

August 1, 2018

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**DEP FILE E02-1773**  
**Falcon Ethane Pipeline System**  
**Response to Technical Deficiency Letter — Allegheny County**

Dear Mr. Snyder:

On behalf of Shell Pipeline Company LP (SPLC), AECOM Technical Services, Inc. (AECOM) has prepared the following responses to the PADEP comments dated June 1, 2018. AECOM is submitting two hard copies and two electronic copies of this comment/response letter and revised documents for the Falcon Ethane Pipeline System (Project) per the discussion held with PADEP, SPLC, and AECOM on June 1, 2018. Please add/replace these documents in your existing hard copies. Per previous discussion with Josh Shaffer at the Army Corps of Engineers (Corps) and with respect to the Corps' effort to reduce paper, the Corps' copy of this comment/response letter will be uploaded to the Corps' SAFE file upload site. The technical deficiency letter, as requested, is included with this submission as Attachment A.

1. *The answer to Question No. 5.3, on your GIF, in the Coordination Information section, indicates that this project involves a floodplain project by the Commonwealth, a political subdivision of the commonwealth or a public utility. Identify and describe the floodplain project and the entity that is conducting this activity, pursuant to Sections 106.3 and 106.11(a), of the Department's Chapter 106 rules and regulations. Additional information may be required, pending your response to this item.*

**This item was checked “yes” because SPLC thought it was required to be checked “yes” since the pipeline was going through a floodway. However, this Project is not a floodplain project by the Commonwealth, a political subdivision of the Commonwealth, or a public utility so Question No. 6.0 is not applicable to this Project. As a result, the answer was changed to “No.” Page 5 of the revised GIF form is provided in Attachment B.**

2. *The answer to Question No. 6.0, on your GIF, in the Coordination Information section, indicates that this project involves a discharge of stormwater or wastewater from an industrial activity. Identify and describe this industrial discharge, pursuant to Sections 105.14(b)(6) and 105.24(a), of the Department's Chapter 105 rules and regulations. Please be aware that additional permits may be required from the Department, pending your response to this item.*

**The “yes” answer was in response to water that would be discharged due to hydrostatic testing. SPLC and AECOM are aware that a PAG-10 will be required for this activity. As a result, a PAG-10 permit was submitted on July 27, 2018 to Mr. Mike Fifth at the PADEP, and it identifies and describes the discharges associated with hydrostatic testing.**

3. *Regarding your wetland investigation, revise your delineation report to include the results of your investigation to determine the presence of wetlands within your project area that are identified by the US Fish & Wildlife Service's National Wetlands Inventory (NWI) data system (Wetlands Mapper), and provide supporting data sheets, pursuant to Section 105.13(e)(1)(x), of the Department's Chapter 105 rules and regulations.*

**There was one PEM1E NWI wetland within the wetland delineation study area that did not have data taken for it because no wetland was evident at the time of the study. When AECOM wetland scientists wanted to return to the site to gather additional data they could not because the landowner decided that they did not want a pipeline on their property and denied access. As a result, no data were collected. This NWI wetland is located outside of the Project LOD as seen in the screenshot below.**



4. *Regarding your wetland investigation, provide a means to match the off-line wetland data sheets with the sampling point locations that are shown on the study area maps in your environmental assessment, pursuant to Section 105.13(e)(1)(x), of the Department's Chapter 105 rules and regulations.*

**The offline data sheets have now been placed in the order that they are in on Tables 3 (Wetlands) and 4 (Watercourses) in the Wetland and Watercourse Delineation Report instead of by date. These data sheets are provided in Attachments C (Wetlands) and D (Watercourses).**

5. *Pursuant to Sections 105.13(a) and 105.13(e)(1)(x) of the Department's Chapter 105 rules and regulations, revise Module S2, Section D.I.iv, to discuss the riverine resource type(s) and condition(s) as they relate to the inherent functions including, but not limited to, those associated with hydrological, biogeochemical and habitat attributes. Include any recreational uses when applicable. Currently, this section provides a general discussion on project effects (which is also discussed in a Section in Module S3), rather than a discussion of the inherent functions of the identified-riverine resources that is requested in this section of Module S2.*

The Pennsylvania Function Based Aquatic Resource Compensation Protocol Draft Version 1.0 was utilized in the Joint Permit Application. This protocol combines hydrogeomorphic (HGM) functions into four function groups for wetlands: Hydrologic, Biogeochemical, and Habitat, which is what was discussed in the functional assessment for the Application. However, this was determined, as stated in the DEP comment above, not to be a sufficient analysis. Additionally, in contrast to prior instruction, DEP is requiring that all impacts to streams be addressed, not just permanent impacts. As a result, all the impacted streams will be discussed.

As described in SPLC's permit application, including its Project-Wide Comprehensive Environmental Report (CEA) for Pennsylvania, all stream impacts will be temporary and no permanent stream fills are proposed. SPLC has determined that all the stream crossings will be conducted utilizing either HDD, conventional bore, dam and pump or flume. The dam and pump or flume method divert the flow around the construction area during construction so that flow is not interrupted, and construction can be completed in dry conditions, thus limiting the amount of sediment downstream. A list of these streams is provided in the Impact Table included as Attachment D. As Pennsylvania has no approved functions and values assessment method for streams, each of the four function groups discussed in the Function Based Aquatic Resource Compensation Protocol Draft Version 1.0 will be expanded to discuss all the individual functions that each group comprises. This results in:

- The Hydrologic Function Group includes the floodplain storage capacity, energy dissipating characteristics, geomorphic channel stability, sediment transport processes, and maintaining characteristic watershed hydrologic dynamics such as seasonal and storm flow patterns. These functions are driven by channel characteristics and accessibility to the floodplain, along with contributory watershed conditions.
- The Biogeochemical Function Group includes the biogeochemical processes, which consist of temperature regulation, and nutrient and organic matter cycling. These functions are typically driven by the type and quality of riparian vegetation and the root system's interaction with groundwater.
- The Habitat Function Group includes instream habitat including providing for the life requirements of vertebrates, invertebrates, and plants that are located within or on the banks of a watercourse. Chapter 93 protected uses are used to categorize general habitat types.
- The Recreation or Resource Support Function Group is a dual function group that is driven by either public recreational opportunities (fishing, boating, swimming, etc.) or the chemical, physical, and biological attributes that contribute to maintaining downstream water quality designation and uses. These water quality designations and uses should be categorized using Chapter 93's protected uses and special protection waters.

