Sediment Control Plan and Post Construction Stormwater Management / Site Restoration Plan Narrative – Temporary and Permanent Access Roads		
1	Provide a separate PCSM Plan for the permanent access roads from the E&S Plan for the permanent access roads. A combined plan, titled Erosion and Sediment Control /Site Restoration Plan, can be provided for the temporary access roads. §§ 102.4(b)(S5)(xiv) & 102.8(d)	The revised Application submittal will provides separate PCSM Plan for the permanent access roads to the MLV sites , separate from the E&S Plan for the permanent access road. Please note that the permanent access roads that provide access to the ROW will be restored to pre-construction conditions. Operations will drive over grass to access the ROW after construction. Therefore, these permanent access roads are not included in the separate PCSM plans. Each County now has two sets of access road plans: <ul style="list-style-type: none"> • “Erosion & Sediment Control and Layout Plans” that include the E&S design for all roads and the site restoration plan for temporary roads and permanent roads to be restored to pre-construction conditions. • “Post Construction Stormwater Management Plans for Permanent Access Roads” that include the PCSM plans for the permanent access roads that access MLV sites.
2	Are the mainline valve sites included in the E&S Plans for the permanent access roads? If so, that should be clarified and discussed in the narratives. § 102.4(b)(5)(iii)	The revised narrative will clarify clarifies that the temporary E&S design for the MLVs is part of the pipeline plan. The temporary E&S measures are shown on the access road plans as shaded for coordination purposes. The road-specific narratives for the associated access roads have been revised to clarify that the temporary E&S measures are part of the pipeline E&S plan. These revisions has been provided within the revised Application submittal. The PCSM BMP designs for the MLV sites are included in the PCSM narratives for the associated access roads.
3	Identify in the narrative whether the receiving surface water is impaired or has a TMDL. For the specific sites (temporary and permanent access roads), ensure that proper and adequate discussion is provided related to the E&S design and the impairment and/or TMDL. § 102.4(b)(5)(v)	The revised Application submittal will includes revisions to the narrative identifying whether the receiving surface water is impaired or has a TMDL. Discussion has been added for the specific sites related to the E&S design and the impairment and/or TMDL.

4	Identify in the table on Page 5 the receiving surface water, the Designated and Existing Uses and if the receiving surface water is impaired or has a TMDL. The table identifies LA-026.4 as a temporary and then as a permanent access road; clarify why this one location is identified twice. §§ 102.4(b)(5)(iii) & 102.4(b)(5)(v)	The revised applications submittal will identify identifies the receiving surface water, the Designated and Existing Uses, Existing uses, and information regarding whether the receiving surface water is impaired or has a TMDL, in the table on Page 5. LA-026.4 is a temporary access road and has been removed from the permanent access road list.
5	The information related to vacuum sweeping on Page 14 is not sufficient. Identify when/why the vacuum sweeping will be utilized. The large clumps of dirt that accumulate on the road surface will need to be hand cleared before vacuum sweeping. The maintenance trigger for the dirt roads of 6-in. ruts is too excessive. Revise the maintenance trigger for rolling of dirt roads to a more acceptable level. § 102.4(b)(5)(vi)	The narrative has been revised to include hand clearing large clumps before vacuuming and the rutting allowance has been decreased to 4 inches. The roadway shall be vacuum swept upon discovery of sediment. The vacuum sweeping narrative has been added to the Access Road General Notes on Sheet 4 of 4 of the Access Road Plans as well. The narrative has been revised to include hand clearing large clumps before vacuuming and the rutting allowance has been decreased to 4 inches. The vacuum sweeping narrative has been added to the Access Road General Notes on Sheet 4 of 4 of the Access Road Plans as well.
6	Page 15 identifies that erosion control blankets will be installed on slopes greater than 3:1. However, the E&S Manual (Page 273) recommends that erosion control blankets be installed on all slopes 3:1 and greater. The identification on Page 15 is not consistent with the identification that the E&S BMPs are designed in accordance with E&S Manual (first sentence of the fifth paragraph on Page 4). Make all revisions necessary. §§ 102.4(b)(5)(vi), 102.11(a)(l) & 102.11(b)	The narrative (all counties) has been revised to require erosion control blankets be installed on all "slopes equal to 3:1 or greater".
7	The generalized BMP Installation Sequence Narrative in Section 1.7 is not sufficient. Each temporary and permanent access road is different, as a site/location specific construction sequence is required. §§ 102.4(b)(5)(vii) & 102.8(f)(7)	The revised Application submittal includes an expanded generalized BMP Installation Sequence Narrative in Section 1.7. A site/location specific construction sequence is provided for each temporary and permanent access road on the individual road plan and corresponding road specific narrative.
8	Section 1.12 on Page 26 identifies that there may be potential for acid producing rock. Identify if there is or is not the potential for naturally occurring geologic formations or soil conditions that may have the potential to cause pollution during earth disturbance activities and after earth disturbance activities are completed and PCSM BMPs are operational. What investigation will be done to determine if there is potential for acidic runoff from the site (beyond	The revised Application submittal will expand the narrative relating to the potential for acid producing rock. An Acid Producing Rock and Soil management plan has been added to the E&S Narrative to manage soils with pH value of 4.0 or greater. A site specific soil table identifying the soils types and pH of the soils located

	<p>the Soil Survey)? If acid producing rock is present at the site, then provide the BMPs to minimize the potential for pollution. An adequate predevelopment site characterization and assessment of soil and geology shall be performed and supplied. Tailor this discussion for each specific site (temporary and permanent access roads). § 102.4(b)(5)(xii)</p> <p>Clarify the statement on Page 27 " ...the quantity of acidic soils found along the proposed CPL South route may be sufficiently high such that their potential for pollution should be mitigated." If the quantity is sufficiently, how is that mitigated? What investigation has been performed to determine that the amount potential for pollution is mitigated? § 102.4(b)(5)(xii)</p>	<p>within the access road LOD has been added to the road-specific narrative. Acidity levels of the soils found along the proposed project do not fall within the pH range that is considered to be a potential source of pollution that must be mitigated; therefore, additional site investigations were not performed.</p>
9	<p>Section 1.13 does not include a thermal impact analysis for the earth disturbance activity (for the E&S Plan). Provide this thermal impact analysis. The thermal impact analysis shall be provided for each specific site. § 102.4(b)(5)(xiii)</p>	<p>The revised Application submittal willprovides additional information in the Thermal Impact discussion for Project access roads, facilities, and pipeline in the narratives. Road-specific thermal impact analyses have been added to each access road narrative.</p>
10	<p>Section 1.15 shall be revised to be specific for any requested riparian buffer/riparian forest buffer waivers associated with the temporary and permanent access roads. There is no regulatory requirement to provide a riparian buffer/riparian forest buffer for perennial or intermittent rivers, streams, or creeks, or lakes, ponds, or reservoirs with a Designated Use other than Exceptional Value and High Quality; therefore, a waiver of buffers for these areas is not required. Revise the narrative accordingly. § 102.14(d)(2)</p>	<p>Section 1.16 (previously Section 1.15) has been revised to clarify that no access roads within Lancaster County on each require a riparian forest buffers waiver.</p>
11	<p>Section 1.16 is not an adequate antidegradation analysis. The antidegradation analysis shall be specific to the site for which the E&S Plan covers (i.e. each temporary and/or permanent access road). The analysis shall evaluate and include nondischarge alternatives in the E&S Plan. If nondischarge alternatives do not exist for the project, then that demonstration shall be made and the E&S Plan shall include antidegradation best available combination of technologies (ABACT) BMPs. Make all revisions necessary. § 102.4(b)(6)</p>	<p>The revised Application submittal willincludes a revised antidegradation analyses specific to the portions of the right-of-way (ROW) in HQ/EV watersheds, and for EV wetlands in Section 1.17 (formerly Section 1.16). The analysis is an overall watershed approach that will address the pipeline, temporary and permanent access roads, and facilities.</p>
12	<p>The plan drawings provided in Appendix A and B are not current with the latest set of revised full-size plan drawings (e.g. Appendix A Drawing No. 24-1600-70-28-A/LL113_9 has a latest revision date of 12/02/2015; while the full-size Drawing No. 24-1600-70-28- A/LL113_9 has a latest revision date of 02/04/2016). DEP recommends only</p>	<p>Appendices A and B has been have been removed from the narrative as requested.</p>

	providing one copy of the plan drawings per application set (do not provide reduced scale drawings in Appendix A and B), to avoid confusion and potential inconsistencies. § 102.4(b)(5)(ix)	
13	The following technical deficiencies are associated with Appendix I: a. Provide calculations demonstrating that the proposed lever spreader's discharge will be stable without the need for permanent turf reinforcement matting. § 102.4(b)(5)(viii)	The level spreader has been removed from the AR-LA-010.2 design. Level spreaders are installed in locations where improvements are creating an increased flow exposure that may cause adverse impacts to downstream areas and/or receiving waters. The check dams in the swale are designed to maintain pre-construction flow rates. Therefore, the proposed improvements are not creating an increased flow condition and the level spreader is not necessary. An off-site discharge analysis has been provided demonstrating that the proposed design is in compliance with the applicable regulations and can be found in the "Off-site Discharge Analysis" in Appendix I of the AR-PCSM-Report. (Please note that the design for AR-LA-010.2 has been revised to address the PCSM comments.)
14	The following technical deficiencies are associated with Appendix N: a. It appears that the receiving surface water for permanent access road AR-LA-018.3 is an unnamed tributary to West Branch Little Conestoga Creek. It appears that the receiving surface water of the unnamed tributary to West Branch Little Conestoga Creek has a Designated Use of Trout Stocking (TSF). Properly identify the receiving surface water and the Designated and Existing Uses. § 102.4(b)(5)(v)	The revised Application submittal will properly has corrected the identify the receiving surface water and the Designated and Existing Uses for AR-LA-018.3 to be an unnamed tributary to West Branch Little Conestoga Creek with a TSF designation.
15	The following technical deficiencies are associated with Appendix O: a. The narrative identifies the Watershed as Strickler Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Strickler Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v) b. The discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for the area of the portion of the access road that will utilize the existing gravel road (approx. 775 ft.). However, the narrative discussion then identifies that a rock	The revised Application submittal will has been revised to: a. Properly identify the receiving surface water and the Designated and Existing Uses. Properly identify the receiving surface water and the Designated and Existing Uses b. Include an updated narrative discussing the proposed E&S BMPs for this road and can be found in the Section O.1.a. Narrative – of the AR-ESC-Report. The narrative, and comment response below (15.b.), indicate the E&S BMPs

	<p>construction entrance and driveway apron will be utilized where the existing gravel drive meets Prospect Road, and the plan drawings identify the limit of disturbance to be approx. 15-ft. beyond the edge of the existing gravel road and there is no discussion about mats being placed over the existing gravel road. Clarify these discrepancies between the narrative and the narrative and plan drawings. §§ 102.4(b)(5)(iii) & 102.4(b)(5)(ix)</p> <p>c. With the rock construction entrance provided at Prospect Road, there is a high probability that sedimentation will occur on the existing gravel road. Identify how this sedimentation be handled during and after earth disturbance activities. §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)</p> <p>d. The following technical deficiencies are associated with Appendix 0.4:</p> <ul style="list-style-type: none"> i. The naming convention utilized on E&S Worksheet# 11 does not match the naming convention on the plan drawings. Provide a consistent naming convention. §§ 102.4(b)(5)(viii) & 102.4(b)(5)(ix) ii. The riprap apron sizing calculations identify the dimensions are based upon equivalent pipe sizes. Provide more discussion related to this, including how the equivalent pipe size was determined for each apron. § 102.4(b)(5)(viii) iii. The E&S Manual recommends a nominal placement thickness of 18-in. for R-4 riprap (Page 135); however, the calculations and plan drawings identify an apron thickness of 12-in. Revise the design to be consistent with the recommendations of the E&S Manual or the appropriate information shall be provided related to the alternative BMP and design standards. §§ 102.4(b)(5)(viii), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b) iv. The gradations provided for R-3 and R-4 riprap in the calculations and plan drawings are not consistent with the gradation on Page 13 5 of the E&S Manual or with the gradation in Section 850 of PennDOT's Publication 408. If riprap is to be 	<p>being used, and changes that have been made to the location of the RCE.</p> <p>c. The RCE has been moved to Station 5+50 to minimize the amount of mud tracked onto the existing gravel road to remain. The existing gravel road and connecting public road will be has been inspected daily during active use of the access road. and maintained as necessary to remove any Excess mud, dirt, or rock tracked from the access road will be has been removed upon discovery. Note 6 and 7 of the General Access Road Notes provided on Sheet 4 of 4 at the beginning of the Access Road E&S Plan Set includes the same RCE maintenance language as the narrative.</p> <p>d. Clarify the discrepancies between the narrative and the plan drawings.</p> <ul style="list-style-type: none"> i. Previously, the channels were named "FS-1" and "FS-2" on the worksheet and "FSD-1" and "FSD-2" on the plans. The design for AR-LA-020 has been revised to combine the two filter sock diversions. Worksheet #11 has been updated as necessary and the channel section is now called 24"Filter Sock Diversion" in the worksheet and 24" Filter Sock Diversion on the Plans. ii. Calculations related to the equivalent pipe size used for each rip rap apron have been added to the road-specific appendix. iii. LA-020 has been revised to have an apron with R3 rip rap based on additional civil survey information. However, the remainder of the access roads were reviewed to correct the depth for R-4 rip rap. iv. The gradation labels have been removed and replaced with a note Note 19 on Sheet 4 of 4 at the beginning of the Access Roads E&S Plans sets for each County in the narrative and plans stating that the Gradation of the rip rap shall meet the requirements of
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	<p>sized per the E&S Manual recommendations, then the proper gradation shall be utilized. §§ 102.4(b)(5)(viii), 102.4(b)(5)(ix), 102.4(c) & 102.1 l(a)(l)</p> <p>v. Include the proposed conditions on the drainage area map. §§ 102.4(b)(5)(viii) & 102.4(b)(5)(ix)</p>	<p>Table 6.6 of the E&S Manual provided under separate cover in the Best Management Practices and Quantities Plan.</p> <p>v. The proposed conditions (Limit of disturbance, edge of access road, RCE, etc.) have been added to the drainage area maps as requested.</p>
16	<p>The calculation of slope length for Sock 5 in Appendix P appears to be greater than the 180-foot design length. Verify the sock calculations are accurate. § 102.4(b)(5)(viii)</p>	<p>The slope length for the proposed compost filter sock has been revised to be 780 720 linear feet and the sock diameter has been increased to 32". Please note that the sock numbering has been revised to reflect the current design.</p>
17	<p>For temporary access road AS-LA-023 .1 (Appendix Q), the discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for this road. However, the narrative discussion then identifies that a rock construction entrance and driveway apron will be utilized where the existing gravel drive meets Meadow Road. Clarify these discrepancies between the narrative and the narrative and plan drawings. The narrative identifies the Watershed as Strickler Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Strickler Run. Clearly and consistently identify the receiving surface water. §§ 102.4(b)(5)(v) & 102.4(b)(5)(v)</p>	<p>AR-LA-023.1 has been removed from the project. However, the narratives of similar type roads have been revised to accurately describe the proposed BMPs and to consistently identify the watershed.</p>
18	<p>For temporary access road AS-LA-023.2 (Appendix R), the narrative identifies the Watershed as Shawnee Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Shawnee Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)</p>	<p>The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p>
19	<p>The following technical deficiencies are associated with Appendix S: a. The narrative identifies the Watershed as Chiques Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as a tributary to Chiques Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)</p>	<p>The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p>
20	<p>The narrative in Appendix T identifies AR-LA-026.4 as a temporary access road. However, the table from Page 5 of the main narrative and the location map in Appendix T identify the access road as permanent. Clarify this discrepancy and make all revisions necessary. § 102.4(b)(5)(iii)</p>	<p>AR-LA-026.4 is a temporary access road. The narrative and the location map have been updated as necessary.</p>
21	<p>The location map in Appendix T identifies AR-LA-027.5, which appears to be an access road (based upon the naming convention).</p>	<p>AR-LA-027.05 is an access road to Construction Staging Area CS-CSA-LA-1-007.2. The AR-LA-027.05 label has</p>

	However, there does not appear to be anything proposed for the area identified on the location map. Clarify this discrepancy. § 102.4(b)(5)(iii)	been removed from the location map for AR-LA-026.4 to avoid future confusion.
22	For temporary access road AS-LA-027.1 (Appendix U), the narrative identifies the Watershed as Chickies Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Chickies Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)	The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.
23	For temporary access road AS-LA-028.1 (Appendix V), the narrative identifies the Watershed as Black Run; however, PCSM Standard Worksheet # 1 identifies the receiving surface water as Back Run. Based upon the information in the Joint Permit application, the receiving surface water would be an UNT to Back Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)	The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.
24	The following technical deficiencies are associated with Appendix W Appendix W: a. The narrative identifies the Watershed as Chickies Creek; however, PCSM Standard Worksheet #1 (in Appendix W.7) identifies the receiving surface water as an UNT to Chickies Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(S)(v) b. The riprap apron sizing calculations identify the dimensions are based upon minimum sizing criteria from chart. Provide more discussion related to this, including how the equivalent pipe size was determined for each apron. § 102.4(b)(5)(viii)	a. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water. b. Calculations related to the equivalent pipe size used for each rip rap apron have been added to the road-specific appendix.
25	For temporary access road AS-LA-030 (Appendix X), the discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for this road. However, the narrative discussion then identifies that a rock construction entrance and driveway apron will be utilized where the existing gravel drive meets Harvest Road. Clarify these discrepancies between the narrative and the narrative and plan drawings. The narrative identifies the Watershed as Little Chickens Creek; however, PCSM Standard Worksheet # 1 identifies the receiving surface water as Shells Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)	The narrative has been revised to accurately describe the proposed BMPs and to consistently identify the watershed and receiving surface water.
26	For temporary access road AS-LE-033.1 (Appendix Y), the discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for this road. However, the narrative discussion then identifies that a rock construction entrance and	The narrative has been revised to accurately describe the proposed BMPs and to consistently identify the watershed and receiving surface water.

	driveway apron will be utilized where the existing gravel drive meets Harvest Road. Clarify these discrepancies between the narrative and the narrative and plan drawings. The narrative identifies the Watershed as Little Chickies Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Shells Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)	
Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings – Proposed 42” Central Penn South		
1	The plan drawings indicate an area of disturbance at hydrostatic test water withdrawal areas LA-163 (0.95 acres) and LA-164 (0.52 acres). Clearly identify on the plan drawings these areas of disturbance and provide adequate E&S BMPs. §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)	The revised Application submittal provides water withdrawal plans that depict earth work activities (if any) and the associated BMPs or clarify if no earth work activities will be required.
2	Identify the possible hydrostatic test dewatering locations on the plan drawings. If the locations are not known at this time, it is suggested that the site parameters, such as slope, degree of ground cover, proximity to receiving water course for an acceptable discharge location would be provided as part of the E&S Plan. §§ 102.4(b)(5)(vi), 102.4(b)(5)(vii) & 102.4(b)(5)(ix)	The revised Application submittal will provide revised plan drawings to depict includes the proposed hydrostatic test dewatering locations.
3	The construction of the access roads for Section A, C, etc. will generate excess soil which will need to be stockpiled until the end of the project when the access roads are restored. Provide soil stockpile locations on the plan drawings, along with adequate E&S BMPs. §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)	The revised Application submittal will provide includes stockpile locations for the access roads in the Erosion and Sediment Control and Layout Plans for Access Roads Plan drawing set. E&S plans.
4	Clarify whether the temporary access road restoration procedures will include the replacement of trees in areas where tree removal occurred/will occur. §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)	Forested areas will be seeded and restored to meadow conditions as described in the Road Specific Construction Sequence included in the Erosion and Sediment Control and Layout Plans for Access Roads Plan drawing set. Trees that are removed will not be replaced as part of the restoration process.
5	Provide adequate E&S BMPs the Permanent Access Road AR-LA-020 to protect Waterway WW-T25-2001. Revise the plan drawings accordingly. §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)	There is no proposed earth disturbance in the vicinity of the waterway. A RCE with wash rack and down gradient CFS is proposed to protect the waterway. The RCE has been relocated to Station 5+50, uphill of the waterway, to knock mud off vehicle tires prior to crossing the waterway.
6	Provide a detailed E&S plan and Site Restoration plan for Contractor Staging Area LA-1-006.3, which is indicated on the Sheet I for AR-	The E&S Plan and Site Restoration Plan for AR-LA-023.2 currently includes the proposed improvements and restoration for CSA-LA-1-006.3. The access road

	LA-023.2 on the Access Roads Plan Set. §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)	access road narrative has been revised to clarify that the CSA design is included with the access road design.
7	Please confirm that the long-term operation and maintenance requirements that pertain to the pipeline ROW also pertain the permanent access roads. § 102.8(m)	The revised application submittal will confirm that the long term operation and maintenance requirements that pertain to the pipeline ROW also pertain the permanent access roads. The long term operation and maintenance requirements vary from pipeline ROW to access roads. Refer to access road plans and narratives for long term operation and maintenance requirements for individual roads.
8	Provide an alternative detail to the Clean Water Diversion Swale that is contained in the BMP and Quantities Plan Set for use to convey water across the trench when the pipeline trench is open. § 102.4(b)(5)(ix)	The revised Application submittal will include includes an updated Clean Water Diversion Swale Crossing detail with an alternate describing the method to convey water across the trench when it is open. Refer to CWC Detail in Best Management Practices and Quantities Plan Set – Sheet 2 or 3 of the Quantity, Crossing and Acidic Soil Tables section (at the back of the plan set)..
9	It appears that wetland W-T10-001 receives runoff from the Project Site; however, this wetland cannot be located on the receiving surface water table in Appendix D of the E&S Plan Narrative. Ensure that all receiving surface waters are properly identified. Wetland W-T10-001 is located in the floodplain of a stream which is tributary to a wild trout stream, resulting in this wetland being an Exceptional Value wetland. Make all revisions necessary throughout all permit application documents. §§ 102.4(b)(5)(v), 102.4(b)(6), 102.8(f)(5), 102.8(h) & 105.17(l)(iii)	The revised Application submittal will ensure that all receiving surface waters are properly identified. Table in Appendix D represents impacted features. Wetland W-T10-001 is not impacted, therefore, it is not identified on the table. Receiving waters can be found on the Location map and Plan Index Sheet, as well as, on the Existing Ground Profile Band of the E&S Alignment Sheets. Please note this watershed is noted as a special protection watershed on the plans. Refer to unnamed tributary WW-T10-001, this stream is identified in App. D as a special protection watershed also.
10	Sheet 5 of 34 identifies the stream and associated floodway for WW-RS-001. However, the floodway is shown as a closed line. This representation of the floodway is not accurate, as the stream does not start and stop in that location. Properly identify the floodways for all streams. § 102.4(b)(5)(ix)	The revised Application submittal will properly identify the floodways for all streams. Stream WW-RS-001 has been field delineated and renamed to WW-T62-001. Floodway has been revised accordingly. This revision has been applied throughout the project.
11	In the Erosion and Sediment Control Narrative it is stated that rock construction entrances will be installed at all locations where the pipeline ROW intersects public roadways. Please provide appropriate notes on the plan drawings to confirm the installation of	Transco will include the construction entrance on the “E&S Detail or E&S Detail Group” band BMP band of all sheets and on the separate facilities and access road plans. The revised Application submittal will include rock

	the rock construction entrance at the intersection of each pipeline ROW and public roadway. § 102.4(b)(5)(ix)	construction entrances at all locations where the pipeline ROW intersects public roadways. Refer to the E&S Detail Group Legend on the plans. Transco will include the construction entrance on the “E&S Detail or E&S Detail Group” band BMP band of all sheets and on the separate facilities and access road plans. The revised Application submittal will include rock construction entrances at all locations where the pipeline ROW intersects public roadways. Refer to the E&S Detail Group Legend on the plans.
12	<p>The following technical deficiencies are associated with the staging areas:</p> <ul style="list-style-type: none"> a. The location of the stabilized rock construction entrance with wash rack is not illustrated on the drawings for CSA-CS-CSA-LA-1-002 Contractor Staging Area 2, CSA-CS-CSA-LA-1-003 Contractor Staging Area 3, CSA-CS-CSA-LA-1-006 Contractor Staging Area 6, CSA-CS-CSA-LA-1-007 Contractor Staging Area 7. Clarify if access is being made by way of the pipeline ROW. § 102.4(b)(5)(ix) b. Provide a topsoil stockpile location on the drawings for CSA-CS-CSA-LA-1-003. Discuss grading and stripping of topsoil in the construction sequence or verify that topsoil will not be removed prior to the placement of stone. §§ 102.4(b)(5)(vi), 102.4(b)(5)(vii) & 102.4(b)(5)(ix) c. Discuss the timing of removal of the contractor staging areas in relation to the timing of the stabilization of the pipeline right-of-way. § 102.4(b)(5)(vii) 	<p>The revised Application submittal will:</p> <ul style="list-style-type: none"> a. Clarify if access is being made by way of the pipeline ROW. Includes rock construction entrances with wash racks on the plans at requested staging areas. b. Clarify in the Construction Sequence on plans & narrative, Topsoil is not being removed. Clarifies that a topsoil stockpile is not proposed for this staging area. Please note that no reference to topsoil removal or topsoil stockpiles are included in the sequence of construction for this staging area. c. Clarify clarifies that the contractor staging areas will remain in service for the duration of the Project and until final pipeline grading and stabilization. Transco will add Contractor Staging Areas into the construction sequence. Refer to site specific contractor staging area sequence of construction shown on E&S plans and within the E&S narrative.
Best Management Practices and Quantities Plan Set – Proposed 42” Central Penn South		
1	Clarify the purpose of this plan set. Is this plan set to serve as the E&S BMPs for the proposed 42” Central Penn Line South E&S Plans or to serve as the E&S BMPs for the temporary and permanent access roads? If separate E&S Plans are provided for the 42” CPL South and for the temporary and permanent access roads; then each of those plans shall be full and complete (including all necessary details, notes, maintenance, etc.). § 102.4(b)(5)	The purpose of the BMP Plan Set is to provide E&S details for both Central Penn Line South/North and the temporary/permanent access roads. Also, please refer to the E&S narratives Sec. 1.6 for discussion concerning proposed BMPs
2	This set contains multiple options for stream bank stabilization. Identify in Table 3A: Waterbodies Crossed by CPLS Pipeline in	The revised Application submittal provides two methods of stream bank stabilization/restoration to be performed

	Lancaster County, the specific method of stream bank stabilization/restoration to be performed each crossing location. §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi), 102.4(b)(5)(vii), 102.4(b)(5)(ix) & 102.4(b)(5)(xiv)	at each crossing location, either Rip Rap Stream Stabilization or Stream Bank Stabilization with Reinforcement Blanket. Refer to detail RSS and SBR, respectively, in the BMP plan set.
3	Pumped water filter bags (PWB) are proposed as the principal method of removing sediment from pumped water. The Cofferdam Stream Crossing Detail (Sheet 1 of 13 states that an equivalent dewatering device may be used in lieu of the PWB. Provide additional information related to the approved equal on the plan drawings. The Trench Dewatering Detail (Sheet 9 of 13) indicates that secondary containment must be used when the PWB is positioned within 100 feet of wetland or waterbody; provide more information related to what this secondary containment §§ 102.4(b)(5)(vi) &, 102.4(b)(5)(ix)	The revised application includes a note on the Cofferdam Stream Crossing Detail (CD) detail which states that the equivalent dewatering structure must meet the approval of the PADEP. Additionally, the secondary containment has been eliminated. Refer to PWB detail on BMP detail sheet 5 of 11. Also, refer to CD detail on BMP detail sheet 1 of 11.
4	The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(l) & 102.11(b)	The revised Application submittal will include includes a trench plug detail on sheet 8 of 11 in the county specific BMP plan sets that is in conformance with the current set of standard details from the E&S Manual. The revised Application submittal will include includes a trench plug detail on sheet 8 of 11 in the county specific BMP plan sets that is in conformance with the current set of standard details from the E&S Manual.
Erosion and Sediment Control and Layout Plans Drawings – Access Roads		
1	Provide a separate PCSM Plan for the permanent access roads from the E&S Plan for the permanent access roads. A combined plan, titled Erosion and Sediment Control /Site Restoration Plan, can be provided for the temporary access roads. §§ 102.4(b)(5)(xiv) & 102.8(d)	The revised Application submittal will provide provides separate PCSM Plan for the permanent access roads to the MLV sites, separate from the E&S Plan for the permanent access road. Please note that the permanent access roads that provide access to the ROW will be restored to pre-construction conditions. Operations will drive over pre-construction cover within a permanent easement to access the ROW after construction. Therefore, these permanent access roads are not included in the separate PCSM plans. Each County now has two sets of access road plans: <ul style="list-style-type: none"> • “Erosion & Sediment Control and Layout Plans” that include the E&S design for all roads and the site restoration plan for temporary roads and permanent roads to be restored to pre-construction conditions.

		<ul style="list-style-type: none"> • “Post Construction Stormwater Management Plans for Permanent Access Roads” that include the PCSM plans for the permanent access roads that access MLV sites.
2	Drawing No. 24-1600-70-28-A/LL113_9 Sheet 2 of 4, identifies an access road named AR-LA-018; however, there is no additional information provided related to this location (it is not identified in the table on Page 5 of the narrative). The plan drawing identifies AR-LA-029.2; however, it appears that this should be labeled "AR-LA-029.3". Clarify these discrepancies and make all revisions necessary. §§ 102.4(b)(5)(iii) & 102.4(b)(5)(ix)	AR-LA-018 is a deleted access road. It was deleted prior to the initial DEP submittal. Therefore, it is not included in the crossed out roads on the coversheet of the AR E&S Plans. AR-LA-029.2 has been replaced with AR-LA-029.3. The Location Map and Access Road Index has been updated to reflect the current list of access roads.
3	The Notes provided on Drawing No. 24-1600-70-28-A/LL113_9-AR-LA-002 Sheet 3 of 3 should be specific for that particular location. Make all revisions necessary to correct this deficiency throughout the application documents. § 102.4(b)(5)(ix)	The general notes previously included on the SR/PCSM plans have been moved to the General Access Road Notes now provided on Sheet 4 of 4 of the Access Road E&S Plans and Sheet 3 of 3 of the Access Road PCSM Plans.
4	Drawing No. 24-1600-70-28-A/LL113_9-AR-LA-010.2 Sheet 1 of 3 identifies grading required for the centerline of the access road; however, the proposed grading is not shown in the plan view. Show on the plan view for each location the proposed grading for the temporary and permanent access roads. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102. (b)(5)(iii) & 102.4(b)(5)(ix)	The intent of the plan and profile drawing is to depict the vertical and horizontal geometry of the access roads. Any proposed grading is included in the plan view of the Erosion and Sedimentation Control Drawings for Access Roads (Sheet 2 of 2 for AR-LA-010.2).
Soil Erosion and Sediment Control Plan Drawings – River Road Regulator Station		
1	<p>The following technical deficiencies are associated with Sheet 6 of 9: § 102.4(b)(5)(ix)</p> <ol style="list-style-type: none"> The following technical deficiencies are associated with the Level Spreader Detail: <ol style="list-style-type: none"> Provide discussion as to why there is no geotextile fabric provided along the bottom and side of the R-3 riprap. § 102.4(c) The detail has a dimension identified as 'Extend to Frost Line'. Identify in the detail the required dimension for the site. § 102.4(b)(5)(xiv) It appears that the pipe's thickness is not accounted for in the sizing of the anti-seep-collar. Based upon the design the anti-seep collar should have a 7-in. projection; the anti-seep-collar width should be 30 inches (7-in. projection+ 2-in. pipe thickness+ 12-in. 	<p>The revised Application submission will has:</p> <ol style="list-style-type: none"> provide an updated detail for the proposed level spreader Removed this BMP because of site re-design. Included updated anti-seep collar calculations and details. Refer to E&S sheet 6 of 8. Refer to E&S narrative A.3

	diameter+ 2-in. pipe thickness+ 7-in. projection). Make all revisions necessary.	
2	Provide the calculations for sizing of the anti-seep collar in Appendix A of the narrative. § 102.4(b)(5)(viii)	The revised Applications submittal will include now includes calculations for the sizing of the anti-seep collar in App. A.3
3	A Temporary Plywood Riser Detail is provided on Sheet 8. However, it is not clear where the temporary plywood riser will be used, as the sediment trap calls for a temporary metal riser as the primary outlet. A temporary plywood riser is not an approved inlet protection alternative. Identify how the temporary plywood riser will be used. The note reference in the detail to refer to Standard Construction Detail #7-10 for more information is not sufficient. Provide all information necessary for the construction/installation and maintenance of the temporary plywood riser. §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)	The revised Application submittal will does not include a Temporary Plywood Riser Detail, as it will not be used. has been removed from the design.
4	Identify the size of the proposed compost filter socks by providing a Sediment Barrier Table on Sheet 4 of the E&S plan drawings. § 102.4(b)(5)(ix).	The revised Application submittal will include includes the requested table on Sheet 4.
5	Provide a detail for the proposed gravel pad area. § 102.4(b)(5)(ix)	The revised Application submittal will include includes a detail for the gravel pad area. Refer to E&S plans sheet 6 of 8.
6	Provide Seed Mixes #3 and #4, which are referenced to be used in the bioretention basin, have not been provided on the E&S or PCSM Plans drawings. §§ 102.4(b)(5)(ix) & 102.8(f)(9)	The revised Application submittal will provide provides updated seed mix references in the E&S and PCSM Plans drawings. Mixes 3 and 4 have been replaced with a storm basin seed mix. Refer to the basin cross section details on E&S plans sheet 7 of 8 and PCSM plans sheets 5 and 6 of 6
Lebanon County		
Erosion and Sediment Control Plan Narrative – Proposed Central Penn South		
1	The Erosion Control Blanket sub-section in Section 1.6 on Page 28 identifies the blankets to be applied on slopes greater than 33%. However, the E&S Manual (Page 273) recommends that erosion control blankets be installed on all slopes 3:1 and greater. The identification on Page 28 is not consistent with the identification that the E&S BMPs are designed in accordance with E&S Manual (first sentence of the third paragraph on Page 1). Make all revisions necessary. §§ 102.4(b)(S)(vi), 102.11(a)(1) & 102.11(b)	The revised Application will indicate indicates that erosion and control blankets will be installed on slopes equal to 3:1 or greater and within 50 feet of streams and wetlands (100 feet for special protection waters). Refer to E&SC Narrative Section 1.6.