The streams will first be categorized by classification and then by Chapter 93 designated use, since there are no Chapter 93 existing uses for streams in the Project Area, or special protection water status. Perennial streams are those stream reaches that contain year-round flow and a diverse benthic macroinvertebrate community, with long aquatic life stages (mayflies, stoneflies, or caddisflies) or with permanent aquatic life stages (freshwater mussels), that dominate the stream. Intermittent streams are streams possessing seasonal flows and benthic macroinvertebrate communities with short aquatic life stages such as midges. Ephemeral streams are streams that flow only in response to precipitation events or snow melt. They do not have a benthic macroinvertebrate community.

Twenty-eight of the 30 streams within the Allegheny County portion of the Project Chapter 93 Designated Use of Warm Water Fishes (WWF). This means that the stream maintains and propagates flora and fauna indigenous to warm water habitat, such as catfish, bluegill, and other sunfish. The remaining two streams have Chapter 93 Designated Aquatic Life Use of Trout

**Stocking (TSF).** This entails the maintenance of stocked trout from February 15 to July 31 and the maintenance and propagation of fish species and additional flora and fauna which are indigenous to a warm water habitat. However, it should be noted that the PA Fish and Boat Commission does not list these streams, or any within the Project Area, as Trout Stocked.

### Perennial

**Hydrologic and Biogeochemical:** The perennial streams within the Project Area are typically wider streams with a larger floodplain storage capacity. The floodplains are well vegetated, often containing wetlands, which enables the floodplains to dissipate the energy associated with flooding events. Given that they are larger streams with continuous flow and typically a more stable channel, they have the capability to maintain both seasonal and storm flow patterns, as well as to transport any sediment that may be washed into them because of storm events. They receive flow and runoff from tributaries and the surrounding landscape and within their watershed, which helps to maintain the balance within the overall watershed. As stated above, they typically have thick vegetation in the floodplain and many of the flora have deep root systems (like skunk cabbage) that interact with the groundwater system and contribute to biogeochemical processes. The constant flow allows for nutrients and organic matter like fallen leaves to be recycled and broken down for further use in the food chain.

**Habitat:** Most of these perennial streams are capable of supporting their Chapter 93 designations because they are large enough and possess enough flow to maintain the proper temperature to support the vertebrates that live within them. As stated above, most of the streams have been designated as WWF. Given that they are larger streams with year-round flow, they have the capability to maintain a constant temperature and support fish species such as catfish and bluegill. Warm water fishes are more tolerant than their cold-water counterparts and as a result, WWF streams typically have a more stable habitat type and can tolerate temperature fluctuations and changes in turbidity easier than CWF streams. The perennial stream floodplains are wide enough to support a wide diversity of botanical species which provide food, resting, escape cover, and nesting/roosting opportunities for a variety of animals. Potato Garden Run is heavily impacted with abandoned mine drainage (AMD) so it is likely it does not fully support its Chapter 93 designation. If any species are present within these waters, they are species that are highly pollution tolerant.

**Recreation:** Potato Garden Run is the only named perennial stream within the Project Area. Given the AMD pollution, it is highly unlikely that it will provide any recreational opportunities such as fishing or boating. The other streams are slightly smaller and most likely would not provide opportunity for boating; however, some fishing opportunities may be available to individual landowners as these streams are located on private property. Although WWF streams typically do not contain trout, several game species occur within them, making WWF streams suitable for fishing. However, many of the unnamed tributaries to Potato Garden Run within the Project Area are also heavily impacted with AMD and as a result, fishing would not occur in these streams. As perennial streams, they do have the ability to maintain downstream water quality due to their large sizes and continual flow, which will enable them to maintain their Chapter 93 designated uses throughout their reach. This is true even during construction given that flow will be maintained throughout construction. However, this would be only possible for the streams which are not polluted with AMD.

A list of the Project's perennial streams and their Chapter 93 designations is below.

Resource Crossing	Feature ID	Stream Name	Ch. 93 Designation
10	S-PA-161205-WRA-004	UNT to Potato Garden Run	WWF
15	S-PA-151117-NLS-003	Potato Garden Run	WWF
18	S-PA-151202-MRK-003	UNT to Potato Garden Run	WWF
28	S-PA-151111-MRK-003	UNT to Potato Garden Run	WWF

Resource Crossing	Feature ID	Stream Name	Ch. 93 Designation
31	S-PA-151112-MRK-003	UNT to Potato Garden Run	WWF
32	S-PA-151112-MRK-003	UNT to Potato Garden Run	Floodway Only
33	S-PA-151112-MRK-002	UNT to Potato Garden Run	WWF
34	S-PA-151116-MRK-001	UNT to Potato Garden Run	WWF
35	S-PA-151116-MRK-003	UNT to Raredon Run	WWF
36	S-PA-151118-JLK-004	UNT to Raredon Run	WWF

Floodway Only designations apply to crossings where the impact occurs only in the floodway; no portion of the actual channel is impacted.

### Intermittent Streams

**Hydrologic and Biogeochemical:** The intermittent streams within the Project Area are small-to-medium-sized streams with some floodplain storage capacity. The floodplains are typically well vegetated, which enables the floodplains to dissipate energy associated with flooding events. They have seasonal flow and typically stable channels; therefore, they have the capability of maintaining both seasonal and storm flow patterns as well as transport sediment that may be washed into them because of storm events. However, they do not have as high of a capability as perennial streams due to the lack of year-round flow. Many of the unnamed tributaries to Potato Garden Run are located within reclaimed strip mine areas and were most likely formed either because of poor site reclamation or they were previously drainages that were used during mining activities. These streams do not have as high of an opportunity to dissipate energy because they are highly eroded. Some of the streams are located within a cow pasture as well and do not have thick vegetation due to browsing and mowing activities.

As stated above, some of the streams can have thick vegetation in the floodplain; the ones that do contain flora that have deep root systems that interact with the groundwater system which contribute to biogeochemical processes. During periods of flow, nutrients and organic matter like fallen leaves can be recycled and broken down for further use in the food chain.

**Habitat:** Intermittent streams may be capable of supporting their Chapter 93 designations during periods of flow if they possess enough flow to maintain the proper temperature to support the vertebrates that live within them. As discussed above, WWF are typically more stable streams capable of maintaining habitat for a variety of fish species. Depending on where in the watershed the intermittent stream is, such as if it is close to a confluence with a perennial stream, the floodplains can be wide enough to support a wide diversity of botanical species which provide food, resting, escape cover, and nesting/roosting habitat to a variety of birds and mammals.

**Recreation:** There are two intermittent streams with the Chapter 93 designation of TSF; however, it is unlikely that trout are present. This is not only true because these are intermittent streams, but these are two highly eroded streams located within reclaimed strip mine. They originated within the strip mine habitat and flow into a large pond that appears to have been a sediment pond during mining activities. They were also dry at the time of delineation. Therefore, it is highly unlikely that trout would be within these streams. There may be some opportunity for fishing within the larger intermittent streams if fish were present during periods of flow; however, it is unlikely residents would fish these streams. During periods of sufficient flow, the streams that flow into perennial streams would have ability to maintain downstream water quality, which would enable them to maintain their Chapter 93 designated uses throughout their reach.

A list of the Project's intermittent streams and their Chapter 93 designations is provided below.

Resource Crossing	Feature ID	Stream Name	Ch. 93 Designation
3	S-PA-170113-MRK-003	UNT to Little Raccoon Run	WWF
4	S-PA-170113-MRK-002	UNT to Little Raccoon Run	WWF
6	S-PA-161205-WRA-008	UNT to Potato Garden Run	TSF
7	S-PA-170207-MRK-004	UNT to Potato Garden Run	TSF
10	S-PA-170207-MRK-001	UNT to Potato Garden Run	Floodway Only
12	S-PA-161205-WRA-001	UNT to Potato Garden Run	WWF
13	S-PA-151117-NLS-004	UNT to Potato Garden Run	Floodway Only
17	S-PA-160405-JLK-001	UNT to Potato Garden Run	WWF
	S-PA-161206-WRA-001	UNT to Potato Garden Run	Floodway Only
19	S-PA-151202-MRK-002	UNT to Potato Garden Run	Floodway Only
	S-PA-151202-MRK-001		Floodway Only
23	S-PA-161213-MRK-001	UNT to Potato Garden Run	Floodway Only
24	S-PA-161220-MRK-001	UNT to Potato Garden Run	WWF
27	S-PA-161123-WRA-006 Crossing #1	UNT to Potato Garden Run	WWF
28	S-PA-161123-WRA-006 Crossing #2	UNT to Potato Garden Run	WWF
28	S-PA-161123-WRA-004	UNT to Potato Garden Run	WWF
29	S-PA-161122-WRA-001	UNT to Potato Garden Run	WWF
30	S-PA-160308-MRK-001	UNT to Potato Garden Run	WWF
34	S-PA-151116-MRK-002	UNT to Potato Garden Run	WWF
37	S-PA-151118-JLK-003	UNT to Raredon Run	WWF
38	S-PA-161207-WRA-003A	UNT to Raredon Run	WWF
	S-PA-161207-WRA-003		WWF
	S-PA-161207-WRA-002		WWF

Floodway Only designations apply to crossings where the impact occurs only in the floodway; no portion of the actual channel is impacted.

### Ephemeral Streams

**Hydrologic and Biogeochemical** The ephemeral streams within the Project Area are small streams with little floodplain storage capacity. They are typically located high within the watershed within steep valleys. Often the side slopes are steep and not well-vegetated. As a result, they do not have a high opportunity to dissipate energy associated with flooding events. Depending on where the streams are located, they can have highly erodible channels, such as in pastures, or have very steep rocky channels, such as within headwater forest systems. They do have some capability of maintaining receiving seasonal and storm flow patterns and can as transport sediment that may be washed into them because of storm events. However, they do not have as high of a capability as perennial or intermittent streams due to the lack of year-round flow. As stated above, they have narrow floodplains with little vegetation to interact with groundwater systems or to provide support to the food chain. However, during periods of high precipitation events, flushing flows can take organic matter and nutrients to larger streams to be recycled and broken down for further use in the food chain.

**Habitat:** Ephemeral streams typically are not capable of supporting their Chapter 93 designations given that they are dry throughout most of the year. They are generally assigned the same Chapter 93 designation as the main channel they are associated with, provided that



stream is assigned a “basin” designation in Chapter 93. Given that the ephemeral floodplains are minimal and ephemeral streams are typically steep with little vegetation adjacent to the channel, there is not a good opportunity to provide food, resting, escape cover, and habitat to birds and mammals. Additionally, given that no benthic macroinvertebrates occur within ephemeral streams, there is little opportunity for food chain production within the ephemeral channel itself.

**Recreation:** There would be no opportunity for fishing for any type of fish in an ephemeral stream. During periods of sufficient flow, the streams would have ability to maintain downstream water quality, which would enable them to maintain their Chapter 93 designated uses throughout their reach. As stated above, this is because flow during construction will not be impeded. During periods of low or no flow, the stream would not be capable of maintaining constant temperatures suitable to maintain their Chapter 93 designation by contributing to nutrient cycling, flow, and temperature regulation.

A list of the Project’s ephemeral streams and their Chapter 93 designations is provided below.

Resource Crossing	Feature ID	Stream Name	Ch. 93 Designation
1	S-PA-170113-MRK-007	UNT to Little Raccoon Run	Floodway Only
9	S-PA-161205-WRA-006	UNT to Potato Garden Run	WWF
10	S-PA-161205-WRA-003	UNT to Potato Garden Run	WWF
	S-PA-161205-WRA-003A	UNT to Potato Garden Run	WWF
14	S-PA-160315-NLS-001	UNT to Potato Garden Run	Floodway Only
28	S-PA-161122-WRA-004	UNT to Potato Garden Run	WWF
33	S-PA-151112-MRK-001A	UNT to Potato Garden Run	WWF

Floodway Only designations apply to crossings where the impact occurs only in the floodway; no portion of the actual channel is impacted.

#### **Stream Impact Overview**

Dry-crossing methods via the dam and pump or flume method will be utilized on all watercourse crossings, except for the streams crossed via HDD. Restoration and cleanup will commence as soon as practicable following construction completion. These activities include replacing grade cuts to original contours, seeding, fertilizing, and mulching to restore groundcover and minimize erosion. Temporary workspaces are stabilized to promote natural reversion toward their previous state. Completed stream crossings will be stabilized prior to returning flow to the channel from the dam/pump or flume diversion. Environmental Inspectors (EIs) will be on site during construction and restoration to ensure that the approved Best Management Practices (BMPs) are being followed according to the E&SCP.