Erosion and Sediment Control Plan and Post Construction Stormwater Management/Site Restoration Plan Narrative – Temporary and Permanent Access Roads		
1	Provide a separate PCSM Plan the permanent access roads from the E&S Plan for the permanent access roads. A combined plan, titled Erosion and Sediment Control /Site Restoration Plan, can be provided for the temporary access roads. §§ 102.4(b)(5)(xiv) & 102.8(d)	The revised Application submittal will provide includes Erosion and Sediment Control /Site Restoration Plans for the temporary access roads and permanent access roads to the pipeline ROW that has been restored to pre-construction conditions. A separate PCSM Plan is now included in the Application for the permanent access roads to the MLV sites. separate from the E&S Plan for the permanent access road.
2	Are the mainline valve sites included in the E&S and PCSM Plans for the permanent access roads? If so, that should be clarified and discussed in the narratives. § 102.4(b)(5)(iii)	The revised narrative clarifies that the temporary E&S design for the MLVs is part of the pipeline plan. The temporary E&S measures are shown on the access road plans as shaded for coordination purposes. The road-specific narratives for the associated access roads have been revised to clarify that the temporary E&S measures are part of the pipeline E&S plan. These revisions has been provided within the revised Application submittal. The PCSM BMP designs for the MLV sites are included in the PCSM narratives for the associated access roads. Each County now has two sets of access road plans: <ul style="list-style-type: none"> • “Erosion & Sediment Control and Layout Plans” that include the E&S design for all roads and the site restoration plan for temporary roads and permanent roads to be restored to pre-construction conditions. • “Post Construction Stormwater Management Plans for Permanent Access Roads” that include the PCSM plans for the permanent access roads that access MLV sites.
3	Identify in the narrative whether the receiving surface water is impaired or has a TMDL. For the specific sites (temporary and permanent access roads), ensure that proper and adequate discussion is provided related to the E&S design and the impairment and/or TMDL. § 102.4(b)(5)(v)	The revised Application submittal will includes revisions to the narrative identifying whether the receiving surface water is impaired or has a TMDL. Discussion has been added for the specific sites related to the E&S design and the impairment and/or TMDL. The revised Application submittal will includes revisions to the narrative identifying whether the receiving surface water is impaired or has a TMDL. Discussion has been added to

		<i>the road specific appendices included in the E&S Access Road Narratives</i> for the specific sites related to the E&S design and the impairment and/or TMDL.
4	The table on Page 6 should identify the receiving surface water, the Designated and Existing Uses and if the receiving surface water is impaired or has a TMDL. The table identifies LE-057.1 with italicized text; is there any significance to this? The table identifies LE-041 and LE-059; however, these roads are not included in the Appendices or on the plan drawings. Clarify this discrepancy. §§ 102.4(b)(5)(iii) & 102.4(b)(5)(v)	The table on Page 6 has been revised and has been <i>is</i> included in the revised Application submittal. Bold and italicized text indicates changes from the December 2015 submittal. AR-LE-041 and AR-LE-059 have been removed from the Project.
5	Identify what is meant by the terminology "infiltration losses" in the last sentence of the second paragraph of Section 1.3 on Page 10. § 102.4(c)	Section 1.3 has been revised to clarify that, "infiltration losses" refers to the volume of water that will infiltrate as the stormwater fills the detention volume between the voids in the rock in the MLV pads and behind the swale check dams. The revised Section 1.3 has been <i>is</i> provided in the revised Application submittal. <i>The reference to infiltration losses have been removed from the narrative. As with previous submissions, credit for infiltration is not accounted for in pre and post-construction stormwater calculations.</i>
6	The information related to vacuum sweeping on Page 15 is not sufficient. Identify when/why the vacuum sweeping will be utilized. The large clumps of dirt that accumulate on the road surface should be hand cleared before vacuum sweeping. The maintenance trigger for the dirt roads of 6-in. ruts is too excessive. Revise the maintenance trigger for rolling of dirt roads to a more acceptable level. § 102.4(b)(5)(vi)	The <i>Section 1.7 of the County</i> narrative has been revised to include hand clearing large clumps before vacuuming and the rutting allowance has been decreased to 4 inches. <i>The roadway shall be vacuum swept upon discovery of sediment.</i> The vacuum sweeping narrative has been added to the Access Road General Notes on Sheet 4 of 4 of the Access Road Plans as well.
7	Page 16 identifies that erosion control blankets will be installed on slopes greater than 3:1. However, the E&S Manual (Page 273) recommends that erosion control blankets be installed on all slopes 3:1 and greater. The identification on Page 16 is not consistent the identification that the E&S BMPs are designed in accordance with E&S Manual (first sentence of the fifth paragraph on Page 4). Make all revisions necessary. §§ 102.4(b)(5)(vi), 102.11(a)(l) & 102.11(b)	The narrative (all counties) has been revised to say "Slopes equal to 3:1 or greater".
8	The generalized BMP Installation Sequence Narrative in Section 1.7 is not sufficient. Each temporary and permanent access road is	The revised Application submittal includes an expanded generalized BMP Installation Sequence Narrative in <i>Section 1.7. A</i> site/location specific construction

	different, as a site/location specific construction sequence is required. §§ 102.4(b)(5)(vii) & 102.8(f)(7)	sequence is provided for each temporary and permanent access road on the individual road plan and corresponding road specific narrative.
9	<p>Section 1.12 on Page 27 identifies that there may be potential for acid producing rock. Identify if there is or is not the potential for naturally occurring geologic formations or soil conditions that may have the potential to cause pollution during earth disturbance activities and after earth disturbance activities are completed and PCSM BMPs are operational. What investigation has been done to determine if there is potential for acidic runoff from the site (beyond the Soil Survey)? If acid producing rock is present at the site, then provide BMPs to minimize the potential for pollution. Perform and supply an adequate predevelopment site characterization and assessment of soil and geology. Tailor this discussion for each specific site (temporary and permanent access roads). § 102.4(b)(5)(xii)</p> <p>Clarify the statement on Page 28 " ... the quantity of acidic soils found along the proposed CPL South route may be sufficiently high such that their potential for pollution should be mitigated." If the quantity is sufficiently, how is that mitigated? What investigation has been performed to determine that the amount potential for pollution is mitigated? § 102.4(b)(5)(xii)</p>	<p>The revised Application submittal will expands the narrative relating to the potential for acid producing rock.</p> <p>An Acid Producing Soils and Bedrock Control Plan has been added to the E&S Narrative in Section 1.13 to manage soils with pH value of 4.0 or greater. A site specific soil table identifying the soils types and PH pH and relative acidity of the soils located within the access road LOD. Acidity levels of the soils found along the proposed pipeline route do not fall within the pH range that is considered to be a potential source of pollution that must be mitigated. Therefore, additional site investigations were not performed.</p> <p>Need to add language related to the request for field investigations.</p>
10	The Erosion Control Blanket sub-section in Section 1.6 on Page 16 identifies the blankets to be applied on slopes greater than 3: 1. However, the E&S Manual (Page 273) recommends that erosion control blankets be installed on all slopes 3: 1 and greater. The identification on Page 16 is not consistent with the identification that the E&S BMPs are designed in accordance with E&S Manual (first sentence of the fifth paragraph on Page 4). Make all revisions necessary. §§ 102.4(b)(5)(vi), 102.11 (a)(1) & 102.11 (b)	The narrative (all counties) has been revised to say "Slopes equal to 3:1 or greater".
11	Section 1.13 does not include a thermal impact analysis for the earth disturbance activity (for the E&S Plan). Provide this thermal impact analysis. Provide the thermal impact analysis for each specific site. §§ 102.4(b)(5)(xiii) & 102.8(f) (13)	The revised Application submittal will provide s additional information in the Thermal Impact discussion for Project access roads, facilities, and pipeline in the narratives. Road-specific thermal impact analyses have been added to each access road narrative.
12	Revise Section 1.15 to be specific for any requested riparian buffer/riparian forest buffer waivers associated with the temporary and permanent access roads. There is no regulatory requirement to provide a riparian buffer/riparian forest buffer for perennial or	Section 1.16 (previously Section 1.15) has been revised to clarify that no access roads within Lancaster Lebanon County encompass require a riparian forest buffers waiver .

	intermittent rivers, streams, or creeks, or lakes, ponds, or reservoirs with a Designated Use other than Exceptional Value and High Quality; therefore, a waiver of buffers for these areas is not required. Revise the narrative accordingly. § 102.14(d)(2)	
13	Section 1.16 is not an adequate antidegradation analysis. Make the antidegradation analysis specific to the site for which the E&S Plan covers (i.e. each temporary and/or permanent access road). The analysis should evaluate and include nondischarge alternatives in the E&S Plan. If nondischarge alternatives do not exist for the project, then make that demonstration and include in the E&S Plan antidegradation best available combination of technologies (ABACT) BMPs. Make all revisions necessary. § 102.4(b)(6)	The revised Application submittal will include a revised antidegradation analyses specific to the portions of the right-of-way (ROW) in HQ/EV watersheds, and for EV wetlands in Section 1.17 (formerly Section 1.16) . The analysis is an overall watershed approach that will address the pipeline, temporary and permanent access roads, and facilities. There are no permanent or temporary access roads located within special protection watersheds in Lebanon County. Proposed BMPs are consistent across the Project.
14	The plan drawings provided in Appendix A and B are not current with the latest set of revised full-size plan drawings (e.g. Appendix A Drawing No. 24-1600-70-28-A/LL113_9 has a latest revision date of 12/02/2015; while the full-size Drawing No. 24-1600-70-28-A/LL113_9 has a latest revision date of 02/04/2016). DEP recommends only providing one copy of the plan drawings per application set (do not provide reduced scale drawings in Appendix A and B), to avoid confusion and potential inconsistencies. § 102.4(b)(5)(ix)	Appendices A and B have been removed from the narrative as requested.
15	For temporary access road AS-LE-033.1 (Appendix E), the narrative identifies the Watershed as Little Chickies Creek; however, PCSM Standard Worksheet # 1 identifies the receiving surface water as an UNT to Shells Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)	The revised Application submission will address inconsistencies. The narrative has been revised to accurately describe the proposed BMPs.
16	The following technical deficiencies are associated with Appendix F: a. The narrative identifies the Watershed as Gingrich Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Gingrich Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)	The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water. Appendix F (AR-LE-035) is no longer part of this project.
17	The following technical deficiencies are associated with Appendix G: a. The riprap apron sizing calculations (in Appendix G.5) identify the dimensions are based upon minimum sizing criteria from chart. Provide more discussion related to this, including how the equivalent pipe size was determined for each apron.	Calculations related to the equivalent pipe size used for each rip rap apron have been added to the road-specific appendix on Worksheet 11.

18	For temporary access road AS-LE-038 (Appendix H), the narrative identifies the Watershed as Quittapahilla Creek; however, PCSM Standard Worksheet # 1 identifies the receiving surface water as an UNT to Quittapahilla Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(S)(v)	<p>The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p> <p>Appendix H (AR-LE-038) is no longer part of this project.</p>
19	<p>The following technical deficiencies are associated with Appendix L:</p> <p>a. The narrative identifies the Watershed as Quittapahilla Creek; however, PCSM Standard Worksheet # 1 identifies the receiving surface water as an UNT to Quittapahilla Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)</p> <p>b. Completely fill out E&S Worksheet #11. § 102.4(b)(5)(viii)</p>	<p>a. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p> <p>b. Appendix L includes Worksheet #1, not Worksheet #11. It appears that the comment refers to the missing slope length above barrier in Worksheet #1. The Worksheet #1 has been updated to include all required information. E&S worksheet 11 is not applicable to this road.</p>
20	<p>The following technical deficiencies are associated with Appendix L:</p> <p>a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet # 1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)</p> <p>b. The discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for the area of the portion of the access road that will utilize the existing gravel road. However, the narrative discussion then identifies that a rock construction entrance and driveway apron will be utilized where the existing gravel drive meets the public road. Clarify this discrepancy. § 102.4(b)(5)(iii)</p>	<p>a. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p> <p>b. The narrative has been revised to accurately describe the proposed BMPs.</p>
21	For temporary access road AS-LE-047 (Appendix N), the narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)	The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.
22	For temporary access road AS-LE-049 (Appendix O), the narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)	The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.

23	For temporary access road AS-LE-050 (Appendix P), the narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet # 1 identifies the receiving surface water as an UNT to Qureg Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)	The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.
24	The following technical deficiencies are associated with Appendix Q: a. The narrative identifies the Watershed as Forge Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Forge Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v) b. It appears that based upon the grading around the ML V Pad shown on the plan drawings that concentrated flow will result. Provide stability calculations for this area of concentrated flow. Provide calculations which demonstrate that the flow depth does not result in drainage area contributing to the ML V Pad BMP. § 102.4(b)(5)(viii)	a. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water. b. The drainage area to be diverted around the MLV site is small. Calculations showing that the velocity of the concentrated flow does not exceed the maximum allowable velocity over mulch have been added to Appendix Q. An off-site discharge analysis has been provided in Appendix G.7 and Q.7 of the PCSM Narrative and of the E&S / SR Narrative demonstrating that the proposed design is in compliance with applicable regulations.
25	The following technical deficiencies are associated with Appendix R: a. The narrative identifies the Watershed as Forge Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Forge Creek. Clearly and consistently identify the receiving surface water. It appears that Forge Creek and an UNT to Forge Creek are the receiving surface waters for this site/location. § 102.4(b)(5)(v) b. The discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for the area of the portion of the access road that will utilize the existing gravel road. However, the narrative discussion then identifies that a rock construction entrance and driveway apron will be utilized where the existing gravel drive meets the public road. Clarify this discrepancy. § 102.4(b)(5)(iii) c. The Location Map does not properly identify Forge Creek (it is identified as an UNT to Forge Creek). Properly identify the receiving surface waters. § 102.4(b)(5)(v)	a. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water. b. AR-LE-50.3 (Appendix R) is an existing road that has been revised to indicate where disturbance will occur and the installation of BMP's as indicated on the plans and narratives for this access road. b. AR-LA-023.1 has been removed from the project. However, the narratives of similar type roads have been revised to accurately describe the proposed BMPs and to consistently identify the watershed. c. The receiving water has been removed from the location maps to avoid future discrepancies. Receiving water information is provided in the summary table in the County narrative, on Worksheet #1 of the road-specific narrative, the Location Map , and on the Site Restoration and PCSM plans.
26	The following technical deficiencies are associated with Appendix S: a. The discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for the area of the portion of the access road that will utilize the existing	a. The narrative has been revised to accurately describe the proposed BMPs.

	gravel road. However, the narrative discussion then identifies that a rock construction entrance and driveway apron will be utilized where the existing gravel drive meets the public road. Clarify this discrepancy. § 102.4(b)(5)(iii)	
27	<p>The following technical deficiencies are associated with Appendices T & U:</p> <p>a. The narrative identifies the Watershed as Trout Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Trout Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)</p> <p>b. The discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for the area of the portion of the access road that will utilize the existing gravel road. However, the narrative discussion then identifies that a rock construction entrance and driveway apron will be utilized where the existing gravel drive meets the public road. Clarify this discrepancy. § 102.4(b)(5)(iii)</p>	<p>a. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p> <p>b. The narrative has been revised to accurately describe the proposed BMPs.</p>
28	<p>The following technical deficiencies are associated with Appendix V:</p> <p>a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet # 1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)</p> <p>b. The discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for the area of the portion of the access road that will utilize the existing gravel road. However, the narrative discussion then identifies that a rock construction entrance and driveway apron will be utilized where the existing gravel drive meets the public road. Clarify this discrepancy. § 102.4(b)(5)(iii)</p>	<p>a. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p> <p>b. The narrative has been revised to accurately describe the proposed BMPs.</p>
29	<p>The following technical deficiencies are associated with Appendix W:</p> <p>a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)</p> <p>b. The narrative identifies that additional E&S BMPs may not be necessary if the access road is installed and stabilized within a timely manner during dry weather. Identify this in</p>	<p>a. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p> <p>b. The reference to dry weather has been removed from the road-specific narrative. The erosion potential is due to the diverted stormwater and not whether or not the access road improvements are installed during nice</p>

	<p>the construction sequence. If the installation and stabilization of this access drive is not written as such in the construction sequence, then additional E&S BMPs will be required. §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(vii)</p> <p>c. The riprap apron sizing calculations identify the dimensions are based upon minimum sizing criteria. Provide more discussion related to this, including how the equivalent pipe size was determined for each apron. § 102.4(b)(5)(viii)</p> <p>d. The E&S Manual recommends a nominal placement thickness of 18-in. for R-4 riprap (Page 135); however, the calculations and plan drawings identify an apron thickness of 12-in. Revise the design to be consistent with the recommendations of the E&S Manual or provide the appropriate information related to the alternative BMP and design standards. §§ 102.4(b)(5)(viii), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)</p> <p>e. The gradation provided for R-4 riprap in the calculations and plan drawings are not consistent with the gradation on Page 135 of the E&S Manual or with the gradation in Section 850 of PennDOT's Publication 408. If riprap is to be sized per the E&S Manual recommendations, then utilize the proper gradation. §§ 102.4(b)(5)(viii), 102.4(b)(5)(ix), 102.4(c) & 102.11(a)(1)</p>	<p>weather. The narrative has been clarified to describe when additional E&S measures are to be installed</p> <p>c. Calculations related to the equivalent pipe size used for each rip rap apron have been added to the road-specific appendix on Worksheet 11.</p> <p>d. The nominal placement thickness for the apron shown on LE-056 has been revised to be 18" to be consistent with the recommendations of the E&S Manual. The design has been revised, R-3 riprap is now required. The placement of the riprap will be per Table 6.6 of the E&S Manual. See Access Road General Note 19 on sheet 4 of 4.</p> <p>e. The gradation labels have been removed and replaced with a note in the narrative and plans stating that the Gradation of the rip rap shall meet the requirements of Table 6.6 of the E&S Manual provided under separate cover in the Best Management Practices and Quantities Plan.</p>
<p>30</p>	<p>The following technical deficiencies are associated with Appendix X:</p> <p>a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet # 1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)</p> <p>b. The narrative identifies that the area the proposed level spreader is discharging to, has not been field investigated/identified. This is not sufficient. Base the design upon field/actual conditions. §§ 102.4(b)(5)(iii) & 102.4(b)(5)(viii)</p>	<p>The revised Application submittal will:</p> <p>a. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p> <p>b. Incorporate civil survey information into the design of the E&S measures. The filter sock diversion and level spreader have been removed from the design.</p>
<p>31</p>	<p>The following technical deficiencies are associated with Appendix Y:</p> <p>a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet # 1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)</p>	<p>The revised Application submittal will:</p> <p>a. Provide a revised narrative and Standard Worksheet #1 that consistently identify the watershed and receiving surface water.</p>

	<p>b. The narrative identifies that access road as temporary; however, the overall table on Page 6 of the main narrative identifies the access road as permanent. Clarify this discrepancy. § 102.4(b)(5)(iii)</p>	<p>b. Include revised narrative on Page 6 of the main narrative that identifies AR-LE-057.1 as a temporary permanent access road.</p>
32	<p>For temporary access road AS-LE-059.1 (Appendix Z), the narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)</p>	<p>The revised narrative and Standard Worksheet #1 consistently identify the watershed and receiving surface water and is provided in the revised Application submittal.</p>
33	<p>The following technical deficiencies are associated with Appendix AA:</p> <p>a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)</p> <p>b. The narrative identifies that the area the proposed level spreader is discharging to, has not been field investigated/identified. This is not sufficient. Base the design upon field/actual conditions. §§ 102.4(b)(5)(iii) & 102.4(b)(5)(viii)</p> <p>c. The gradation provided for R-3 riprap in the calculations and plan drawings are not consistent with the gradation on Page 135 of the E&S Manual or with the gradation in Section 850 of PennDOT's Publication 408. If riprap is to be sized per the E&S Manual recommendations, then utilize the proper gradation. §§ 102.4(b)(5)(viii), 102.4(b)(5)(ix), 102.4(c) & 102.11(a)(1)</p>	<p>The revised Application submittal will:</p> <p>a. Includes a revised narrative and Standard Worksheet #1 that consistently identify the watershed and receiving surface water.</p> <p>b. Has been modified based on a site visit on 6/22/2016 to review the level spreader discharge area. It was determined that the existing road is in good shape and can be used as is for the access road. The previously proposed point source discharges have been removed.</p> <p>c. The rip rap aprons have been removed from the design. Revised calculations and plan drawings that reflect the removal of the gradation labels. A note has been placed in the narrative and plans stating that the Gradation of the rip rap shall meet the requirements of Table 6.6 of the E&S Manual, provided under separate cover in the Best Management Practices and Quantities</p>
<p>Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings - Proposed 42" Central Penn South</p>		
1	<p>Throughout the submission, the Erosion Control Legend shows a symbol for a Flume Channel Crossing. The corresponding detail, design calculations, or reference to installation/removal in the construction sequence could not be located in the E&S Plan. Provide all required information or clearly indicate where information is located, and describe the flume channel crossing within the construction sequence. §§ 102.4(b)(5)(vi), 102.4(b)(5)(vii), 102.4(b)(5)(viii), 102.4(b)(5)(ix), 102.4(c) & 102.11(b)</p>	<p>The revised Application submittal includes all pertinent details, design information, and calculations in regards to the Clean Water Crossings (Flume Channel Crossing). Refer to the CWC detail and the Pipeline BMP Installation Sequence in the BMP plan set. Also refer to the design calculations in Section 1.6 and Appendix B of the E&SC Narrative.</p>

2	Staging area: Cleanout Stakes are proposed within several basins and traps. Identify the corresponding cleanout elevations at each proposed cleanout stake location. § 102.4(b)(5)(ix)	The revised Application submittal will include includes cleanout elevations at each proposed cleanout stake location.
Best Management Practices and Quantities Plan Set - Proposed 42" Central Penn South		
1	Clarify the purpose of this plan set. Is this plan set to serve as the E&S BMPs for the proposed 42" Central Penn Line South E&S Plans or to serve as the E&S BMPs for the temporary and permanent access roads? If separate E&S Plans are provided for the 42" CPL South and for the temporary and permanent access roads; then make each of those plans full and complete (including all necessary details, notes, maintenance, etc.). § 102.4(b)(5)	The purpose of the BMP Plan Set is to provide E&S details for both Central Penn Line South/North and the temporary/permanent access roads. Also, please refer to the E&S Narrative Section 1.6 for discussion concerning proposed BMPs.
2	The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11 (a)(1) & 102.11 (b)	The revised Application submittal will include includes a trench plug detail in the BMP plan sets that is in conformance with the current set of standard details from the E&S Manual.
Erosion and Sediment Control and Layout Plans Drawings - Access Roads		
1	Provide a separate PCSM Plan for the permanent access roads from the E&S Plan for the permanent access roads. A combined plan, titled Erosion and Sediment Control /Site Restoration Plan, can be provided for the temporary access roads. §§ 102.4(b)(5)(xiv) & 102.8(d)	The revised Application submittal will provide provides separate PCSM Plan for the permanent access roads to the MLV sites, separate from the E&S Plan for the permanent access road. Please note that the permanent access roads that provide access to the ROW will be restored to pre-construction conditions. Operations will drive over grass to access the ROW after construction. Therefore, these permanent access roads are not included in the separate PCSM plans. Each County now has two sets of access road plans: <ul style="list-style-type: none"> • “Erosion & Sediment Control and Layout Plans” that include the E&S design for all roads and the site restoration plan for temporary roads and permanent roads to be restored to pre-construction conditions. • “Post Construction Stormwater Management Plans for Permanent Access Roads” that include the PCSM plans for the permanent access roads that access MLV sites.

2	Make the Notes provided on Drawing No. 24-1600-70-28-/LL113_9-AR-LE-033.1 Sheet 6 of 7 specific for that particular location. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102.4(b)(5)(ix) & 102.8(f)(9)	The revised Application submittal will provide removed the general notes previously included on the SR/PCSM plans and relocated the non-road specific notes to the new within the General Access Road Notes on Sheet 4 of 4 of the Access road E&S Plans and Sheet 3 of 3 of the Access Road PCSM Plans. All road plans have been updated with road specific construction sequences.
3	Show the proposed grading for the temporary and permanent access roads on the plan view for each location. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102. (b)(5)(iii), 102.4(b)(5)(ix), 102.8(f)(3) & 102.8(f)(9)	The intent of the plan and profile drawing is to depict the vertical and horizontal geometry of the access roads. Any proposed grading is included in the plan view of the Soil Erosion and Sedimentation Control Drawings.
4	Identify and show the test pit locations on all applicable PCSM Plan drawings. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102. (b)(5)(iii), 102.4(b)(5)(ix), 102.8(f)(3), 102.8(f)(9) & 102.8(g)(1)	The revised Application submittal will includes revised PCSM Plans to that identify infiltration test pit locations for the permanent access roads that access MLV sites.
5	Identify where the site/location specific notes and details for the PCSM Plan are to be found. Provide the regulatory required information for all PCSM BMPs claimed for the specific site/location. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102,8(f)(6), 102.8(f)(7), 102.8(f)(9) & 102.8(f) (10)	The revised Application submittal will provides revised Access Road PCSM plans to include Site-Specific Notes and Details on Sheet 3 of 3 of the Access Road PCSM Plans. This comment has been addressed within the separated E&S / SR and PCSM Plan sets.
6	Drawing Number 24-1600-70-28-A/LL 113_9 Sheet 3 of 27 shows a leader with a label stating, "Stream WW-T43-4001", pointing to what appears to be a 12" sediment barrier. Make all revisions necessary. §§ 102.4(b)(5)(ix) & 102.8(f)(9)	The revised Application submittal has corrected this item. will include a revised Drawing Number 24-1600-70-28-A/LL 113_9 Sheet 3 of 27 that accurately identifies Stream WW-T43-4001.
7	The Erosion Control Legend throughout the submission shows the same symbol for 12" sediment barrier, 18" sediment barrier, 24" sediment barrier, and 32" sediment barrier. Some diameters of compost sock are called out with leaders on the plan and some are not. Clearly identify the size of the compost socks on the plans. Make all revisions necessary § 102.4(b)(5)(ix)	The revised Application submittal will Appendix G.7 of the PCSM Narrative and Q.7 of the E&S / SR Narrative. Includes callouts indicating the size of the compost filter socks, where necessary to clarify the compost filter sock diameter. On drawings with roads that only have one compost filter sock size, one compost filter sock is labeled with, "TYP" after the diameter size, indicating that the callout applies to all compost filter socks on that particular access road.
8	It is unclear if trees removed during construction of access roads will be replaced during restoration. Clarify/identify whether the temporary access road restoration procedures will include the replacement of	Forested areas has been seeded and restored to meadow good conditions. Trees that are removed will not be replaced as part of the restoration process.

	trees in areas where tree removal occurred/will occur. §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)	
Luzerne County		
Erosion and Sediment Control Plan Narrative - Proposed Central Penn North		
1	Provide calculations that show proposed structural level spreaders reduce the discharge velocity in the receiving flow path to a non-erosive level. You may use the guidance in Item 15 on Page 161 and Appendix G of E&S Manual. Estimating cover type is not acceptable. § 102.11(a)(1)	The revised Application submittal provides updated calculations including cover type, to confirm discharge velocity. Refer to Table 2: Temporary Clean Water Diversion Summary shown on BMP plan set, Section 1.6 and Appendix B of the E&S Narrative
2	Drainage areas to earthen level spreaders is limited to 1 acre or less. Please revise. (Appendix G of E&S Manual). § 102.11(a)(1)	An alternate detail has been submitted to PADEP for review in regards to the Clean Water Crossings – approval is pending.
3	The Manning's n value used for vegetated channels does not conform to Table 6.3. § 102.11(a)(1)	The revised Application submittal will include revised soil calculations that conform to Table 6.3. The Manning's "n" coefficient for the permanent-channels and filter sock diversions with grass liners have been revised to match the "n" values in Table 6.3 on page 131 of the DEP E&S Manual. For permanent manufactured liners the manufacturers recommended "n" value is utilized. (Note: Table 6.2 is for Shear Stress and is on page 130.)
4	Provide calculations to show the anticipated outlet velocity for each proposed outfall. § 102.11(a)(1)	The revised Application submittal provides calculations to show the anticipated outlet velocity for each proposed outfall. Refer the "Actual Velocity" column of the Temporary Diversion Summary in Appendix B of the E&S Narrative or Table 2: Temporary Clean Water Diversion Summary of the BMP plan set.
5	A minimum flow length to width ratio of 4L:1W should be provided for all traps located in special protection watersheds (HQ or EV). § 102.11a) (1)	The revised Application submittal for Contractor Yard CY-LU-1-11 has been revised to remove the trap.
Erosion and Sediment Control Plan and Post Construction Stormwater Management/Site Restoration Plan Narrative - Temporary and Permanent Access Roads		
1	Please provide a copy of the work map used to delineate the watersheds tributary to the proposed level spreaders. These watersheds should be the maximum tributary to the facility as described on Page 123 of the E&S Manual. § 102.11(a)(1)	Level spreaders have been removed from the access road plans. However, watersheds have been delineated for the proposed filter sock diversions and a description of the flow path downhill of the rip rap apron has been added to the road- specific narrative per Item 15 on Page 161 and Appendix G of E&S Manual.
2	Provide calculations that show proposed structural level spreaders reduce the discharge velocity in the receiving flow path to a non-	Level spreaders have been removed from the access road plans. However, watersheds have been delineated

	erosive level. You may use the guidance in Item 15 on Page 161 and Appendix G of E&S Manual. Estimating cover type is not acceptable. § 102.11(a)(1)	for the proposed filter sock diversions and a description of the flow path downhill of the rip rap apron has been added to the road- specific narrative per Item 15 on Page 161 and Appendix G of E&S Manual. H
3	Temporary lining design information has not been provided for compost sock diversions. § 102.11(a)(1)	The revised Application includes all required temporary lining design information. The revised Application includes all required temporary lining design information on Worksheet 11 and on the Soil Erosion Control Plan.
Erosion and Sediment Control Plan Narrative - North Diamond Regulator Station		
1	Since earth disturbance is proposed within or along Waters of the Commonwealth and/or within the 100-year floodway, in addition to 2 discharges to the stream, the Conservation District requests that a photocopy(s) of any and all required DEP and/or Army Corp of Engineers permits (or) photocopies of all completed permit applications be submitted with the revised plans. § 102.11(a)(1)	The permits required for the proposed improvements within the 100-year floodway has been will be provided, upon receipt.
2	The E&S plan shows silt socks installed outside of floodplain protection area. Please explain. § 102.11(a)(1)	The revised Application submittal will clarify clarifies that floodplain protection is no longer claimed as a PCSM BMP and the proposed filter socks are placed, accordingly. No revised E&S plan or calculations were required to address this comment. See Appendix A.5 of the PCSM Narrative to reference the removal of the floodplain protection area from the proposed PCSM BMPs design.
3	The Manning's n value used for channel 2 grass lining does not conform to Table 6.3. § 102.11(a)(1)	The revised Application submittal will provide Manning's n values used in the calculations based on manufacturer's recommendations and Table 6.3. The Manning's "n" coefficient for the permanent channels and filter sock diversions with grass liners have been revised to match the "n" values in Table 6.3 on page 131 of the DEP E&S Manual. For permanent manufactured liners the manufacturers recommended "n" value is utilized. (Note: Table 6.2 is for Shear Stress and is on page 130.)
Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings - Proposed 30" Central Penn North		
1	Please provide match lines for adjoining maps (Page 397 of the E&S Manual). (contractor staging area) § 102.11(a)(1)	The revised Application submittal provides match lines between adjoining plans.
2	Please provide proposed contours for all proposed earthmoving (including diversion swales, flume channel crossings and filter sock	The revised Application submittal includes standard details which identify typical sections for installation of

	diversions) that meet the standards in Item 3 on Page 2 and on Page 398 in the E&S Manual. § 102.11(a)(1)	diversion swales, flume channel crossings and filter sock diversions. The standard details are shown in the BMP plan set.
3	Show all proposed improvements (e.g. level spreaders and rip rap aprons) on the plan map(s) (Page 398 in the E&S Manual). § 102.11(a)(1)	The revised Application submittal includes revised plan map legends which include rip-rap aprons at the end of swales discharging to waterbodies and all components of the clean water crossings.
4	Rip rap aprons at sediment trap A should be extended to the toe of embankment and extended a sufficient length in both directions to prevent scour. § 102.11(a)(1)	The site has been redesigned and Sediment Trap A has been removed from the project.
5	Show the proposed limits of construction on the plan maps. All proposed earthmoving (including E&S BMPs and structural PCSM BMPs) must be within the limits of construction (Item 3 on Page 2 and Page 398 in the E&S Manual). It appears the limit dead ends on the plans for contractor staging area 3 and 3.1. § 102.11(a)(1)	The revised Application submittal has been updated to ensure that all earthmoving is proposed within the limits of construction. Contractor Staging Area 3 and 3.1 includes a "limit of disturbance line that delineates the separation between the staging areas and pipeline ROW. has been updated to show the limits of disturbance encompassing the entire staging area. The LOD of the staging area is enclosed by the LOD (Contractor Staging Area) and the LOD (Overall Pipeline Project).
6	The plan map(s) show sediment trap A and Basin 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, Item 15 on Page 161) of the E&S Manual. § 102.11(a)(1)	The revised Application submittal clarifies that trap A and Sediment Basin B 1 have been removed from the project.
7	Please provide a copy of the work map used to delineate the watersheds tributary to the proposed contractor yard channels, basins, and traps. These watersheds should be the maximum tributary to the facility as described on Page 123 of the E&S Manual. § 102.11(a)(1)	The revised Application submittal clarifies the watersheds tributary to proposed traps, channels, and basins on the E&S plans for temporary BMPS and PCSM plans for permanent BMPS.
8	Describe the procedure to be used while conducting earthwork within streams and wetlands. This guidance should meet the standards provided on Pages 42 through 48 of the E&S Manual. It is recommended that you use a mini sequence located near the detail and refer to this mini sequence in the overall sequence. § 102.11(a)(1)	The revised Application includes the procedure to be used while conducting earthwork within streams and wetlands. A separate mini sequence will also be is provided on Sheet 2 of 3 of the Pennsylvania Best Management Practices and Quantities Plan Set General Notes section, entitled "PIPELINE WORK SEQUENCE IN WETLANDS" to supplement the overall sequence of construction.

9	All BMP maintenance notes should be removed from the construction sequence. § 102.11(a)(1)	All BMP maintenance notes have been removed from the construction sequence.
10	Perimeter BMPs have not been provided for existing road culvert at proposed Phase 1 Contractor Yard Spread. § 102.11(a)(1)	The revised Application submittal will provide the necessary BMPs. has compost filter socks for disturbed areas tributary to the culverts.
11	The plan drawings (not just the E&S narrative) should include a complete schedule of installation and removal of erosion control BMPs as they relate to the various phases of earthmoving activities. § 102.11(a)(1)	The revised Application will include includes a complete schedule of installation and removal of E&S BMPs as they relate to various phases of earthmoving activities in the revised sequence of construction found on page 2 of 3 of the Pennsylvania Best Management Practices and Quantities Plan Set, General Notes, section.
12	Provide a typical detail for the proposed flume channel crossing. (Item 9, Page 5 of the E&S Manual) § 102.11(a)(1)	A typical detail for the Clean Water Crossings (Flume Channel Crossing) is located in the BMP plan set.
13	Complete the table for Standard Construction Detail 9-1 and 9-3. § 102.11(a)(1)	The detail will be updated accordingly in the revised Application submittal. The revised Application submittal provides a Rip Rap Apron at Pipe Outlet Without Flared End Section detail, RAO, in the BMP plan set which is based on PADEP Standard Construction Detail 9-2. A note has been added to the table within the RAO detail stating that, "All information can be found on Access Road and Erosion and Sediment Control Plans. Refer to Notes 4 and 5 for Dimension Locations." Standard Construction Detail 9-1 and 9-3 will not be utilized for this project, and therefore, the tables have not been completed as part of this resubmission.
14	Describe how the discharge(s) from contractor yard sock diversions B and A will be safely conveyed to a surface water (see Item 4 on Page 3 of E&S Manual). § 102.11(a)(1)	The revised Application submittal will clarify that the contractor yard containing the referenced diversions have been removed from the plans. was revised to remove contractor yard containing the referenced diversions.
15	The plan map(s) show(s) compost sock(s) crossing contours at contractor yard 1, sock 5 through 9. Sediment barriers should be installed at existing level grade (E&S Manual, Pages 61 and 75) Please make all necessary corrections. It is recommended that Figure 4.1 be placed upon a detail sheet for clarity. § 102.11(a)(1)	The revised Application submittal provides revised filter socks on Phase 1 CPLN Contractor Spread 1 Option 11 – Fairmont Township CN-CY-LU-1-11 of the Soil Erosion and Sediment Control Plan / Site Restoration Plan.
16	The plan map(s) show compost sock diversion A and B at Yard 2 located in concentrated flow in two locations. Revise the location(s) to avoid concentrated flow (E&S Manual, Page 62 and 67). § 102.11(a)(1)	The revised Application submittal will clarify that the contractor yard containing the referenced diversions have been removed from the plans. was revised to remove contractor yard containing the referenced diversions.

Best Management Practices and Quantities Plan Set - Proposed 30" Central Penn North		
1	The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)	The revised Application submittal will include includes the most current trench plug detail in the BMP plan set.
Erosion and Sediment Control and Layout Plans Drawings - Access Roads		
1	Indicate the type and extent of vegetative cover on the E&S plan map(s) (Page 357 of the E&S Manual). § 102.11(a)(1)	Callouts labeling the various vegetative cover types have been added to the Plans as requested.
2	Areas of existing culverts are illegible or not shown on the E&S plan. Please provide. § 102.11(a)(1)	The line type of the existing culverts has been revised to clearly show the location of the existing culvert. The line type has been added to the Legend on Sheet 3 of 4 of the Access Road E&S Plans and Sheet 3 of 3 of the Access Road PCSM Plans.
3	All existing improvements (e.g. road side swale sheet 1683 3 AR LU 019) should be shown on the E&S plan map(s) (Pages 357 & 398 of the E&S Manual). § 102.11(a)(1)	Callouts labelling the existing roadside swales have been added to the Erosion and Sediment Control and Layout Plans for Access Roads, AR-LU-019, Sheet 2.
4	All proposed earthmoving (including E&S BMPs and structural PCSM BMPs) must be within the limits of construction (Item 3 on Page 2 and Page 398 in the E&S Manual). It appears a portion of silt sock on sheet 1683 3 AR LU 014 is outside the limits of construction. § 102.11(a)(1)	The proposed earthmoving (including E&S BMPs and structural PCSM BMPs) are within the limits of construction. It appears that the former "5' Buffer" shown on the AR-LU-014 plan was confused for being compost filter sock. The "5' Buffer" has been removed, so the plan should be clear now.
5	Soil slopes not provided on the E&S plans. § 102.11(a)(1)	Soil slopes are provided in the "Soil Types and Limitations" table provided on the cover sheet of the Access Road E&S and PCSM Plan Sets.
6	The plan map(s) show outfall aprons discharging to an area that is not identified as a surface water. If this discharge was intended to discharge to earthen level spreaders, please explain how this discharge will be safely conveyed to the spreader without causing erosion. If this is a non-surface water discharge, provide a discharge analysis that meets the standards of (Item 4 on Page 2, Item 15 on Page 161) of the E&S Manual. § 102.11(a)(1)	A description of the flow path downhill of the rip rap apron has been added to the road- specific narrative Appendix G.9 Off-Site Discharge Analysis per Item 15 on Page 161 and Appendix G of E&S Manual.
7	Identify the perennial and intermittent stream names on the E&S plan as described on Page 398 of the E&S Manual. § 102.11(a)(1)	The Perennial and Intermittent stream names are provided in Table 3B provided under separate cover in the Best Management Practices and Quantities Plan Set. A note has been added to the General Access Road Notes provided on Sheet 4 of 4 at the beginning of the Access Road E&S Plan sets for each County directing

		the Contractor to the Best Management Practices and Quantities Plan Set for additional stream information.
8	Perimeter BMPs have not been provided for areas downslope of fill for road off of Tripp Road (Sheet 1683 3 AR LU 007.1), east of Wetland W-T07-17001, sheet 1683 3 AR LU 014 and downslope of access road grading sheet 1683 3 AR LU 019. § 102.11(a)(1)	Perimeter BMPs for LU-007.1 and LU-014 are included in the E&S pipeline plans set. The proposed filter sock locations are shown in grey on the access road plan for coordination purposes and the access road E&S plan includes a note directing the Contractor to see the Pipeline E&S Alignment Sheets includes a note directing the Contractor to see the Pipeline E&S Alignment Sheets for E&S Measures. An ABACT rock filter has been added to LU-019 to replace the compost filter sock previously shown on contour adjacent to the existing roadside swale.
9	The construction sequence calls for level spreaders on Sheet 1683 3 AR LU 008, however there does not appear to be a proposed concentrated flow, i.e. channel or pipe to these areas. Proposed rip rap aprons are positioned in the opposite direction as the spreaders. Please explain. § 102.11(a)(1)	Civil survey information (<i>field survey</i>) was incorporated into the design of the E&S measures and the filter sock diversions and level spreaders were removed. The road-specific narrative has been revised accordingly to remove the level spreader and rip rap aprons and has been included in the revised Application submittal.
10	Step 1 of the sequence should specify notifications. § 102.11(a)(1)	The revised Application includes a revised general construction sequence as well as site/road specific construction sequences. Step one of the Road Specific Construction Sequence on the Soil Erosion Control Plans has been revised to specify the notifications to be made.
11	It appears Step 7 should be conducted within Step 3. Please revise. § 102.11(a)(1)	The revised Application includes a revised general construction sequence as well as site/road specific construction sequences. Step 4 (former Step 3) has been revised to include Step 7 (locating the LOD).
12	The sequence calls for the leveling of side cuts, which are not shown on the E&S plans. § 102.11(a)(1)	The revised Application includes a revised general construction sequence as well as site/road specific construction sequences. Upon further evaluation of the proposed access road sites, leveling of side cuts is not anticipated. The construction sequences have been revised accordingly.
13	The sequence calls for the installation of vegetated channels, water quality swales and check dams, which are not shown on the E&S plan map(s). Please make all necessary corrections (see Chapter 2 in the E&S Manual). § 102.11(a)(1)	The revised Application includes a revised general construction sequence as well as site/road specific construction sequences. The construction sequences have been revised to be consistent with the terms used to reference BMPs and to be site specific. All