This work can typically be conducted in two to three days and flow will be diverted around the work area during construction. As a result, the impact to hydrologic and biogeochemical stream functions is expected to be minimal and temporary. Construction will not be conducted during flooding events so impact to flood flow stabilization should not occur. Temporary increased sediment and turbidity may occur within the watercourses due to construction activities. However, appropriate BMPs, such as silt sock/fence as outlined in the ESCGP-2 Permit, will be implemented and utilized as necessary to minimize any temporary effect on water quality and resources during construction.

Habitat and food chain production will be temporarily impacted given that a 50-to-75-foot-wide construction ROW will be cleared. However, this impact should not be longer than one growing season while vegetation is recolonizing the ROW. Given that habitat and food chain production

will be temporarily impacted, any impact to in-stream habitat will also be temporary given that the streambed will be returned to pre-construction conditions as discussed above.

Recreation will be temporarily impacted as residents will not be able to access streams if there is active construction due to safety reasons. Additionally, due to noise and construction vehicle traffic, passive recreational activities such as hunting, hiking, and wildlife observation may not be suitable until restoration activities have been completed. Given that all stream crossing construction work is temporary, and restoration will commence as soon as possible following construction completion, the impact to recreation will also be minor and temporary.

6. *Pursuant to Sections 105.13(a) and 105.13(e)(1)(x) of the Department's Chapter 105 rules and regulations, revise Module S2, Section D.2.vi, to discuss the wetland HGM type(s) and condition(s) as they relate to the inherent functions including, but not limited to, those associated with hydrological, biogeochemical and habitat attributes. Include any recreational uses when applicable. Currently, this section provides a general discussion on project effects (which is also discussed in a Section in Module S3), rather than a discussion of the inherent functions of the identified wetland resources that is requested in this section of Module S2.*

**The Pennsylvania Function Based Aquatic Resource Compensation Protocol Draft Version 1.0** was utilized in the Joint Permit Application. This protocol combines hydrogeomorphic (HGM) functions into function groups for wetlands: Hydrologic, Biogeochemical, and Habitat, which is what was discussed in the functional assessment for the Application. However, this analysis was determined, as stated in the comment above, to be insufficient. Additionally, pursuant to DEP instruction, the JPA only addressed wetlands that will be permanently impacted. DEP is presently requesting that all impacted wetlands be addressed in this analysis. As Pennsylvania has no approved functions and values assessment method, the US Army Corps of Engineers New England District's The Highway Methodology Workbook Supplement, "Wetland Functions and Values a Descriptive Approach" (the "Highway Methodology") was utilized below to analyze wetland functions and values as this is an approved methodology used often in relation to mitigation work and has been found to be generally acceptable to PADEP and the US Army Corps of Engineers. The Highway Methodology addresses the following eight wetland functions:

- Groundwater recharge/discharge;
- Floodflow alteration;
- Fish and shellfish habitat;
- Sediment/toxicant/pathogen retention;
- Nutrient removal/retention/transformation;
- Production export;
- Sediment/shoreline stabilization; and
- Wildlife habitat.

The Highway Method also analyzes the following five values:

- Recreation;
- Education/scientific value;
- Uniqueness/heritage;
- Visual quality/aesthetics; and
- Threatened/endangered species habitat.

The following provides a summary of each HGM classification and those specific wetlands that fall within that classification. A list of all impacted wetlands is in the Impact Table provided as Attachment E. Additional information may also be found in the CEA. In short, as explained below, there will be no permanent impacts to PEM/PUB wetlands. PFO and PSS wetlands will incur some permanent conversion impacts in the form of a change of cover.

#### **Function/Values Relative to all HGM Classifications**



Regardless of the classification types detailed in further detail below, and relative to each specific wetland, there are functions and values that are inherent and similar to all HGM classifications as explained here.

Regarding wetland functions, the vegetation within these wetland HGM classifications may produce seeds which would serve as food for birds or small mammals. Additionally, deer will eat skunk cabbage and many waterfowl and other mammal species will eat cattail roots. Therefore, all wetland types may serve in a food production/ export function. The thick vegetation present in wetlands may also provide habitat (nesting, spawning, rearing—essentially where the species prefers to be), resting (during migration), or escape cover for various small mammals and birds. For those wetlands located adjacent or along streams, they have the capability to stabilize sediment and the streambank.

Regarding wetland values, all the wetlands along the alignment are located on private land, so there is not an opportunity for public recreation; however, individual landowners may use the area for small game hunting. It is very unlikely that fish are present in any of these wetlands given their locations. Additionally, no fish were observed during delineation. It is unlikely that any of these wetlands provide educational, uniqueness, or aesthetics values due to the small sizes and common vegetation. It is also unlikely that these wetlands provide habitat for threatened and endangered species such as the Indiana or the northern long-eared bat (which were determined to be potentially located within the project vicinity) in the PEM or PUB wetlands because there are no trees located within these wetlands. There is the potential for a bat to feed over a wetland/stream complex if there was an open corridor such as a utility line ROW. The ability for PSS or PFO wetlands to provide potential roosting habitat for bats is discussed further below.

#### **HGM Stratigraphic slope (SLs)**

The HGM classification Stratigraphic slope (SLs) includes wetlands that have a hydrology source derived from structural geological groundwater discharge from a distinct point(s) on a slope. This is further broken down into whether or not the soil is of mineral (n) or organic soil (g). In this Project, the wetland soils are of mineral origin, making the HGM classification SLsn.

The PEM wetlands within the Project area possessing HGM classification SLsn all have palustrine community mixed forb – graminoid wet meadow. A summary of these wetlands is presented below.

RC #	Resource
RC-5	W-PA-170113-MRK-001
RC-32	W-PA-160307-MRK-004
RC-34	W-PA-161020-MRK-001

Given that these wetlands are classified SLsn, they are connected to groundwater. As a result, they may serve as groundwater recharge or discharge areas. This characteristic also allows the wetlands to serve as floodflow storage and desynchronization areas during prolonged precipitation events.

The thick vegetation present in all three wetlands helps to reduce or prevent water quality degradation by allowing sediments or toxicants to be trapped within the system. They are also located along or adjacent to streams and as a result are capable of nutrient removal, retention, or transformation for any nutrients entering the stream.

#### **HGM Topographic slope (SLt)**

The HGM classification Topographic slope (SLt) includes wetlands that have water accumulating at the toe of a slope before discharging. This is then further broken down into soils of either organic (g) or mineral (n) origin. Again, these wetlands contain soils of mineral origin; therefore, the HGM classification is SLtn.