		<i>BMPs shown on the Plans are now referenced in the site specific construction sequence.</i>
14	Please specify what erosion controls are to be installed within Step 9. § 102.11(a)(1)	The revised Application includes a revised general construction sequence as well as site/road specific construction sequences. <i>Construction Sequence Step 9 previously stated, “ Install Compost Filter Sock Diversions or vegetated channels and perimeter E&SC BMPs. Access requirements for perimeter E&SC BMPs along private drives within the LOD shall be in accordance with the landowner agreements.” The step has been revised to say “INSTALL PERIMETER E&SC BMPs”. The Step number varies on each road-specific access road.</i>
15	As soon as slopes, channels, ditches, and other disturbed areas reach final grade, they must be stabilized (top of Page 260 in the E&S Manual, steps 8 and 9) This should be clearly stated in the sequence. § 102.11(a)(1)	The revised Application includes a revised general construction sequence as well as site/road specific construction sequences. <i>The County and road-specific construction sequences have been revised to include the requested language. The Step # varies on the construction sequences due to the differences on each road/County.</i>
16	Stockpile locations are not shown on E&S plan. § 102.11(a)(1)	Stockpile locations have been added to the access road E&S plans <i>as required.</i>
17	Describe the conditions of stabilization that will be achieved prior to removal/conversion of temporary E&S BMPs Step 22). For vegetated areas, the standard in the middle of Page 10 of the E&S Manual should be used. § 102.11(a)(1)	The revised Application includes a revised general construction sequence as well as site/road specific construction sequences. <i>Stabilization conditions have been added to the access road construction sequence to state “uniform 70% perennial vegetative Cover is established.</i>
18	The sequence should specify what temporary erosion controls are to be removed. § 102.11(a)(1)	The revised Application includes a revised general construction sequence as well as site/road specific construction sequences. <i>The road-specific construction sequences have been revised to specify the temporary erosion controls to be removed.</i>
19	The plan map(s) show(s) compost sock(s) crossing contours on sheet 1683 3 AR LU 011, 012, 014 and 019. Sediment barriers should be installed at existing level grade (E&S Manual, Pages 61 and 75). Please make all necessary corrections. It is recommended that Figure 4.1 be placed upon a detail sheet for clarity. § 102.11(a)(1)	The compost filter socks that cross contours shown on LU-011 and LU-12 were part of the Pipeline E&S design and were proposed to protect the existing road. Since the existing road is being used as an access road, the compost filter sock on either side of the existing road has been removed. The compost filter socks that cross contours shown on LU-014 are proposed to surround the

		existing wetland and have not been revised. The compost filter sock that cross contours shown on LU-019 has been removed and replaced with an ABACT rock filter at the downstream end of the existing roadside swale.
20	Show the proposed broad-based dips on the plan map(s) (Item 9, Page 5 of the E&S Manual). § 102.11(a)(1)	Broad based dips or water deflectors have been added to the access roads as necessary.
21	Proposed rock construction entrance does not appear to be installed at edge of existing public roadway, on sheet 1683 3 AR LU 014 and 1683 3 AR LU 020. Please revise. § 102.11(a)(1)	The construction entrance for LU-014 is located where the existing road width is 20 feet. A driveway apron is proposed to be installed in the gap between Huntsville-Ildetown Road and the construction entrance to accommodate the wide turning angle of the larger construction vehicles. The construction entrance for LU-020 is located at the connection point to the existing gravel road. The proposed construction entrance location minimizes the disruption to the existing driveway and minimized the area that sediment may be tracked as construction vehicles leave the pipeline right of way.
22	The plan does not show silt socks installed with both ends extended at least 8 feet up slope at 45 degrees to the main sock alignment (Figure 4.1). § 102.11(a)(1)	The Luzerne County compost filter socks have been revised to show both ends extended at least 8 feet up slope at 45 degrees to the main sock alignment. Additionally, Figure 4.1 was added to the compost filter sock detail in the Best Management Practices and Quantities Plan for clarification to the contractor.
23	The plan calls for the installation of silt fence along existing road side swale, sheet 1683 3 AR LU 019, which is not shown on the plan map(s) or legend. Please make all necessary corrections. § 102.11(a)(1)	The compost filter sock has been replaced with a rock filter at the downstream end of the existing roadside swale. Callouts have been added to the plan to identify the roadside swale.
24	The plan drawings (not just the E&S narrative) should include a complete schedule of installation and removal of erosion control BMPs as they relate to the various phases of earthmoving activities. § 102.11(a)(1)	The revised Application includes a revised general construction sequence as well as site/road specific construction sequences. The site/road specific sequences have been added to the plan drawings.
25	The compost sock detail on the plan drawing(s) does not specify the type of mesh to be used. Please make all necessary changes. § 102.11(a)(1)	The compost filter sock detail in the Best Management Practices and Quantities Plan Set, Sheet 2 of 11 has been modified to clarify that the Multi-Filament Polypropylene Mesh shall be used for the project.
26	Provide a seed mixture for temporary stabilization (Page 263 of the E&S Manual). Tables 11.3, 11.4, and 11.5 are recommended for selecting seed mixtures. § 102.11(a)(1)	Seed mixes are provided in the Best Management Practices and Quantities Plan as described in Note 46 17 of the General Access Road Notes will now be provided in the revised application submittal on Sheet 4 of 4 of the

		Access road E&S Plans and Note 7 of the General Access Road Notes now provided on Sheet 3 of 3 of the Access Road PCSM Plans.
27	Provide specifications for topsoil replacement (Page 263 of the E&S Manual). Table 11.1 should be added to the detail sheet(s). § 102.11(a)(1)	Table 11.1 from the PADEP E&S Manual has been added to Sheet 3 of 3 of the Notes Section in the BMP set.
28	The compost sock diversion detail does not provide the specifications for the infill growing media. The compost sock diversion detail does not provide the specifications for the infill growing media. In addition, Standard Construction Detail Number(s) 6-1 is recommended to show channel installation specifications. § 102.11(a)(1)	The compost filter sock compost standards from Table 4.2 of the PADEP E&S Manual are included with the compost filter sock detail on Sheet 2 of 11 3 of the BMP Set. The vegetated channel detail (PADEP Detail 6-1) is shown on Sheet 10 4 of 11 3 of the BMP Set.
29	Provide a construction detail for the proposed earthen level spreader (Item 9, Page 5 of the E&S Manual) on the E&S plan. Standard Construction Detail #9-5 is recommended for this purpose. § 102.11(a)(1)	The Earthen Level Spreader detail is provided on Sheet 3 of 13 of the Best Management Practices and Quantities Plan. The earthen level spreader is no longer proposed on any access road. The detail previously provided in the BMP Plan Set has been removed.
30	It appears that the proposed driveway apron is an alternate BMP. Alternate BMPs that are not listed in this manual but that provide the same (or greater) level of protection may also be used to attain the regulatory standard. It is incumbent on the person proposing the use of alternative BMPs to demonstrate their effectiveness with appropriate test results or other documentation. Please contact DEP for review of this BMP. § 102.11(a)(1)	The driveway apron is not a BMP. The driveway apron has been installed on access roads that need additional area to accommodate the truck turning movements. The driveway apron detail has been removed from the BMP plan set and added to the typical details in the access road plans.
31	Complete the table for Standard Construction Detail 9-1 and 9-2. § 102.11(a)(1)	The table for Standard Construction Detail 9-2 has been added to the Access Road E&S Plans Typical Sections and Notes, sheet 4 of 4.
Soil Erosion and Sediment Control Plan Drawings - North Diamond Regulator Station		
1	Indicate the type and extent of vegetative cover on the E&S plan map(s) (Page 357 of the E&S Manual). § 102.11(a)(1)	The revised Application submittal will clarify clarifies vegetative cover on the Existing Conditions Map, Plan Sheet 2 of 13 of the Soil Erosion and Sediment Control And Layout Plans For North Diamond Regulator Station & Associated Permanent Access Roads.
2	Identify the perennial and intermittent stream names on the E&S plan as described on Page 398 of the E&S Manual. § 102.11(a)(1)	The revised Application submittal will clarify clarifies stream names on the existing conditions plans, Plan Sheet 2 of 13 of the Soil Erosion and Sediment Control And Layout Plans For North Diamond Regulator Station & Associated Permanent Access Roads.

3	Describe how the access roads for construction will be stabilized (Page 9 in the E&S Manual). Note: Access roads should be designed according to Chapter 3 of the manual. § 102.11(a)(1)	The revised Application submittal will clarify clarifies access road stabilization as gravel on Soil Erosion and Sediment Control And Layout Plans for North Diamond Regulator Station & Associated Permanent Access Roads, as well as, on the Post Construction Stormwater Management Plans For North Diamond Regulator Station & Associated Permanent Access Roads.
4	Describe how rain garden and channels will be protected from sedimentation until construction is completed and the site stabilized (see bottom of Pages 10 and 262 in the E&S Manual). § 102.11(a)(1)	The revised Application submittal will include protection of the raingarden and channels during construction. Additional filter sock is provided on interior of rain garden to protect against siltation. Additional filter sock is provided on interior of rain garden to protect against siltation Immediate stabilization including seeding, mulching and erosion control blankets are proposed for the vegetated channels and rain garden slopes to minimize siltation of the BMPs as stated in the Standard Erosion and Sedimentation Control Plan Notes on Sheet 9 of 13.
5	Perimeter BMPs have not been provided for downslope of stockpiles. § 102.11(a)(1)	The revised Application submittal will include includes the requested filter sock on sheet 5 of 13 of the Soil Erosion and Sediment Control And Layout Plans For North Diamond Regulator Station & Associated Permanent Access Roads.
6	Step 1 of the sequence should specify notifications. § 102.11(a)(1)	The revised Application submittal will include includes the revised construction sequence on sheet 11 of 13 of the Soil Erosion and Sediment Control And Layout Plans For North Diamond Regulator Station & Associated Permanent Access Roads.
7	The sequence does not specify what erosion controls are to be removed in Step 31. § 102.11(a)(1)	The revised Application submittal will include includes the revised construction sequence on sheet 11 of 13 of the Soil Erosion and Sediment Control And Layout Plans For North Diamond Regulator Station & Associated Permanent Access Roads. (Note former note 31 is now note 32).
8	As soon as slopes, channels, ditches, and other disturbed areas reach final grade, they must be stabilized (top of Page 260 in the E&S Manual). (steps 8 and 9) This should be clearly stated in the sequence. § 102.11(a)(1)	The revised Application submittal will include includes the revised construction sequence on sheet 11 of 13 of the Soil Erosion and Sediment Control And Layout Plans For North Diamond Regulator Station & Associated Permanent Access Roads. See note 21.

9	It does not appear that rip rap apron construction is feasible at channel 1B as per dimensions specified. Please revise and check all aprons. § 102.11(a)(1)	The revised Application submittal will include includes the revised rip rap apron on the E&S plan Sheet 5 of 13. Updated details are also provided on Sheet 11 of 13 of the Soil Erosion and Sediment Control And Layout Plans For North Diamond Regulator Station & Associated Permanent Access Roads.
10	The compost sock detail on the plan drawing(s) does not specify the type of mesh to be used. Please make all necessary changes. § 102.11(a)(1)	The revised Application submittal will specify specifies the proposed sock mesh to be used. See sheet 12 of 13 of the Soil Erosion and Sediment Control And Layout Plans For North Diamond Regulator Station & Associated Permanent Access Roads.
11	Provide a seed mixture for temporary stabilization (Page 263 of the E&S Manual). Tables 11.3, 11.4, and 11.5 are recommended for selecting seed mixtures. § 102.11(a)(1)	The revised Application submittal will include includes the temporary stabilization seed mix. See sheet 10 of 13 of the Soil Erosion and Sediment Control And Layout Plans For North Diamond Regulator Station & Associated Permanent Access Roads.
Northumberland County		
Erosion and Sediment Control Plan Narrative - Proposed Central Penn South		
1	The Legend does not include both water bar directional symbols. Please revise. 102.4(b)(5)(ix)	The legend has been revised in the Application submittal to include both water bar direction symbols.
2	Silt Barrier Symbols on plans do not match those found in the Legend and are difficult to read. Please revise. 102.4(b)(5)(vi)	The revised Application submittal includes matching silt barrier symbols for clarity.
3	The following BMPs are listed in the Summary but are not shown in the Legend: CDM-Check Dam, DEWY- Driveway Apron, CS-Cleanout stake, TRV Trash Rack & Anti-Vortex Device, CST-Compost Sock Sediment Trap, WD-Water Deflector. Please correct this omission. § 102.4(b)(5)(vi)	The revised Application submittal includes a revised BMP plan set with BMPs removed crossed out that are not utilized in specific counties.
4	The following BMPs are shown in the Legend but are not listed in the Summary or on Detail Sheets: WWC, SBW, ED, SP, WI.1, & WI.2. Please verify and correct this deficiency. § 102.4(b)(5)(vi)	The revised Application Submittal will include a revised BMP plan set with BMPs removed that are not utilized in specific counties. revised E&S detail group legend that removes references to BMPS WWC, SBW, ED, SP, WI.1, & WI.2
5	Pipeline BMP Installation Sequence does not include the "Local Conservation District" with the agencies to be notified. Please correct this omission. § 102.4(b)(5)(vii)	The BMP installation sequence has been updated accordingly in the revised Application submittal.
6	Access Road BMP Installation Sequence does not include the "Local Conservation District" with the agencies to be notified. Please verify and correct this deficiency. § 102.4(b)(5)(vii)	The revised Application includes a revised general construction sequence as well as site/road specific construction sequences.
7	Not all standard notes are identical to the Standard Notes given in PA DEP's BMP Manual. Either remove note that says Williams	The details has been have been revised to state "is based on" in the revised Application submittal.

	Standard Detail Matches PADEP Standard Detail or change wording to replace "Matches" with "is based on" or "is compatible with", etc. § 102.4(b)(5)(ix)	
8	Sheet 1 of 13 Cofferdam Detail Note 2 references Trench Breakers. This feature is identified as Trench Plugs elsewhere in the plans. Please verify and correct for consistency. § 102.4(b)(5)(ix)	This detail has been has been updated accordingly in the revised Application submittal
9	Not all details include required dimensions with leader lines and relevant notes. Please ensure that all details give complete information. § 102.4(b)(5)(ix)	The details has been has been updated accordingly in the revised Application submittal.
10	Sheet 5 of 13 Stone & Concrete Inlet Protection -M References Standard Construction Detail # 4-16. The correct Detail is #4-20. Please verify and correct. § 102.4(b)(5)(ix)	The detail has been has been updated accordingly in the revised Application submittal.
11	Wet Intermediate Water Body Crossing Detail on Sheet 5 of 13 & Wet Minor Water Body Crossing Detail on Sheet 6 of 13 should be removed from the plans. Streams > 10' but less than 100' wide & most streams 10' wide or less in Northumberland County, Pennsylvania will have sufficient flow to require pump around techniques. These details are not acceptable in Northumberland County. Please clarify & justify their use or comply with this comment. § 102.4(b)(5)(ix)	The revised Application submittal will include an updated waterbody crossing detail and provide justification of their use. The crossing method has been revised and the detail has been removed from the BMP plans.
12	Sheet 6 of 13 shows notes in the Rip Rap Apron at pipe outlets with Flared End Section. Please move these notes for clarity. § 102.4(b)(5)(ix)	The notes has been removed moved for clarity in the revised Application submittal.
13	The chart shown on Rip Rap Stream Bank Stabilization Detail 2 of 2 on Sheet 7 of 13 does not match the standards set forth in Table 6.6 found on Page 135 of DEP's Erosion and Sediment Pollution Control Manual. Please verify and correct as necessary. § 102.4(b)(5)(ix)	The detail has been updated accordingly in the revised Application submittal. The revised Application submittal will include a revised detail that eliminates the conflicting information and references tables 6.6 and 6.7 on BMP plans set sheet 7 of 11.
14	The Trench Dewatering Detail found on Sheet 9 of 13 does not include all necessary information. Please add the following note to this detail: "Pump Filter Bag shall be placed on a well vegetated area away from construction so that filtered water is not returned to the trench." § 102.4(b)(5)(ix)	The detail has been updated accordingly in the revised Application submittal. Refer to BMP plans set sheet 8 of 11.
15	Where is a Trash Rack and Anti-Vortex Device used in Northumberland Co.? If these are not used in Northumberland County the relevant details should be removed from the plans. § 102.4(b)(5)(ix)	The revised Application submittal will include includes a revised BMP plan set with BMPs removed crossed out that are not utilized in specific counties.
16	Top Soil Segregation Details TS.1, TS.2, and TS.3 note 6 as shown on Sheet 10 of 13 is too general. Please show all Sediment Barriers on the plans and change the above referenced note to read as	The detail (see note 6) has been updated accordingly in the revised Application submittal

	follows: "Install Sediment Barriers as shown on plan." § 102.4(b)(5)(ix)	
39	Place Rock Construction entrances at all access points to existing roadways. § 102.4(b)(5)	The revised Application submittal will identify rock construction entrances via the "E&S Detail or E&S Detail Group" band E&S BMP Band on the plan views of the E&S Alignment Sheets at each roadway crossing. Rock construction entrances associated with access roads and facilities are shown on their corresponding E&S plans.
Erosion and Sediment Control Plan and Post Construction Stormwater Management/Site Restoration Plan Narrative - Temporary and Permanent Access Roads		
1	<p>Access Road #075</p> <p>a. On Sheet 13 of 23 Construction equipment mats are indicated to traverse an existing culvert at Station 33+70±. The culvert is not shown on Sheets 4, 13 or 19 of 27. Please show all existing culverts on all Access Roads (Plan & Profile). § 102.8(f)(9)</p> <p>i. On Sheet 14 of 27 Timber mats are indicated to traverse an existing culvert at Station 1 +75±. The culvert is not shown on Sheets 1, 14 or 21 of 27. Please show all existing culverts on all Access Roads (Plan & Profile). § 102.8(f)(9)</p> <p>ii. On Sheet 15 of 27 Timber mats are indicated to traverse an existing culvert at Station 22+65±. The culvert is not shown on Sheets 3, 15 or 22 of 27. Please show all existing culverts on all Access Roads (Plan & Profile). § 102.8(f)(9)</p> <p>iii. On Sheet 17 of 27 Timber mats are indicated to traverse an existing culvert at Station 67+90±. The culvert is not shown on Sheets 7, 17 or 24 of 27. Please show all existing culverts on all Access Roads (Plan & Profile). § 102.8(f)(9)</p> <p>iv. On Sheet 18 of 27 Timber mats are indicated to traverse an existing culvert at Station 100+60±. The culvert is not shown on Sheets 10, 18 or 25 of 27. Please show all existing culverts on all Access Roads (Plan & Profile). § 102.8(f)(9)</p> <p>b. There are no BMPs shown on access roads. Is it anticipated there will be no improvements required on any of these roads? Will none of them need widening at any point</p>	<p>a. (i to iv) The plans have been updated to show the existing culverts on the roadway, erosion control and PCSM plans.</p> <p>b. The revised Application includes revised narratives clarifying the specific activities necessary on each individual road. Note 21 of the General Access Road Notes on Sheet 4 of 4 of the Access Road E&S Plans has been added to the plans to clarify that AASHTO #57 stone will be added to the existing road in areas where the existing gravel is thinning or bare to create a uniform travel surface. During construction, additional AASHTO #57 stone will be added to rutted or thinning areas as necessary. No other improvements are anticipated for the existing roads. The note has also been added to the road specific narratives and road specific construction sequence within the Soil Erosion Control Plan sheet 14 of 27. The existing road is equipped with existing culverts and swales that convey stormwater from one side to the other. The culverts and conveyance areas will be protected during construction operations by construction equipment mats, rock matting, or bridge equipment crossings. Upon construction completion, the temporary gravel will be removed and disposed of in accordance with applicable state and federal requirements as described in Section 1.11 of the E&S narrative.</p>

	<p>to allow trucks and equipment to navigate tight corners? Some of the access roads are quite steep. It is reasonable to assume passage of heavy equipment over these roads in all kinds of weather will have an adverse effect on them. Has any consideration been given to the need for water bars or other diversions to relieve run-off quantity and velocity? It is recommended that further thought be given to the initial and continued stability of the access roads and typical details be added to the plans to give guidance to the contractor if the need arises. § 102.4(b)</p>	
2	<p>Access Road #076 a. On Sheet 13 of 23 Construction equipment mats are indicated to traverse an existing culvert at Station 33+70±. The culvert is not shown on Sheets 4, 13 or 19 of 27. Please show all existing culverts on all Access Roads (Plan & Profile). § 102.8(f)(9)</p>	<p>a. The plans have been updated to show the existing culverts on the roadway layout and profile sheets. erosion control and PCSM plans. AR-NO-076 will be used for maintenance and operation after construction. It will not be used during construction of the pipeline project. No BMPs are proposed on this road. E&SC and PCSM plans have been removed from the applications submittal. AR-NO-076.1 has been added in this area for use during construction.</p>
3	<p>The access road narrative in the Erosion and Sedimentation and Post construction storm water management/site restoration plan narrative, plan sheets, Soil erosion and sedimentation control plan/site restoration plan and Access Road Plans do not correspond with each other. It appears that access roads are missing and shown in different locations. Correct with resubmission. § 102.8(f)(9)</p>	<p>The revised Application will has corrected these inconsistencies. The access road names and mileposts are now consistent across the E&S and PCSM plans and narratives.</p>
4	<p>Access Road Plans and Narrative do not match in accordance with the number of access roadways provided in the application. Provide complete drawings and narrative for all access roads. § 102.8(f)(6) a. How is the forested cover of the restored access road ROW restored to its preconstruction conditions? Several locations depict removal of forested vegetation for "area of minimum disturbance or reduced grading" within the ROW. § 102.8(f)(6)</p>	<p>The revised Application will correct these inconsistencies. There are access roads intended to provide temporary access to pipeline ROW during construction and roads intended to provide access to facilities. To clarify what roads are included in each group, an access road summary table has been added to Sheet 4 of 4 at the beginning of the access road E&S plan set a. Forested areas have been seeded and restored to meadow good conditions. Trees that are removed will not be replaced as part of the restoration process. The "area of minimum disturbance or reduced grading" designated the area outside active grading for the access roads. Note 16 of the General Access Road</p>

		<i>Notes provided on Sheet 4 of 4 at the beginning of the access road E&S plan set</i>
Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings - Proposed 42" Central Penn South		
1	Section C., Item 8 Other Pollutants: No is checked, this should be changed to yes. The majority of the soils along the route of the proposed pipeline are listed as acidic soils. Acid Bearing Rock is anticipated to be encountered throughout the route. There is a potential for Acid Mine Drainage to be encountered & released at various points along the pipeline route. Please justify or correct this entry. § 102.8(f) (12)	The revised Application submittal has been updated to select "Yes" for Section C., Item 8 Other Pollutants.
Best Management Practices and Quantities Plan Set - Proposed 42" Central Penn South		
1	The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)	The revised Application submittal will include includes a trench plug detail on sheet 8 of 11 in the county specific BMP plan sets that is in conformance with the current set of standard details from the E&S Manual
2	The acid producing soil and bedrock control plan note found in the Best Management Practices and Quantities Plan Set, note "4" should limit the number of days for cover of any stockpiles or berms to 7 days. § 102.8(f) (12)	The note has been updated accordingly on the revised Application submittal. Refer to BMP General Notes Sheet 2 of 2
3	It does not appear the PCSM drawings reflect the PCSM BMP's proposed in the calculations. § 102.8(f)(8)	The narratives have been revised to accurately describe the PCSM BMPs to be installed.
4	The access road PCSM plans depict areas to be restored containing the entire ROW. This requires restoration of a large cut/fill since the existing roadway is 10 ft. wide and the ROW is 50 ft. wide. What is the need for such a large access roadway area and how is this area restored to pre-construction conditions? § 102.S(f) (10)	The revised Application includes clarification related to the projects definition of LOD. The entire width of the ROW/LOD will not be utilized for construction traffic, traffic will be limited to the 14' wide access road. The area between the edge of the road and the ROW/LOD will be utilized for BMP installation and soil stockpile areas. The entire LOD will not be disturbed. Temporary access roads and permanent access roads not associated with an MLV site will be restored to pre-construction conditions.
5	Many of the temporary roadways have excessive slopes greater than 10%. How will the temporary access roads be restored as to not concentrate flows and increase the potential for accelerated erosion due to increased run volume and rate? What permanent BMP's will be in place and maintained. § 102.8(f)(4)	The existing roads has been will be restored to existing conditions. Erosion control blankets has been will be installed over grassy areas adjacent to the existing roads with a slope of 3:1 or greater. Existing drainage patterns will be restored.
6	Storm water narrative for AR-N0-082 states that there are no improvements for the 4,400 linear foot roadway. Access Roadway	The revised Application includes clarification related to the projects definition of LOD

	Site Restoration Plans shows a 50-foot-wide limit of disturbance and restoration of the same roadway. Explain the need for the proposed 5 acres of disturbance in the plans vs. no improvements in the narrative. § 102.8(f)(7)	
7	PAR-NO-79 narrative states that stone check dams are to be installed in the vegetated water quality swale. The plan drawings do not depict the check dams installed. Additionally, detail how stone check dams will function as a storm water BMP and remove storage volume as stated in the Narrative. The detail in the Best management practices and Quantities plans show what appears to be an earthen check dam reinforced by R-3 Riprap but does not state what the core will be constructed of. Correct and detail what the core will be constructed of in re-submission. §§ 102.8(f)(6) & 102.8(f)(8)	The narrative has been has been revised to be consistent with the plans in the revised Application submittal. PAR-NO-79 is a permanent road intended to provide access to the pipeline ROW. However, the proposed improvements depicted on the plans are temporary in nature and the site will be restored to pre-construction conditions. Because the revised Application submittal will provide now provides consistency between the summary tables on the BMP Plan Set and the Plan views. W-T44-11001 does not cross the centerline thus is not included in the table. The improvements are temporary, there is no need for permanent PCSM BMPs (swales and check dams) as part of this work. The road is designed with a temporary rock construction entrance, a driveway apron, temporary compost filter socks along the sides of the roads, and a water deflector. The proposed culvert are temporary and is intended to convey stormwater from one side to road to the other during construction. The temporary culvert will be removed when the access road is restored to pre-construction conditions.
8	Roadway Typical Section "C" found in the Erosion and Sediment Control and Layout plans for access roads shows a varying roadway width. What is the maximum roadway width? § 102.8(f)(6)	The typical maximum proposed roadway width is 14 feet. Dimensions have been added to the individual access roads to depict the actual width of the road
Schuylkill County		
Erosion and Sediment Control Plan Narrative - Proposed Central Penn South		
1	Filter Sock Diversion and Diversion Swale Design (comments apply to the pipeline and to staging area calculations): a. The value of the roughness coefficient (n) used in Manning's equation should be varied according to type of liner (permanent grass) and flow depth (see the bottom of Page 129 in the E&S Manual). Make all necessary corrections. § 102.11(a)(1) b. A spot check of channel linings (permanent grass) found that the anticipated shear stress exceeds the maximum	The revised Application submittal includes roughness coefficients (n) used in the Manning's equation in conformance with the requirements in the E&S Manual. Additionally, calculations have been updated to ensure that the maximum permissible shear stress is not exceeded, per table 6.2 in the E&S Manual and manufacturer recommendations. A description of this calculation process is included in the E&S

	permissible in Table 6.2 in the E&S Manual for one or more channels. Please make all necessary corrections. § 102.11(a)(1)	narrative Section 1.6. Revised calculations are provided in Appendix B.
2	Outlet Protection: a. Please provide the information requested by Standard E&S Worksheet #20 for all proposed rip rap aprons in the narrative and on the applicable details. § 102.11(a)(1)	The revised Application submittal will include the completed worksheets. The revised Application submittal will include includes a detail for the flume crossings that identifies all of the information outlined in Standard E&S Worksheet #20. Refer to the CWC detail on the BMP plan set.
3	Manufacturers' specifications have not been provided for the proposed W3000 erosion control matting. § 102.11(a)(1)	The revised Application submittal will include the blanket specifications. The revised Application submittal will include includes the specifications for W3000 erosion control matting. Refer to the "Supporting Information" Appendix in the E&S Narrative.
4	As soon as slopes, channels, ditches, and other disturbed areas reach final grade, they must be stabilized (top of Page 260 in the E&S Manual). (steps 8 and 9) This should be clearly stated in the sequence. § 102.11(a)(1)	The revised Application submittal will include includes an updated sequence of construction in the BMP plan set that outlines stabilization of all disturbed areas.
5	Provide a seed mixture for temporary stabilization (Page 263 of the E&S Manual). Tables 11.3, 11.4, and 11.5 are recommended for selecting seed mixtures. § 102.11(a)(1)	The revised Application submittal will include includes a temporary seed mixture in the BMP plan set.
6	Provide specifications for topsoil replacement (Page 263 of the E&S Manual). Table 11.1 should be added to the detail sheets. § 102.11(a)(1)	The revised Application submittal will include includes specifications for topsoil replacement, including Table 11.1 - Cubic Yards of Topsoil Required for Application to Various Depths in the BMP plan set.
7	Contractor Yard CS-CY-SC-3-07 a. Riprap Apron Calculations: Assumptions have been made for the D0 and 3D0 for the riprap apron design. Please clarify what the assumptions have been based on. § 102.11(a)(1) b. Please provide the information requested by Standard E&S Worksheets #15 & 16 for all proposed sediment basins. (The rule of thumb may be used to determine the number of holes in the riser of a basin located in a non-special protection watershed.) § 102.11(a)(1) c. A spot check of sediment basins found one or more where the dewatering time specified in Item 9 on Page 160 of the E&S Manual is not provided. Please make the necessary changes. § 102.11(a)(1)	The revised Application submittal will provide: a. Clarification of the clarifies the equivalent pipe size used for channel riprap apron sizing. The E&S design for this facility has been revised to eliminate the need for riprap aprons. Therefore, this comment is no longer applicable. b. Provides completed worksheets #15 & 16, as needed. The E&S design for this facility has been revised to eliminate the need for the sediment basin. Therefore, this comment is no longer applicable. c. Revised sediment basin calculations, as needed E&S design for this facility has been revised to

	<p>d. A spot check of the tables in Standard Construction Detail Number #7-6 and #7-7 found them to be inconsistent with the supporting calculations. Make all necessary corrections. (i.e. sediment basin# 1 riser diameter/Figure 8, sediment basin #2 clean out elevation vs. lowest row of holes and ETE/WTE of basin #1). § 102.11(a)(1)</p> <p>e. A spot check of the rip rap apron summary table found the pipe diameters for the sediment basin 1 and 2 barrels to be inconsistent with supporting calculations. Make all necessary corrections. § 102.11(a)(1)</p> <p>f. Please verify the bottom elevation of the sediment basins are not located below the seasonal high water table, adjacent wetlands, or perennial stream channels. § 102.11(a)(1)</p> <p>g. Sediment Basin #2: Baffle calculations have not been provided. § 102.11(a)(1)</p>	<p>eliminate the need for the sediment basin. Therefore, this comment is no longer applicable.</p> <p>d. Revised details 7-6 and 7-7, as needed The E&S design for this facility has been revised to eliminate the need for the sediment basin. Therefore, this comment is no longer applicable.</p> <p>e. Revised basin barrel calculations / details The E&S design for this facility has been revised to eliminate the need for the sediment basin. Therefore, this comment is no longer applicable.</p> <p>f. Verification of verified the seasonal high water table for basins in the vicinity of the perennial streams and wetlands. The E&S design for this facility has been revised to eliminate the need for the sediment basin. Therefore, this comment is no longer applicable.</p> <p>g. Sediment basin baffle calculations The E&S design for this facility has been revised to eliminate the need for the sediment basin. Therefore, this comment is no longer applicable.</p>
<p>Erosion and Sediment Control Plan and Post Construction Stormwater Management/Site Restoration Plan Narrative - Temporary and Permanent Access Roads</p>		
<p>1</p>	<p>Please provide a copy of the work map used to delineate the watersheds tributary to the earthen level spreaders. These watersheds should be the maximum tributary to the facility as described on Page 123 of the E&S Manual. § 102.11(a)(1).</p>	<p>Level spreaders have been removed from the access road plans. However, drainage areas have been delineated for the proposed filter sock diversions on the drainage area maps found in Appendix J.4 and a description of the flow path downhill of the rip rap apron has been added to the road narrative per Item 15 on Page 161 and Appendix G of E&S Manual.</p>
<p>2</p>	<p>Provide calculations for the proposed earthen level spreaders to demonstrate that the structure will reduce the discharge velocity in the receiving flow path to a non-erosive level. You may use the guidance in Item 15 on Page 161 and Appendix G of E&S Manual. § 102.11(a)(1)</p>	<p>Level spreaders have been removed from the access road plans. However, watersheds have been delineated for the proposed filter sock diversions and a description of the flow path downhill of the rip rap apron has been added to the road narrative per Item 15 on Page 161 and Appendix G of E&S Manual. Rip rap aprons at discharge locations have been sized using Figure 9.3 from the PADEP E&S Manual. Additionally, Table 6.6 was used to verify that the discharge velocity does not exceed the maximum permissible velocity.</p>

3	A spot check of swale calculations revealed that calculations provided for the proposed Water Quality Swale at TAR # AR-SC-.063 in Worksheet #21 are not consistent with provided 10-year storm routing calculations for the swale for capacity and drainage area. Please review all swale calculations and make necessary corrections. § 102.11(a)(1)	The vegetated channel calculations were reviewed and revised as necessary to be consistent.
4	A spot check of swale calculations revealed that the Manning's "n" coefficient provided for the permanent vegetated condition for proposed trapezoidal swales does not, in all cases, match the Manning's "n" values appropriate for the listed liners in Table 6.2 on Page 131 in the DEP E&S Manual. Please review all swale calculations and make necessary corrections. § 102.11(a)(1)	The Manning's "n" coefficient for the permanent swales channels and filter sock diversions with grass liners have has been revised to match the "n" values in Table 6.3 on page 131 of the DEP E&S Manual. For permanent manufactured liners the manufacturers recommended "n" value is utilized. (Note: Table 6.2 is for Shear Stress and is on page 130.)
5	Please specify how the temporary access roads will be restored after construction have been completed. § 102.4(b)(5)(vii)	The restoration procedures have been added to the narrative.
Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings - Proposed 42" Central Penn South		
1	Please provide a location map that conforms to the standards on Page 397 of the E&S Manual. On the overall location map, (24-1600-70-28-A/LL113_9, the county labels are wrong for Schuylkill and Northumberland Counties (Berks County). § 102.11(a)(1)	The county labels has been have been updated in the revised Application submittal.
2	General erosion & sediment control note #30: Please delete this note. Per Standard Plan Note #9, the local conservation district must be notified when unforeseen circumstances occur on the project site. Any changes to the E&S plan need to be proposed to the SCD and red-lined by both the conservation district and the permit holder. § 102.11(a)(1)	The subject note has been removed in the revised Application submittal. Upon review, we feel both notes are applicable. Note #9 refers to unforeseen circumstances in regards to additional E&S BMPs, whereas, Note #30 outlines the procedure for the removal of E&S BMPs after permanent stabilization. Both are standard notes from the E&S manual. It is understood that any plan changes need to be approved by the district or the Department and the permittee.
3	Show all proposed outfall locations and outlet protection on the plan maps (Item 9, Page 5 of the E&S Manual). § 102.11(a)(1)	The plan map and legend has been has been revised to include rip-rap aprons at the end of swales discharging to waterbodies on the revised Application submittal.
4	Please provide all proposed BMPs (i.e. level spreaders, outlets, rock construction entrances) on the plan maps as stated on Page 398 of the E&S Manual. § 102.11(a)(1)	The plan map legend has been has been revised to include rip-rap aprons at the end of swales discharging to waterbodies and all components of the clean water crossings on the revised Application submittal. The revised Application submittal has been has been revised to identify rock construction entrances via the "E&S Detail or E&S Detail Group" band BMP Band on

		the plan views of the E&S Alignment Sheets at each roadway crossing.
5	The E&S Detail Group Legend appears to provide a suite of options at the locations proposed on the plan maps. For example, in a "typical" watershed at "R", the rock construction entrance would be a BMP proposed to minimize erosion and sedimentation; however, the trenched road crossing and bored road/railroad crossing would be the options for crossing the road. BMPs should be specific to each location a BMP is proposed on the plan maps. § 102.11(a)(1)	The revised Application submittal will include includes an updated call-out in the E&S Detail Group Legend that identifies if a trenched or bored bored road/railroad crossing is proposed.
6	<p>Filter Sock:</p> <ul style="list-style-type: none"> a. Show all proposed compost sock locations on the plan maps (Item 9, Page 5 of the E&S Manual). § 102.11(a)(1) It appears that the compost sock line type may be located under other line types and it is also difficult to determine if the compost sock is located on both sides of the pipeline in some areas. § 102.11(a)(1) b. The plan maps show compost socks crossing contours. Sediment barriers should be installed at existing level grade (E&S Manual, Pages 61 and 75). Please make all necessary corrections. § 102.11(a)(1) c. The compost sock is shown parallel to the existing roads; however, the pipeline will cross the socks in these locations. Please clarify how the sock will be maintained in those locations. § 102.11(a)(1) d. Sufficient surrounding area should be shown on the plan maps to identify receiving watercourses. Where these features are beyond the coverage of the plan maps, they may be identified on the location maps (Page 398 of the E&S Manual). § 102.11(a)(1) 	<p>The revised Application submittal will has:</p> <ul style="list-style-type: none"> a. Update Updated the plan views to ensure that the compost filter sock and other E&S controls are visible. b. Update been revised such that the compost filter socks are not shown crossing contours including roadway and environmental features. c. Included an updated BMP detail RX.1, which describes maintenance of filter sock during construction. Refer to the BMP plan set. An updated sequence of construction has been updated to include information regarding the methods to maintain the sock in locations of the pipeline crossing. d. Include Included sufficient surrounding area on the plan views and Index Map to identify receiving watercourses.
7	<p>Filter Sock Diversion Calculations and Detail:</p> <ul style="list-style-type: none"> a. Sufficient surrounding area should be shown on the plan maps to identify receiving watercourses. Where these features are beyond the coverage of the plan maps, they may be identified on the location maps (Page 398 of the E&S Manual). § 102.11(a)(1) b. Please verify that the filter socks used for the design of the filter sock diversions is a 24" sock as shown in the construction detail. § 102.11(a)(1) c. The maximum effective height of a 24" sock is documented as 19" per the manufacturer's 	<p>The revised Application submittal will was updated to:</p> <ul style="list-style-type: none"> a. Include sufficient surrounding area on the plan views and Index Map to identify receiving watercourses. Refer to comment 6d. b. Clarify that the filter socks used for the filter sock diversions is 24" in the construction detail. Refer to BMP detail FD on BMP plan set sheet 3 of 11. c. Include an updated calculation for the filter sock diversion. Refer to E&S Narrative Appendix B

	<p>recommendations; therefore, the total depth of a filter sock diversion should also be 19". § 102.11(a)(1)</p> <p>d. The Filter Sock Diversion (FD) detail should indicate that the "infill material be modified to reduce permeability and promote vegetative growth" per the DEP "Products and Technologies Proposed for Use as E&S BMPs Since the Manual was Published in March 2012" list. Please indicate the growing media and infill specifications on the construction detail. § 102.11(a)(1)</p> <p>e. In the Filter Sock Diversion (FD) detail it appears the maximum slope is 5:1; however, the calculations (worksheet #11) indicate the slope may exceed 5:1. Please revise as needed. § 102.11(a)(1)</p> <p>f. The Filter Sock Diversion (FD) detail should indicate that the erosion control matting should be extended to the height of the freeboard (total depth). § 102.11(a)(1)</p> <p>g. Reference to Note #7 has been provided in the Filter Sock Diversion (FD) detail as indicated for the erosion control matting; however, no Note #7 has been provided. § 102.11(a)(1)</p> <p>h. It appears the matting on the side slopes will extend uphill past the limit of disturbance and permit boundary. Please verify and revise if needed. § 102.11(a)(1)</p> <p>i. Please indicate in the construction sequence whether and/or when this BMP will be temporary or permanent. Please indicate if filter socks will be removed and if the diversion swales will be graded out. § 102.11(a)(1)</p>	<p>and BMP detail FD on BMP plan set sheet 3 of 11.</p> <p>d. Include an updated Filter Sock Diversion detail as requested. Refer to BMP detail FD on BMP plan set Sheet 3 of 11.</p> <p>e. Include an updated Filter Sock Diversion detail that outlines the maximum slope is 3:1. Refer to updated FD detail on the BMP plan set sheet 3 of 11.</p> <p>f. Include an updated Filter Sock Diversion detail that indicates the matting should be extended to the height of the freeboard. Refer to BMP detail FD on BMP plan set sheet 3 of 11.</p> <p>g. Include an updated Filter Sock Diversion detail that removes the reference to includes Note #7 and updates the note references.</p> <p>h. Include updated details that identify the matting on the side slopes will not extend uphill past the limit of disturbance and permit boundary.</p> <p>i. Include an updated sequence of construction which identifies that this BMP is temporary and that they have been removed and the ROW restored.</p>
<p>8</p>	<p>Waterbars:</p> <p>a. The plans (notices to contractor #3) indicate that waterbars in agricultural/farm fields are temporary; however, the waterbar detail also indicates that all waterbars shown on the plans are intended to be permanent BMPs. Please clarify. § 102.11(a)(1)</p> <p>b. Please clarify if the waterbar sump placement special protection watershed (WB.2) and compost filter sock and sump at waterbar discharge (WB.3) are the same. Only one detail should be provided for special protection watersheds. § 102.11(a)(1)</p> <p>c. The compost filter sock and sump at waterbar discharge (WB.3) requires calculations to determine if the filter sock is</p>	<p>The revised Application submittal will: was updated to:</p> <p>a. Include an updated note that identifies waterbars within agriculture/farm fields are temporary. Please refer to the BMP detail WB.</p> <p>b. Remove the previous WB.2 detail from the plan set. WB.3 has been renamed WB.2, and is proposed to be used in special protection watersheds. Provide further clarification for when WB.2 and WB.3 are to be utilized.</p> <p>c. Include include calculations for the compost filter sock and sump at the waterbar discharge outlined in detail WB.3. Please note that this Alternate BMP detail was previously approved by DEP. has</p>