The PEM wetlands within HGM classification SLtn have palustrine communities ranging from mixed forb-graminoid wet meadow, mixed forb marsh, floodplain meadow, and sparsely vegetated vernal pool community. A summary of these wetlands is presented below.

RC #	Resource
RC-3	W-PA-170113-MRK-004
RC-7	W-PA-170207-MRK-003
RC-8	W-PA-170207-MRK-002
RC-20	W-PA-160401-MRK-008
RC-21	W-PA-160401-MRK-007
RC-23	W-PA-161213-MRK-003
RC-27	W-PA-170213-JLK-004
RC-28	W-PA-161122-WRA-002
RC-31	W-PA-160307-MRK-006
RC-33	W-PA-160307-MRK-003
RC-34	W-PA-160308-MRK-001
RC-35	W-PA-151116-MRK-003

These wetlands are located at the toe of a slope; as a result, they may serve as groundwater recharge areas. Some of them may intercept groundwater and would also serve as groundwater discharge areas. Their location at the toe of a slope also allows the wetlands to serve as floodflow storage and desynchronization areas during prolonged precipitation events.

The thick vegetation present within all the palustrine communities except for the sparsely vegetated vernal pool community helps to reduce or prevent water quality degradation by allowing sediments or toxicants to be trapped within the system. Wetlands W-PA-170207-MRK-002, W-PA-160401-MRK-008, and W-PA-160401-MRK-007 are isolated and as a result they do not have the opportunity to remove, retain or transform nutrients entering streams. The remaining wetlands however are located along or adjacent to streams and as a result are capable of nutrient removal, retention, or transformation for any nutrients entering the stream. Wetlands W-PA-170207-MRK-003 and W-PA-170207-MRK-002 were determined to be potential nesting habitat for the northern harrier. However, given that seasonal restrictions during the northern harrier nesting and rearing period will be adhered to, no impact will occur to nesting birds.

#### HGM Depression temporary (DFA)

The HGM classification Depression temporary (DFA) includes wetlands with no surface outlet, often because of being perched above the water table. The PEM wetlands within this HGM classification have the palustrine community of cattail marsh and woolgrass-mannagrass mixed shrub vernal pool. A summary of these wetlands is presented below.

RC #	Resource
RC-22	W-PA-160401-MRK-006

RC #	Resource
RC-25	W-PA-161220-MRK-002
RC-26	W-PA-161220-MRK-001

These are depressional wetlands and most likely do not have a connection to groundwater. Therefore, these resources most likely do not have the opportunity to serve as groundwater recharge or discharge areas. Their depressional nature would allow them to serve as floodflow storage and desynchronization areas during prolonged precipitation events.

The thick vegetation and the depressional wetland shape helps to reduce or prevent water quality degradation by allowing sediments or toxicants to be trapped within the system. All the wetlands are isolated and as a result they do not have the opportunity to remove, retain or transform nutrients entering streams.

Muskrats, beaver, and waterfowl will eat cattail roots. Therefore, these wetlands may serve in this specific production/export function. Additionally, if the depressions contained enough water in the spring, they may also serve as amphibian breeding habitat as some frog species will even lay eggs in tire ruts with water.

#### HGM Depression seasonal (DFC)

The HGM classification Depression seasonal (DFC) includes wetlands with infrequent surface water connections conveying channelized flow. Mixed Forb-Graminoid Wet Meadow and sedge-mixed forb fen were the palustrine communities present. A summary of these wetlands is presented below.

RC #	Resource
RC-2	W-PA-170113-MRK-005
RC-11	W-PA-161205-WRA-001

These are depressional wetlands and as result they would have the opportunity to serve as floodflow storage and desynchronization areas during prolonged precipitation events.

The thick vegetation present and the depressional wetland shape helps to reduce or prevent water quality degradation by allowing sediments or toxicants to be trapped within the system. W-PA-161205-WRA-001 is located adjacent to two streams. This location in the landscape provides the opportunity to remove, retain or transform nutrients entering the stream. W-PA-170113-MRK-005 is isolated however and does not have this opportunity.

Wetland W-PA-161205-WRA-001 was determined to be potential nesting habitat for the northern harrier. However, given that the seasonal restrictions will be adhered to, no impact will occur to nesting birds.

#### HGM Flat Mineral Soil (FLn)

This is a wetland type that has substrate of mineral origin. W-PA-151117-NLS-001 is the only wetland with this HGM classification and it is crossed twice, once with a temporary access road and once with an HDD. This is a very large, greater than ten-acre wetland that is associated with Potato Garden Run. It is heavily impacted with AMD and as a result, does not provide high opportunities for habitat or food production. Given its large size and location along a stream, it does provide opportunities for groundwater recharge or discharge areas or floodflow storage and desynchronization areas during prolonged precipitation events.

#### PEM/PUB Wetland Impact Conclusion

All of the wetlands discussed above in each of the HGM classifications are either PEM or PUB wetlands that will be temporarily impacted. Following construction each of the wetlands will be returned to their original contours as discussed in the original permit application and additional documents prepared in response to the PADEP TDLs. As a result, there will be no permanent impact to their functions or values. There may be some temporary impact to the functions while the seed mixes are germinating; however, that impact should not last more than one growing season.

#### **Forested and Scrub Shrub Wetlands Discussion**

Forested and scrub shrub wetlands traversed by the Project will have similar impacts as herbaceous wetlands; however, given that the vegetation in the permanent ROW will be maintained as herbaceous, conversion impacts will occur in the form of a change in cover. As a result, PSS and PFO wetlands are discussed separately from PEM; each of the PSS/PFO wetlands is discussed below as it relates to their specific conversion impact.

Given that all these wetlands contain trees or shrubs, they provide food, nesting/breeding areas, resting, and escape cover functions. No fish were present at any of these wetlands and it is very unlikely that fish would be present given the wetlands' location in the landscape. It is unlikely that any of these wetlands provide educational, uniqueness, or aesthetics values due to the small sizes and common vegetation. These wetlands are all located on private land, so they are not public sources for recreation, although the landowner may use the area for small game hunting. It is unlikely PSS wetlands would be desirable to any threatened or endangered species such as the northern long-eared bat due to either the type or tree diameter present and the fact that bats do not utilize shrubs as roosting habitat.

Converting PFO and PSS habitat types to PEM will result in minor and insignificant changes to function and values relative to all PFO and PSS wetlands. Groundwater recharge and discharge will not be altered because the wetlands will be restored to original contours following construction. If the wetland had a connection to groundwater prior to construction, such as with the Slsn HGM classification, it will still have that connection following construction, regardless of vegetation type. For wetlands located near streams, flood flow alteration, sediment/toxicant/pathogen retention, nutrient removal/retention/transformation, as well sediment/shoreline stabilization will increase. This is because forested and scrub/shrub systems will be replaced with dense herbaceous cover, which has a greater surface area to trap sediments or nutrients and stabilize the shoreline and protect land from floodwaters.

The vegetation stratum will change from forest or scrub/shrub to herbaceous, so there will be a change in the food production/export; however, the sedges that will replace the shrubs and trees provide food for a variety of wildlife. As a result, there will be a similar food production/transport function, and that function will not be lost when changing vegetation cover. Open corridors over stream/wetland complexes provide suitable bat feeding areas. This is because bats prefer to fly through open corridors over open water where insect activity is prevalent. Additionally, thick vegetation provides resting and escape cover for a variety of small mammals and birds; therefore, that function will not be lost when the vegetation cover type changes.

The SLtn and Slsn HGM classification types allow the wetland to serve as floodflow storage and desynchronization areas during prolonged precipitation events. The root system of the trees and shrubs present helps to reduce or prevent water quality degradation by allowing sediments or toxicants to be trapped within the system groundwater recharge/discharge, floodflow storage and desynchronization will only be temporarily impacted during construction given that the wetland will be returned to original pre-construction contours. However, as state above, replacement with thick herbaceous vegetation will have a similar and perhaps increased

function. Replacing a forested or scrub/shrub system with a thick herbaceous layer will also provide better erosion control.

W-PA-151202-MRK-003 is a PSS/PFO complex with HGM classification SLtn. It has opportunities to serve all the functions as stated above. However, this wetland will be crossed via HDD and as a result there will be no impact, even temporary, to this wetland's functions and values.

Similarly, W-PA-160405-JLK-001 is a PEM/PFO complex with HGM classification SLtn that will also be crossed via HDD and as a result, there will be no impact to functions or values.

W-PA-161205-WRA-003 (PSS) has HGM classification SLsn. A perennial stream flows through the edge of this wetland. The wetland receives its hydrology from groundwater, overland flow, and multiple groundwater seeps. The wetland is located within land that was previously strip-mined. Given that it is located along multiple streams, it is capable of nutrient removal, retention, or transformation for nutrients entering the adjacent streams.

Approximately 75 ft<sup>2</sup> of the 1,271 ft<sup>2</sup> wetland (approximately six percent) is located within the Project LOD. All of which is located within the permanent LOD. As discussed above, the conversion impact will result in minor and insignificant changes to function and values.

W-PA-160401-MRK-005 (PSS) has HGM classification SLtn. The wetland is located within a reclaimed strip mine, inside a constructed swale. The primary source of hydrology is surface runoff; however, water was approximately one inch from the surface in the test pit. Additionally, an intermittent stream flows into this wetland and then loses defined bed and bank. Given that a stream flows into the wetland and the wetland is located within a constructed swale, its ability for nutrient removal, retention, or transformation for nutrients entering any adjacent streams is low. Additionally, it does not serve to stabilize sediment or the stream bank.

Over half of the wetland is located within the temporary construction LOD. As a result, the habitat and production export functions will be temporarily impacted while the shrubs are recolonizing the area. The dominant shrub species was black willow, which grows quickly, therefore the overall impacts should be minimal.

W-PA-170213-JLK-003 (PSS) also has a HGM classification of SLtn. The wetland originates as hillside seep, which is the primary source of hydrology. Additional hydrology sources include surface water runoff from adjacent uplands and overland flow from an intermittent stream that flows through the edge of the wetland. It is located along a stream and as a result the wetland is capable of nutrient removal, retention, or transformation for nutrients entering the adjacent stream. A 50-foot-wide permanent ROW (68% of the total wetland) will be maintained as PEM in perpetuity. As discussed above, the conversion impact will result in minor and insignificant changes to function and values.

7. *Provide an evaluation of the impact that open cut installation methods could have on wetlands that rely on perched water tables, confining layer, and/or fragipans to maintain hydrology. This evaluation should include a discussion of how your proposed activities, and, if applicable, proposed mitigation will maintain wetland hydrology in these types of areas. 25 Pa. Code §105.13(e)(1)(x).*

The concern with perched water tables is that if a confining layer like clay is open cut, the hydrology will be lost because there is no longer a confining layer to keep it in place. It is sometimes difficult to predict this prior to actual construction. Often, scientists cannot dig the full 20 inches in a wetland test pit due to rocks or roots, not a confining layer. However, the HGM classifications were determined for each impacted wetland to determine which ones may have perched water tables. The wetlands with classification Depression temporary (DFA) could have perched water tables because they are wetlands with no surface outlet, which is often a result

of being perched above the water table. Three wetlands were determined to potentially have perched water tables. These include W-PA-160401-MRK-006, W-PA-161220-MRK-001, and W-PA-161220-MRK-002, all of which will be open cut. If they are perched, or if a perched wetland is encountered, the associated clay layer that maintains that portion of the perched wetland hydrology will be segregated and then replaced along the same horizon during pipeline backfilling, and then compacted so that hydrology may be maintained. Additionally, trench plugs are placed on either side of the wetland on the ROW to prevent water from migrating out on the sides. A detail depicting this is provided as Attachment F.

8. *Evaluate and discuss your project's potential to impact any public water systems and their sources that are located within 1-mile of your proposed pipeline system, pursuant to Sections 105.13(e)(1)(ii) and 105.14(b)(5), of the Department's Chapter 105 rules and regulations.*

Although the water systems are considered public systems, any information identifying the sources or locations is not made public. As a result, SPLC was not aware these locations existed until the PADEP provided the Falcon team with a list of the water system name and a contact person and telephone number so that the entity could be reached for further information. The PADEP identified these systems as being located within one mile of the Falcon Ethane Pipeline System. To protect the location of these wells, each of these locations was given a letter code and the system will be discussed below using that letter. For PADEP reference, the letter code is located next to the System Name on the list, provided as Attachment G. All the entities were contacted regarding their wells multiple times. Details of the coordination is also provided in Attachment F. Additionally, screenshots from the Google Earth analysis are provided as part of the attachment. PLEASE NOTE: The items in Attachment H should be considered PRIVILEGED AND CONFIDENTIAL – DO NOT MAKE AVAILABLE TO PUBLIC. This is to protect public safety.