	<p>adequate to filter the proposed flow (varies with right of way width). § 102.11(a)(1)</p>	<p>been submitted to DEP for review and approval. Include reduced water bar spacing such that the maximum drainage area to each waterbar does not exceed the max. 20,000 sq. ft Refer to PADEP Approved Alternate Detail WB.2 in the BMP plan set.</p>
<p>9</p>	<p>Miscellaneous Plan comments:</p> <ul style="list-style-type: none"> a. 3425+00: Per the existing plans, it appears a BMP should be located at this station. § 102.11(a)(1) b. 3535+00: Please clarify if a stream crossing is located at approximately this station. § 102.11(a)(1) c. 3610+00: WW-T18-7007B is not currently shown in the profile. § 102.11(a)(1) d. 3880+00: WW-T95-8001 has not been provided on Table 2. § 102.11(a)(1) e. 4020+00: The filter sock diameter is inconsistent between Standard Worksheet #1 and the plan maps. Please revise. § 102.11(a)(1) f. 4260+00: Per the existing plan maps, it appears a BMP should be located at this station. § 102.11(a)(1) g. MM-0198 14+00: WW-T43-8001 and WW-T43-8002 are not provided on Table 2. § 102.11(a)(1) h. Show the locations of the proposed pumped water filter bags on the plan maps (Item 9, Page 5 of the E&S Manual). § 102.11(a)(1) i. Some of the proposed stream crossings include a dam & pump. Due to the length of time the trench could remain open, an alternate stream crossing method should be considered. § 102.11(a)(1) J. The Dam and Pump Stream Crossing (DPX) does not show the additional pump and filter bag to dewater the work areas. The ridge top construction (RTC) detail does not detail where E&S BMPs should be installed. § 102.11(a)(1) k. Construction Sequence: <ul style="list-style-type: none"> i. Please integrate the BMP Installation and Removal Notes into the Pipeline BMP Installation Sequence. § 102.11(a)(1) ii. Please define "perimeter control". Perimeter controls such as compost sock may be difficult to 	<p>The revised application submittal will include includes:</p> <ul style="list-style-type: none"> a. Updated BMPs in this area. b. No changes, as the resources have been delineated in the area and there are no proposed resource crossings. Updated stream crossing information. c. No changes, WW-T18-7007B does not cross the pipeline centerline, therefore, does not show up on the profile. This stream converges with WW-T18-7007A before entering the LOD. Updated stream crossing information. d. WW-T95-8001 shown on table 3 of the BMP plan set. Updated stream crossing information. e. Updated filter sock design to be consistent between Standard Worksheet #1 and the plan views. It now depicts 12" CFS f. Updated BMPs in this area. g. WW-T43-8001 shown on table 3 of the BMP plan set. Updated stream crossing information. h. Refer to BMP Plan set detail for standard location of pumped water filter bags. Locations of pumped water filter bags will also be added to the E&S Detail Group Legend of the E&S Alignment Sheet as an additional reference. The pump water filter bag in the general E&S figures legend, as it could apply throughout the entire corridor. Specific locations have been determined as field conditions warrant use. The detail PWB on Sheet x of x in the BMP plan set indicates the requirements for specific locations of

	<p>install before clearing and grubbing of larger sections. § 102.11(a)(1)</p> <p>iii. A time frame should be provided for construction from initial disturbance to seeding and mulching at any station along the right-of-way. Also, an allowable length of disturbance should be specified in the E&S plan (Page 283 of the E&S Manual). § 102.11(a)(1)</p> <p>iv. BMP Installation Note #7: This note is not a Standard Note from the E&S Manual. Please revise. § 102.11(a)(1)</p> <p>l. The specified temporary fertilizer application rate in the BMP Installation and Removal Note #22 is not consistent with Table 11.2. § 102.11 (a)(l) * Please see the attached DEP Correction Sheet for amendments to Table 11.2. § 102.11(a)(1)</p> <p>m. A consistent definition of permanent stabilization should be used throughout the E&S plan notes. § 102.11(a)(1)</p> <p>n. The check dam detail (CDM) should be modified to show a 6-inch depression in the top of the rock in the center of the channel compared to the rock at the outside edges of the channel to assure stormwater will not flow around the rock at the edges. See Page 379 in the ESPC Manual. § 102.11(a)(1)</p> <p>o. Provide an alternative detail to the Clean Water Diversion Swale that is contained in the BMP and Quantities Plan Set for use to convey water across the trench when the pipeline trench is open. § 102.4(b)(S)(ix)</p> <p>p. Pumped water filter bags (PWB) are proposed as the principal method of removing sediment from open trenches. The Cofferdam Stream Crossing Detail (CD) (Sheet 1 of 13) in the Best Management Practices and Quantities Plan Set states that an equivalent dewatering device may be used in lieu of the PWB. Please indicate on the plan drawing that the equivalent dewatering device structure must meet the approval of the PADEP.</p> <p>q. The Trench Dewatering Detail (TD) (Sheet 9 of 13) indicates that secondary containment must be used when the PWB is positioned within 100 feet of wetland or</p>	<p><i>the bags. Resource crossing details also include pump water filter bag information.</i></p> <p>i. Refer to BMP Plan set for stream crossing methods. <i>Time limitations are established by FERC to be 24-48 hours for temporary stabilization depending on the resource to be crossed. Alternative crossing methods are discussed under the 105 permitting and have been considered. Please refer to 105 application for methodologies and selected crossing methods.</i></p> <p>j. Includes an updated Dam and Pump Crossing detail (<i>refer to DPX on BMP plan set sheet 3 of 11) and the Ridge Top Construction detail has been removed</i></p> <p>k. Updated Construction Sequence:</p> <ul style="list-style-type: none"> i. Updated BMP Installation and Removal Notes <i>have been integrated into the Pipeline BMP Installation</i> Sequence of Construction. ii. <i>BMP installation sequence has been updated to provide clarity related to the appropriate sequence of installation for perimeter controls.</i> iii. Updated Sequence of Construction that identified an approximate timeframe for construction. <i>Sequence of Construction addresses the timeframes. Note 12 indicates the required time frame from cessation of earth disturbance activities to temporary stabilization. Note 19 indicates the maximum expected time between trench excavation and backfill. The length of ROW disturbed at any given time will vary significantly based on terrain, time of year, and contractor's methods. As a result, it is not feasible to define a max. length of disturbed row.</i>
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	<p>waterbody. Provide more information on acceptable secondary containment. § 102.4(b)(S)(ix)</p> <p>r. The Trench Dewatering (TD) Detail found on Sheet 9 of 13 does not include all necessary information. Please add the following note to this detail: "Pump Filter Bag shall be placed on a well vegetated area away from construction so that filtered water is not returned to the trench. § 102.4(b)(5)(ix)</p> <p>s. The following BMPs are listed in the Summary but are not shown in the Legend: CDM - Check Dam, DWY- Driveway Apron, CS-Cleanout stake, TRV Trash Rack & Anti-Vortex Device, CST-Compost Sock Sediment Trap, WD-Water Deflector. Please correct this omission. 102.4(b)(5)(vi)</p> <p>t. The following BMPs are shown in the Legend but are not listed in the Summary or on Detail Sheets: WWC, SBW, ED, SP, WI.1, & WI.2. Please verify and correct this deficiency. § 102.4(b)(5)(vi)</p> <p>u. Sheet 5 of 13 Stone & Concrete Inlet Protection -M (IPF) references Standard Construction Detail# 4-16. The correct Detail is #4-20. Please verify and correct. § 102.4(b)(5)(ix)</p> <p>v. On Sheet 12 of 13 the Bored Water Body Crossing (WBX.1) detail does not include the minimum distance from top of stream bank to bore pit and receiving pit. Please correct this omission. § 102.4(b)(5)(ix)</p> <p>w. On Sheet 12 of 13 the Bored Water Body Crossing (WBX.1) detail does not show sediment barriers between the stream and the bore pit and receiving pit. Please correct this omission. § 102.4(b)(5)(ix)</p>	<p>However, BMP design and sequence allows for the required flexibility while providing protection from erosion of the ROW and sedimentation of downstream waters.</p> <p>iv. Revised Note # 7 of BMP Installation and Removal Notes (BMP General Notes sheet 2 of 3) to indicate 7 days notification. Please note this was not intended to be the standard E&S plan note. Refer to BMP general notes sheet 1 of 3 – Standard Erosion and Sedimentation Control Notes note 2 which dictates requirements for preconstruction meetings. The note has been revised accordingly.</p> <p>i. The note has been revised accordingly. Note #21 of BMP Installation and Removal notes on BMP plans set has been revised accordingly.</p> <p>m. The note has been revised accordingly throughout the narratives. Refer to BMP General Notes in BMP plan set.</p> <p>n. The Check Dam detail has been revised accordingly. Refer to BMP detail sheet 1 of 11.</p> <p>o. The Clean Water Crossing detail has been revised to include an alternate trench crossing when open. Refer to BMP detail sheet 2 of 11.</p> <p>p. The detail has been revised accordingly. Refer to CD detail on BMP detail sheet 1 of 11 in the BMP plan set.</p> <p>q. The detail has been revised accordingly to remove reference to secondary containment. Refer to TD detail on BMP detail sheet 8 of 11.</p>
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		<ul style="list-style-type: none"> r. The detail has been revised accordingly to include this note. Refer to TD details on BMP detail sheet 8 of 11. s. The revised application includes a revised BMP Plan Set with BMPs removed crossed out that are not utilized in specific counties. t. The detail legend has been revised accordingly to remove unused BMPs. Refer to county specific BMP cover sheets. u. The detail is based on PaDEP standard detail #4-16 and not #4-20, therefore the detail has not been updated. v. The detail has been has been revised accordingly. Refer to BMP detail sheet 10 of 11. w. The detail has been has been revised accordingly. Refer to BMP detail sheet 10 of 11.
10	<p>General</p> <ul style="list-style-type: none"> a. The plan maps show sediment basins and sediment traps discharging to areas that are not identified as surface waters. 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&S Manual. § 102.11(a)(1) b. All off-site waste and borrow areas must have an E&S plan approved by the local conservation district or the Department fully implemented prior to being activated. Please clarify where the crusher stone and geo-textile fabric will be taken after the contractor staging areas are no longer needed and restored to the existing condition. § 102.11(a)(1). 	<p>The revised Application submittal will provide provides:</p> <ul style="list-style-type: none"> a. Revised designs to convey discharges from traps and basins to surface waters. b. References to instruct contractors on proper handling of exported material. Refer to Recycling and Disposal Methods in the BMP plan set.
11	<p>Contractor Yard CS-CY-SC-3-07</p> <ul style="list-style-type: none"> a. Riprap Apron Calculations: Assumptions have been made for the D0 and 3D0 for the riprap apron design. Please clarify what the assumptions have been based on. § 102.11(a)(1) b. Show all proposed compost sock locations on the plan maps (Item 9, Page 5 of the E&S Manual). The location of 	<p>The revised Application submittal will provide:</p> <ul style="list-style-type: none"> a. Clarification of the D0 and 3D0 portions of the apron designs This BMP has been removed from the plan set. This technical deficiency is not applicable. b. This BMP has been removed from the plan set. This technical deficiency is not

	<p>all compost sock barriers could not be located. § 102.11(a)(1) c. The notes in bold font in Standard Construction Detail Number #7-7 should be added to the detail sheet. (i.e. missing last standard note from Page 184 of the E&S Manual). § 102.11(a)(1) d. The construction detail for the proposed concrete cradle does not meet the standards shown in Standard Construction Detail Number #7-17. Make all necessary corrections. § 102.11(a)(1) e. Provide construction details for the dewatering system for the sediment basins and traps on a detail sheet (Item 9, Page 5 of the E&S Manual). Standard Construction Detail Number #7-18 is recommended for this purpose. § 102.11(a)(1) f. The diversion swales that discharge to the proposed sediment basins and traps should extend down the slope of the basins/traps and the aprons provided on the flat basin bottom. § 102.11(a)(1)</p>	<p>applicable. Locations of all proposed compost filter sock c. A revised Detail #7-7 is provided. This BMP has been removed from the plan set. This technical deficiency is not applicable. d. A revised concrete cradle detail is provided. This BMP has been removed from the plan set. This technical deficiency is not applicable. e. Details for basin and trap dewatering systems Detail 7-18 has been added to E&S plan sheet 2 of 3. This BMP has been removed from the plan set. This technical deficiency is not applicable. f. Revised diversion swale design to convey water to the bottom of traps and basins is provided. This BMP has been removed from the plan set. This technical deficiency is not applicable.</p>
<p>12</p>	<p>Contractor Yard CS-CY-SC-3-11 a. Show all proposed compost sock locations on the plan maps (Item 9, Page 5 of the E&S Manual). The location of compost sock barriers #3, #5 and #23 could not be located. § 102.11(a)(1)</p>	<p>The revised Application submittal will provide provides all proposed compost filter sock locations. Refer to E&S plan set sheet 1 of 3.</p>
<p>13</p>	<p>Contractor Yard CS-CY-SC-3-014.1 a. Please provide a location map that conforms to the standards on Page 397 of the E&S Manual. Please provide a parcel# or address along Suedberg Road. § 102.11(a)(1) b. Please provide a copy of the work map used to delineate the watersheds tributary to the proposed diversion swale and compost sock trap. These watersheds should be the maximum tributary to the facility as described on Page 123 of the E&S Manual. § 102.11(a)(1) c. Please provide a step in the construction sequence for the compost sock sediment trap. § 102.11(a)(1) d. Riprap Apron Calculations: Assumptions have been made for the DO and 3DO for the riprap apron design. Please clarify what the assumptions have been based on. § 102.11(a)(1)</p>	<p>The revised Application submittal will provide: a. Provides parcel number for the referenced tract. b. Provides drainage area maps for diversion swales and sediment traps c. Has a revised sequence of construction. Refer to construction sequence step 8 on E&S plan sheet 1 of 2 and E&S narrative. d. Clarification of the D0 and 3D0 portions of the apron designs Clarifies that D0 and 3D0 were developed by comparing the flow of the channels vs. flows and slopes of minimum equivalent size pipe. An equivalent pipe size was determined based on analyzing flows and slopes of the channel. That equivalent pipe size was used to determine D0 and 3D0. If D0 and/or 3D0 were less than the channel</p>

		bottom, the channel bottom dimension was used.
14	Contractor yard CS-CY-SC-3-015 a. A spot check of the sediment barrier table found the sock diameters to be inconsistent with supporting calculations (standard worksheet #1). Make all necessary corrections. § 102.11(a)(1)	The revised Application submittal will provide provides updated tables and calculations. Refer to worksheet 1 in the E&S narrative and E&S plan sheet 1 of 2 Refer to worksheet 1 in the E&S narrative and E&S plan sheet 1 of 2
15	Contractor yard CS-CY-SC-3-016 a. It appears that a stabilized construction entrance is needed off SR 25 (East Main Street). See Pages 13 through 17 in the E&S Manual for guidance regarding stabilized construction entrances. Please make all necessary corrections and add the entrance to the construction sequence. § 102.11(a)(1)	The revised Application submittal will provide provides the construction entrances required to access the Site. Refer to E&S plan sheet 1 of 2
16	Contractor yard CS-CY-SC-3-017 a. It appears that a stabilized construction entrance is needed off of Valley Road and/or the private driveway adjacent to the staging area. See Pages 13 through 17 in the E&S Manual for guidance regarding stabilized construction entrances. Please make all necessary corrections and add the entrance to the construction sequence. § 102.11(a)(1) b. Wetlands are completely wrapped in compost sock. Please clarify how the sock will be maintained in those locations. § 102.11(a)(1) c. As per general erosion and sediment control note #6, please show the minimum setback of 50 feet from the edge of the wetland. § 102.11(a)(1)	The revised Application submittal will provide: a. provides the stabilized construction entrances needed to access the site is provided . Refer to E&S plan sheet 1 of 2. b. Clarifications regarding access and maintenance of the proposed sock around the referenced wetland clarifies that while the resource is surrounded by sock (after restoration of the trench and wetland) any maintenance has been performed by hand. Refer to E&S plan sheet 1 of 2. c. Clarifications of what clarifies what "staging" activities are proposed within the referenced 50' resource setback. Setback has been added to E&S plan sheet 1 of 2
Best Management Practices and Quantities Plan Set - Proposed 42" Central Penn South		
1	The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)	The revised Application submittal will include includes a trench plug detail in the BMP plan set that is in conformance with the current set of standard details from the E&S Manual.
Erosion and Sediment Control and Layout Plans Drawings - Access Roads		
1	Temporary Access Road (TAR) AR-SC-064 is identified on the plan drawing sheet as being located in Tremont Township. This	The township has been revised to be Pine Grove. This has been reflected in the revised Application submittal.

	temporary access road is actually located in Pine Grove Township. Please revise. § 102.11(a)(1)	
2	The type and extent of existing land cover provided on the plan drawings is incomplete. The existing surface of existing roads, locations of proposed roads, etc. has not been clearly shown. (Page 357 of the E&S Manual). § 102.11(a)(1)	Callouts labeling the various vegetative cover types have been added to the Plans as requested.
3	Sufficient surrounding area should be shown on the plan drawings to identify tributary drainage areas, receiving watercourses, and actual locations of proposed access roads in relation to public roads. The location map has too large a scale to locate points of access, while the pipeline drawings do not include the total extent of access roads. § 102.11(a)(1)	The Location maps have been revised to be at a smaller 1,000 scale rather than 2,000 scale.
4	Please provide proposed final contours for all proposed earthmoving. § 102.11(a)(1)	The final contours for the permanent access roads to the MLV sites are shown on the E&S and PCSM Plans. The final contours for the temporary access roads and the permanent access roads to the pipeline right of way match existing conditions. The existing contours to be restored are shown on the plans.
5	A wide corridor is included within a Limit of Disturbance, and the general proposed road profiles show excavation and widening of existing roads; however, widening of existing roads is not shown. Please clarify the following on the plan drawings, to be consistent with the information provided in the E&S narrative for each TAR: <ol style="list-style-type: none"> a. Indicate what the maximum temporary access road width is required for construction traffic. § 102.11(a)(1) b. Specify the proposed width of the new temporary access roads. § 102.11(a)(1) c. Specify the proposed widening of existing access roads. § 102.11(a)(1) 	<p>a. The maximum width of 14' is depicted on the access road plans. In some locations, the road has been depicted at a wider width to allow for turning movements of construction vehicles.</p> <p>b. The proposed travel way width of 14' is depicted on the access road plans. Widening of existing roads will vary based on the width of the existing road. The width of widening is depicted on the plans.</p> <p>c. The existing roads to be widened to 14 feet are shown on the plans. The width of widening may vary along the existing road depending on the width of the existing road.</p>
6	The construction sequence for access roads indicates that topsoil will be stripped from access road areas and stockpiled within the right-of-way; however, no topsoil stockpiles were found on the E&S plan drawings. § 102.11(a)(1)	Topsoil stockpiles have been added to the plans, where necessary.
7	The Limit of Disturbance line cuts through existing ponds along Beuchler Road along access road# AR-SC-063. § 102.11(a)(1)	The limit of disturbance has been revised to stop at the 90 degree turn in Beuchler Lane. The limit of disturbance area no longer encroaches into the two ponds.
8	Proposed access road# AR-SC-074 and associated drainage structures are shown within the floodway. Please provide a copy of all required permitting for obstruction and encroachment within the floodway. § 102.11(a)(1)	AR-SC-074 has been removed from the project.

9	Specify, on the plan drawings, how the access roads for construction will be stabilized (Page 9 in the E&S Manual). Note: Access roads should be designed according to Chapter 3 of the manual. § 102.11(a)(1)	The road has been surfaced/stabilized by placing a layer of geotextile and gravel for the road surface as indicated in the plans and narratives of the road specific construction sequences in the plans and road-specific narratives.
10	Describe how Water Quality Swales will be protected from sedimentation until construction is completed and the site stabilized (see bottom of Pages 10 and 262 in the E&S Manual). § 102.11(a)(1)	Proper construction sequencing requires that the PCSM-features be constructed after the site is stabilized. The road specific construction sequences have been added to the E&S Plans and road-specific narratives. The construction sequences describe the preparation of the vegetated channel footprint.
11	Stabilized construction entrances are needed where unstabilized roads or existing (gravel) roads disturbed by construction traffic meet public roads. Please show all rock construction entrances on the plan drawings. See Pages 13 through 17 in the E&S Manual for guidance regarding stabilized construction entrances. § 102.11(a)(1)	Plans have been updated to depict additional rock construction entrances where necessary.
12	The construction detail provided for the proposed channels is a detail for a grass-lined conveyance; however, stormwater volume credit is taken for vegetated water quality filter swales. Please refer to the DEP storm water manual for construction specifications for the Water Quality swales, and provide appropriate details. § 102.11(a)(1)	The proposed channels control at least 90% of the disturbed site area and are designed to meet the requirements of Control Guideline 1 in conjunction with the MLV site detention. The callouts for the swales have been revised to be either wither "Vegetated Channel for Infiltration Purposes" or "Vegetated Channels for Diversion Purposes" to clarify that the swales are not water quality swales.
13	The plan map(s) show(s) compost sock(s) crossing contours at various locations. Sediment barriers should be installed at existing level grade (E&S Manual, Pages 61 and 75). § 102.11(a)(1) Please make all necessary corrections. It is recommended that Figure 4.1 be placed upon a detail sheet for clarity. § 102.11(a)(1)	The compost filter socks shown crossing contours were in areas with slopes less than 5%. The plans have been revised to install the compost filter sock parallel to contour in all locations except around stockpiles. Table 4.1 has been added to the compost filter sock detail in the BMP plans as requested.
14	The plan map(s) show(s) compost sock(s) located in concentrated flow in various locations. Revise the location(s) to avoid concentrated flow (E&S Manual, Page 62 and 67). § 102.11(a)(1)	Compost filter sock locations have been revised so that they are not in concentrated flow.
15	The construction detail provided for proposed earthen level spreaders is incomplete and does not specify dimensions for each proposed spreader. § 102.11(a)(1)	The earthen level spreader detail has been removed. The access roads do not meet the criteria for installing an earthen level spreader. Management of the discharged water from filter sock diversions is discussed in the road-specific narratives.

16	Broad based dips could not be found on the proposed access roads in the plan drawings. Please specify what BMPs will be used to manage erosive runoff on access roads during construction and after construction. § 102.11(a)(1)	Broad based dips or water deflectors have been added to the access roads as necessary. Broad based dips are not proposed for access roads in this County. Water deflectors are utilized to manage erosive runoff. Following construction perimeter erosion controls will remain in place until the site is stabilized.
17	Erosion control matting installation should be shown on the plan drawings on all locations of disturbed areas with slopes of 3:1 and steeper. § 102.11(a)(1)	A hatch showing where erosion control blankets are to be installed has been added to the plans in all locations of disturbed areas with slopes of 3:1 or steeper.
18	Timber mats are shown at low points in access roads to convey/maintain drainage of clean upslope water on a road with construction traffic. Please specify what BMPs will be used to clean upslope water clean or provide an alternate means of convey clean water through a construction area. § 102.11(a)(1)	The timber matting has been replaced with rock matting. The depth and length of the rock matting has been designed to convey the clean water through the voids in the rock.
19	Specify on the plan drawings which BMPs will be has been used on existing gravel roads, many of which have steep slopes will be heavily used by large construction traffic, to minimize the potential for accelerated erosion and sedimentation during the project. The E&S plans indicated that many of these existing roads will receive no improvements to handle the construction traffic. § 102.11(a)(1)	Access Road plans indicate the type of BMP proposed for each road. Crusher run gravel has been added to the existing roads to be used as access roads as necessary. AASHTO #57 stone will be added to the existing road in areas where the existing gravel is thinning or bare to create a uniform travel surface. During construction, additional AASHTO #57 stone will be added to rutted or thinning areas as necessary. A note describing the maintenance of the existing roads has been added as Note 20 21 of the General Access Road Notes provided on Sheet 4 of 4 at the beginning of the access road plan set.
20	Specify on the plan drawings which BMPs will be installed on existing gravel and newly constructed roads in order to minimize the potential for accelerated erosion and maintain road integrity after construction and stabilization of the project. § 102.11(a)(1)	Existing roads have been maintained as described in the previous response to comment. Proposed access roads may also include broad based dips or water deflectors to minimize erosion potential. Upon project completion, all access roads, except the roads that provide access to the MLV sites have been restored to pre-construction conditions. Erosion control blankets have been installed in non-road areas with slopes of 3:1 or greater.
21	Provide details and specifications for the proposed Site Restoration and Areas of Minimum Disturbance/Reduced Grading on the plan drawing(s). The plan drawings show that the areas specified as "Areas of Minimum Disturbance/Reduced Grading" are within the limits of disturbance and in access roads. § 102.11(a)(2)	The narratives have been revised to better define the LOD and associated restoration necessary for the areas of minimum disturbance. No details are needed for the restoration. The LOD area has been restored to pre-

		construction conditions as described in the narrative and the notes at the front of the BMP Plan Set.
Susquehanna County		
Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings - Proposed 30" Central Penn North		
1	It appears that a stabilized construction entrance is needed at (T-501, T-510, T-383, SR-2041, T-503, SR-2023, SR-2043 and SR-2020). See Pages 13 through 17 in the E&S Manual for guidance regarding stabilized construction entrances. § 102.11(a)(1)	The revised Application submittal will include references to proposed stabilized construction entrances in the E&S Detail Group Legend on the plan views. The stabilized construction entrance is called out in the detail group band which refers to the detail group legend. Typical details are provided in the BMP plan set.
2	Show one proposed limit of construction on the plan maps. All proposed earthmoving (including E&S BMPs and structural PCSM BMPs) must be within the limits of construction. Remove any reference to "LOD 5' Buffer" to avoid confusion (Item 3 on Page 2 and Page 398 in the E&S Manual). § 102.11(a)(1)	The revised Application submittal shows only one (1) limit of disturbance. Erosion and Sediment Control Plans have been provided in the revised application that clearly identify the limits of disturbance and BMPs within that line. All references to a "LOD 5' Buffer" have been removed from all Erosion and Sediment Control Plans.
3	Please provide a soils delineation line on the plan drawings to show the locations of the soils on the plan map that meets the standards of Page 397 of the E&S Manual. Soil is not linear and will not be properly shown by the legend at the bottom of the plan sheets. § 102.11(a)(1)	NRCS Soil Limits has been placed in the E&S Alignments Sheets per the E&S Manual.
4	Reference plan sheet 24-1601-70-28-A/1683_3- CSA-CN-CSA-SU-1-008. All upslope water has not been diverted around the project area; some of the compost filter sock will not be designed properly for the length of slope draining to it. Filter Diversion outlets directly to compost filter sock located on the Eastern side of the site. Please revise. § 102.11(a)(1)	The revised Application submittal provides a revised diversion swale design to convey runoff around the proposed compost filter socks. The revised design accounts for the offsite water. Refer to E&S plan sheets and E&S narrative App. E-2.
Best Management Practices and Quantities Plan Set- Proposed 30" Central Penn North		
1	The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)	The revised Application submittal will include includes a trench plug detail in the BMP plan set that is in conformance with the current set of standard details from the E&S Manual.
Erosion and Sediment Control and Layout Plans Drawings - Access Roads		
1	Reference plan sheet 24-1601-70-28-A/ 683 _ 3-AR-SU-041. The plan map(s) show(s) compost sock(s) located in concentrated flow (outlet of Culvert - 32 LF (12" CMP)). Revise the location(s) to avoid concentrated flow (E&S Manual, Page 62 and 67). § 102.11(a)(1)	The design for AR-SU-041 has been revised and the compost filter sock in concentrated flow has been removed.

2	Reference plan sheet 24-1601-70-28-A/1683_3-AR-SU-046. It appears that the stabilized construction entrance may be better located where the access road meets the main roadway. See Pages 13 through 17 in the E&S Manual for guidance regarding stabilized construction entrances. § 102.11(a)(1)	A driveway apron is required between the construction entrance and the connection to West Lenox Church Road to accommodate truck movements. The construction entrance is located after the driveway apron so that the area to be inspected and maintained is clearly defined.
Soil Erosion and Sediment Control Plan Drawings - Zick Meter Station		
1	Reference Plan sheet (30-3680) MF-1A-11. Soil delineation lines are not shown in the legend. Please revise. The plan map(s) show(s) compost sock(s) crossing contours at (CFS# 3, 4, 5, 6, 9 & 10). Sediment barriers should be installed at existing level grade (E&S Manual, Pages 61 and 75). Please make all necessary corrections. It is recommended that Figure 4.1 be placed upon a detail sheet for clarity. For clarity, please move the sequence of construction from sheet 10 to sheet 8 to avoid confusion. § 102.11(a)(1)	The revised Application submittal provides an updated legend to include the soil delineation lines. Sheet 4 of 11 of the E&S Plan set was revised to show relocated compost socks to be on contour. Figure 4.1 was added to Sheet 11 of 11 of the E&S Plan set. The sequence of construction was moved to Sheet 8 of 11 of the E&S Plan set.
Wyoming County		
Erosion and Sediment Control Plan Narrative - Proposed Central Penn North		
1	The scale of the plan maps should be large enough to clearly depict the topographic features of the site. Please revise all sheets to conform to the standards in Appendix D (Pages 397 and 398) of the E&S Manual. § 102.11(a)(1)	The E&S Alignment Sheet Legend has been revised to identify symbols shown on the plans. The plan sheet scales are consistent with the conversations and examples discussed with PADEP and the Conservation District.
		The type and extent of vegetative cover are depicted through the use of the land use band and treeline shown on the E&S Alignment Sheets. Duplicate response to item 2 ignore this entire row.
Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings - Proposed 30" Central Penn North		
1	Please provide a mapping symbols legend, north arrow, graphic scale that conforms to the standards on Page 397 of the E&S Manual. § 102.11(a)(1)	The Chapter 102 drawings has been have been revised to include a mapping symbols legend, north arrow, and graphic scale, and has been provided in the revised Application submittal.
2	Indicate the type and extent of vegetative cover on all plan maps (Page 357 of the E&S Manual). § 102.11(a)(1)	The map plans has been revised to indicate the types and extent of vegetative cover and has been provided in the revised Application submittal. The vegetative cover is described by way of the land use band and the treeline shown on the plan view.
3	The plan maps show compost socks crossing contours on all plan maps. Sediment barriers should be installed at existing level grade (E&S Manual, Pages 61 and 75). § 102.11(a)(1) Please make all	The plan maps have been revised to depict sediment barriers installed at existing level grade except when lining roads, wetlands and waterbodies. Also, Figure 4.1

	necessary corrections. It is recommended that Figure 4.1 be placed upon a detail sheet for clarity. § 102.11(a)(1)	has been placed on a detail sheet <i>in the BMP plan set (Refer to CFS detail on sheet 2 of 11).</i>
4	The plan maps show compost socks located in concentrated flow on pipeline maps 1, 2, 4, 5, 6, 9 and 10 and access road plans WY-36. Revise the locations to avoid concentrated flow (E&S Manual, Page 62 and 67). § 102.11(a)(1)	The revised Application submission includes updates to the compost socks located in concentrated flow (<i>road crossings</i>) on the aforementioned maps and plans. The proposed CFS design has been modified to eliminate CFS locations in concentrated flow areas (<i>road crossings</i>).
5	The provided table for the silt sock sizes does not match the drawings. The table needs to be updated to reflect the sizes on the plans. § 102.11(a)(1)	The revised Application submission has been <i>has been</i> updated to provide consistency between the plan views and the table <i>Refer to the BMP plan set and Appendix A of the E&S Narrative.</i>
6	The rock filters should not be placed in the channel during construction. § 102.11(a)(1) Please make all necessary changes. § 102.11(a)(1)	The revised Application submission will provide <i>provides</i> additional information regarding the construction and maintenance of the proposed rock filters. <i>Where used within permanent facilities and access roads, permanent rock filters and earthen check dams are now proposed to be placed in channels during conversion of channels to their permanent PCSM configuration.</i>
7	The silt socks are shown being placed directly through a wetland especially at the LOD. Please provide information as to why the silt socks are needed within a wetland. § 102.11(a)(1)	Silt sock is proposed within wetland boundaries along the LOD. The intent of the silt sock in these locations is to provide protection to the wetland that extends beyond the LOD due to the construction and disturbance within the LOD.
8	Each wetland crossing should have the individual BMPs that will be used at that crossing specified. § 102.11(a)(1)	Silt sock is proposed within wetland boundaries along the LOD. The intent of the silt sock in these locations is to provide protection to the wetland that extends beyond the LOD due to the construction and disturbance within the LOD. <i>Please refer to the E&S detail group legend for pipeline crossings on the E&S alignment sheets. These detail groups specify which BMPs are to be used at stream / wetland crossings and indicate which BMPs are to be used in special protection watersheds.</i>
9	Access to the contractor's work site on Page 7 of the pipeline in Wyoming County does not show any proposed changes. This appears to be where the line will be drilled under the Susquehanna	The E&S plan map for the Susquehanna HDD staging area has been revised to show temporary grades and E&S BMPs, and has been provided in the revised

	and will be a major work area. Show all proposed improvements (e.g. roads, buildings, utilities) on the plan maps (Page 398 in the E&S Manual). § 102.11(a)(1)	Application submittal. A detailed plan showing the temporary grades and BMPs has been included in the revised application submittal. Refer to CN-CSA-HDD-WYO- Susquehanna River E&S Plan sheet.
10	There are no details provided for the staging areas on Page 14 of the pipeline plans for Wyoming County. Show all proposed improvements (e.g. roads, buildings, utilities) on the plan maps (Page 398 in the E&S Manual). § 102.11(a)(1)	See response to the Luzerne Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings – Proposed 30" Central Penn North Technical Deficiency 3. No gravel is proposed for this CSA. All proposed improvements are shown on Sheet 14 of the pipeline plans.
11	There is a stockpile location in the Eaton Township contractor's yard that is completely surrounded by silt sock with no access to the stockpile. Please show how this area will be accessed. § 102.11(a)(1)	The revised E&S plans will depict depicts the access location for the stockpile and has been included in the revised Application submittal. Compost Filter Sock is to be temporarily moved for equipment access to the stockpile as needed. See CY-CN-CY/PY-WY-2-01 page 1 of 3.
12	There is no rock construction entrance (RCE) located at the contractor's staging area at the Eaton Township yard location. Please provide a stabilized construction entrance at this contractor's staging area yard. See Pages 13 through 17 in the E&S Manual for guidance regarding stabilized construction entrances. § 102.11(a)(1)	The staging area plan view maps has been revised to depict a stabilized construction entrance at the contractor's staging area in Eaton Township and has been provided in the revised Application submittal. Offsite access to the contractor staging area will be via the 605 access road which does have a RCE.
13	The contractor staging area that is located in Clinton Township near the Compressor station does not show any proposed contour lines or any improvements. The plan does call for 6 inches of stone to be placed over the site and used as is. The site is on a slope that would not be suitable for as is. Please show any or all improvements. § 102.11(a)(1)	The staging area plan view maps has been revised to show all improvements and has been provided in the revised Application submittal. The existing contractor staging area grades are useable as is. Temporary grading is proposed only for temporary clean stormwater conveyance. Steeply sloped areas may receive gravel, but will not be graded.
14	Contractor staging area that is located in Clinton Township and near the compressor station has been modified by Penn DOT and is in use as a staging area for their use. The plan maps that are provided do not show the conditions as they exist on site or will exist when the pipeline used the area. Please provide the existing and proposed conditions, including any grading, proposed BMPs, etc. § 102.11(a)(1)	The revised Application submittal will provide provides the existing and proposed conditions at the site, and will including includes all any grading, proposed BMPs, etc., that is required, within the staging area plan view maps.
Best Management Practices and Quantities Plan Set - Proposed 30" Central Penn North		
1	The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S	The revised Application submittal will include includes a trench plug detail on page 8 of 11 in the BMP plan set

	Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)	that is in conformance with the current set of standard details from the E&S Manual.
Erosion and Sediment Control and Layout Plans Drawings - Access Roads		
1	The plan maps show compost socks located in series on the access road plan maps, WY-30, 31, 36, and 36.1. Compost socks cannot be placed in series for erosion and sediment pollution control. Please relocate the socks to avoid being in series. § 102.11(a)(1)	The compost filter socks have been revised and the areas in series have been removed. WY-036.1 has been removed from the project.
Soil Erosion and Sediment Control Plan Drawings - Compressor Station 605		
1	Provide the location of the cleanout stake that will be located in the sediment basin near the compressor station in Clinton Township, Wyoming County. § 102.11(a)(1)	The revised Application submittal will provide provides the location of the cleanout stake that has been located in the sediment basin near the compressor station in Clinton Township, Wyoming County on E&S plans.
2	There are stockpile locations at the Clinton Township compressor station location that will be inaccessible once the channels are placed on site. Please explain how these areas will be accessed after the channels are constructed, or move to places that will have better access. § 102.11(a)(1)	The revised Application submittal will explain how the stockpile locations has been accessed after the channels are constructed or move them to places that will have better access. show shows the relocated stockpile to an area that is accessible after swale construction (northeast of the temporary access road).
E&S Alternative BMP & Design Standard		
1	<p>Flume (Clean Water) Crossing:</p> <ol style="list-style-type: none"> Please indicate in the construction sequence whether this BMP will be temporary or permanent. § 102.4(c) Clarify the Right of Way Slopes in the provided detail. Currently, less than a 20% slope could include 10% and 2%. It appears a range should be provided. § 102.4(c) A symbol should be provided in the legend and the BMP located on the plan maps. The symbol should also indicate which of the 6 options will be used in each location. § 102.4(c) The plan view is not consistent with the profile (the berm should terminate at the beginning of the rip rap apron and the rip rap apron should be the same width as the level spreader). Please revise. § 102.4(c) In general, the flume (clean water) crossings do not discharge to a watercourse, channel, surface water, etc. Please explain what will prevent a channel from being formed/eroded below the flumes and describe how the discharges from the channels/flumes will be safely 	<p>The revised Application submittal has been revised to:</p> <ol style="list-style-type: none"> Indicate in the construction sequence whether this BMP will be temporary or permanent. that the clean water crossing outfall protection and level spreaders are temporary and are to be removed. The berms will remain and function as permanent waterbars. Clarify the Right of Way slopes in the provided detail and provide a range on the detail in the BMP plan set. Include a symbol in the legend and at the BMP locations on the plan maps that indicate which of the six options has been used in each location. Refer to the CWC detail in the BMP plan set for the six options identified in the plan maps. Revise the plan view to be consistent with the profile. Explain the methods used to prevent a channel from being formed/eroded below the flumes and describe how the discharges from the