Impacts might include an Inadvertent Return (IR) causing a bentonite slurry mix to enter the supply, which would contaminate the supply for any wells that are located near an HDD site or construction equipment/activities physically damaging the water supply.

Public Water Supply A is a groundwater well located approximately 0.32 mile from the project in a proposed new housing development. The well currently serves a barn building and the caretaker's home adjacent to the barn. The landowner stated that he is not concerned with the project impacting the well.

Based on the geology of the area, this well is most likely deeply embedded within bedrock, as this is standard practice in this geographic region. This public well is located over 1,500 feet outside of the construction LOD and will not be directly impacted by construction equipment. The bedrock is thick, which minimizes the threat of any contamination or sediment migration into this well. In the event of an IR, it is unlikely that a bentonite slurry mixture would be able to penetrate the thick bedrock layer and contaminate the well. Given the distance of the well from construction activity and the fact that the well is deeply imbedded in thick bedrock, it is unlikely that the Project will impact this public water source. However, in the unlikely event that this well is contaminated, SPLC will mitigate the impact, as discussed in *comment/response #11*.

9. *Related to the preceding item, and as needed, discuss efforts to avoid and minimize impacts to these public water systems, and measures ~~that~~ will be implemented to mitigate for any unavoidable impacts, pursuant to Sections 105.13(e)(1)(viii & ix) and 105.14(b)(5), of the Department's Chapter 105 rules and regulations. These efforts might include, but are not limited to, considering alternative locations, routings or design for the proposed pipeline; providing provisions for shut-off in the event of break or rupture; etc.*

The Project has been routed to avoid all direct impact to this groundwater well. The revised alternatives analysis and anti-degradation analysis are provided in the Comprehensive



Environmental Assessment included with this package. Given that the Project does not directly cross this well, construction activities will not impact any of the wells.

In the event that an IR were to occur during construction and the bentonite slurry were to impact a well, which as discussed in the previous comment, is unlikely because the wells are deeply embedded in bedrock, SPLC will respond by providing water buffalos to the affected entity and, if it is necessary, drill another well to replace the damaged one. Additional measures that would be taken to avoid, minimize, or mitigate any risks to groundwater wells and surface water intakes can be found in the CEA and SPLC's Inadvertent Returns from HDD: Assessment, Preparedness, Prevention, and Response Plan.

Due to the well's locations deep within bedrock, it is unlikely that an event with the pipeline would impact the wells. However, *if* an event like a leak were to occur, the pipeline is monitored 24 hours per day by a monitoring center. There are mainline valves spaced approximately every seven to seven-and-a-half miles apart. These valves can be shutoff automatically from a state-of-the-art monitoring center immediately if an issue is detected. This allows SPLC to be able to quickly respond and isolate a section of pipe. Additionally, there will be permanent staff living within the Project Area following construction and their proximity to the Project Area will enable them to be able to quickly respond to any issue. If it is shown that the Project caused impact to a well, SPLC will provide water buffalos to the affected entity and if it is necessary, drill another well to replace the damaged one.

More information regarding response to water well supplies is provided in the Water Supply Plan, which is included as part of the "Inadvertent Returns from HDD: Assessment, Preparedness, Prevention and Response Plan" as discussed in *comment#response #27*.

10. *Due to the presence of public water systems in or near your project area, re-evaluate and discuss whether your project will impact Exceptional Value (EV) wetlands, which were not previously identified as EV wetlands, pursuant to Sections 105.13(e)(1)(x)(B), of the Department's Chapter 105 rules and regulations. If your project will impact EV wetlands, identify these wetlands, and demonstrate compliance with Sections 105.18a(a)(1-7), of the Department's Chapter 105 rules and regulations, regarding the permitting of structures and activities in EV wetlands.*

The same list as discussed in *comment#response 8* was used for this evaluation. Again, the same cautions were used to keep information regarding these wells private. Screenshots from the Google Earth analysis are provided as part of the attachment. PLEASE NOTE: The items in Attachment G should be considered PRIVILEGED AND CONFIDENTIAL – DO NOT MAKE AVAILABLE TO PUBLIC.

25 Pa. Code §105.17(1)(iv) states that wetlands located along an existing public or private drinking water supply, including both surface water and groundwater sources, that maintain the quality or quantity of the drinking water supply are EV wetlands. As a result, AECOM conducted an analysis of the wetlands located within the vicinity of these area and then determined if the wetlands maintain quality or quantity of the drinking water supply.

Public Water Supply A is located within an area that is currently in development for a large site. This is a groundwater-fed well that is most likely embedded in bedrock. There are large ponds observed on aerial mapping located near the well that *could* be considered EV as it appears that they are well-maintained, potentially man-made ponds. However, these ponds were located outside of the Project study area and were therefore not delineated so exact information on them is not known.

The other wetlands that are located within proximity are influenced by abandoned mine drainage (AMD), which can be seen on the aerial mapping and as a result, most likely are not

hydrologically connected to the drinking supply. The other wetlands within the one-mile buffer are small and located approximately 0.4 to 0.5 mile away and are separated by other wetlands influenced by AMD. Given that, and the area geology, the wetlands most likely do not have a hydrologic connection to Public Water Supply A and therefore should not be considered to be EV.

11. *Your Northern Harrier survey reported that nesting may have occurred in areas adjacent to Survey Area 2 (Findlay Township, Allegheny County). Accordingly, re-evaluate and discuss whether your project will impact Exceptional Value (EV) wetlands, which were not previously identified as EV wetlands, pursuant to Sections 105.13(e)(1)(x)(B), of the Department's Chapter 105 rules and regulations. If your project will impact EV wetlands, identify these wetlands, and demonstrate compliance with Sections 105.18a(a)(1-7), of the Department's Chapter 105 rules and regulations, regarding the permitting of structures and activities in EV wetlands.*

Section 105.17(1)(i) states that wetlands are exceptional value (EV) if they serve as habitat for fauna or flora listed as threatened or endangered under the Endangered Species Act of 1973, the Wild Resource Conservation Act, 30 PA.C.S. (relating to the Fish and Boat Code), or 34 PA.C.S. (relating to the Game and Wildlife Code). Under §105.17(1)(ii), wetlands are EV if they are hydrologically connected to or located within one half of a mile of wetlands identified in §105.17(1)(i) and that maintain the habitat of the threatened or endangered species within the wetland identified under subparagraph (i).