	<p>conveyed to a surface water (see Item 4 on Page 3 of E&S Manual). § 102.4(c)</p> <p>f. The detail indicates that scour stop transmission mats can be installed in lieu of the proposed riprap aprons. Please remove these Transition Mats as they do not dissipate energy and therefore would not be a substitute for riprap. § 102.4(c)</p> <p>g. Clean Water Crossing Detail on Drawing Number ASR-BMP, Sheet 2 of 13 states "12" high stone level spreader (RA)". The level spreader "berm" should not allow flow through the berm and should be constructed of compacted earth, concrete or impermeable materials. § 102.4 (c)</p> <p>h. Provide peak flow calculations for flume channel(s). See Chapter 5 in E&S 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. § 102.4(c)</p> <p>i. The detail for the clean water flume should show the flaring out of the rip rap apron to match the width of the level spreader. For example, the flume at 90.1 must transition from a 12-foot channel to a 27-foot level spreader. § 102.4(c)</p> <p>j. The plan should verify the total drainage area to clean water flumes. It appears that in some cases (i.e. crossing 97.03) additional water not collected by the upslope diversion channel will reach the flume. § 102.4(c)</p>	<p>channels/flumes will be safely conveyed to a surface water. Permissible downstream velocities were reviewed and verified as outlined in Table 2 on the BMP plan set. The actual velocities justify that downstream erosion channels will not form.</p> <p>f. Remove the Transition Mats from the detail.</p> <p>g. Include a close-up detail that describes how the 12" high stone level spreader (R-4) has been constructed.</p> <p>h. Provide peak flow calculations determined using the Rational Method for flume channel(s) that are in conformance with Chapter 5 of the E&S Manual.</p> <p>i. Include a revised clean water flume detail depicting the flaring out of the rip rap apron to match the width of the level spreader. A note has also been updated to the detail stating to "Extend Rip Rap to outer edge of level spreader."</p> <p>j. Confirm that the total drainage area to clean water flumes and specifically the M.P. 97.03.</p>
2	<p>Waterbar end treatment (non HQ/EV Watersheds): This BMP requires a sediment storage area similar to the Waterbar end treatment in HQ/EV Watersheds. § 102.4(c)</p>	<p>The revised application submittal includes calculations in Section 1.6 of the E&S Narrative to confirm that a sediment storage area similar to the Waterbar end treatment in HQ/EV Watersheds is provided.</p>
3	<p>Waterbar end treatment (HQ/EV Watersheds): The calculations provided were based on an 18" compost filter sock using a height of 18". Please revise and use the actual filter height of 14.5". § 102.4(c)</p>	<p>The revised Application submittal will provide provides calculations that use a 14.5" compost filter sock height in Section 1.6 of the E&S Narrative.</p>

Post Construction Stormwater Management Plans		
General PCSM Technical Deficiencies related to all documents		
1	<p>It appears that the mainline valve pad sites will serve as a PCSM BMP. These pad sites appear to be located in areas that will be backfilled as part of the mainline construction. Clearly identify the location of the mainline valve pad sites, in relation to the all other earth disturbance activities. Protocol 2.2.a of Appendix C of the PCSM Manual recommends against infiltrating in areas of compacted fill. Provide the demonstration that these PCSM BMPs will properly manage the runoff for the function intended. If the recommendations of the PCSM Manual are not followed, then provide a demonstration which identifies how the alternative BMP and design standard will achieve the same regulatory standards as the recommendations of the PCSM Manual. §§ 102.8(f) (15), 102.8(g)(1), 102.8(g)(2), 102.8(g)(3), 102.11(a)(2) & 102.11(b)</p>	<p>The MLV site grading has been revised to remove the fill within the infiltration footprint. <i>The pipe will be backfilled as part of the mainline construction. The MLV site will be constructed after the pipeline is installed and the pipeline contractor has moved along the pipeline. In areas of compaction, the MLV site contractor will follow the construction sequences provided in the road-specific narratives of the access roads that access MLV sites. The top 18 inches shall be removed and replaced with a blend of topsoil and sand to promote infiltration and biological growth. At the very least, topsoil shall be thoroughly deep plowed into the subgrade in order to penetrate the compacted zone and promote aeration and the formation of macropores. The area should be disked prior to final grading of topsoil.</i></p>
2	<p>It is not clear how the rainfall depths were determined. Clearly identify how the utilized rainfall depths were determined for each location (i.e. regulator station, compressor station, permanent access road, etc.). Chapter 8 (Page 6) of the PCSM Manual recommends utilizing the rainfall data from the NOAA Atlas 14. If the recommendations of the PCSM Manual are not followed, then provide a demonstration which identifies how the alternative BMP and design standard will achieve the same regulatory standards as the recommendations of the PCSM Manual. §§ 102.8(f)(8), 102.8(f) (15), 102.8(g)(2), 102.8(g)(3), 102.8(g)(4), 102.11(a)(2) & 102.11(b)</p>	<p>Rainfall intensity is taken from PennDot Publication 584, which pulls from NOAA Atlas 14 V3. For a 24-hour storm event in Lancaster County, BL referenced Map F to identify the rainfall region. The access roads in Lancaster County are located within Region 4. Therefore, BL used the rainfall intensities for the 1, 2, 5, 10, 25, 50, and 100-year storms from the Region 4 table. <i>The rainfall intensity has been revised and are now taken from NOAA Atlas 14. NOAA Atlas 14 Point Precipitation Frequency Estimates have been included in site specific calculation packages where they are utilized.</i></p>

3	<p>Protocol 2.1.c of Appendix C of the PCSM Manual recommends soils underlying infiltration devices to have infiltration rates between 0.1 and 10 in./hr. Protocol 2.1.c also recommends that soils with rates in excess of 6.0 in./hr. may require an additional soil buffer (such as an organic layer over the bed bottom) if the Cation Exchange Capacity is less than 5 and pollutant loading is expected to be significant. If the tested/raw infiltration rates are outside the recommendations of the PCSM Manual, then submit additional information which demonstrates that the proposed alternative BMP and design standard will achieve the same regulatory standards as the recommendations of the PCSM Manual. §§ 91.51 (a), 102.8(f)(6), 102.8(f) (15), 102.11(a)(2) & 102.11((b))</p>	<p>AR-SC-063 was the only access road along the CPLN and CPLS pipeline where an infiltration rate greater than 10 inches per hour (in/hr.) was observed. However, the average infiltration rate for AR-SC-063 is approximately 8.5 in/hr. The pollutant loading is minimal, not significant. And none of the MLV sites are located with areas of karst. Therefore, no additional soil buffer is required. No permanent facilities are located within karst areas. Infiltration rates outside the recommended ranges are addressed, as needed, within individual permanent facilities.</p>
4	<p>The narratives identify that a significant number of site specific infiltration testing and soil probes have not been performed, but that prior to construction infiltration testing will be completed. This is not an adequate predevelopment site characterization and assessment of soil and geology. Perform an adequate predevelopment site characterization and assessment of soil and geology. § 102.8(g)(l)</p>	<p>Infiltration testing completed since the last submittal has been incorporated into the stormwater design.</p>
5	<p>The calculations provided in the narratives are difficult to follow and verify. Ensure that all calculated values are clearly identified, including any formulas used to calculate said values. §§ 102.8(f)(8) & 102.8(g)(4)</p>	<p>The revised application submittal will clarify calculations and formulas. The standard PCSM worksheets were used to design the permanent PCSM BMPs. The only step that requires additional formulas is the equivalent pipe calculations for the rip rap aprons. A description of the equivalent pipe calculation has been added to each Worksheet #11. Descriptions for determining the volume of storage in the MLV sites were also added to clarify how the storage volume shown on Worksheet #5 was calculated.</p>

<p>6</p>	<p>The provided riparian buffer/riparian forest buffer waiver information appears to be for the project as a whole, and is too vague for the specific riparian buffer/riparian forest buffer waiver being requested for each specific location. Provide the required information for the specific locations of where the riparian buffer/riparian forest buffer waiver is being requested. The additional information should include, but not be limited to, stream impairments/TMDLs (the UNT to Trout Run has a TMDL for the overall watershed), length of time required for the disturbance, plans clearly identifying the areas for waivers, why the alignment is required to change, why additional workspace is required at the particular location. § 102.14(d)(2)</p>	<p>The riparian buffer waiver information has been revised to be location specific. E&SC Narrative Section 1.15 of the revised Application provides additional information for each specific location where riparian buffer/riparian forest buffer waivers are being requested. The information includes the location (by milepost), the Soil Erosion and Sedimentation Control Plan / Site Restoration Plan Sheet Number where the watercourse and surrounding riparian buffer is located, and any associated impairments/TMDLs for the individual watercourse. A discussion on Route Selection is also included in Section 1.15 of the E&SC Narrative, as well as an Alternatives Analysis which describes workspace requirements. Section 1.16 – Antidegradation of the E&SC Narrative states that, “At wetland and stream crossings, all pipe installation and temporary restoration is proposed to be completed within a 48-hour period.” Finally, Transco has developed and will incorporate several LOD modifications to avoid and minimize impacts to watercourses and their riparian buffers, which are discussed in detail within Attachment P of the revised Chapter 105 Application.</p>
<p>7</p>	<p>The antidegradation analyses are not adequate, as they are too vague and do not contain sufficient information. Make the antidegradation analysis specific to the site for which the PCSM Plan covers (i.e. each discharge along the pipeline, each permanent access road, etc.). This analyses should evaluate and include nondischarge alternatives in the PCSM Plans. If nondischarge alternatives do not exist for the project, then make that demonstration and include in the PCSM Plans antidegradation best available combination of technologies (ABACT) BMPs. Make all revisions necessary. § 102.8(h)</p>	<p>The revised Application submittal will include a revised antidegradation analyses specific to the portions of the right-of-way (ROW) in HQ/EV watersheds, and for EV wetlands Section 1.17 (formerly Section 1.16). Section 1.17 in Section 1.17 (formerly Section 1.16) of the E&S Narratives (Section 1.16 of the Access Road PCSM Narrative). The analysis is analyses are an overall watershed approach that will address the pipeline, temporary and permanent access roads, and facilities.</p>

8	<p>The thermal impact analyses appear to be related to the entire project, mainly the proposed transmission line. Provide an identification of potential thermal impacts from post construction stormwater to surface waters of this Commonwealth including BMPs to avoid, minimize or mitigate potential pollution from thermal impacts. Provide a thermal impact analysis for each specific location (i.e. each regulator station, each compressor station, each permanent access road, etc.). § 102.8(f) (13)</p>	<p>The revised application submittal will include more specific thermal impact analyses. Road-specific thermal impact analyses have been added to each access road narrative. Discussion of thermal impacts, specific to individual temporary and permanent facilities are provided in the narratives associated with those facilities.</p>
9	<p>Ensure that all necessary and regulatory required details and notes are provided for the PCSM BMPs. §§ 102.8(f)(6), 102.8(f)(7), 102.8(f)(9), 102.8(f) (12) & 102.8(g)(5)</p>	<p>Transco will provide The revised Application submittal provides BMP details and notes, as needed for each BMP and each site. Transco will show the location of each PCSM BMP. Transco will provide BMP details and notes, as needed for each BMP and each site. Transco will show the location of each PCSM BMP.</p>
10	<p>The restoration plans do not show what portions of the right-of-way, alternate temporary work space and temporary work space will be restored. Please provide accordingly. § 102.8(f)(9)</p>	<p>A restoration section has been added to the pipeline E&S narrative describing the areas to be restored. A restoration section has been added to the pipeline E&S narrative describing the areas to be restored.</p>
11	<p>Please show the proposed pipeline on the Erosion and Sediment Control Plans and the Restoration Plans. § 102.8(f)(9)</p>	<p>The Erosion and Sediment Control Plans and the Restoration Plans have been revised to include the proposed pipeline and has been included within the revised Application submittal.</p>
12	<p>Please be advised that swales with a slope of 6 percent are not acceptable as a water quality BMP. Vegetated swales with slopes greater than 3 percent and less than 6 percent are acceptable as a water quality BMP if check dams are provided and designed according to the Pennsylvania Stormwater Best Management Practices Manual, November 2006, Chapter 6, vegetated swales. Please check that all vegetated swales being utilized as a water quality or volume control post construction stormwater management BMP are within this requirement. § 102.8(f)(8)</p>	<p>Swales with slopes greater than 6% are no longer proposed to be used as an infiltration swale for proposed facilities.</p>
13	<p>An assumed infiltration rate cannot be used to determine if the infiltration swale is adequately designed to infiltrate the stormwater volume increase from existing to proposed conditions. Please provide a test pit/field log information and infiltration testing for each proposed infiltration BMP. § 102.8(f)(8)</p>	<p>Infiltration testing completed since the last submittal has been incorporated into the stormwater design. Infiltration testing is contingent on obtaining access permission to the site. Transco has not been granted access to the proposed MLV site at access road AR-CO-095.1.1.3. However, Transco will provide updated information once access is received.</p>

14	It appears that volume control BMPs have not been proposed for the proposed access road AR-SU-046. Please provide calculations to determine if any volume control BMPs are required. Should volume control BMPs be necessary, please provide all calculations, plans, details, notes, etc. for construction of the proposed BMP. § 102.8(f)(6), § 102.8(f)(8), § 102.8(f)(9)	AR-SU-046 has been will be restored to pre-construction conditions. Therefore, no volume control BMPs are proposed.
15	Credit may not be taken for multiple BMPs that are located within one another. Each BMP have certain criteria and even though these design criteria may overlap, that actual BMPs may not overlap. Each BMP must remain separate. The BMPs may be used in series or parallel of one another but credit may not be taken for BMPs that appear to be within one another. Please review all BMPs and revise all documentation as applicable. § 102.8(f)(8), § 102.8(f)(9)	The revised application submittal will clarify clarifies that physically overlapping BMPs may be proposed, but volume or water quality credits are not claimed for both of the overlapping BMPs.
16	It is not clear what the infiltration berms will be infiltrating. It does not appear that the infiltration calculations have been provided to show what volume has been infiltrated for each BMP. Please provide the calculations for each proposed BMP. § 102.8(f)(8)	The revised Application submittal will provide provides the drainage area to the infiltration berm, the volume required for each berm, and the associated calculations.
17	Please provide the maximum impervious loading ratio of 5:1 (impervious area to infiltration area) and a total loading ratio of 8:1 (total drainage area to infiltration area) for each infiltration berm. § 102.8(f)(8)	The design for the permanent access roads to MLV sites have been revised to meet the maximum impervious loading ratio of 5:1 (impervious area to infiltration area) and a total loading ratio of 8:1 (total drainage area to infiltration area) for each infiltration facility.
18	Provide a discussion of measures that will be taken to avoid and minimize compaction to the maximum extent practicable and where compaction occurs, what measures will be taken to ensure adequate infiltration and successful vegetation of the right of way. § 102.4(b)(4), 102.8(b) & 102.22. The Department recommends you evaluate Section 6.7 (Restoration BMPs) of the PCSM Manual. Ensure notes are included on the drawings and in the documents that will be provided to the construction contractors.	Recommendations for minimizing compaction in the construction sequence for vegetated channels swales in the Stormwater Manual have been added to the Construction Sequences for the MLV sites and associated access roads. The construction sequences for each access road are included in the road-specific narratives and Soil Erosion Control Plans.

19	Describe how your planning and design requirements satisfy 25 Pa. Code §§ 102.4(b)(4) & 102.8(b) and are minimizing the extent and duration of the construction and the minimizing any increase in stormwater runoff. Identify how these measures are satisfied when the ROW is in close proximity or is crossings surface waters or wetlands.	<p>Permanent access roads and facilities have been designed to meet the requirements of 25 Pa. Code §§ 102.4(b)(4) & 102.8(b) as follows:</p> <ul style="list-style-type: none"> i. The disturbed areas have been minimized to the maximum extent practicable and the improvements have been to minimize the duration of disturbance. ii. Existing drainage features have been incorporated into the designs and the disturbance area has been minimized to maintain vegetation to the maximum extent practicable. iii. Methods to avoid soil compaction have been added to the Construction Sequences are included in the road-specific narratives. iv. Infiltration is used to prevent the generation of increased stormwater runoff. v. Detention ponds are designed to detain and infiltrate stormwater to maintain the pre-construction rate of runoff. <p>No permanent access roads to MLV sites are in close proximity or cross surface waters or wetlands.</p>
20	Provide an antidegradation analysis addressing the requirements of 25 Pa. Code § 102.8(h) for the portions of the project that drain to HQ or EV surface waters. Ensure that areas where there may be concentrated stormwater runoff that there are adequate BMPs to control the volume, rate and water quality from the site. § 102.8(f)(6)	The revised Application submittal will include a revised antidegradation analysis specific to the portions of the right-of-way (ROW) in HQ/EV watersheds, and for EV wetlands. The analysis is an overall watershed approach that will address the pipeline, temporary and permanent access roads, and facilities.
Columbia County		
Post Construction Stormwater Management Plan Narrative - Compressor Station 610		
1	The soil testing indicates that the limiting zone is above the bottom of the basin and therefore does not provide the required 2-foot buffer. § 102.8(F)(2)	<p>If feasible, Transco will meet these requirements within the revised Application submittal. If Transco does not provide the full buffer, an adequate justification has been provided in the revised Application submittal.</p> <p>Soil test results presented in App. A.6 have been checked and show limiting layers not being encountered until 27" at the shallowest. The versus proposed infiltration basin bottom aligns with existing grade with a max of 1' cut, therefore and providing the 2-foot buffer.</p>

2	Soil testing indicated high water level in the tests near the storm basin expansion. How will water be handled if present. § 102.8(F)(2)	The revised Application will provide additional design components to address the potential high water level. No evidence of high water has been found within 2 feet of the proposed stormwater basin bottoms as presented in the Soil Profile Logs in App. A.6. No additional measures are proposed.
3	Infiltration testing was not conducted at the depth in the soil profile equal to the deepest cuts for the pond bottom. § 102.8(F)(2)	Infiltration testing was done throughout the site in the areas of the PCSM BMPs. The revised Application will provide additional information to justify the use of the collected data in developing the PCSM BMP design. The completed test pits and infiltration testing are within a reasonable distance of the proposed basin cuts. The finished basin bottom will provide the recommended 2-foot buffer to the identified limiting zones.
4	Explain why the soil amendment area in the bottom of the basin is less than the surface area at elevation 1200 assumed in the pond routings. § 102.8(F)(2)	The revised Application will correct his discrepancy. The proposed soil amendment area and stormwater basin areas have been verified to be consistent with the proposed design. The elevation of 1200 mentioned by the reviewer may refer to the West Diamond site.
5	Provide supporting calculations for worksheet #5 infiltration volumes. § 102.11(a)(2)	The revised Application submittal will provide provides for worksheet #5 infiltration volumes. Stage storage information and volume information for check dams has been added. Refer to App. A.4 of the PCSM narrative.
6	Provide worksheets from chapter 8 of the stormwater manual to verify that all the requirements to be eligible for the items checked on worksheets #3, #10, and #11 have been met. § 102.8(F)(8)	The revised Application submittal will provide provides worksheets from Chapter 8 of the PCSM Manual. Refer to PCSM Narrative App. A.5. Please note worksheet #11 has been removed as it is no longer required.
Post Construction Stormwater Management Narrative - West Diamond Regulator Station		
Post Construction Stormwater Management Plan Drawings - Compressor Station 610		
1	Explain how the amount of woodland in the developed condition (worksheet #4 – Green Creek) has increased significantly without any woodland plantings. § 102.8(F)(8)	The revised Application will correct has corrected this discrepancy. Worksheet #4 has been revised to reflect the current LOD. Vegetative coverage acreages are now consistent.
2	Provide supporting calculations for worksheet #5 infiltration volumes. § 102.8(F)(8)	The revised Application submittal will provide provides supporting calculations for worksheet #5 infiltration volumes. Stage storage information and volume information for check dams has been added. Refer to App. A.4 of the PCSM narrative.

3	If the infiltration berms in the POI C to be included in the volume reduction calculations, provide calculations showing the amount of drainage area flowing to the berms and that this area can generate sufficient runoff volume (worksheet 4 procedure) equal to the credit. § 102.8(F)(8)	The requested supporting calculations. Refer to App. A.4 of the PCSM narrative The revised Application submittal will provide provides the requested supporting calculations. Refer to App. A.4 of the PCSM narrative.
4	Provide worksheets from chapter 8 of the stormwater manual to verify that all the requirements to be eligible for the items checked on worksheets #3, #10, and #11 have been met. § 102.8(F)(8)	The revised Application submittal will provide provides worksheets from Chapter 8 of the PCSM Manual. Refer to PCSM Narrative App. A.5. Please note worksheet #11 has been removed as it is no longer required.
Post Construction Stormwater Management Drawings - West Diamond Regulator Station		
1	The soil testing indicates that the limiting zone is above the bottom of the basin and therefore does not provide the required 2-foot buffer. § 102.8(F)(2)	The revised Application will provide clarification of the PCSM BMP design, as it relates to the identified limiting zones. replaces the originally proposed infiltration basin with a rain garden/bioretention basin. The limiting zones are accounted for in the revised design. The Rain Garden design is indicated as "BASIN 1" in the hydrocad models.
2	Soil testing indicated high water level in the tests near the storm basin expansion. How will water be handled if present. § 102.8(F)(2)	The revised Application will provide has provided additional design components to address the potential high water level. The BMP grades have been revised to minimize impact of seasonal high water. The gravel layer with the bioretention system is expected to mitigate any temporary seasonal high water that may occur, See Sheet 7 of 8 of the PCSM Plan Drawings.
3	Infiltration testing was not conducted at the depth in the soil profile equal to the deepest cuts for the pond bottom. § 102.8(F)(2)	Infiltration testing was done throughout the site in the areas of the PCSM BMPs. The revised Application will provide additional information to justify the use of the collected data in developing the PCSM BMP design. The revised stormwater BMP does not utilize infiltration. Therefore, no additional infiltration testing was proposed. See Sheet 7 of 8 of the PCSM Plan Drawings.

4	Explain why the soil amendment area in the bottom of the basin is less than the surface area at elevation 1200 assumed in the pond routings. § 102.8(F)(2)	See response to the Lancaster County Erosion and Sediment Control Plan and Post Construction Stormwater Management / Site Restoration Plan Narrative — Temporary and Permanent Access Roads Technical Deficiency 1. The application has been revised to show consistent sizes in soil amendments areas and basin bottom surface areas. The total basin amendment area is the addition of 1A and 1B. Two different areas are provided on the site plan because the areas will be constructed in different phases. Refer to PCSM plan set sheet 3 of 8 and App. A.4 of the PCSM narrative.
5	Provide supporting calculations for worksheet #5 infiltration volumes. § 102.11(a)(2)	The revised Application submittal will provide provides supporting calculations for worksheet #5 infiltration volumes. Refer to PCSM Narrative App. A.4
6	Provide worksheets from chapter 8 of the stormwater manual to verify that all the requirements to be eligible for the items checked on worksheets #3, #10, and #11 have been met. § 102.8(F)(8).	The revised Application submittal will provide provides supporting worksheets from Chapter 8 of the PCSM Manual. Refer to PCSM Narrative App. A.4. Please note worksheet #11 has been removed as it is not required.
7	Indicate on the drawing the final cover to be used on the regulator pad area. § 102.8(F)(9)	The revised Application submittal will detail of the final cover to be used on the regulator pad. Includes use of gravel for final cover on PCSM plan set sheet 3 of 8.

Lancaster County		
Erosion and Sediment Control Plan and Post Construction Stormwater Management/Site Restoration Plan Narrative - Temporary and Permanent Access Roads		
1	Provide a separate PCSM Plan for the permanent access roads from the E&S Plan for the permanent access roads. A combined plan, titled Erosion and Sediment Control /Site Restoration Plan, can be provided for the temporary access roads. §§ 102.4(b)(5)(xiv) & 102.8(d)	<p>The revised Application submittal will provides separate PCSM Plan for the permanent access roads to the MLV sites, separate from the E&S Plan for the permanent access road. Please note that the permanent access roads that provide access to the ROW will be restored to pre-construction conditions. Operations will drive over grass to access the ROW after construction. Therefore, these permanent access roads are not included in the separate PCSM plans. Each County now has two sets of access road plans:</p> <ul style="list-style-type: none"> • “Erosion & Sediment Control and Layout Plans” that include the E&S design for all roads and the site restoration plan for temporary roads and permanent roads to be restored to pre-construction conditions. • “Post Construction Stormwater Management Plans for Permanent Access Roads” that include the PCSM plans for the permanent access roads that access MLV sites.
2	Are the mainline valve sites included in the E&S and PCSM Plans for the permanent access roads? If so, that should be clarified and discussed in the narratives. § 102.8(f)(3)	<p>The revised MLV access road road-specific narratives will clarify clarify that the E&S design for the MLVs is part of the pipeline plan The E&S measures are shown on the access road plans are shaded for coordination purposes. The road-specific narratives for the associated access roads has have been revised to clarify that the E&S measures are part of the pipeline E&S plan. The PCSM design for permanent access roads and mainline valve sites are included in the Access Road PCSM plans and narrative. These revisions has been provided within the revised Application submittal.</p>

3	Identify in the narrative whether the receiving surface water is impaired or has a TMDL. For the specific sites (temporary and permanent access roads), ensure that proper and adequate discussion is provided related to the E&S and PCSM design and the impairment and/or TMDL. § 102.8(f)(5)	The revised Application submittal will includes a revision to the narrative on Page 6 and 7 of the Access Road E&S Narrative identifying whether the receiving surface water is impaired or has a TMDL. Discussion has been added <i>in the road-specific narratives</i> for the specific sites related to the E&S design and the impairment and/or TMDL.
4	Identify in the table on Page 5 the receiving surface water, the Designated and Existing Uses and if the receiving surface water is impaired or has a TMDL. The table identifies LA-026.4 as a temporary and then as a permanent access road; clarify why this one location is identified twice. § 102.8(f)(3) & 102.S(f)(S)	The revised applications submittal will identify <i>identifies in the table on page 6 and 7 of the county narrative</i> , the receiving surface water, the Designated and Existing Uses, and if the receiving surface water is impaired or has a TMDL in the table on Page 5. <i>LA-026.4 is a temporary road and has been removed from the Permanent access road list on page 7 of the Access Road E&S Narrative.</i>
5	Identify what is meant by the terminology "infiltration losses" in the last sentence of the second paragraph on Page 9. § 102.S(f) (15)	Section 1.3 has been revised to clarify that "infiltration losses" refers to the volume of water that will infiltrate as the stormwater fills the detention volume between the voids in the rock in the MLV pads and behind the swale check dams. <i>The reference to infiltration losses have been removed from the narrative. As with previous submissions, credit for infiltration is not accounted for in pre and post-construction stormwater calculations.</i>
6	The regulatory requirement is to manage post construction storm water for storm events of a 24-hour duration. Make all revisions to appropriately identify the storm events (e.g. the first sentence of the second paragraph on Page 13). §§ 102.8(g)(2) & 102.8(g)(3)	The revised Application submittal will includes a revised narrative that appropriately identifies the storm events using all calculations performed using storm events of a 24-hour duration <i>on page 14 of the Access Road E&S Narrative and on page 10 of the Access Road PCSM Narrative.</i>
7	The third paragraph on Page 13 is very confusing related to the Act 167 Plans. Clearly identify to what criteria the PCSM Plan was designed to. On November 7, 2013, DEP approved the Blueprints: An Integrated Water Resources Plan for Lancaster County (Acts 247 and 167) for all of Lancaster County. Make all revisions necessary. §§ 102.8(g)(2) & 102.8(g)(3)	The applicant has reviewed the requirements of referenced Water Resources plan for Lancaster County. The narratives and calculations have been revised to reference the plan and any necessary modifications to the design have been made. <i>See page 14 in the Access Road E&S Narrative and pages 10-11 in the Access Road PCSM Narrative for more detail.</i>

8	The generalized BMP Installation Sequence Narrative in Section 1.7 is not sufficient. Each temporary and permanent access road is different, as a site/location specific construction sequence is required. § 102.8(f)(7)	The revised Application submittal includes an expanded generalized BMP Installation Sequence Narrative in Section 1.7. A site/location specific construction sequence is provided for each temporary and permanent access road on the individual road plan and corresponding road specific narrative on page 15 in the Access Road E&S Narrative and page 12 of the Access Road PCSM Narrative.
9	Provide an adequate long-term operation and maintenance schedule in Section 1.10 for all PCSM BMPs. § 102.S(f) (10)	The long-term operation and maintenance requirements are described in the Access Road PCSM Narrative on pages 13-15 for Permanent Access Roads and in the PCSM Notes on Sheet 3 of 3 in the Access Road PCSM Plan set.
10	Section 1.11 does not identify, address or ensure that proper measures for recycling or disposal of materials associated with or from the PCSM BMPs are in accordance with Department laws, regulations and requirement. Make all revisions necessary. § 102.8(f) (11)	The Access Road E&S Narrative has been revised and Section 1.12 on pages 19-23 addresses the proper measures for recycling and/or disposing of materials. The Access Roads PCSM narrative has been revised on page 15 to clearly identify and provide the measures for disposal of the stone following site restoration as well as the proper measures for disposal of sediment, debris and trash removed from PCSM BMPs and a note added to the PCSM plan drawings on sheet 3 of 3. These has been provided in the revised Application submittal.

<p>11</p>	<p>Section 1.12 on Page 26 identifies that there may be potential for acid producing rock. Identify if there is or is not the potential for naturally occurring geologic formations or soil conditions that may have the potential to cause pollution during earth disturbance activities and after earth disturbance activities are completed and PCSM BMPs are operational. What investigation has been done to determine if there is potential for acidic runoff from the site (beyond the Soil Survey)? If acid producing rock is present at the site, then provide BMPs to minimize the potential for pollution. Perform and supply an adequate predevelopment site characterization and assessment of soil and geology. What investigation has been done to determine if there is potential for acidic runoff from the site (beyond the Soil Survey)? If acid producing rock is present at the site, then provide BMPs to minimize the potential for pollution. Perform and supply an adequate predevelopment site characterization and assessment of soil and geology. Tailor this discussion for each specific site (temporary and permanent access roads). §§ 102.8(f) (12) & 102.8(g)(1)</p> <p>Clarify the statement on Page 27 " ... the quantity of acidic soils found along the proposed CPL South route may be sufficiently high such that their potential for pollution should be mitigated." If the quantity is sufficiently, how is that mitigated? What investigation has been performed to determine that the amount potential for pollution is mitigated? §§ 102.8(f) (12) & 102.8(g)(1)</p>	<p>An Acid Producing Rock and Soil Management Plan has been added to the Access Road E&S Narrative in Section 1.13 on pages 23-26 to manage soils with pH value of 4.0 or greater. A site specific soil table identifying the soils types, pH, and relative acidity of the soils located within the road-specific narrative access-road LOD. Acidity levels of the soils found along the proposed pipeline route during the desktop review do not fall within the pH range that is considered to be a potential source of pollution that must be mitigated therefore, additional site investigations were not performed.</p>
<p>12</p>	<p>Section 1.13 does not include a thermal impact analysis for the earth disturbance activity (for the E&S Plan). Provide this thermal impact analysis. Provide the thermal impact analysis for each specific site. § 102.8(f) (13)</p>	<p>The revised Application submittal will provides additional information in the Thermal Impact discussion for Project access roads, facilities, and pipeline in the narratives. A site specific thermal impact analysis has been added to each road specific narrative. Road-specific thermal impact analyses have been added to each access road narrative which can be found in the road-specific appendix in both the E&S and PCSM Narratives.</p>

<p>13</p>	<p>Revise Section 1.15 to be specific for any requested riparian buffer/riparian forest buffer waivers associated with the temporary and permanent access roads. There is no regulatory requirement to provide a riparian buffer/riparian forest buffer for perennial or intermittent rivers, streams, or creeks, or lakes, ponds, or reservoirs with a Designated Use other than Exceptional Value and High Quality; therefore, a waiver of buffers for these areas is not required. Revise the narrative accordingly. § 102.14(d)(2)</p> <p>What purpose does the discussion related to Act 167 Plan have related to the riparian buffer/riparian forest buffer waivers? § 102.8(f) (15)</p>	<p>Section 1.15 Section 1.16 (formerly Section 1.15) of the Access Road E&S Narrative and Section 1.15 of the Access Road PCSM Narrative) have been revised to clarify that no access roads within Lancaster County each require a riparian forest buffers waiver. The discussion related to Act 167 Plans has been removed from this section.</p>
<p>14</p>	<p>Section 1.16 is not an adequate antidegradation analysis. Make the antidegradation analysis specific to the site for which the PCSM Plan covers (i.e. each temporary and/or permanent access road). The analysis should evaluate and include nondischarge alternatives in the PCSM Plan. If nondischarge alternatives do not exist for the project, then make that demonstration and include in the PCSM Plan antidegradation best available combination of technologies (ABACT) BMPs. Make all revisions necessary. § 102.8(h)</p>	<p>The Access Road E&S Narrative has been revised to include antidegradation analyses specific to the portions of the right-of-way (ROW) in HQ/EV watersheds, and for EV wetlands in Section 1.17 (formerly Section 1.16). The analysis is an overall watershed approach that will address the pipeline, temporary and permanent access roads, and facilities.</p>
<p>15</p>	<p>The plan drawings provided in Appendix A and B are not current with the latest set of revised full-size plan drawings (e.g. Appendix A Drawing No. 24-1600-70-28-A/LL113_9 has a latest revision date of 12/02/2015; while the full-size Drawing No. 24-1600-70-28-A/LL113_9 has a latest revision date of 02/04/2016). DEP recommends only providing one copy of the plan drawings per application set (do not provide reduced scale drawings in Appendix A and B), to avoid confusion and potential inconsistencies. § 102.8(f)(9)</p>	<p>Appendices A and B have been removed from the narrative as requested.</p>
<p>16</p>	<p>The plan preparer qualifications in Appendix D are qualifications for E&S Plans. Provide documentation that the person who prepared the PCSM Plan is a person trained and experienced in PCSM design methods and techniques applicable to the size and scope of the project being designed. § 102.8(e)</p>	<p>The plan preparer qualifications have been revised to reflect PCSM experience.</p>

<p>17</p>	<p>The following technical deficiencies are associated with Appendix I:</p> <ol style="list-style-type: none"> a. The regulatory requirement is to manage post construction stormwater for storm events of a 24-hour duration. Make all revisions to appropriately identify the storm events. §§ 102.8(g)(2) & 102.8(g)(3) b. It is identified that the PCSM/SR BMPs were designed to the requirements of Control Guideline 1 (CG-1). CG-1 is a recommended post construction stormwater management from the PCSM Manual; however, the regulatory requirement to control post construction stormwater is 25 Pa. Code §§ 102.8(g)(2) & 102.8(g)(3) (in addition to other sub-sections of 25 Pa. Code § 102.8 and sections of 25 Pa. Code § 102). Make all revisions to appropriately identify the regulatory requirements for post construction Stormwater management. c. Permanent access road AR-LA-010.2 proposes an offsite discharge to areas other than surface waters. Provide the information required as identified in the attached Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124) as part of the PCSM Plan. §§ 102.8(f)(9) & 102.8(f) (15) d. The proposed impervious loading ratio for the MLV Pad is identified as 1:1; however, based upon the MLV Site AR-LA-10.2 Infiltration Volume calculations, it appears that the infiltration area is smaller than the pad site. Clarify this discrepancy. § 102.8(f)(8) e. The provided alternative BMP and design standard demonstration is not sufficient. Provide sufficient information to demonstrate that the proposed loading ratios will achieve the same regulatory standard as the recommended loading ratios of the PCSM Manual. § 102.11(b) f. The following technical deficiencies are associated with Appendix I.3: <ol style="list-style-type: none"> i. Provide contour information with the drainage area map, including contour labels. §§ 102.8(f)(8) & 102.8(f)(9) ii. The drainage area map identifies a drainage area of 22.38 acres; however, only 0.728 acres is analyzed in 	<p>The revised Application submittal will has made the following revisions:</p> <ol style="list-style-type: none"> a. Calculations have been performed for the 1, 2, 10, 25, 50, and 100-year storm events of a 24-hour duration. The site specific narratives have been revised to appropriately identify the storm events. b. Section 1.8 of the access road PCSM Narrative The revised Application submittal has been modified to appropriately identify the regulatory requirements for PCSM. c. A description of the flow path downhill of the rip rap apron has been added to the road narrative in the site specific narrative (Appendix I) of the Access Road PCSM Narrative per Item 15 on Page 161 and Appendix G of E&S Manual and the provided Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124). d. The impervious loading ratio for the MLV Pad has been revised to reflect the actual cover types within the drainage area. Refer to the Permanent Access Road Summary Sheet for the Loading Ratios – found at the end of the Site Specific Narrative section in the road specific appendix. e. The designs for the permanent access roads to MLV sites have been revised to meet the maximum impervious loading ratio of 5:1 (impervious area to infiltration area) and a total loading ratio of 8:1 (total drainage area to infiltration area) for each infiltration facility. Refer to the Permanent Access Road Summary Sheet for the Loading Ratios – found at the end of the Site Specific Narrative section in the road specific appendix. f. Revisions to Appendix I.3: <ol style="list-style-type: none"> i. Contour information, including labels, has been added to the Drainage Area Maps.
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	<p>the hydrographs. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4)</p> <p>iii. If there is a road side ditch/swale along Pequea Creek Road, then revise the Time of Concentration (Tc) calculations to include a channel flow segment. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4)</p> <p>iv. The entire drainage area was analyzed as meadow condition; however, the drainage area map clearly identifies a wooded area. Why was the wooded area not included in the predevelopment analysis? §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4)</p> <p>v. The hydrograph calculations utilize a 2-year/24-hour rainfall depth of 3.16 inches; however, the Tc calculations utilize a 2-year/24-hour rainfall depth of 3.12 inches. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4)</p> <p>vi. The utilized rainfall data for the storm events does not match the rainfall data provided by NOAA Atlas 14. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)</p> <p>g. The following technical deficiencies are associated with Appendix I.4:</p> <p>i. Provide more legible contour information with the drainage area map, including contour labels. §§ 102.8(f)(8) & 102.8(f)(9)</p> <p>ii. The naming conventions identified on the drainage area map do not match the naming conventions for the hydrographs. Provide a consistent naming convention. § 102.8(f)(8)</p> <p>iii. How was the storage for the MLV Pad calculated for the hydrograph routing calculations? The total volume identified does not appear to match any of the other volumes identified for this facility. Make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)</p> <p>h. The following technical deficiencies are associated with Appendix I.6:</p> <p>i. How was the Sub reach Volume calculated? Provide the equation that is utilized. § 102.8(f)(8)</p>	<p>ii. The drainage area map and HydroCAD model have been revised to have consistent drainage areas.</p> <p>iii. The Tc calculations accurately reflect the existing flow path. now include a grassed-waterway segment. The narrative has been updated to more clearly describe existing drainage patterns.</p> <p>iv. The drainage area to the proposed culvert has been updated to include some wooded area in the HydroCAD model.</p> <p>v. The Tc calculations have been revised to use the same 2-year/24-hour rainfall depth of 3.16 2.95 inches based on the Act 167 requirements.</p> <p>vi. Rainfall intensity is taken from PennDot Publication 584, which pulls from NOAA Atlas 14 V3. For a 24-hour storm event in Lancaster County, BL referenced Map F to identify the rainfall region. The access roads in Lancaster County are located within Region 4. Therefore, BL used the rainfall intensities for the 1, 2, 5, 10, 25, 50, and 100-year storms from the Region 4 table. The rainfall intensity has been revised and now follows the Act 167 Requirements.</p> <p>g. Revisions to Appendix I.4:</p> <p>i. Contour information, including labels, has been added to the Drainage Area Maps.</p> <p>ii. Naming convention of catchment areas has been made consistent between HydroCAD model and drainage area map</p> <p>iii. The storage volume provided by the pad is consistent across all worksheets and HydroCAD model. The narrative has been revised to include how the volumes were calculated for the MLV pad. The MLV Storage Volume Analysis is located in Appendix I.9. The MLV Site Infiltration</p>
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	<ul style="list-style-type: none"> ii. Provide discussion as to how/why the Reduce Qi was determined and utilized. § 102.8(f)(8) iii. The Field Qi is identified as 8.16 in./hr. However, that highest raw infiltration rate tested that was identified in Appendix I.8 is 1.625 in./hr. How was a Field Rate of 8.16 in./hr. determined? §§ 102.8(f)(8), 102.8(g)(1) & 102.8(g)(2) i. The following technical deficiencies are associated with Appendix I.7: <ul style="list-style-type: none"> i. Complete PCSM Standard Worksheet #2, by identifying if there are or are not mapped existing natural sensitive resources. § 102.8(g)(1) ii. PCSM Standard Worksheet #4 identifies a Managed Area of 1.29 acres; however, an area of only 0.728 acres is analyzed. Clarify this discrepancy. §§ 102.8(f)(8) & 102.8(g)(2) iii. Utilize the latest version of the PCSM Standard Worksheets #5. How was the volume to be permanently reduced of 2,415 cf calculated for the MLV Pad? §§ 102.8(f)(8), 102.8(f) (15) & 102.8(g)(2) iv. PCSM Standard Worksheet #10: If the proposed vegetated swale is designed to be utilized with a water quality function (in addition to volume reduction), then design the PCSM BMP in accordance with the recommendations of the PCSM Manual (1-3% longitudinal slope) or provide the appropriate information related to the alternative BMP and design standards. Ensure that all required plan information related to the minimize soil compaction and re-vegetated/re-forest disturbed areas is provided on the PCSM Plan drawings (e.g. seeding mix, long-term operation and maintenance schedule, construction sequence, etc.). §§ 102.8(f)(6), 102.8(f)(7), 102.8(f)(9), 102.8(f) (10), 102.8(g)(2), 102.11 (a)(2) & 102.11(b) v. Identify why PCSM Standard Worksheet # 11 has been provided. PCSM Standard Worksheet # 11 is to only be provided if the volume reduction cannot be met. § 102.8(f) (15) 	<p><i>Volume worksheet was removed from the report and replaced with the Storage Volume Analysis. The worksheet was no longer applicable due to revisions to the geometry of the MLV pad.</i></p> <ul style="list-style-type: none"> h. - Revisions to Appendix I.6: <ul style="list-style-type: none"> i. <i>A description of how the storage volumes were calculated have been added to the narrative. A description of how the storage volumes were calculated have been added to the narrative in Appendix I.9.</i> ii. Design narrative has been revised to more clearly describe how the MLV Pad storage and swale storage was calculated. Design narrative has been revised to more clearly describe how the MLV Pad storage and swale storage was calculated. <i>The following language has been added to the bottom of Worksheet #5: A factor of safety of 2 is the minimal safety factor for design purposes per pager 19 of 21 of "Protocol 1, Site Evaluation and Soil Infiltration Testing, included as Appendix C of the Pennsylvania Stormwater BMP Manual.</i> iii. Check dams are no longer part of this roadway design; however, additional language has been provided in the narrative to describe the reduced infiltration rates. i. Revisions to Appendix I.7: <ul style="list-style-type: none"> i. The revised Application submittal will include a completed PCSM Standard Worksheet #2. ii. <i>The managed area on PCSM Worksheet #4 has been revised to reflect the site area as depicted on worksheet #1. The managed area on Worksheet #4 is not necessarily the same area as the not the drainage area. ; therefore, the areas match.</i>
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	<p>j. The following technical deficiencies are associated with Appendix 1.8:</p> <ul style="list-style-type: none"> i. Is the 'Proposed Elevation' identified on the AR-LA-010.2 Infiltration Testing Locations map the infiltration elevation for the proposed PCSM BMPs? §§ 102.8(f)(8) & 102.8(f)(9) ii. The Soil Profile Logs identify a seasonal high water table. Identify was observed for that lead to the identification of a seasonal high water table. § 102.8(g)(1) iii. It appears that a portion of the last column in the Soil Profile Logs is cut-off. Ensure that the entire log is provided. § 102.8(g)(1) iv. The Table of Contents for Appendix 1.8 includes 'MLV Pad Dewatering Calculations'; however, these calculations could not be located. Provide these calculations. § 102.8(f)(8) v. The MLV Site AR-LA-010.2 Infiltration Volume calculations are extremely hard to follow. Provide more information so that the calculations can be followed. Ensure that consistent terms are utilized (e.g. 'Water Surface Area' versus 'Storage Area (from Civil 3d)'). § 102.8(f)(8) 	<ul style="list-style-type: none"> iii. PCSM Standard Worksheet #5 has been updated to latest version. The following language has been added to the bottom of Worksheet #5: A factor of safety of 2 is the minimal safety factor for design purposes per page 19 of 21 of "Protocol 1, Site Evaluation and Soil Infiltration Testing, included as Appendix C of the Pennsylvania Stormwater BMP Manual. The design narrative has been revised to more clearly describe how the volume is reduced within the MLV pad. clearly describe how the volume is reduced within the iv. The proposed vegetated swale is not to be utilized for water quality. The proposed channels control at least 90% of the disturbed site area and are designed to meet the requirements of Control Guideline 1 in conjunction with the MLV site detention. The callouts for the swales have been revised to be other "Vegetated Channel for Infiltration Purposes" or "Vegetated Channels for Diversion Purposes" to clarify that the swales are not water quality swales. The required plan information is provided on Sheet 3 of 3 at the beginning of the PCSM Plans v. The revised Application submittal will not include PCSM Standard Worksheet #11 if the volume reduction can be met. <p>j. Revisions to Appendix 1.8:</p> <ul style="list-style-type: none"> i. The 'Proposed Elevation' identified on the Testing Locations map reflects the bottom elevation of the proposed infiltration system. The infiltration Testing Location Map has been updated accordingly in Appendix G.6. The infiltration report has been updated accordingly. ii. The infiltration report in Appendix G.6 has been updated accordingly to provide the observed condition that lead to the
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		<p>identification of a seasonal high water table. The infiltration report has been updated accordingly.</p> <ul style="list-style-type: none">iii. The infiltration reports has been updated to show the entire table accordingly.iv. The "MLV Pad Dewatering Calculations" section has been added to Worksheet #5 in Section I.6. will be removed from the report.v. A description of the infiltration volume calculations has been added to the site specific narrative and the referenced terms have been revised to be consistent
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<p>18</p>	<p>The following technical deficiencies are associated with Appendix N:</p> <ul style="list-style-type: none"> a. The narrative identifies that the dewatering time for the ML V Pad is 13 days, which exceeds the recommended dewatering time of 72 hours from Chapter 3 of the PCSM Manual. It appears that the alternative BMP and design standard discussion is solely related to mosquito control. While the recommended dewatering time does include concerns for mosquito control, there are other concerns that have to be considered (e.g. storage volume available for the next storm event, water quality due to standing water, etc.). Provide an adequate alternate BMP and design standard demonstration. §§ 102.8(f)(6), 102.11(a)(2) & 102.11(b) b. The regulatory requirement is to manage post construction stormwater for storm events of a 24-hour duration. Make all revisions to appropriately identify the storm events. §§ 102.8(g)(2) & 102.8(g)(3) c. It is identified that the PCSM/SR BMPs were designed to the requirements of Control Guideline 1 (CG-1). CG-1 is a recommended post construction stormwater management from the PCSM Manual; however, the regulatory requirement to control post construction stormwater is 25 Pa. Code §§ 102.8(g)(2) & 102.8(g)(3) (in addition to other sub-sections of 25 Pa. Code § 102.8 and sections of 25 Pa. Code § 102). Make all revisions to appropriately identify the regulatory requirements for post construction stormwater management. d. It appears that the receiving surface water for permanent access road AR-LA-018.3 is an unnamed tributary to West Branch Little Conestoga Creek. It appears that the receiving surface water of the unnamed tributary to West Branch Little Conestoga Creek has a Designated Use of Trout Stocking (TSP). Properly identify the receiving surface water and the Designated and Existing Uses. § 102.8(f)(5) e. Permanent access road AR-LA-018.3 proposes an offsite discharge to areas other than surface waters. Provide the information required as identified in the attached Off-site Discharges of Stormwater Areas That Are 	<p>The revised Appendix N will has the following revisions:</p> <ul style="list-style-type: none"> a. The design was revised to dewater within the 72-hour requirement Worksheet #5 provides the dewatering calculations for the Channel. b. Calculations have been performed using storm events of a 24-hour duration. The narrative has been revised to appropriately identify the storm events. c. Section 1.8 of the access road PCSM Narrative The revised Application submittal has been modified to appropriately identify the regulatory requirements for PCSM. d. The narrative and Standard Worksheet #1 have been revised to properly identify the watershed and receiving surface water as TSP. e. A description of the flow path downhill of the rip rap apron has been added to the road-specific narrative per Item 15 on Page 161 and Appendix G of E&S Manual and the provided Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124). f. The designs for the permanent access roads to MLV sites have been revised to meet the maximum impervious loading ratio of 5:1 (impervious area to infiltration area) and a total loading ratio of 8:1 (total drainage area to infiltration area) for each infiltration facility. Refer to the Permanent Access Road Summary Sheet for the Loading Ratios – found at the end of the Site Specific Narrative section in the road specific appendix. g. Revisions to Appendix N.3: <ul style="list-style-type: none"> i. Contour information, including labels, labels, has been added to the Drainage Area Maps. ii. The drainage area map has been revised to encompass the roof areas to be consistent with
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	<p>Not Surface Waters Fact Sheet (DEP · Document No. 3 I 50-FS-DEP4 I 24) as part of the PCSM Plan. §§ 102.8(f)(9) & 102.8(f) (15)</p> <p>f. The proposed impervious loading ratio for the MLV Pad is identified as 3.6:1; however, the total loading ratio is identified as 1.2:1. How can the impervious loading ratio be higher than the total loading ratio? Ensure that the loading calculations are correct. § 102.8(f)(8)</p> <p>g. The following technical deficiencies are associated with Appendix N.3:</p> <ul style="list-style-type: none"> i. Provide contour information with the drainage area map, including contour labels. Identify the Time of Concentration (Tc) flow path on the drainage area map. §§ 102.8(f)(8) & 102.8(f)(9) ii. The predevelopment drainage area analyzes approx. 1,394 sf of disconnected roofs; however, the drainage area delineation does not appear to encompass any roof areas. Clarify this discrepancy and make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4) iii. The utilized rainfall data for the storm events does not match the rainfall data provided by NOAA Atlas 14. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4) <p>h. The following technical deficiencies are associated with Appendix N.4:</p> <ul style="list-style-type: none"> i. Provide contour information with the drainage area map, including contour labels. Identify the Time of Concentration (Tc) flow path on the drainage area map. Include the proposed conditions on the drainage area map. §§ 102.8(f)(8) & 102.8(f)(9) ii. How was the storage for the ML V Pad calculated for the hydro graph routing calculations? The plan drawings identify the stone pad to be 90-ft. x 52-ft., which results in 4,680 sf. The narrative discussion of the pad identifies a depth of stone of 36-in.; however, it appears that the volume calculations only accounted for 30-in. (which is what is identified on Drawing No. 24-1600-70-28- 	<p>the HydroCAD model. The roof areas are included in the paved parking areas as both are impervious with the same CN value.</p> <ul style="list-style-type: none"> iii. Rainfall intensity is taken from PennDot Publication 584, which pulls from NOAA Atlas 14 V3. For a 24-hour storm event in Lancaster County, BL referenced Map F to identify the rainfall region. The access roads in Lancaster County are located within Region 4. Therefore, BL used the rainfall intensities for the 1, 2, 5, 10, 25, 50, and 100-year storms from the Region 4 table. The rainfall intensity has been revised and now follow the Act 167 requirements. <p>h. Revisions to Appendix N.4:</p> <ul style="list-style-type: none"> i. Contour information, including labels, has been added to the Drainage Area Maps. ii. The storage volume provided by the pad is consistent across all worksheet and HydroCAD models. The Site Specific Narrative has been expanded to include how the volumes were calculated for the MLV pad. The MLV Storage Volume Analysis is located in Appendix N.10. <p>i. Revisions to Appendix N.5:</p> <ul style="list-style-type: none"> i. Standard Worksheet #1 has been revised to consistently identify the watershed and receiving surface water.
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	<p>A/LL113_9-AR-LAO 18.3). Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)</p> <p>i. The following technical deficiencies are associated with Appendix N.5:</p> <ul style="list-style-type: none"> i. PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Witmers Run. This is not consistent with the previous identification of the receiving surface water. Clearly and consistently identify the receiving surface water. §§ 102.8(f)(5) & 102.8(g)(1) ii. Complete PCSM Standard Worksheet #2, by identifying if there are or are not mapped existing natural sensitive resources. § 102.8(g)(1) iii. Utilize the latest version of the PCSM Standard Worksheets #5. §§ 102.8(f)(8), 102.8(f)(15) & 102.8(g)(2) iv. PCSM Standard Worksheet #10: Ensure that all required plan information related to the minimize soil compaction and re-vegetated/re-forest disturbed areas is provided on the PCSM Plan drawings (e.g. seeding mix, long-term operation and maintenance schedule, construction sequence, etc.). §§ 102.8(f)(6), 102.8(f)(7), 102.8(f)(9), 102.8(f) (10) & 102.8(g)(2) v. Identify why PCSM Standard Worksheet #11 has been provided. PCSM Standard Worksheet # 11 is to only be provided if the volume reduction cannot be met. § 102.8(f) (15) <p>J. The following technical deficiencies are associated with Appendix N.6:</p> <ul style="list-style-type: none"> i. Is the 'Proposed Elevation' identified on the AR-LA-018.3 Infiltration Testing Locations map the infiltration elevation for the proposed PCSM BMPs? §§ 102.8(f)(8) & 102.8(f)(9) ii. The Soil Profile Logs identify a seasonal high water table. Identify was observed for that lead to the identification of a seasonal high water table. § 102.8(g)(1) 	<ul style="list-style-type: none"> ii. PCSM Standard Worksheet #2 has been completed. No credit is taken for protected areas. iii. PCSM Standard Worksheet #5 has been updated to latest version. The design narrative has been revised to more clearly describe how the volume is reduced within the MLV pad. iv. PCSM plan and notes have been revised to include all require information from PCSM Standard Worksheet #10. v. Worksheet 11 was included by mistake. The revised Application submittal will not include PCSM Standard Worksheet #11 if since the volume reduction can be met. <p>j. Revisions to Appendix N.6:</p> <ul style="list-style-type: none"> i. The 'Proposed Elevation' identified on the Testing Locations map reflects the bottom elevation of the proposed infiltration system. The infiltration Testing Location Map has been updated accordingly. ii. The infiltration reports have been updated accordingly to provide the observed condition that lead to the identification of a seasonal high water table. iii. The infiltration reports have been updated accordingly. iv. Design narrative has been revised to more clearly describe how dewatering for the MLV Pad was calculated. Calculations
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	<p>iii. It appears that a portion of the last column in the Soil Profile Logs is cut-off. Ensure that the entire log is provided. § 102.8(g)(1)</p> <p>iv. Provide specific dewatering calculations for the ML V Pad, including the identification of what Safety Factor was utilized. § 102.8(f)(8)</p>	<p>have also been added to PCSM Standard Worksheet #5.</p>
19	<p>The following technical deficiencies are associated with Appendix O:</p> <p>a. The narrative identifies the Watershed as Strickler Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Strickler Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)</p> <p>b. There appears to be no discussion or stormwater management analysis for the permanent access road AR-LA-020. Provide the all necessary information related to the post construction stormwater management for this permanent access road. § 102.8</p>	<p>The revised Application submittal willincludes the following revisions:</p> <p>a. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water</p> <p>b. The narrative has been updated to more clearly state that the improvements for this roadway are temporary and therefore no stormwater analysis is necessary.</p>
20	<p>There appears to be no discussion or stormwater management analysis for the permanent access road AR-LA-021 in Appendix P. Provide all necessary information related to the post construction stormwater management for this permanent access road. § 102.8</p>	<p>The Road-specific Narrative in Appendix P and the County Narrative have been updated to more clearly state that the improvements for this roadway are temporary and therefore no stormwater analysis is necessary.</p>
21	<p>For temporary access road AS-LA-023.1 (Appendix Q), the narrative identifies the Watershed as Strickler Run; however, PCSM Standard Worksheet# 1 identifies the receiving surface water as an UNT to Strickler Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)</p>	<p>The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p>
22	<p>For temporary access road AS-LA-023.2 (Appendix R), the narrative identifies the Watershed as Shawnee Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Shawnee Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)</p>	<p>The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p>

<p>23</p>	<p>The following technical deficiencies are associated with Appendix S:</p> <ul style="list-style-type: none"> a. The narrative identifies the Watershed as Chiques Creek; however, PCSM Standard Worksheet # 1 identifies the receiving surface water as a tributary to Chiques Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5) b. The regulatory requirement is to manage post construction stormwater for storm events of a 24-hour duration. Make all revisions to appropriately identify the storm events. §§ 102.8(g)(2) & 102.8(g)(3) c. It is identified that the PCSM/SR BMPs were designed to the requirements of Control Guideline 1 (CG-1). CG-1 is a recommended post construction stormwater management from the PCSM Manual; however, the regulatory requirement to control post construction stormwater is 25 Pa. Code §§ 102.8(g)(2) & 102.8(g)(3) (in addition to other sub-sections of 25 Pa. Code § 102.8 and sections of 25 Pa. Code § 102). Make all revisions to appropriately identify the regulatory requirements for post construction stormwater management. d. Permanent access road AR-LA-026.2.1 proposes an offsite discharge to areas other than surface waters. Provide the information required as identified in the attached Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124) as part of the PCSM Plan. §§ 102.8(f)(9) & 102.8(f)(15) e. The proposed total loading ratio for the MLV Pad is identified as 1:1; however, based upon the drawings it appears that there is vegetated area tributary to the MLV Pad. Identify the contributory drainage area to the MLV Pad. §§ 102.8(f)(8) & 102.8(f)(9) f. The following technical deficiencies are associated with Appendix S.3: <ul style="list-style-type: none"> i. The naming conventions identified on the drainage area map do not match the naming conventions for the hydrographs. Provide a consistent naming convention. § 102.8(f)(8) 	<p>The revised Application submittal will includes the following revisions:</p> <ul style="list-style-type: none"> a. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water. b. Calculations have been performed using storm events of a 24-hour duration. The narrative has been revised to appropriately identify the storm events. Section 1.8 of the access road PCSM Narrative The revised Application submittal has been modified to appropriately identify the regulatory requirements for PCSM. c. Section 1.8 has been revised to state the regulatory requirements. d. A description of the flow path downhill of the rip rap apron has been added to the road narrative per Item 15 on Page 161 and Appendix G of E&S Manual and the provided Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124). e. The design for the permanent access roads to MLV sites have has been revised to meet the maximum impervious loading ratio of 5:1 (impervious area to infiltration area) and a total loading ratio of 8:1 (total drainage area to infiltration area) for each infiltration facility. f. Revisions to Appendix S.3: <ul style="list-style-type: none"> i. The discrepancies in the naming conventions have been rectified. Names are consistent across Appendix S. ii. There is not an existing road side ditch/swale along Marietta Avenue. There is a moderately steep hillside directly at the road edge that creates a gutter where the runoff flows. The narrative was revised to explain the condition. and a picture of the location was added for clarity. iii. Rainfall intensity is taken from PennDot Publication 584, which pulls from NOAA Atlas
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	<p>ii. If there is a road side ditch/swale along Marietta Avenue, then revise the Time of Concentration (Tc) calculations to include a channel flow segment. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4)</p> <p>iii. The utilized rainfall data for the storm events does not match the rainfall data provided by NOAA Atlas 14. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)</p> <p>g. The following technical deficiencies are associated with Appendix S.4:</p> <p>i. How was the storage for the ML V Pad calculated for the hydro graph routing calculations? The total volume identified does not appear to match any of the other volumes identified for this facility. Make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)</p> <p>ii. The hydro graphs appears to utilize a PCSM BMP for runoff control (identified by 'WQS'), and it appears that the BMP is a vegetated swale with check dams. However, this BMP was not discussed in the narrative. Clearly identify what type of PCSM BMP 'WQS' is and provide the appropriate narrative discussion. §§ 102.8(f)(6), 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)</p> <p>iii. Identify how the volume storage for the WQS was calculated for the hydrograph routing calculations. Make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)</p> <p>h. The following technical deficiencies are associated with Appendix S.6:</p> <p>i. How was the Subreach Volume calculated? Provide the equation that is utilized. § 102.8(f)(8)</p> <p>ii. Provide discussion as to how/why the Reduce Qi was determined and utilized. § 102.8(f)(8)</p> <p>iii. Identify how the Field Qi is identified as 0.5 in./hr., as a predevelopment site characterization and assessment of soil and geology could not be located for this permanent access road. Identify how it was determined that infiltration is occurring</p>	<p>14 V3. For a 24 hour storm event in Lancaster County, BL referenced Map F to identify the rainfall region. The access roads in Lancaster County are located within Region 4. Therefore, BL used the rainfall intensities for the 1, 2, 5, 10, 25, 50, and 100 year storms from the Region 4 table. The rainfall intensity has been revised and now follows the Act 167 requirements.</p> <p>g. Revisions to Appendix S.4:</p> <p>i. The storage volume provided by the pad is consistent across all worksheets and HydroCAD model. The narrative has been revised to include how the volumes were calculated for the MLV pad.</p> <p>ii. Design narrative has been updated to include discussion about all proposed BMPs at this roadway.</p> <p>iii. The road has been revised to utilize an infiltration berm with retentive grading as the PCSM BMP for runoff control. The hydrograph calculations have been updated accordingly.</p> <p>h. Appendix S.6 has been intentionally removed by the applicant</p> <p>i. The road has been revised to utilize an infiltration berm with retentive grading as the PCSM BMP for runoff control. The volume calculations have been updated accordingly.</p> <p>ii. Check dams are no longer part of this roadway design; however, additional language has been provided in the narrative to describe the reduced infiltration rates</p> <p>iii. The design narrative has been updated to further clarify how infiltration rates were calculated.</p> <p>i. Revisions to Appendix S.7:</p> <p>i. PCSM Standard Worksheet #2 has been completed. No credit is taken for protected</p>
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	<p>at the site and that infiltration is appropriate. §§ 102.8(f)(8), 102.8(g)(1) & 102.8(g)(2)</p> <p>i. The following technical deficiencies are associated with Appendix S.7:</p> <p>i. Complete PCSM Standard Worksheet #2, by identifying if there are or are not mapped existing natural sensitive resources. § 102.8(g)(1)</p> <p>ii. PCSM Standard Worksheet #4 identifies a Managed Area of 1.037 acres; however, an area of 4.879 acres is analyzed. Clarify this discrepancy. §§ 102.8(f)(8) & 102.8(g)(2)</p> <p>iii. Utilize the latest version of the PCSM Standard Worksheets #5. How was the volume to be permanently reduced of 256 cf calculated for the MLV Pad? §§ 102.8(f)(8), 102.8(f)(15) & 102.8(g)(2)</p> <p>iv. PCSM Standard Worksheet #10: If the proposed vegetated swale is designed to be utilized with a water quality function (in addition to volume reduction), then design the PCSM BMP in accordance with the recommendations of the PCSM Manual (1-3% longitudinal slope) or provide the appropriate information related to the alternative BMP and design standards. Ensure that all required plan information related to the minimize soil compaction and re-vegetated/re-forest disturbed areas is provided on the PCSM Plan drawings (e.g. seeding mix, long-term operation and maintenance schedule, construction sequence, etc.). §§ 102.8(f)(6), 102.8(f)(7), 102.8(f)(9), 102.8(f)(10), 102.8(g)(2), 102.11(a)(2) & 102.11(b)</p> <p>v. Identify why PCSM Standard Worksheet #11 has been provided. PCSM Standard Worksheet #11 is to only be provided if the volume reduction cannot be met. § 102.8(f)(15)</p> <p>J. Provide dewatering calculations for all of the PCSM BMPs. § 102.8(f)(8)</p>	<p>areas.- along with the associated resource map.</p> <p>ii. PCSM Standard Worksheet #4 has been revised to use consistent Managed Areas.</p> <p>iii. PCSM Standard Worksheet #5 has been updated to latest version. The design narrative has been revised to more clearly describe how the volume is reduced within the MLV pad.</p> <p>iv. The proposed vegetated swale is not to be utilized for water quality. The proposed channels control at least 90% of the disturbed site area and are designed to meet the requirements of Control Guideline 1 in conjunction with the MLV site detention. The callouts for the swales have been revised to be either "Vegetated Channel for Infiltration Purposes" or "Vegetated Channels for Diversion Purposes" to clarify that the swales are not water quality swales. The required plan information is provided on Sheet 3 of 3 at the beginning of the PCSM Plans.</p> <p>j. The revised Application submittal will not include PCSM Standard Worksheet #11 if <i>since</i> the volume reduction can be met, the narrative has been revised to more clearly describe how dewatering for the MLV Pad was calculated. The MLV Storage Volume Analysis is located in Appendix S.10. Calculations have also been added to PCSM Standard Worksheet #5.</p>
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24	The narrative in Appendix T identifies AR-LA-026.4 as a temporary access road. However, the table from Page 5 of the main narrative and the location map in Appendix T identify the access road as permanent. Clarify this discrepancy and make all revisions necessary. If this is a permanent access road, then provide all necessary information related to the post construction stormwater management for this permanent access road. §§ 102.8 & 102.8(f)(3)	The USGS Location map and the Tables in the E&S Narrative on pages 6 & 7 have been updated to identify AR-LA-026.4 as a temporary access road. along with the main narrative.
25	The location map in Appendix T identifies AR-LA-027.5, which appears to be an access road (based upon the naming convention). However, there does not appear to be anything proposed for the area identified on the location map. Clarify this discrepancy. § 102.8(f)(3)	Appendix T provides information related to AR-LA-026.4. The location map in Appendix T has been revised to only reference AR-LA-026.4.
26	For temporary access road AS-LA-027.I (Appendix U), the narrative identifies the Watershed as Chickies Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Chickies Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)	The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.
27	For temporary access road AS-LA-028.I (Appendix V), the narrative identifies the Watershed as Black Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as Back Run. Based upon the information in the Joint Permit application, the receiving surface water would be an UNT to Back Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)	The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.

<p>28</p>	<p>The following technical deficiencies are associated with Appendix W:</p> <ul style="list-style-type: none"> a. The narrative identifies the Watershed as Chickies Creek; however, PCSM Standard Worksheet #1 (in Appendix W.7) identifies the receiving surface water as an UNT to Chickies Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5) b. The regulatory requirement is to manage post construction stormwater for storm events of a 24-hour duration. Make all revisions to appropriately identify the storm events. §§ 102.8(g)(2) & 102.8(g)(3) c. It is identified that the PCSM/SR BMPs were designed to the requirements of Control Guideline 1 (CG-1). CG-1 is a recommended post construction stormwater management from the PCSM Manual; however, the regulatory requirement to control post construction stormwater is 25 Pa. Code §§ 102.8(g)(2) & 102.8(g)(3) (in addition to other sub-sections of 25 Pa. Code § 102.8 and sections of 25 Pa. Code § 102). Make all revisions to appropriately identify the regulatory requirements for post construction stormwater management. d. Permanent access road AR-LA-029.3 proposes an offsite discharge to areas other than surface waters. Provide the information required as identified in the attached Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124) as part of the PCSM Plan. §§ 102.8(f)(9) & 102.8(f)(15) e. Identify how the proposed impervious loading ratio for the MLV Pad was calculated. It appears that the pad has a footprint of 2,500 SF (2,000 CF storage at elevation 514.5 multiplied by the void ratio of 40% results in 5,000 CF; then divided by 2-ft. depth results in a surface area of 2,500 SF). The impervious area to the pad is identified as 4,680 SF, which should result in an impervious loading ratio of 1.9:1 (while the total loading ratio should be 5.4:1). Clarify this discrepancy. § 102.8(f)(8) f. The provided alternative BMP and design standard demonstration is not sufficient. Provide sufficient information to demonstrate that the proposed loading ratios 	<p>The revised Application submittal will includes the following revisions:</p> <ul style="list-style-type: none"> a. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water. b. Calculations have been performed using storm events of a 24-hour duration. The narrative has been revised to appropriately identify the storm events. c. Section 1.8 of the access road PCSM Narrative The revised Application submittal has been modified to appropriately identify the regulatory requirements for PCSM. d. A description of the flow path downhill of the rip rap apron has been added to the road narrative per Item 15 on Page 161 and Appendix G of E&S Manual and the provided Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124). e. Design narrative has been revised to clearly describe how the loading ratios were determined based on total drainage area, impervious area, and infiltration area. f. The design of the roadway has been modified in order for the BMP to achieve the same standard for recommended loading ratios.
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	<p>will achieve the same regulatory standard as the recommended loading ratios of the PCSM Manual. § 102.11(b)</p> <p>g. The following technical deficiencies are associated with Appendix W.3:</p> <ul style="list-style-type: none"> i. Provide contour information with the drainage area map, including contour labels. §§ 102.8(f)(8) & 102.8(f)(9) ii. If there is a road side ditch/swale along Pequea Creek Road, then revise the Time of Concentration (Tc) calculations to include a channel flow segment. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4) iii. The utilized rainfall data for the storm events does not match the rainfall data provided by NOAA Atlas 14. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4) <p>h. The following technical deficiencies are associated with Appendix W.4:</p> <ul style="list-style-type: none"> i. Provide more legible contour information with the drainage area map, including contour labels. §§ 102.8(f)(8) & 102.8(f)(9) ii. The naming conventions identified on the drainage area map do not match the naming conventions for the hydrographs. Provide a consistent naming convention. § 102.8(f)(8) iii. How was the storage for the MLV Pad calculated for the hydrograph routing calculations? The total volume identified does not appear to match any of the other volumes identified for this facility. Make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4) <p>i. The following technical deficiencies are associated with Appendix W.6:</p> <ul style="list-style-type: none"> i. How was the Subreach Volume calculated? Provide the equation that is utilized. § 102.8(f)(8) ii. Provide discussion as to how/why the Reduce Qi was determined and utilized. § 102.8(f)(8) iii. Identify how the Field Qi is identified as 1.0 in./hr., as a predevelopment site characterization and assessment of soil and geology could not be 	<p>g. Revisions to Appendix W.3:</p> <ul style="list-style-type: none"> i. Contour information, including labels, has been added to the Drainage Area Maps. ii. A road side ditch along Pequea Creek Road does not exist, therefore no revisions to the Tc were made. iii. Rainfall intensity is taken from PennDot Publication 584, which pulls from NOAA Atlas 14 V3. For a 24-hour storm event in Lancaster County, BL referenced Map F to identify the rainfall region. The access roads in Lancaster County are located within Region 4. Therefore, BL used the rainfall intensities for the 1, 2, 5, 10, 25, 50, and 100-year storms from the Region 4 table. The rainfall intensity has been revised and now follows the Act 167 requirements. <p>h. Revisions to Appendix W.4:</p> <ul style="list-style-type: none"> i. Contour information, including labels, has been added to the Drainage Area Maps. ii. Naming convention of catchment areas has been made consistent between HydroCAD model and drainage area map. iii. The storage volume provided by the pad is consistent across all worksheets and HydroCAD model. The narrative has been expanded to include how the volumes were calculated for the MLV pad. The MLV Storage Volume Analysis is located in Appendix W.10 <p>i. Revisions to Appendix W.6:</p> <ul style="list-style-type: none"> i. Design narrative has been revised to more clearly describe how the MLV Pad storage and swale storage were calculated. ii. PCSM Standard Worksheet #5 has been updated to latest version. The design narrative has been revised to more clearly describe how the volume is reduced within the MLV pad.
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	<p>located for this permanent access road. Identify how it was determined that infiltration is occurring at the site and that infiltration is appropriate. §§ 102.8(f)(8), 102.8(g)(1) & 102.8(g)(2)</p> <p>J. The following technical deficiencies are associated with Appendix W. 7:</p> <ul style="list-style-type: none"> i. Complete PCSM Standard Worksheet #2, by identifying if there are or are not mapped existing natural sensitive resources. § 102.8(g)(1) ii. PCSM Standard Worksheet #4 identifies a Managed Area of 1.29 acres; however, an area of only 0.728 acres is analyzed. Clarify this discrepancy. §§ 102.8(f)(8) & 102.8(g)(2) iii. Utilize the latest version of the PCSM Standard Worksheets #5. How was the volume to be permanently reduced of 2,000 cf calculated for the MLV Pad (as the hydrograph routing calculations identify a used storage volume of 1,532 cf for the 2-year/24-hour storm event) §§ 102.8(f)(8), 102.8(f)(15) & 102.8(g)(2) iv. PCSM Standard Worksheet #10: If the proposed vegetated swale is designed to be utilized with a water quality function (in addition to volume reduction), then design the PCSM BMP in accordance with the recommendations of the PCSM Manual (1-3% longitudinal slope) or provide the appropriate information related to the alternative BMP and design standards. Ensure that all required plan information related to the minimize soil compaction and re-vegetated/re-forest disturbed areas is provided on the PCSM Plan drawings (e.g. seeding mix, long-term operation and maintenance schedule, construction sequence, etc.). §§ 102.8(f)(6), 102.8(f)(7), 102.8(f)(9), 102.8(f)(10), 102.8(g)(2), 102.11(a)(2) & 102.11(b) v. Identify why PCSM Standard Worksheet #11 has been provided. PCSM Standard Worksheet # 11 is to only be provided if the volume reduction cannot be met. § 102.8(f)(15) 	<ul style="list-style-type: none"> iii. The design narrative has been updated to further clarify how infiltration rates were calculated. <p>j. Revisions to Appendix W.7:</p> <ul style="list-style-type: none"> i. PCSM Standard Worksheet #2 has been completed. No credit is taken for protected areas.- along with the associated resource map- ii. PCSM Standard Worksheet #4 has been revised to use consistent Managed Areas. iii. PCSM Standard Worksheet #5 has been updated to latest version. The design narrative has been revised to clearly describe how the volume is reduced within the MLV pad. iv. The proposed vegetated swale is not to be utilized for water quality. The proposed channels control at least 90% of the disturbed site area and are designed to meet the requirements of Control Guideline 1 in conjunction with the MLV site detention. The callouts for the swales have been revised to be either "Vegetated Channel for Infiltration Purposes" or "Vegetated Channels for Diversion Purposes" to clarify that the swales are not water quality swales. The required plan information is provided on Sheet 3 of 3 at the beginning of the PCSM Plans. v. PCSM Standard Worksheet #11 has been removed since the volume reduction can be met. PCSM Standard Worksheet #11 has been removed.
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	k. Provide dewatering calculations for all of the PCSM BMPs. § 102.8(f)(8)	k. Design narrative has been revised to clearly describe how dewatering for the MLV Pad was calculated. Design narrative Worksheet #5 has been revised to clearly describe how dewatering for the MLV Pad was calculated. Calculations have also been added to PCSM Standard Worksheet #5.
29	For temporary access road AS-LA-030 (Appendix X), the narrative identifies the Watershed as Little Chickens Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as Shells Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)	The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.
30	For temporary access road AS-LE-033.1 (Appendix Y), the narrative identifies the Watershed as Little Chickies Creek; however, PCSM Standard Worksheet # 1 identifies the receiving surface water as an UNT to Shells Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)	The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.
Post Construction Stormwater Management Plan Narrative - River Road Regulator Station		
1	The first sentence of the third paragraph on Page 1 identifies that there is a proposed increase of 1.49 acres of gravel area. However, the calculations (e.g. PCSM Standard Worksheet #4) identify an increase of only 1.20 acres of gravel area. Clarify this discrepancy and make all revisions necessary to consistently identify the proposed increase in gravel area. §§ 102.8(f)(3), 102.8(f)(4), 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)	The revised Application will incorporate incorporates a significant redesign of the proposed PCSM BMPs at this Site. This deficiency, as well as other related deficiencies are no longer applicable to the revised design. updated impervious cover areas on PCSM Narrative page 1 and work sheet 4 in App. A.5.
2	The third sentence of the third paragraph on Page 1 identifies that the Post Construction Stormwater Management (PCSM) and Site Restoration (SR) best management practices (BMPs) are designed in accordance with the E&S Manual. This is not adequate, as the PCSM BMPs should be designed in accordance with PCSM Manual or an alternative BMP and design standard demonstration should be made. Revise the design or the PCSM/SR BMPs or provide the alternative demonstration. Make all revisions necessary. §§ 102.8(f), 102.11(a)(2) & 102.11(b)	The revised Application will update updates the reference to the correct guidance document. Page 1 third paragraph of the PCSM narrative has been updated accordingly.

3	The fourth sentence of the third paragraph on Page 1 identifies to what standard the practices were designed. However, design the PCSM Plan to meet all the regulatory requirements in 25 Pa. Code § 102.8(b). Ensure that the PCSM Plan clearly demonstrates how all Subsections of 25 Pa. Code§ 102.8(b) are being met.	The revised Application will update updates the reference to the correct regulatory requirements. Page 1 third paragraph of the PCSM narrative has been updated accordingly. The specific components of 102.8(b) are addressed.
4	The first sentence of the first paragraph on Page 8 uses the abbreviation of 'ML Vs'; however, this abbreviation has not been identified. In the PCSM Plan identify what ML Vs is an abbreviation for (e.g. "New full abbreviated term (ML Vs) will be wholly ... "). § 102.8(f)(3)	The revised Application will clarify has clarified the abbreviation references. Refer to PCSM Narrative Section 1.3
5	The last sentence of the last paragraph on Page 8 refers to "erosion control design"; however, this is the PCSM Plan. The E&S Plan should be separate from the PCSM Plan and vice-versa. Make all revisions necessary to separate the E&S Plan from the PCSM Plan. §§ 102.4(b)(5)(xiv) & 102.8(d)	The revised Application will correct has corrected the reference. Erosion control design has been amended to say PCSM.
6	Section 1.3 does not adequately identify the past land uses of the site. It is recommended to identify the historic land use of the site (5 to 50 years ago) and the existing land use of the site (0 to 5 years ago). § 102.8(f)(3)	The revised Application will has more fully detailed the land uses for the Site. Refer to PCSM Narrative Section 1.3
7	The second sentence of the second paragraph of Section 1.4 on Page 9 identifies that the PCSM/SR BMPs were designed to the requirements of Control Guideline 1 (CG-1). CG-1 is a recommended post construction storm water management from the PCSM Manual; however, the regulatory requirement to control post construction stormwater is 25 Pa. Code §§ 102.8(g)(2) & 102.8(g)(3) (in addition to other sub-sections of 25 Pa. Code§ 102.8 and sections of 25 Pa. Code§ 102). Make all revisions to appropriately identify the regulatory requirements for post construction stormwater management.	See the response to the Lancaster County Erosion and Sediment Control Plan and Post Construction Stormwater Management/Site Restoration Plan Narrative — Temporary and Permanent Access Roads Technical Deficiency 17. b. The revised Application has updated the second paragraph of PCSM narrative Section 1.4 accordingly.
8	The regulatory requirement is to manage post construction stormwater for storm events of a 24-hour duration. Make all revisions to appropriately identify the storm events (e.g. the first sentence of the first paragraph of Section 1.4 on Page 9: "... 50-, and 100-year/24-hour storm events ... "). §§ 102.8(g)(2) & 102.8(g)(3)	See the response for the Lancaster County Erosion and Sediment Control Plan and Post Construction Stormwater Management/Site Restoration Plan Narrative — Temporary and Permanent Access Roads Technical Deficiency 6. The revised Application has updated the first sentence of the first paragraph of PCSM narrative Section 1.4 accordingly to reference 24-hour storm events.

9	<p>The third sentence of the second paragraph of Section 1.4 on Page 9 identifies a "Water Quality Worksheet #4". Identify what Worksheet this is, as DEP does not have a worksheet titled Water Quality Worksheet #4. If this is referring to 'Worksheet 4. Change in Runoff Volume for 2-YR Storm Event', then it is recommending to identify it as 'PCSM Standard Worksheet #4'. § 102.8(f) (15)</p>	<p>The revised Application will update has updated the reference to the correct worksheet. The third sentence of the second paragraph of PCSM narrative Section 1.4 has been updated to reference "PCSM Standard Worksheet #4."</p>
10	<p>The first sentence of the first paragraph on Page 10 identifies that "The Site is not located within a current PADEP approved Act 167 Stormwater Management Watershed Plan". However, on November 7, 2013, DEP approved the Blueprints: An Integrated Water Resources Plan for Lancaster County (Acts 247 and 167) for all of Lancaster County. Make all revisions to appropriately identify the site. § 102.8(f) (15)</p>	<p>The revised Application will update has been updated to correct the references and discussion of the applicable Act 167 plan. Refer to PCSM Narrative Section 1.4</p>
11	<p>The last sentence of Section 1.5 on Page 10 identifies that impairments are listed in a "PADEP Chapter 93 Integrated List". However, this is not correct. Stream impairments and TDMLs are identified in the '2014 Pennsylvania Integrated Water Quality Monitoring and Assessment Report'. Make all revisions necessary. § 102.8(f) (15)</p> <p>Please note that the receiving surface water of Fishing Creek is tentatively impaired for agriculture - siltation and habitat modification - other habitat alterations. If the receiving surface water is identified as impaired in the 2016 Pennsylvania Integrated Water Quality Monitoring and Assessment Report before permit coverage is authorized for the project, then revise the application accordingly.</p>	<p>The revised Application will correct has been updated to correct the reference. Refer to PCSM Narrative Section 1.5</p>
12	<p>Page 11 identifies an Infiltration Bed as a PCSM BMP; however, in the discussion of said BMP, it is described as a subsurface detention facility. Ensure that each PCSM BMP is described and identified consistently throughout the application. §§ 102.8(f)(3) & 102.8(f)(6)</p>	<p>The revised Application will incorporate incorporates a redesign of the proposed PCSM BMPs at this Site. This deficiency, as well as other related deficiencies are no longer applicable to the revised design. New BMPs have been reference throughout the plans and narratives.</p>

13	<p>Page 11 identifies separate PCSM BMPs of Bioretention Basin, Minimize Soil Compaction in Disturbed Areas and Soil Amendment and Restoration. Based upon the PCSM Plan drawings for the River Road Regulator Station, the same area is utilized for all of these PCSM BMPs. Minimizing soil compaction and soil amendments are inherent to Bioretention basins; therefore, separate post construction stormwater management credit cannot be taken for minimize soil compaction and soil amendments that occur as part of the Bioretention basin. Make all revisions necessary to the calculations, PCSM Plan and NOI §§ 102.8(f)(3), 102.8(f)(6), 102.8(f)(8), 102.8(f)(9), 102.8(g)(2) & 102.8(g)(4)</p>	<p>The revised Application will incorporate incorporates BMPs at this Site. This deficiency, as well as other related deficiencies are no longer applicable to the revised design. The revised BMPs and applicable credits claimed are clarified and separated as distinct areas on the PCSM Plans and Section 1.6 and Appendices A.4 and A.5 of the PCSM narrative.</p>
14	<p>Revise step No. 2 in the sequence to identify all parties that are required attend the Preconstruction Meeting. The Permittee(s), co-permittees, operators, and licensed professionals or designees responsible for the earth disturbance activity, including implementation of E&S and PCSM Plans and critical stages of implementation of the approved PCSM Plan, are required to attend the preconstruction meeting. Make all revisions necessary (including within the E&S Plans and all other documents in the ESCGP-2 application). §§ 102.4(b)(5)(vii), 102.5(e) & 102.8(f)(7)</p>	<p>The revised Application will update has been corrected to update the sequence of construction on plan sheet 6 of 6 and in the PCSM Narrative Section 1.7, as noted.</p>

<p>15</p>	<p>The following technical deficiencies are associated with the long-term operation and maintenance schedule identified in Section 1.10: § 102.8(f) (10)</p> <p>a. It appears that the first sentence of the Monitoring section, which identifies inspections on an annual basis, conflicts with the inspections schedule identified for the BMPs in the Maintenance section. Provide a clear and appropriate inspection schedule for any and all PCSM BMPs.</p> <p>b. The provided long-term operation and maintenance schedule for the PCSM BMPs is not sufficient. Provide a long-term operation and maintenance schedule which provides for inspection of the PCSM BMPs, including the repair, replacement, or other routine maintenance of the PCSM BMPs to ensure proper function and operation. If an item is identified for inspection; 1) identify the inspection schedule/times, 2) identify the 'trigger' for repair, replacement and other routine maintenance and 3) identify the repair, replacement and other routing maintenance. For BMPs which are required to dewater (e.g. infiltration BMP), include an inspection to ensure that the BMP is properly dewatered, and identify the designed dewatering time in the long-term operation and maintenance schedule (not the recommended maximum dewatering time of 72 hours from the PCSM Manual). The PCSM Manual recommends collecting grass clippings and disposing of them in a local compost facility for vegetated swales which will be used as a PCSM BMP; the long-term operation and maintenance should include this or provide the alternative demonstration. Make all revisions necessary. §§ 102.11(a)(2) & 102.11(b)</p> <p>c. The long-term operation and maintenance schedule should provide for completion of a written report documenting each inspection and all BMP repair and maintenance activities and how access to the PCSM BMPs will be provided.</p> <p>d. Revise No. 10 of Section 1.10 on Page 17 to include the regulatory requirements for long-term operation and maintenance.</p>	<p>The revised Application submittal will has:</p> <p>a. Resolve resolved the noted inconsistency by removing the reference in PCSM Narrative Section 1.10</p> <p>b. Transco will redesign has redesigned the River Rd Facility and update long term O&M schedule, as needed. Refer to PCSM Plans sheet 4 of 6 and Section 1.10 of PCSM Narrative.</p> <p>c. Provide for provided the required written documentation. Refer to PCSM Plans Sheet 4 of 6 for notes on Operation and Maintenance Program Permanent Stormwater Facilities.</p> <p>d. Revise revised the noted section, as required. Refer to renumbered and revised note #6 former number 10.</p>
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16	<p>Section 1.11 does not identify, address or ensure that proper measures for recycling or disposal of materials associated with or from the PCSM BMPs are in accordance with Department laws, regulations and requirement. Make all revisions necessary. § 102.8(f) (11)</p>	<p>The revised Application will update includes an updated Section 1.11, second paragraph, to include materials as PCSM BMP O&M. generated by maintenance of PCSM BMPs. The narrative has been revised to clearly identify and provide the measures for disposal of the stone following site restoration as well as the proper measures for disposal of sediment, debris and trash removed from PCSM BMPs and a note added to the general access road notes.</p>
17	<p>The first two sentences of Section 1.12 on Page 21 contradict each other. The first sentence says "There are not naturally occurring geologic formations that may have the potential to cause pollution ... ", but the next sentence identifies that" ... acid runoff producing soils may exist... ". Identify if there is or is not the potential for naturally occurring geologic formations or soil conditions that may have the potential to cause pollution after earth disturbance activities are completed and PCSM BMPs are operational. What investigation has been done to determine if there is potential for acidic runoff from the site (beyond the Soil Survey)? Perform and supply an adequate predevelopment site characterization and assessment of soil and geology. §§ 102.8(f) (12) & 102.8(g)(1)</p> <p>If the potential to cause pollution is at the site, due to naturally occurring geologic formations or soil conditions, develop a management plan, which is part of the PCSM Plan, which avoids or minimizes potential pollution and its impacts. § 102.8(f) (12)</p>	<p>The revised Application will include includes updated discussion of potential naturally occurring geologic formations or soils conditions. Refer to Section 1.12 of the PCSM narrative.</p> <p>Acidity levels of the soils found along the proposed pipeline route do not fall within the pH range that is considered to be a potential source of pollution that must be mitigated therefore, additional site investigations were not performed.</p>
18	<p>Section 1.13 on Page 22 appears to be a thermal impact analysis related to the entire project, mainly the proposed transmission line. Provide an identification of potential thermal impacts from post construction storm water to surface waters of this Commonwealth including BMPs to avoid, minimize or mitigate potential pollution from thermal impacts. Make the thermal impact analysis specific for the River Road Regulator Station in the PCSM Plan for said regulator station. § 102.8(f) (13)</p>	<p>The revised Application will include includes updated discussion of thermal impacts. Refer to Section 1.13 of PCSM narrative.</p>

19	<p>Section 1.15 is not an adequate antidegradation analysis. Make the antidegradation analysis specific to the site for which the PCSM Plan covers (i.e. River Road Regulator Station). Make sure the analysis evaluates and includes nondischarge alternatives in the PCSM Plan.</p> <p>If nondischarge alternatives do not exist for the project, then make that demonstration and include in the PCSM Plan antidegradation best available combination of technologies (ABACT) BMPs. Make all revisions necessary. § 102.8(h)</p>	<p>The revised Application will include includes an updated antidegradation analysis. Refer to Section 1.15 of PCSM narrative.</p>
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<p>20</p>	<p>The following technical deficiencies are associated with information provided in Appendix A:</p> <ul style="list-style-type: none"> a. It is not clear from the narrative discussion and from the calculations how the Rock Spring Expansion Project is factored into the post construction stormwater management calculations. Is it an existing facility, and therefore accounted for in the pre-development calculations? If so, then include any existing stormwater management facilities for the Rock Spring Expansion in the pre-development analysis. Provide more information as to how the Rock Spring Expansion Project is accounted for in the post construction stormwater management analysis for the Atlantic Sunrise Project - CPL North, CPL South and Associated Facilities (specifically the River Road Regulator Station). §§ 102.8(f)(3), 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.S(g)(4) b. The drainage area 'DA to subsurface infiltration' utilized an assumed Time of Concentration (Tc) of 5 minutes. The drainage area size is 1.133 acres, which appears to be too large to utilize an assumed Tc. Provide Tc calculations for this drainage area or provide proper justification for utilizing an assumed Tc.). §§ 102.8(f)(8), 102.8(f) (15), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4) c. The channel design calculations utilize a side slope of 2:1; however, the vegetated swale reach routing utilized a side slope of 3:1. Clarify this discrepancy, and make all revisions necessary to consistently identify the design of the proposed vegetated swale. § § 102.8(f)(8), 102.8(f) (15), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4) d. Provide more information as to how the volume (term "V") was calculated in the River Road Regulator Station Vegetated Swale Infiltration Volume calculations. §§ 102.8(f)(8), 102.8(g)(2), & 102.S(g)(4) e. Provide the calculations for sizing of the anti-seep collar. § 102.8(f)(8) f. Provide more information as to how the proposed level spreader was designed (e.g. what is the design criteria/how was the length of the level spreader calculated). §§ 102.8(f)(6) & 102.8(f)(8) 	<p>The revised Application submittal will has been updated:</p> <ul style="list-style-type: none"> a. Clarify the how the River Road facility design and Rock Springs Expansion project are intended to work together The amended application includes a revised appendix A, which excludes from the predevelopment calculations, the Rock Springs stormwater improvements. These improvements which are now constructed and covered under another permit by others. b. Include updated Tc calculations. The predevelopment calculations have been revised to show Tc calculations representative of the site conditions, as 5 mins is generally considered the min. Tc. The calculated Tc was less than 5 mins., therefore a 5 min. Tc was used. c. The vegetative channel was removed from the design, thus, this technical deficiency is no longer applicable. Clarify the discrepancy in side slopes d. The vegetative channel was removed from the design. This technical deficiency is no longer applicable. Clarify volume calculations for PCSM BMPs e. Provide Anti-seep collar calculations have been provided. Refer to PCSM narrative App. A.4 Worksheet 18. f. Provide updated level spreader calculations. The level spreader was removed from the design. This technical deficiency is no longer applicable.
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	<p>g. Based upon the PCSM Plan drawings, it appears that a significant portion of the existing site is wooded. However, woodlands are not identified on PCSM Standard Worksheet #2. Clarify this discrepancy, and make all revisions necessary to provide an accurate predevelopment site characterization. § 102.8(g)(1)</p> <p>h. The following technical deficiencies are associated with PCSM Standard Worksheet #4:</p> <ul style="list-style-type: none"> i. The cover type areas do not match the cover type areas in the Predevelopment hydrographs. Clarify this discrepancy, and make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4) ii. It does not appear that 20% of the existing impervious area to be disturbed is considered in meadow good condition. Clarify if the regulatory required assumption has been made. Provide a clear identification as such, and make all revisions necessary. § 102.8(g)(2)(ii) <p>i. The following technical deficiencies are associated with PCSM Standard Worksheet #5:</p> <ul style="list-style-type: none"> i. Utilize the latest version of the PCSM Standard Worksheets. § 102.8(f) (15) ii. Provide the calculations to show how the proposed infiltration bed and Bioretention basin will permanently reduce 3,271 cf and 1,319 cf, respectively, during the 2-year/24-hour storm event. §§ 102.8(f)(8), 102.8(g)(2) & 102.8(g)(4) <p>j. Revise PCSM Standard Worksheet # 10 based upon the previously identified technical deficiencies (i.e. minimize soil compaction and soil amendment/restoration). If the proposed vegetated swale is designed to be utilized with a water quality function (in addition to volume reduction), then design the PCSM BMP in accordance with the recommendations of the PCSM Manual (1-3% longitudinal slope) or provide the appropriate information related to the alternative BMP and design standards. §§ 102.8(f)(6), 102.8(g)(2), 102.11(a)(2) & 102.11(b)</p> <p>k. Identify why PCSM Standard Worksheet #11 has been provided. PCSM Standard Worksheet #11 is to only be</p>	<p>g. The revised Application submittal will include revised PCSM Plan drawings that clarify and accurately characterize existing site conditions. PCSM standard Worksheet #2 and worksheet #4 are clarified in App. A.5 of the PCSM narrative to include the current vegetative cover of the site. Including the formerly wooded areas that were cleared as part of the Rock Spring Expansion Permit.</p> <p>h. Include Includes an updated Worksheet #4</p> <ul style="list-style-type: none"> i. Resolves discrepancies in cover type / area between worksheet #4 in Appendix A.5 and App. A.1 ii. Clarify 20% of existing impervious is accounted for as "Meadow" in the predevelopment calculations. Refer to App. A.5 of PCSM narrative <p>i. Provide Includes an updated Worksheet #5</p> <ul style="list-style-type: none"> i. Utilize utilizing the latest version of Worksheet #5 ii. Clarify. Refer to App. A. of the PCSM narrative for storage information. <p>j. Provide Provides an updated Worksheet #10. Refer to App. A.5 of the PCSM Narrative.</p> <p>k. Remove Removed Worksheet #11.</p>
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	<p>provided if the volume reduction cannot be met. § 102.8(f) (15)</p> <p>I. The following technical deficiencies are associated with the predevelopment site characterization and assessment of soil and geology:</p> <ul style="list-style-type: none"> i. Redoximorphic (redox) features can be an indication of a regularly occurring seasonally high water table. The provided testing identifies redox features occurring starting at zero inches (for Test Pits 1, 2, 3, 3A & 8). However, infiltration is proposed within the identified redox features. Protocol 2.1.an of Appendix C of the PCSM Manual recommends a minimum separation of at least 2-feet above a regularly occurring seasonally high water table. Revise the design to be consistent with the recommendations of the PCSM Manual or provide the appropriate information related to the alternative BMP and design standards. §§ 91.51(a), 102.8(f)(6), 102.8(f) (15), 102.11(a)(2) & 102.11(b) ii. Identify what type of testing methodology was utilized for the infiltration testing. § 102.8(g)(1) iii. Identify and provide more information related to the 'bentonite soak' /'bentonite presoak'. §§ 102.8(f) (15) & 102.8(g)(1) <p>m. The raw/tested infiltration rate is 40.5 in./hr. and the adjusted (with a Safety Factor of 3) infiltration rate is 13.5 in./hr. Protocol 2.1.c of Appendix C of the PCSM Manual recommends soils underlying infiltration devices to have infiltration rates between 0.1 and 10 in./hr. No discussion could be located related to the excessive infiltration rates. Revise the design to be consistent with the recommendations of the PCSM Manual or provide the appropriate information related to the alternative BMP and design standards. §§ 91.51(a), 102.8(f)(6), 102.8(f) (15), 102.11(a)(2) & 102.11(b)</p> <p>n. Why are the redox features not identified as a limiting zone for infiltration in the Infiltration Rate/Dewatering Time narrative? § 102.8(g)(1)</p>	<ul style="list-style-type: none"> I. Provide Provides additional on the site characterization and assessment of soil and geology <ul style="list-style-type: none"> i. Clarify the data sheets provided in the original submission to show that Provides revised log sheets indicating no redoximorphic features were identified in the test pits. ii. Clarify Clarifies testing methods. Refer to App. A.6 in PCSM narrative. iii. Clarify Clarifies the use of the Bentonite (pre)soak. Refer to App. A.6 in PCSM narrative. m. provide Provides a revised design and narrative to account for the observed infiltration rates. Refer to App. A.6 in PCSM narrative and supplemental discussion of amended soil infiltration rates in Section 1.6 n. Clarify Clarifies that no redox features were observed in the test pits. Refer to App. A.6 for revised data log sheets.
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	<p>o. The dewatering calculations could not be located in the Infiltration Rate/Dewatering Time narrative. Provide these calculations. § 102.8(f)(8)</p> <p>p. The Infiltration Rate/Dewatering Time narrative identifies that rock removal may be required to provide the recommended 2-ft. separation to bedrock (from Protocol 2.1.b in Appendix C of the PCSM Manual). What investigation has been done to ensure that the underlying bedrock has the ability to infiltrate the post construction stormwater? § 102.8(g)(1)</p> <p>q. The following technical deficiencies are associated with the Infiltration Loading Ratio calculations and narrative:</p> <ul style="list-style-type: none"> i. The provided narrative asserts that the bioretention basin, the underground infiltration bed and the vegetated swales are in a connected configuration. However, DEP does not agree with that statement. The Bioretention basin has a 100-year/24-hour routed water surface elevation of 609.98, while the invert out of the outfall pipe for the underground infiltration bed is at 613.00. Because of the disconnection between the three BMPs, they will function independently of each other and as a result should be analyzed separately for loading ratios. Provide separate loading ratios for the underground infiltration bed, the bioretention basin and the vegetated swale check dams. § 102.8(f)(8) ii. The provided alternative BMP and design standard demonstration is not sufficient. Additional information is required to demonstrate how the infiltration bed and bioretention basin have been maximized. It appears that the word 'grated' is misspelled word in the last sentence of the fourth point of the Analysis. Provide sufficient information to demonstrate that the proposed loading ratios will achieve the same regulatory standard as the recommended loading ratios of the PCSM Manual. § 102.11(b) 	<ul style="list-style-type: none"> o. provide Provides dewatering time calculations. Refer to App. A.6 in PCSM narrative. p. Clarify Clarifies that rock removal is no longer anticipated as part of the PCSM BMP construction. This Technical deficiency no longer applies. q. provide Provides updated loading ratio calculations and discussion. <ul style="list-style-type: none"> i. BMPs have been consolidated into a single infiltration BMP. Refer to App. A.4. in PCSM narrative. Provide an updated discussion of the interaction of the proposed PCSM BMPs. ii. The alternate BMP design demonstration is no longer applicable. See the response to the General PCSM Technical Deficiencies related to all documents Technical Deficiency-47. The noted misspelling was corrected.
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21	The plan preparer qualifications in Appendix B are qualifications for E&S Plans. Provide documentation that the person who prepared the PCSM Plan is a person trained and experienced in PCSM design methods and techniques applicable to the size and scope of the project being designed. § 102.8(e)	The revised Application will include includes an updated plan preparer resume. Refer to App. B in the PCSM narrative.
Erosion and Sediment Control and Layout Plans Drawings - Access Roads		
1	Provide a separate PCSM Plan for the permanent access roads from the E&S Plan for the permanent access roads. A combined plan, titled Erosion and Sediment Control /Site Restoration Plan, can be provided for the temporary access roads. §§ 102.4(b)(5)(xiv) & 102.8(d)	The revised Application submittal will provide separate PCSM Plan for the permanent access roads to the MLV sites, separate from the E&S Plan for the permanent access road. Please note that the permanent access roads that provide access to the ROW will be restored to pre-construction conditions. Operations will drive over grass to access the ROW after construction. Therefore, these permanent access roads are not included in the separate PCSM plans.
2	Drawing No. 24-1600-70-28-A/LL 113 _9 Sheet 2 of 4, identifies an access road named ARLA-018; however, there is no additional information provided related to this location (it is not identified in the table on Page 5 of the narrative). The plan drawing identifies AR-LA-029.2; however, it appears that this should be labeled "AR-LA-029.3". Clarify these discrepancies and make all revisions necessary. §§ 102.8(f)(3) & 102.8(f)(9)	AR-LA-018 is a deleted access road and AR-LA-029.2 has been replaced with AR-LA-029.3. The Location Map and Access Road Index has been updated to reflect the current list of access roads.
3	Make the Notes provided on Drawing No. 24-1600-70-28-A/LL113 _9-AR-LA-002 Sheet 3 of 3 specifics for that particular location. Make all revisions necessary to correct this deficiency throughout the application documents. § 102.8(f)(9)	The general notes previously included on the SR/PCSM plans have been moved to the General Access Road Notes now provided on Sheet 4 of 4 of the Access road E&S Plans and Sheet 3 of 3 of the Access Road PCSM Plans Road Specific Construction Sequence is included on the plan drawings and in the narrative for each temporary and permanent access road.
4	Drawing No. 24-1600-70-28-A/LL113 _9-AR-LA-010.2 Sheet 1 of 3 identifies grading required for the centerline of the access road; however, the proposed grading is not shown in the plan view. Show the proposed grading for the temporary and permanent access roads on the plan view for each location. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102.8(f)(3) & 102.8(f)(9)	The intent of the plan and profile drawing is to depict the vertical and horizontal geometry of the access roads. Any proposed grading is included in the plan view (see Sheet 2 of 2 of the Access Road E&S drawings for AR-LA-010.2)
5	Identify and show the test pit locations on Drawing No. 24-1600-70-28-A/LL113 _9-AR-LA-010.2 Sheet 3 of 3. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102.8(f)(3), 102.8(f)(9) & 102.8(g)(l)	Test pit locations have been added to all access road plans the plans for all permanent access roads that access the MLV sites.

6	Identify where the site/location specific notes and details for the PCSM Plan are to be found. Provide the regulatory required information for all PCSM BMPs claimed for the specific site/location. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102.8(f)(6), 102.8(f)(7), 102.8(f)(9) & 102.8(f)(10)	The PSCM Notes are provided on Sheet 3 of 3 of the Access Road PCSM Plans. The PSCM Notes are provided on Sheet 3 of 3 of the Access Road PCSM Plans.
Post Construction Stormwater Management Plan Drawings - River Road Regulator Station		
1	<p>The following technical deficiencies are associated with Sheet 3 of 7: § 102.8(f)(9)</p> <ul style="list-style-type: none"> a. It appears very steep cut slopes are proposed for the south and west sides of the regulator station. However, no information could be found in the PCSM Plan narrative which demonstrates that these steep slopes will remain stable in the post development condition. Provide a demonstration that the slopes will remain stable. § 102.8(f)(8) b. The Test Pits are identified on the plan view; however, the level of detail provided is not sufficient to identify the different locations for Test Pit 2 versus 2A and Test Pit 3 versus 3A. Clearly identify where Test Pits 2A and 3A were performed. c. A soil limitation of high water table was identified in the PCSM Plan narrative; however, there does not appear to be any investigation performed for the area of the largest proposed cut (approx. 11-ft.) at the south side of the regulator station. What investigation has been performed to ensure that groundwater is not encountered in this area? § 102.8(g)(1) d. There does not appear to be any predevelopment site characterization and assessment of soil and geology for the vegetated swale check dams. How was this area investigated to ensure that infiltration is possible and appropriate? § 102.8(g)(1) e. Clearly identify the proposed tree line on the plan. 	<p>The revised Application submittal will: has:</p> <ul style="list-style-type: none"> a. Include revised slope grading and a slope stability analysis by the geotechnical engineer. Amended slopes to 2:1 b. Updated test pit locations on PCSM plans to correspond to the logs. One pit was used for infiltration and the corresponding, adjoining pit was used for soil profiling. Clarify test pit locations c. Relocated BMPs impacted by identified seasonal high groundwater. Provide a revised PCSM plan to account for the completed test pits. d. Removed BMPs from the design, such that this technical deficiency is no longer applicable. Provide a discussion of the applicability of the completed analysis for use in designing the proposed PCSM BMPs. e. Clearly identify the Updated the existing and proposed treelines on the PCSM plans.

<p>2</p>	<p>The following technical deficiencies are associated with Sheet 4 of 7: § 102.8(f)(9)</p> <p>b. It appears that end of the last sentence in the third paragraph of the PCSM Long Term Operations and Maintenance Requirements notes in the PCSM Standard Notes was cut off. § 102.8(f) (10)</p> <p>c. The Recycling and Disposal of Materials notes do not address materials with or from the PCSM BMPs. Ensure that the proper regulatory citation is provided. § 102.8(f) (11)</p> <p>d. The responsible party identified in the Responsible Party notes is different from the responsible party identified in the PCSM Standard Notes. Consistently identify the responsible party for the long-term operation and maintenance of the PCSM BMPs. § 102.8(f) (10)</p> <p>e. The provided long-term operation and maintenance schedule is not sufficient. Refer to the previous technical deficiency concerning the long-term operation and maintenance schedule. § 102.8(f) (10)</p> <p>f. The following technical deficiencies are associated with the Soil Amendment Notes:</p> <p>i. Note No. 1 identifies that the contractor shall ensure than an infiltration rate of 2.0 in./hr. is achieved by the soil amendments. However, the design infiltrate utilized in the calculations is 2.5 in./hr. Utilizing the applied Safety Factor of 3, the soil amendments should achieve an infiltration rate of 7.5 in./hr. Make all revisions necessary. §§ 102.8(f)(6), 102.8(f)(7), 102.8(f) (15) & 102.8(g)(2)</p> <p>ii. Make the testing of the soil amendments a critical stage of PCSM BMP implementation. Make the notes identify how the soils will be tested, how often the testing will be performed and how to correct the soil amendments should they not achieve the identified infiltration rate. §§ 102.8(f)(6), 102.8(f)(7) & 102.8(f) (15)</p> <p>iii. Note No. 2 is too vague related to determining when the filter fabric barrier is to be placed. Identify, in more definitive terms, when the filter fabric barrier is to be placed. It appears that this</p>	<p>The revised Application submittal: will:</p> <p>b. Show the full O&M plan includes revised notes accordingly.</p> <p>c. Address materials generated by PCSM BMP O&M within the Recycling and Disposal of Materials notes on PCSM plans sheet 4 of 6</p> <p>d. Clarify O&M responsibilities. Clarifies that the Permittee maintains O&M responsibilities.</p> <p>e. Provide Provided an updated O&M schedule. Refer to PCSM plans sheet 4 of 6.</p> <p>f.</p> <p>i. Provide updated Provides updated soil amendment specifications. Refer to PCSM plans sheet 4 of 6.</p> <p>ii. Includes a modified sequence of construction to account for the testing.</p> <p>iii. Includes revised Note 2 of Soil Amendment notes on PCSM plans sheet 4 of 6 to eliminate references to geotextile.</p> <p>iv. Includes a revised Note 2 to reflect the recommended ratios of the PCSM manual. (Maximum organic matter to 70% soil base)</p> <p>v. Has corrected the typo in Note 3 of Soil Amendment notes on PCSM plans sheet 4 of 6</p> <p>vi. Has corrected note #5 (former Note #6) of Soil Amendment notes on PCSM plans sheet 4 of 6 to reference to correct seed mix.</p>
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	<p>determination would be a critical stage of construction and should be included as such. §§ 102.8(f)(6), 102.8(f)(7) & 102.8(f) (15)</p> <p>iv. The soil mixture ratio appears to be too high in Note No. 3. The PCSM Manual recommends a maximum of 30% organic matter (compost) to 70% soil base (topsoil). Revise the design to be consistent with the recommendations of the PCSM Manual or provide the appropriate information related to the alternative BMP and design standards. §§ 102.8(f)(6), 102.11(a)(2) & 102.11(b)</p> <p>v. It appears that the word "in-sity" is a typographical error. Clarify and revise as necessary.</p> <p>vi. Note No. 7 appears to identify two different types of seed mixtures for the bioretention basin. Will two different seed types be provided? If not, identify in the PCSM Plan which type of seed mixture will be utilized. § 102.8(d)3.</p>	
3	<p>There are numerous seed mixes provided on Sheet 5 of 7. Identify in the PCSM Plan only the design seed mixes for use on the site (the River Road Regulator Station), and clearly label/identify where the seed mix(es) will be applied. §§ 102.8(d) & 102.8(f)(9)</p>	<p>The revised Application submittal will clarify seed mix usage. <i>The plans have been revised to remove unused seed mixes from sheet 5 of 6. References to locations for mixes to be used have been added to sheet 5 of 6.</i></p>

<p>4</p>	<p>The following technical deficiencies are associated with Sheet 6 of 7: § 102.8(f)(9)</p> <ul style="list-style-type: none"> a. The Thermal Impact Analysis does not match the Thermal Impacts discussion from the PCSM Plan Narrative. Provide consistency between the PCSM Plan drawings and narrative. DEP recommends only providing one thermal impact analysis (in the PCSM Plan narrative) to avoid confusion and potential for discrepancies. § 102.8(f) (11) b. Critical Stages of Construction No. 3 identifies infiltration berms; however, it does not appear that infiltration berms are proposed for the River Road Regulator Station. Clarify this discrepancy. §§ 102.8(f)(6) & 102.8(f)(7) c. A Stilling Basin Detail is provided. Provide the stilling basin sizing calculations in the PCSM Plan narrative. § 102.8(f)(8) d. It appears that the pipe's thickness is not accounted for in the sizing of the anti-seep collar. Based upon the design the anti-seep collar should have a 7-in. projection; the anti-seep collar width should be 30 inches (7-in. projection+ 2-in. pipe thickness+ 12-in. diameter+ 2-in. pipe thickness+ 7-in. projection). Make all revision necessary. e. The Basin Emergency Spillway with TRM Lining detail identifies a spillway width ('Ww') of 10-ft.; however, the routing calculations identify a width of 160-ft. Clarify this discrepancy and make all revisions necessary. §§ 102.8(f)(6) & 102.8(f)(8) f. A Permanent Outlet Structure Trash Rack detail is provided. Clarify where the trash rack is to be installed. 	<p>The revised Application submittal will:</p> <ul style="list-style-type: none"> a. Provide provides a revised / consistent thermal impacts analysis b. Remove removes references to unused infiltration berm and updated to correspond to the revised design. c. Remove removes the stilling basin from the design. BMP detail has been removed from PCSM Detail sheet 6 of 6. d. Provide provides revised anti-seep collar calculations and detail on PCSM Sheet 6 of 6. e. Provide provides revised spillway design. Refer to PCSM Plan sheet 3 of 6 and detail on PCSM plan set sheet 6 of 6. f. Clarify usage of trash racks has removed trash rack from the design and removed detail from PCSM plan set. Includes a revised detail for the permanent outfall structure on sheet 4 of 6, which includes the location of the proposed trash rack.
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<p>5</p>	<p>The following technical deficiencies are associated with Sheet 7 of 7: § 102.8(f)(9)</p> <ul style="list-style-type: none"> a. The following technical deficiencies are associated with the Level Spreader Detail: § 102.8(f)(6) <ul style="list-style-type: none"> i. Provide discussion as to why there is no geotextile fabric provided along the bottom and side of the R-3 riprap. § 102.8(f) (15) ii. The detail has a dimension identified as 'Extend to Frost Line'. Identify in the detail the required dimension for the site. § 102.8(d) b. The following technical deficiencies are related to the Plan View Subsurface Infiltration Facility and the Subsurface Infiltration Facility Cross Section A-A: § 102.8(f)(6) <ul style="list-style-type: none"> i. The details identify 6 runs of 12-in. perforated pipe at 100 LF and 3 runs of 24-in. perforated pipe at 144 LF; however, the calculations identify 5 runs of 12-in. perforated pipe at 100 LF and 3 runs of 24-in. perforated pipe at 140 LF. Clarify this discrepancy and make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.S(g)(4) ii. It appears that the underground facility will rely upon manufactured couplings to be constructed. Identify all of the required couplings, fitting, etc. iii. What do the dashed lines in the Plan View Subsurface Infiltration Facility represent? iv. Provide additional information related to the stone bed, so that the identified area can be verified as consistent with the calculations. v. Better identify the proposed inverts for the perforated pipes in the Subsurface Infiltration Facility Cross Section A-A. 	<p>The revised Application submittal will include includes</p> <ul style="list-style-type: none"> a. No longer include includes a level spreader at this facility. b. No longer include includes a subsurface infiltration facility.
<p>6</p>	<p>The construction sequence for the individual PCSM BMPs could not be located. Provide individual construction sequences for each PCSM BMP. § 102.8(f)(7)</p>	<p>The revised Application submittal will provide provides revised sequences of construction for PCSM BMPs. Refer to Step 9 on PCSM Sheet 6 of 6- Regulator Station Sequence of Construction notes.</p>

7	<p>The PCSM Plan proposes an offsite discharge to areas other than surface waters. Provide the information required as identified in the attached Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124) as part of the PCSM Plan. §§ 102.8(f)(9) & 102.8(f)(15)</p>	<p>The revised Application submittal will provide for any discharges to off-site surface waters. The PCSM design has been revised to provide basin discharge to an existing drainage swale which is considered a surface water. Refer to PCSM plan set sheet 3 of 6.</p>
8	<p>The Infiltration Rate/Dewatering Time calculations and discussion in Appendix A of the PCSM Plan narrative identify that rock removal may be required to provide the recommended 2-ft. separation to bedrock (from Protocol 2.1.b in Appendix C of the PCSM Manual); however, this rock removal is not identified in the PCSM Plan drawings. Provide adequate plan information related to the rock removal; including, but not limited to, how to identify if rock removal is required, how to remove said rock, what material will be backfilled, how to back fill said material, etc. §§ 102.8(f)(6), 102.8(f)(9) & 102.8(f)(15)</p>	<p>The revised Application will incorporate a significant redesign of the proposed PCSM BMPs at this Site. This deficiency, as well as other related deficiencies are no longer applicable to the revised design. The PCSM design has been revised to eliminate the rock removal as part of construction. This technical deficiency is no longer applicable.</p>
9	<p>A detail for a concrete cradle could not be located. The E&S Manual (on Page 160) recommends the use of concrete cradle for outlet barrels for permanent basins. Provide a demonstration that the proposed alternative of no concrete cradle is just as effective as a concrete cradle. §§ 102.8(f)(6), 102.8(f)(9), 102.8(g)(5), 102.11(a)(1) & 102.11(b)</p>	<p>The revised Application submittal will: provide Provides the concrete cradle. Refer to PCSM detail sheet 6 of 6.</p>
10	<p>It appears that infiltrated stormwater has the potential to seep into the bioretention basin from the underground infiltration facility. Provide phreatic calculations for the infiltrated stormwater in the underground infiltration facility. § 102.8(f)(8)</p>	<p>The revised Application will incorporate a significant redesign of the proposed PCSM BMPs at this Site. This deficiency, as well as other related deficiencies are no longer applicable to the revised design. The PCSM design has been revised. This technical deficiency is no longer applicable.</p>

Lebanon County		
Erosion and Sediment Control Plan and Post Construction Stormwater Management/Site Restoration Plan Narrative - Temporary and Permanent Access Roads		
1	Provide a separate PCSM Plan for the permanent access roads from the E&S Plan for the permanent access roads. A combined plan, titled Erosion and Sediment Control /Site Restoration Plan, can be provided for the temporary access roads. §§ 102.4(b)(5)(xiv) & 102.8(d)	<p>The revised Application submittal will provides separate PCSM Plan for the permanent access roads to the MLV sites, separate from the E&S Plan for the permanent access road. Please note that the permanent access roads that provide access to the ROW will be restored to pre-construction conditions. Operations will drive over grass to access the ROW after construction. Therefore, these permanent access roads are not included in the separate PCSM plans. Each County now has two sets of access road plans:</p> <ul style="list-style-type: none"> • “Erosion & Sediment Control and Layout Plans” that include the E&S design for all roads and the site restoration plan for temporary roads and permanent roads to be restored to pre-construction conditions. • “Post Construction Stormwater Management Plans for Permanent Access Roads” that include the PCSM plans for the permanent access roads that access MLV sites. <p>roads.</p>
2	Are the mainline valve sites included in the E&S and PCSM Plans for the permanent access roads? If so, that should be clarified and discussed in the narratives. § 102.8(f)(3)	<p>The revised narrative will clarify clarifies that the E&S design for the MLVs is part of the pipeline Erosion & Sediment Control Plan and Site Restoration Plan Narrative plan. The E&S measures are shown on the access road plans as shaded for coordination purposes. The road-specific narratives for the associated access roads has have been revised to clarify that the E&S measures are part of the pipeline Erosion & Sediment Control Plan and Site Restoration Plan Narrative E&S plan. These revisions has been provided within the revised Application submittal.</p>
3	Identify in the narrative whether the receiving surface water is impaired or has a TMDL. For the specific sites (temporary and permanent access roads), ensure that proper and adequate discussion is provided related to the PCSM design and the impairment and/or TMDL. § 102.8(f)(5)	<p>The revised Application submittal will includes revisions to the narrative identifying whether the receiving surface water is impaired or has a TMDL. Discussion has been added for the specific sites related to the E&S design and the impairment and/or TMDL.</p>

4	Identify in the table on Page 6 the receiving surface water, the Designated and Existing Uses and if the receiving surface water is impaired or has a TMDL. The table identifies LE-057.1 with italicized text; is there any significance to this? The table identifies LE-041 and LE-059; however, these roads are not included in the Appendices or on the plan drawings. Clarify this discrepancy. §§ 102.8(f)(3) & 102.8(f)(5)	The revised applications submittal will identify identifies the receiving surface water, the Designated and Existing Uses, and if the receiving surface water is impaired or has a TMDL, in the table on Page 5. The tables have been modified to consistently depict the roads included in the re-submission. LE-041 and LE-059 are no longer part of the project.
5	Identify what is meant by the technology "infiltration losses" in the last sentence of the second paragraph of Section 1.3 on Page 10. § 102.8(f) (15)	Section 1.3 has been revised to clarify that "infiltration losses" refers to the volume of water that will infiltrate as the stormwater fills the detention volume between the voids in the rock in the MLV pads and behind the swale check dams. The reference to infiltration losses have been removed from the narrative. As with previous submissions, credit for infiltration is not accounted for in pre and post-construction stormwater calculations.
6	The regulatory requirement is to manage post construction stormwater for storm events of a 24-hour duration. Make all revisions to appropriately identify the storm events (e.g. the first sentence of the second paragraph on Page 14). §§ 102.8(g)(2) & 102.8(g)(3)	Calculations have been performed using storm events of a 24-hour duration. The narrative has been revised to appropriately identify the storm events.
7	The third paragraph on Page 14 is very confusing related to the Act 167 Plans. Clearly identify to what criteria the PCSM Plan was designed to. It appears that the project's location is not within the area covered by the approved Act 167 Plan for a portion of Lebanon County. Make the narrative specific for the project and project site. Make all revisions necessary. §§ 102.8(g)(2) & 102.8(g)(3)	The applicant has reviewed the requirements of referenced Water Resources plan for Lancaster Lebanon County. The narratives and calculations have been revised to reference the plan and any necessary modifications to the design have been made.
8	The generalized BMP Installation Sequence Narrative in Section 1.7 is not sufficient. Each temporary and permanent access road is different, as a site/location specific construction sequence is required. § 102.8(f)(7)	The revised Application submittal includes an expanded generalized BMP Installation Sequence Narrative in Section 1.8 Section 1.7 . A site/location specific construction sequence is provided for each temporary and permanent access road on the individual road plan and corresponding road specific narrative.

9	Provide an adequate long-term operation and maintenance schedule in Section 1.10 for all PCSM BMPs. § 102.8(f) (10)	The long-term operation and maintenance requirements are described Section 1.10 in the PCSM Narrative for Permanent Access Roads and in the PCSM Notes on Sheet 3 of 3 in the PCSM Plan set.
10	Section 1.11 does not identify, address or ensure that proper measures for recycling or disposal of materials associated with or from the PCSM BMPs are in accordance with Department laws, regulations and requirement. Make all revisions necessary. § 102.8(f) (11)	The narrative has been has been revised to clearly identify and provide the measures for disposal of the stone following site restoration as well as the proper measures for disposal of material removed from PCSM BMPs and a note added to the general access road notes. These has been provided in the revised Application submittal.
11	<p>Section 1.12 on Page 27 identifies that there may be potential for acid producing rock. Identify if there is or is not the potential for naturally occurring geologic formations or soil conditions that may have the potential to cause pollution during earth disturbance activities and after earth disturbance activities are completed and PCSM BMPs are operational. What investigation has been done to determine if there is potential for acidic runoff from the site (beyond the Soil Survey)? If acid producing rock is present at the site, then provide BMPs to minimize the potential for pollution. Perform and supply an adequate predevelopment site characterization and assessment of soil and geology. Tailor this discussion for each specific site (temporary and permanent access roads). §§ 102.8(f) (12) & 102.8(g)(l)</p> <p>Clarify the statement on Page 28 " ... the quantity of acidic soils found along the proposed CPL South route may be sufficiently high such that their potential for pollution should be mitigated." If the quantity is sufficiently, how is that mitigated? What investigation has been performed to determine that the amount potential for pollution is mitigated? §§ 102.8(f) (12) & 102.8(g)(l)</p>	<p>An Acid Producing Rock and Soil management plan Acid Producing Soils and Bedrock Control Plan has been added to the E&S Narrative to manage soils with pH value of 4.0 or greater. A site specific soil table identifying the soils types and pH and relative acidity of the soils located within the access road LOD. Acidity levels of the soils found along the proposed pipeline route do not fall within the pH range Acidity levels of the soils found along the proposed pipeline route do not fall within the pH range that is considered to be a potential source of pollution that must be mitigated therefore, additional site investigations were not performed.</p>
12	Section 1.13 does not include a thermal impact analysis for the earth disturbance activity (for the E&S Plan). Provide this thermal impact analysis. Provide the thermal impact analysis for each specific site. § 102.8(f) (13)	The revised Application submittal will provides additional information in the Thermal Impact discussion for Project access roads, facilities, and pipeline in the narratives. A site specific thermal impact analysis has been added to each road specific narrative. Road-specific thermal impact analyses have been added to each access road narrative.

<p>13</p>	<p>Revise Section 1.15 to be specific for any requested riparian buffer/riparian forest buffer waivers associated with the temporary and permanent access roads. There is no regulatory requirement to provide a riparian buffer/riparian forest buffer for perennial or intermittent rivers, streams, or creeks, or lakes, ponds, or reservoirs with a Designated Use other than Exceptional Value and High Quality; therefore, a waiver of buffers for these areas is not required. Revise the narrative accordingly. § 102.14(d)(2)</p> <p>What purpose does the discussion related to Act 167 Plan have related to the riparian buffer/riparian forest buffer waivers? § 102.8(f) (15)</p>	<p>Section 1.16 (previously Section 1.15) has been revised to clarify that no access roads within Lebanon County on each require a riparian forest buffers waiver.</p>
<p>14</p>	<p>Section 1.16 is not an adequate antidegradation analysis. Make the antidegradation analysis specific to the site for which the PCSM Plan covers (i.e. each temporary and/or permanent access road). Evaluate and include in the analysis nondischarge alternatives in the PCSM Plan. If nondischarge alternatives do not exist for the project, then make that demonstration and include in the PCSM Plan antidegradation best available combination of technologies (ABACT) BMPs. Make all revisions necessary. § 102.8(h)</p>	<p>The revised Application submittal will include a revised antidegradation analyses specific to the portions of the right-of-way (ROW) in HQ/EV watersheds, and for EV wetlands in Section 1.17 (formerly Section 1.16). The analysis is an overall watershed approach that will address the pipeline, temporary and permanent access roads, and facilities</p>
<p>15</p>	<p>The plan drawings provided in Appendix A and B are not current with the latest set of revised full-size plan drawings (e.g. Appendix A Drawing No. 24-1600-70-28-AfLLI 13_9 has a latest revision date of 12/02/2015; while the full-size Drawing No. 24-1600-70-28-A/LL113_9 has a latest revision date of 02/04/2016). DEP recommends only providing one copy of the plan drawings per application set (do not provide reduced scale drawings in Appendix A and B), to avoid confusion and potential inconsistencies. § 102.8(f)(9)</p>	<p>Appendices A and B have been removed from the narrative as requested</p>
<p>16</p>	<p>The plan preparer qualifications in Appendix D are qualifications for E&S Plans. Provide documentation that the person who prepared the PCSM Plan is a person trained and experienced in PCSM design methods and techniques applicable to the size and scope of the project being designed. § 102.8(e)</p>	<p>The plan preparer qualifications have been revised to reflect PCSM experience.</p>

17	<p>For temporary access road AS-LE-033. I (Appendix E), the narrative identifies the Watershed as Little Chickies Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Shells Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)</p>	<p>The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p>
18	<p>The following technical deficiencies are associated with Appendix F:</p> <ul style="list-style-type: none"> a. The narrative identifies the Watershed as Gingrich Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Gingrich Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5) b. There appears to be no discussion or stormwater management analysis for the permanent access road AR-LA-021 in Appendix P. Provide the all necessary information related to the post construction stormwater management for this permanent access road. § 102.8 	<p><i>LE-035 has been removed from the project.</i></p> <ul style="list-style-type: none"> a. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water. b. AR-LA-020 is considered a permanent access road. However, upon construction completion, the proposed road materials has been will be removed and the impacted areas has been restored to pre-construction conditions. Therefore, no permanent stormwater management analysis is provided.

<p>19</p>	<p>The following technical deficiencies are associated with Appendix G:</p> <ul style="list-style-type: none"> a. The regulatory requirement is to manage post construction stormwater for storm events of a 24-hour duration. Make all revisions to appropriately identify the storm events. §§ 102.8(g)(2) & 102.8(g)(3) b. It is identified that the PCSM/SR BMPs were designed to the requirements of Control Guideline 1 (CG-1). CG-1 is a recommended post construction stormwater management from the PCSM Manual; however, the regulatory requirement to control post construction stormwater is 25 Pa. Code §§ 102.8(g)(2) & 102.8(g)(3) (in addition to other sub-sections of 25 Pa. Code § 102.8 and sections of 25 Pa. Code § 102). Make all revisions to appropriately identify the regulatory requirements for post construction stormwater management. c. The narrative identifies that site specific infiltration testing and soil probes have not been performed, but that prior to construction infiltration testing will be completed. This is not an adequate predevelopment site characterization and assessment of soil and geology. If infiltration is proposed for the design, then perform an adequate predevelopment site characterization and assessment of soil and geology. § 102.8(g)(1) d. Permanent access road AR-LE-03 7 .1 proposes an offsite discharge to areas other than surface waters. Provide the information required as identified in the attached Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124) as part of the PCSM Plan. §§ 102.8(f)(9) & 102.8(f) (l 5) e. The proposed total loading ratio for the ML V Pad is identified as 1: 1; however, based upon the plan drawings, it appears that the MLV Pad's drainage area includes area other than just the gravel pad. Clarify this discrepancy. Ensure that the loading ratio calculations are all correct and account for all tributary drainage area. If diversions will be used in post construction conditions, then clearly label these diversions on the plans. §§ 102.8(f)(8) & 102.8(f)(9) 	<p>NOTE: The location of LE-037.2(formerly LE-037.1) has been revised since the last submittal. The access road is now off of Horseshoe Pike. The revised Application submittal will has made the following revisions:</p> <ul style="list-style-type: none"> a. Calculations have been performed using storm events of a 24-hour duration. The narrative has been revised to appropriately identify the storm events. b. The revised Application submittal has been modified to Section 1.8 of the PCSM Narrative appropriately identify the regulatory requirements for PCSM design. c. Infiltration testing completed since the last submittal has been incorporated into the stormwater design. Infiltration testing is contingent on obtaining access permission to the site. Williams has not been granted access to the proposed MLV site at access road AR-CO-095.1.1.3. Therefore, no infiltration is available at this time for AR-CO-095.1.1.3. d. A description of the flow path downhill of the rip rap apron has been added to the road narrative per has been added to Appendix G.7 of the road narrative per consistent with Item 15 on Page 161 and Appendix G of E&S Manual and the provided Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS- DEP4124). e. The MLV and access road plans (Appendix Q.1) have been revised to meet the loading requirements. The areas used to calculate the loading ration have been revised to accurately reflect the land cover. f. <ul style="list-style-type: none"> i. Contour information, including labels, has been added to the Drainage Area Maps. ii. The drainage area map and HydroCAD model have been revised to have consistent drainage areas.
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	<p>f. The following technical deficiencies are associated with Appendix G.3:</p> <ul style="list-style-type: none"> i. Provide contour information with the drainage area map, including contour labels. §§ 102.8(f)(8) & 102.8(f)(9) ii. The drainage area map identifies a drainage area of 22.38 acres; however, only 0.728 acres is analyzed in the hydrographs. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4) iii. If there is a road side ditch/swale along Meadow Lane, then revise the Time of Concentration (Tc) calculations to include a channel flow segment. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4) iv. The hydrograph calculations utilize a 2-year/24-hour rainfall depth of 3.16 inches; however, the Tc calculations utilize a 2-year/24-hour rainfall depth of 3.12 inches. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4) v. The utilized rainfall data for the storm events does not match the rainfall data provided by NOAA Atlas 14. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4) <p>g. The following technical deficiencies are associated with Appendix G.4:</p> <ul style="list-style-type: none"> i. Provide more legible contour information, including contour labels, and the proposed conditions on the drainage area map. §§ 102.8(f)(8) & 102.8(f)(9) ii. How was the storage for the ML V Pad calculated for the hydro graph routing calculations? The total volume identified does not appear to match any of the other volumes identified for this facility. Make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4) <p>h. How was the Subreach Volume calculated in Appendix G.6? Provide the equation that is utilized. § 102.8(f)(8)</p> <p>i. The following technical deficiencies are associated with Appendix G. 7:</p>	<ul style="list-style-type: none"> iii. A road side ditch along Horseshoe Pike Meadow Lane does not exist, therefore no revisions to the Tc were made. iv. The Tc calculations have been revised to use the same 2-year/24-hour rainfall depth of 3.16 inches. v. Rainfall intensity is taken from PennDot Publication 584, which pulls from NOAA Atlas 14 V3. For a 24-hour storm event in Lancaster County, BL referenced Map F to identify the rainfall region. The access roads in Lancaster County are located within Region 4. Therefore, BL used the rainfall intensities for the 1, 2, 5, 10, 25, 50, and 100-year storms from the Region 4 table. <i>The rainfall intensity has been revised and are now taken from NOAA Atlas 14.</i> <p>g.</p> <ul style="list-style-type: none"> i. Contour information, including labels, has been added to the Drainage Area Maps. ii. The storage volume provided by the pad is consistent across all worksheets and HydroCAD model. The narrative has been expanded to include how the volumes were calculated for the MLV pad. <i>The MLV Storage Volume Analysis is located in Appendix G.8.</i> <p>h. The design narrative has been updated to more clearly discuss how all calculated values were determined, including the reach volume for water quality swales. <i>The revised design does not include vegetated channels with check dams. However, for access roads to MLV sites that do have vegetated swales with check dams, the Check Dam Volume and Spacing diagram have been revised to show how the volume behind the check dams is calculated. LE-037.2 utilizes the void space between the rocks in the MLV pad for storage. A</i></p>
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	<p>i. Complete PCSM Standard Worksheet #2, by identifying if there are or are not mapped existing natural sensitive resources. § 102.8(g)(1)</p> <p>ii. PCSM Standard Worksheet #4 identifies a Managed Area of 1.1 acres; however, an area of 1.49 acres is analyzed. Clarify this discrepancy. §§ 102.8(f)(8) & 102.8(g)(2)</p> <p>iii. Utilize the latest version of the PCSM Standard Worksheets #5. How was the volume to be permanently reduced of 593 cf calculated for the ML V Pad? §§ 102.8(f)(8), 102.S(f) (l 5) & 102.8(g)(2)</p> <p>iv. PCSM Standard Worksheet #10: If the proposed vegetated swale is designed to be utilized with a water quality function (in addition to volume reduction), then design the PCSM BMP in accordance with the recommendations of the PCSM Manual (1-3 % longitudinal slope) or provide the appropriate information related to the alternative BMP and design standards. Ensure that all required plan information related to the minimize soil compaction and re-vegetated/re-forest disturbed areas is provided on the PCSM Plan drawings (e.g. seeding mix, long-term operation and maintenance schedule, construction sequence, etc.). §§ 102.8(f)(6), 102.8(f)(7), 102.8(f)(9), 102.8(f) (10), 102.8(g)(2), 102.11(a)(2) & 102.11(b)</p> <p>v. Identify why PCSM Standard Worksheet #11 has been provided. PCSM Standard Worksheet # 11 is to only be provided if the volume reduction cannot be met. § 102.8(f) (15)</p>	<p><i>description of how the storage volume was calculated is provided in Appendix G.8.</i></p> <p>i.</p> <p>i. PCSM Standard Worksheet #2 has been completed. <i>No credit is taken for protected areas.</i> along with the associated resource map</p> <p>ii. PCSM Standard Worksheet #4 has been revised to use consistent Managed Areas.</p> <p>iii. PCSM Standard Worksheet #5 has been updated to latest version. The design narrative has been revised to more clearly describe how the volume is reduced within the MLV pad. <i>The MLV Storage Volume Analysis is located in Appendix G.8.</i></p> <p>iv. The proposed vegetated swale is not to be utilized for water quality. The proposed channels control at least 90% of the disturbed site area and are designed to meet the requirements of Control Guideline 1 in conjunction with the MLV site detention. The callouts for the swales have been revised to be with <i>either</i> "Vegetated Channel for Infiltration Purposes" or "Vegetated Channels for Diversion Purposes" to clarify that the swales are not water quality swales. The required plan information is provided on Sheet 3 of 3 at the beginning of the PCSM Plans.</p> <p>v. PCSM Standard Worksheet #11 has been removed.</p>
20	<p>For temporary access road AS-LE-038 (Appendix H), the narrative identifies the Watershed as Quittapahilla Creek; however, PCSM Standard Worksheet # 1 identifies the receiving surface water as an UNT to Quittapahilla Creek. Clearly and consistently identify the receiving surface water. § 102.8(1)(5)</p>	<p>The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p>

21	<p>The following technical deficiencies are associated with Appendix L:</p> <p>a. The narrative identifies the Watershed as Quittapahilla Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Quittapahilla Creek. Clearly and consistently identify the receiving surface water. § 102.8(1)(5)</p>	<p>The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p>
22	<p>The following technical deficiencies are associated with Appendix L:</p> <p>a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(1)(5)</p>	<p>The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p>
23	<p>For temporary access road AS-LE-047 (Appendix N), the narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet # 1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(1)(5)</p>	<p>The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p>
24	<p>For temporary access road AS-LE-049 (Appendix O), the narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(1)(5)</p>	<p>The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p>
25	<p>For temporary access road AS-LE-050 (Appendix P), the narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Qureg Run. Clearly and consistently identify the receiving surface water. § 102.8(1)(5)</p>	<p>The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p>

<p>26</p>	<p>The following technical deficiencies are associated with Appendix Q:</p> <ul style="list-style-type: none"> a. The narrative identifies the Watershed as Forge Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Forge Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5) b. The narrative identifies that site specific infiltration testing and soil probes have not been performed, but that prior to construction infiltration testing will be completed. This is not an adequate predevelopment site characterization and assessment of soil and geology. If infiltration is proposed for the design, then perform an adequate predevelopment site characterization and assessment of soil and geology. § 102.8(g)(1) c. The regulatory requirement is to manage post construction stormwater for storm events of a 24-hour duration. Make all revisions to appropriately identify the storm events. §§ 102.8(g)(2) & 102.8(g)(3) d. It is identified that the PCSM/SR BMPs were designed to the requirements of Control Guideline 1 (CG-1). CG-1 is a recommended post construction stormwater management from the PCSM Manual; however, the regulatory requirement to control post construction stormwater is 25 Pa. Code §§ 102.8(g)(2) & 102.8(g)(3) (in addition to other sub-sections of 25 Pa. Code § 102.8 and sections of 25 Pa. Code § 102). Make all revisions to appropriately identify the regulatory requirements for post construction stormwater management. e. Permanent access road AR-LE-050.1.1 proposes an offsite discharge to areas other than surface waters. Provide the information required as identified in the attached Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124) as part of the PCSM Plan. §§ 102.8(1)(9) & 102.8(1) (15) f. The following technical deficiencies are associated with Appendix Q.3: 	<p>The revised Application submittal will has the following revisions:</p> <ul style="list-style-type: none"> a. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water. b. Infiltration testing completed since the last submittal has been incorporated into the stormwater design. Infiltration testing is contingent on obtaining access permission to the site. Transco has not been granted access to the proposed MLV site at access road AR-LE-050.1.1 AR-CO-095.1.1.3. Therefore, no infiltration is available at this time for AR-LE-050.1.1. c. Calculations have been performed using storm events of a 24-hour duration. The narrative has been revised to appropriately identify the storm events. d. Section 1.8 of the access road PCSM Narrative The revised Application submittal has been modified to appropriately identify the regulatory requirements for PCSM. e. A description of the flow path downhill of the rip rap apron has been added to the road narrative per consistent with Item 15 on Page 161 and Appendix G of E&S Manual and the provided Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124).
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	<p>i. The following technical deficiencies are associated with the drainage area map: §§ 102.8(f)(8) & 102.8(f)(9)</p> <ol style="list-style-type: none"> 1. Provide additional contour labels. 2. The drainage area map identifies a Curve Number of 79; however, the calculations identify a Curve Number of 72. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4) 3. The Time of Concentration identified on the plan view does not match the legend. 4. Identify what the inner delineated drainage area represents. 5. Identify what the dimensions are for. <p>ii. The utilized rainfall data for the storm events does not match the rainfall data provided by NOAA Atlas 14. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)</p> <p>g. The following technical deficiencies are associated with Appendix Q .4:</p> <ol style="list-style-type: none"> i. Provide contour labels with the drainage area map. § 102.8(f)(9) ii. How was the storage for the MLV Pad calculated for the hydrograph routing calculations? The total volume identified does not appear to match any of the other volumes identified for this facility. Make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4) 	<p>f.</p> <ol style="list-style-type: none"> i. <ol style="list-style-type: none"> 1. Contour information including labels, has been added to the Drainage Area Maps. 2. CN values have been removed from Drainage Area Map to be consistent with all other maps. HydroCAD model has been checked for correct CN value. 3. The Drainage Area Map has been revised so the Tc shown is consistent with legend. 4. The inner delineated drainage area is the area draining to the MLV pad. The drainage area map has been updated to clarify the areas. 5. The dimensions have been removed from the drainage area map. ii. Rainfall intensity is taken from PennDot Publication 584, which pulls from NOAA Atlas 14 V3. For a 24-hour storm event in Lancaster County, BL referenced Map F to identify the rainfall region. The access roads in Lancaster County are located within Region 4. Therefore, BL used the rainfall intensities for the 1, 2, 5, 10, 25, 50, and 100-year storms from the Region 4 table. The rainfall intensity has been revised and are now taken from NOAA Atlas 14. <p>g.</p> <ol style="list-style-type: none"> i. Contour information including labels, has been added to the Drainage Area Maps. ii. The storage volume provided by the pad is consistent across all worksheets and HydroCAD model. The narrative has been expanded to include how the volumes were calculated for the MLV pad. The MLV Storage Volume Analysis is located in Appendix Q.8.
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	<p>h. The following technical deficiencies are associated with Appendix Q.5:</p> <ul style="list-style-type: none"> i. Complete PCSM Standard Worksheet #2, by identifying if there are or are not mapped existing natural sensitive resources. § 102.8(g)(1) ii. PCSM Standard Worksheet #4 identifies a Managed Area of 0.92 acres; however, an area of only 0.65 acres is analyzed. Clarify this discrepancy. §§ 102.8(f)(8) & 102.8(g)(2) iii. Utilize the latest version of the PCSM Standard Worksheets #5. How was the volume to be permanently reduced of 2,528 cf calculated for the MLV Pad? §§ 102.8(f)(8), 102.8(f) (15) & 102.8(g)(2) v. Identify why PCSM Standard Worksheet # 11 has been provided. PCSM Standard Worksheet # 11 is to only be provided if the volume reduction cannot be met. § 102.8(f) (15) i. Provide dewatering calculations for all of the PCSM BMPs. § 102.8(f)(8) j. It appears that based upon the grading around the MLV Pad shown on the plan drawings that concentrated flow will result. Provide stability calculations for this area of concentrated flow. Provide calculations which demonstrate that the flow depth does not result in drainage area contributing to the MLV Pad BMP. § 102.8(f)(8) 	<ul style="list-style-type: none"> h. <ul style="list-style-type: none"> i. PCSM Standard Worksheet #2 has been completed. No credit is taken for protected areas. along with the associated resource map. ii. PCSM Standard Worksheet #4 PCSM Standard Worksheet #4 has been revised to use consistent Managed Areas. iii. PCSM Standard Worksheet #5 PCSM Standard Worksheet #5 has been updated to latest version. The design narrative has been revised to more clearly describe how the volume is reduced within the MLV pad. The MLV Storage Volume Analysis is located in Appendix Q.8. iv. PCSM plan and notes have been revised to include all require information from PCSM Standard Worksheet #10. v. PCSM Standard Worksheet #11 has been removed. i. Design narrative has been revised to more clearly describe how dewatering for the MLV Pad was calculated. Calculations have also been added to PCSM Standard Worksheet #5. j. The design has been revised to remove the concentrated flow. <ul style="list-style-type: none"> i. Calculations have been performed and no changes to design are required PCSM plan and notes have been revised to include all require information from PCSM Standard Worksheet #10. ii. PCSM Standard Worksheet #11 has been removed.
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27	<p>The following technical deficiencies are associated with Appendix R:</p> <ul style="list-style-type: none"> a. The narrative identifies the Watershed as Forge Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Forge Creek. Clearly and consistently identify the receiving surface water. It appears that Forge Creek and an UNT to Forge Creek are the receiving surface waters for this site/location. § 102.8(f)(5) b. The Location Map does not properly identify Forge Creek (it is identified as an UNT to Forge Creek). Properly identify the receiving surface waters. § 102.8(f)(5) 	<ul style="list-style-type: none"> a. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water. b. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.
28	<p>The following technical deficiencies are associated with Appendix S:</p> <ul style="list-style-type: none"> a. There appears to be no discussion or stormwater management analysis for the permanent access road. Provide the all 'necessary information related to the post construction stormwater management for this permanent access road. § 102.8 	<p>The access road is an existing gravel road requiring no improvements. The narrative has been revised to further clarify that no improvements are proposed</p>
29	<p>The following technical deficiencies are associated with Appendices T & U:</p> <ul style="list-style-type: none"> a. The narrative identifies the Watershed as Trout Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Trout Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5) 	<p>The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p>
30	<p>The following technical deficiencies are associated with Appendix V:</p> <ul style="list-style-type: none"> a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5) b. There appears to be no discussion or stormwater management analysis for the permanent access road. Provide the all necessary information related to the post construction stormwater management for this permanent access road. § 102.8 	<ul style="list-style-type: none"> a. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water. b. The access road is an existing road requiring no improvements. The narrative has been revised to further clarify that no improvements are proposed

31	<p>The following technical deficiencies are associated with Appendix W:</p> <ul style="list-style-type: none"> a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet # 1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5) 	<p>The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p>
32	<p>The following technical deficiencies are associated with Appendix X:</p> <ul style="list-style-type: none"> a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet # 1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5) 	<p>The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p>
33	<p>The following technical deficiencies are associated with Appendix Y:</p> <ul style="list-style-type: none"> c. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet # 1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5) d. The narrative identifies that access road as temporary; however, the overall table on Page 6 of the main narrative identifies the access road as permanent. Clarify this discrepancy. § 102.8(f)(3) e. There appears to be no discussion or stormwater management analysis for the permanent access road. Provide the all necessary information related to the post construction stormwater management for this permanent access road. § 102.8 	<ul style="list-style-type: none"> c. The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water. d. The main narrative has been updated to identify AR-LE-057 as a temporary access road. e. The access road is a temporary road, therefore no stormwater management analysis is required.
34	<p>For temporary access road AS-LE-059.1 (Appendix Z), the narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)</p>	<p>The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water.</p>

35	<p>The following technical deficiencies are associated with Appendix AA:</p> <ul style="list-style-type: none"> a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5) 	<p>The narrative and Standard Worksheet #1 have been revised to consistently identify the watershed and receiving surface water</p>
Luzerne County		
1	<p>AR-LU-007.1:</p> <ul style="list-style-type: none"> a. Please provide the operation and maintenance procedures for main line valve pad. § 102.8(f) (10) b. Please provide information on what procedures will be taken should the soil become compacted during construction compacted during construction of the main line valve pad. § 102.8(f)(8) c. Please provide the infiltration period (draw down time) for the proposed infiltration BMP. § 102.8(f)(8) 	<ul style="list-style-type: none"> a. The operation and maintenance procedures for main line valve pad has been added to the Section 1.10 of the PCSM Narrative, Erosion and Sediment Control Plan and Site Restoration Plan Narrative, Temporary and Permanent Access Roads, Appendix G AR-LU-007.1 Specific Narrative and Calculations, (G.1 Site Specific Narrative). b. A discussion on soil compaction has been added to the Road-specific construction sequences in the road-specific narratives. c. The infiltration period (draw down time) has been provided at the bottom of Worksheet #5 in Appendix G.7. Infiltration testing results are provided in Appendix G.9. The infiltration period (draw down time) has been provided in Erosion and Sediment Control Plan and Site Restoration Plan Narrative, Temporary and Permanent Access Roads, Appendix G AR-LU-007.1 Specific Narrative and Calculations, (G.1 Site Specific Narrative). Infiltration testing results are provided in Appendix G.9.

2	AR-LU-009.1 - Please provide all necessary calculations for the proposed volume and water quality BMPs. § 102.8(f)(8)	A rock construction entrance with downhill compost filter sock is proposed for AR-LU-009.1, which follows Creekside Lane, an existing road in good condition. No further improvements are proposed. E&S Worksheet #1 was used to calculate required compost filter sock size, and is included in the Erosion and Sediment Control Plan and Site Restoration Plan Narrative, Temporary and Permanent Access Roads, Appendix J AR-LU-009.1 Specific Narrative and Calculations, (J.3 Sediment Barrier Table).
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<p>3</p>	<p>North Diamond Regulator Station:</p> <ul style="list-style-type: none"> a. Since it is designed to meet the Luzerne County Act 167 Stormwater Management Plan, please provide a consistency letter or the Luzerne County Act 167 Stormwater Management Plan for it to be reviewed accordingly. § 102.8(g)(2) b. Credit may not be taken for multiple BMPs that are located within one another. Each BMP have certain criteria and even though these design criteria may overlap, that actual BMPs may not overlap. Each BMP must remain separate. The BMPs may be used in series or parallel of one another but credit may not be taken for BMPs that appear to be within one another. It appears this has occurred with the rain garden and the soil amendments BMPs. Please review these BMPs and revise all documentation as applicable. § 102.8(f)(6), § 102.8(f)(8), § 102.8(f)(9) c. The calculations show that there will be an increase in volume from the existing to proposed conditions. Please provide an analysis as to why the total volume increase cannot be mitigated through the use of other volume control BMPs. § 102.8(f)(8) d. Please provide the calculations for the proposed check dams. § 102.8(f)(8) e. Please provide details for the proposed check dams. The details should include all elevations, dimensions, sizes, depths, slopes, materials, products, cross sections, notations for construction and any other applicable information necessary to construct this BMP. § 102.8(f)(9) f. Please provide the maximum impervious loading ratio of 5:1 (impervious area to infiltration area) and a total loading ratio of 8:1 (total drainage area to infiltration area) for each infiltration BMP. § 102.8(f)(8) 	<p>The revised Application submittal will:</p> <ul style="list-style-type: none"> a. Includes a stormwater consistency analysis. See <i>Post Construction Stormwater Management / Site Restoration Plans Narrative, Phase 2, North Diamond Regulator Station, Section 1.4 Stormwater Management Calculation Methodology & Net Change in Volume and Rate of Runoff.</i> b. Clarifies that no credits are taken for PCSM BMPs located within another PCSM BMP. See <i>PCSM detail sheets and Post Construction Stormwater Management / Site Restoration Plans Narrative, Phase 2, North Diamond Regulator Station, Appendix A.5 Water Quality Worksheets.</i> c. Provides a more in depth discussion of the Site limitations precluding the reduction of post construction runoff volume. See <i>Post Construction Stormwater Management / Site Restoration Plans Narrative, Phase 2, North Diamond Regulator Station, Section 1.4 Stormwater Management Calculation Methodology & Net Change in Volume and Rate of Runoff.</i> d. Provides calculations for the proposed check dams. See <i>Appendix A.4 Post Construction Stormwater Management / Site Restoration Plans Narrative, Phase 2, North Diamond Regulator Station, Appendix A.4 PCSM BMP Calculations.</i> e. Provide calculations for the proposed check dams. Provides additional details on the Soil Erosion and Sediment Control And Layout Plans For North Diamond Regulator Station & Associated Permanent Access Roads sheets 12 and 13 and the Post Construction Stormwater Management Plans For North Diamond Regulator Station & Associated Permanent Access Roads sheet 8. See plan Sheet 8 of 8. f. includes a revised infiltration loading discussion in <i>Post Construction Stormwater Management / Site Restoration Plans Narrative, Phase 2, North</i>
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		<i>Diamond Regulator Station, Appendix A.4 PCSM BMP Calculations.</i>
1	TAR AR-SU-044 - Please show the proposed contours for the roadway on the Plans and Profile details. § 102.8(f)(9)	The intent of the plan and profile drawing is to depict the vertical and horizontal geometry of the access roads. Any proposed grading is included in the plan view of the Erosion and Sedimentation Control Drawings.
2	<p>AR-SC-063:</p> <ul style="list-style-type: none"> a. Please be advised that swales with a slope of 6 percent are not acceptable as a water quality BMP. Vegetated swales with slopes greater than 3 percent and less than 6 percent are acceptable as a water quality BMP if check dams are provided and designed according to the Pennsylvania Stormwater Best Management Practices Manual, November 2006, Chapter 6, vegetated swales. Please check that all vegetated swales being utilized as a water quality or volume control post construction stormwater management BMP are within this requirement. § 102.8(f)(8) b. Please provide the following notations on the PCSM plan: § 102.8(f)(9) <ul style="list-style-type: none"> i. The protected area should be located, delineated and labeled on the PCSM plan. ii. The protected area should not be subject to grading or movement of existing soils. iii. The protected area should not allow existing native vegetation to be removed. iv. Pruning or other required maintenance of vegetation is allowed in the protected area. v. Additional planting of native vegetation in the protected area is allowed. vi. The protected areas should be clearly delineated in the field and protected prior to construction activities taking place. vii. Should the protected areas become compacted or disturbed during construction, soils amendment and restoration may be required. 	<ul style="list-style-type: none"> a. The swales have been revised to be less than 6% to meet the requirements of the Pennsylvania Stormwater Best Management Practices Manual, November 2006, Chapter 6, vegetated swales. b. Response for i through vii: There are no Areas of Protected Sensitive/Special Value Features. The Area of Minimum Disturbance/Reduced Grading is located, delineated, and labeled on the PCSM plan.

3	There are two main line valve sites that are proposed for this project in Schuylkill County; however, there are not any Plans or calculations provided for the sites. Please provide all necessary information regarding these sites. § 102.8(f)	The plans and calculations for the main line valve sites in Schuylkill County are provided in the appendices of the PCSM report. The calculations for AR-SC-063 are included in Appendix J, and the calculations for AR-SC-073.5 are included in Appendix V.
4	AR-SC-73.5-The loading ratios for the proposed check dams exceed the maximum. Please provide information on how water quality will be maintained with the loading ratios being exceeded. § 102.8(f)(8)	The designs for the permanent access roads to MLV sites have been revised to meet the maximum impervious loading ratio of 5:1 (impervious area to infiltration area) and a total loading ratio of 8:1 (total drainage area to infiltration area) for each infiltration facility.
Wyoming County		
1	<p>AR-WY-028:</p> <ul style="list-style-type: none"> a. Please provide the calculations for the swale and check dams. § 102.8(f)(8) b. The proposed PCSM BMP "Stone Pad Void Storage" must have an operation and maintenance procedures to ensure that the BMP will function properly over the life of the project. § 102.8(f) (10) c. Credit may not be taken for multiple BMPs that are located within one another. Each BMP have certain criteria and even though these design criteria may overlap, that actual BMPs may not overlap. Each BMP must remain separate. The BMPs may be used in series or parallel of one another but credit may not be taken for BMPs that appear to be within one another. Please review these BMPs and revise all documentation as applicable. § 102.8(f)(6), § 102.8(f)(8), § 102.8(f)(9) d. Please provide the infiltration period (draw down time) for the proposed infiltration BMP§ 102.8(f)(8) 	<ul style="list-style-type: none"> a. The plans and calculations for the main line valve sites in Wyoming County are provided in the appendices of the PCSM report. The calculations for AR-WY-028 are included in Appendix K. b. The narrative has been updated to include operation and maintenance procedures for the MLV stone pad. c. BMPs have been designed as separate entities and credit is counted separately. d. The infiltration period (draw down time) has been provided in the Site Specific Narrative (Appendix K.1). Infiltration testing results are provided in Appendix K.9.

<p>2</p>	<p>Compressor Station 605</p> <ul style="list-style-type: none"> a. Please provide a cross section for Basin 2. § 102.8(f)(9) b. Please provide the infiltration period (draw down time) for the proposed infiltration BMP§ 102.8(f)(8) c. Please show the impoundment for all infiltration BMPs (Berms 1 and 2). § 102.8(f)(9) d. Please provide the anti-seep collar for the basin along with all applicable calculations in the PCSM report and details on the PCSM plans. § 102.8(f)(8), § 102.8(f)(9) e. Please provide the maximum impervious loading ratio of 5:1 (impervious area to infiltration area) and a total loading ratio of 8:1 (total drainage area to infiltration area) for each infiltration berm and the infiltration basins. § 102.8(f)(8) f. Separate worksheets must be submitted for each watershed within the project boundaries. 102.8(f)(4) g. Credit may not be taken for multiple BMPs that are located within one another. Each BMP have certain criteria and even though these design criteria may overlap, that actual BMPs may not overlap. Each BMP must remain separate. The BMPs may be used in series or parallel of one another but credit may not be taken for BMPs that appear to be within one another. This appears to be the case with the infiltration berms and infiltration basins. Please review these BMPs and revise all documentation as applicable. § 102.8(f)(6), § 102.8(f)(8), § 102.8(f)(9) 	<p>The revised Application submittal will:</p> <ul style="list-style-type: none"> a. Provides the referenced cross section on PCSM detail sheet-9 of 10. b. Provides draw down time calculations for the proposed infiltration BMPs in PCSM narrative App. A.6 c. Shows the impoundment footprints for Berms- basins 1 and 2 and all infiltration berms on PCSM plan-Sheet 4 of 10. d. Provides anti-seep collars for proposed basins on PCSM detail sheet-6 of 10 and in PCSM narrative App. A.4 e. See the response to the General PCSM- Technical Deficiencies related to all documents- Technical Deficiency 17. Includes a revised discussion of infiltration loading ratios in the PCSM narratives App.A.6 f. Provides separate worksheets for each watershed in the PCSM narrative App. A.5 g. Clarify Clarifies that no credits are taken for PCSM BMPs located within another PCSM BMP. See revised PCSM detail sheets and PCSM narrative App.A.5
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<p>3</p>	<p>Meter Station in Wyoming County</p> <ul style="list-style-type: none"> a. Please provide the maximum impervious loading ratio of 5:1 (impervious area to infiltration area) and a total loading ratio of 8:1 (total drainage area to infiltration area) for each infiltration BMP. § 102.8(f)(8) b. The 100-year water surface elevation is higher than the emergency spillway elevation for the proposed basin. Please be advised that there should be a minimum of 6 inches between the 100-year water surface elevation and the emergency spillway crest elevation. § 102.8(f)(8) c. Please show the proposed disconnection areas on the PCSM Plans. § 102.8(f)(9) 	<p>The revised Application submittal will:</p> <ul style="list-style-type: none"> a. See the response to the General PCSM Technical Deficiencies related to all documents Technical Deficiency 17. Provides a revised discussion of infiltration loading ratios in PCSM Narrative Section A.6 b. Provides a revised basin design to provide the required freeboard. Refer to PCSM detail sheet 6 of 6 and PCSM narrative App. 8.2 A.2 c. Shows the disconnection areas on the PCSM Plans Sheet 3 of 6.
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