Request for information letters regarding threatened and endangered species and their habitat were sent to the Pennsylvania Game Commission (PGC), Pennsylvania Department of Conservation and Natural Resources (DCNR), Pennsylvania Fish and Boat Commission (PFBC), and the United States Fish and Wildlife Service (USFWS) in 2015 and coordination with each agency regarding Project changes was ongoing throughout the Project.

The PGC requested that a short-eared owl and a northern harrier (NOHA) study be conducted in suitable habitat for the species. As discussed in the permit and the individual reports, portions of these surveys were conducted at the same time given that their habitat is the same and their survey periods overlap. AECOM conducted surveys in accordance with a Survey Plan approved by PGC on March 17, 2016.

Per the *Falcon Ethane Pipeline System Short-Eared Owl/Northern Harrier Presence/Absence Survey Report* (Report) that AECOM submitted to the PGC in December 2016, NOHA are found in relatively open areas including wetlands, wet meadows, lightly grazed pastures and old fields, freshwater and brackish marshes, dry uplands, including upland prairies, mesic grasslands, drained marshlands, croplands, scrub-shrub, and riparian areas. They tend to breed and nest in freshwater and brackish marshes, meadows, and grasslands with a preference for undisturbed wetlands and grasslands with low, thick vegetation. Nests are built on the ground in thick vegetation, often in areas surrounded by water for protection from predators. The Report concluded that nesting may have occurred in areas adjacent to Survey Area 2 (second most northern survey area) outside of the visible range of surveyors but did not occur within the survey area. Given the high number of northern harrier observations, the PGC recommended avoiding construction during the breeding season, April 15 through August 31, for the area between Potato Garden Run Road and State Route 980. As discussed in the original permit application, the PGC accepted the survey and results for the short-eared owl and no further coordination or work was required for this species given that there was only one observation recorded during the entire survey period.

As discussed in the Report, wetlands may serve as nesting habitat for NOHA, depending on the wetland characteristics and location within the landscape. As a result, all wetlands within the potential NOHA habitat area, which the PGC determined, needed to be examined to determine if

they are EV. A one-half-mile-buffer was established based off the northern harrier survey area (see the screenshots below). The wetlands within the limit of disturbance (LOD) and adjacent (less than 50 feet from the LOD) was chosen due to a lack of definition for adjacent) within this buffer were examined to determine if they are EV.

In the first screen shot below, the purple polygons represent the avian survey areas as defined by PGC and the shaded white areas represent the buffer around the polygons. The red line represents the Falcon centerline. In the second screenshot, the orange lines represent the same buffer as in the first screenshot, the pink lines represent the Falcon LOD, and the green polygons represent delineated wetlands.

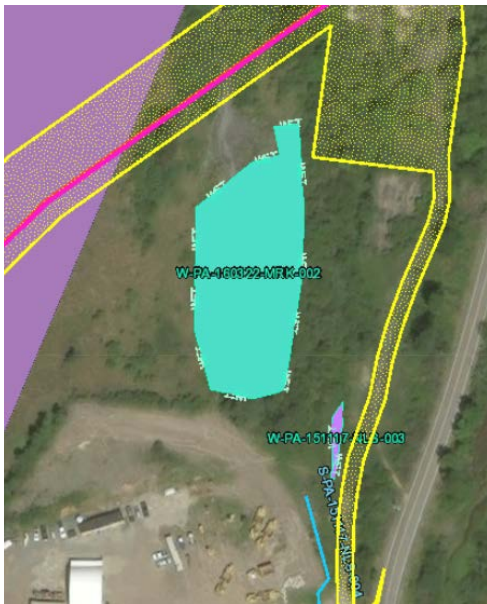


W-PA-151117-NLS-001 is a PEM/PSS complex that is heavily impacted with AMD, as seen in the aerial mapping and photograph below. This wetland is located within an area eliminated for consideration as surveyable NOHA nesting habitat with concurrence of the PGC (approved Survey Plan March 17, 2016). The location is not likely to provide nesting habitat for NOHA due to its poor quality for supporting the prey species (e.g., meadow voles) required by NOHA during breeding season. In addition, the area is a narrow patch closed in by trees and not contiguous with other suitable habitat, which suggests this is non-preferred NOHA habitat. As a result, this wetland should not be considered EV.





**W-PA-160322-MRK-002** is a PUB wetland located in previously mined land. It was most likely created during mining and portions of it contain waste coal. Given that it is all open water, and NOHAs prefer nesting on the ground in densely vegetated areas, it would not likely be suitable NOHA nesting habitat and therefore should not be considered EV.



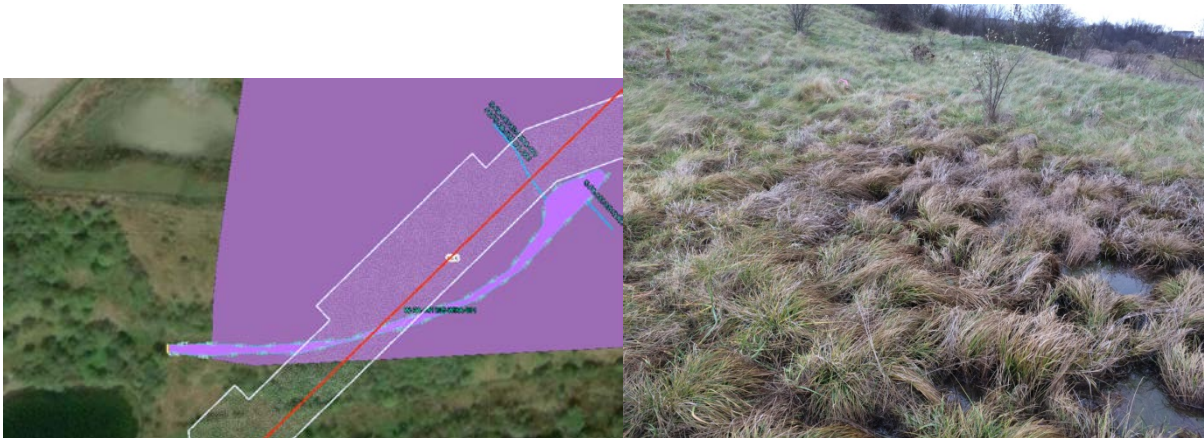
**W-PA-151117-NLS-003** is a PEM wetland located along an existing access road in a previously mined area. It contains algae, waste coal, and construction material. Additionally, it is located near an active industrial site. Given condition of this wetland that NOHAs prefer to nest in undisturbed areas, W-PA-151117-NLS-003 would not be suitable NOHA nesting habitat and therefore should not be classified EV.





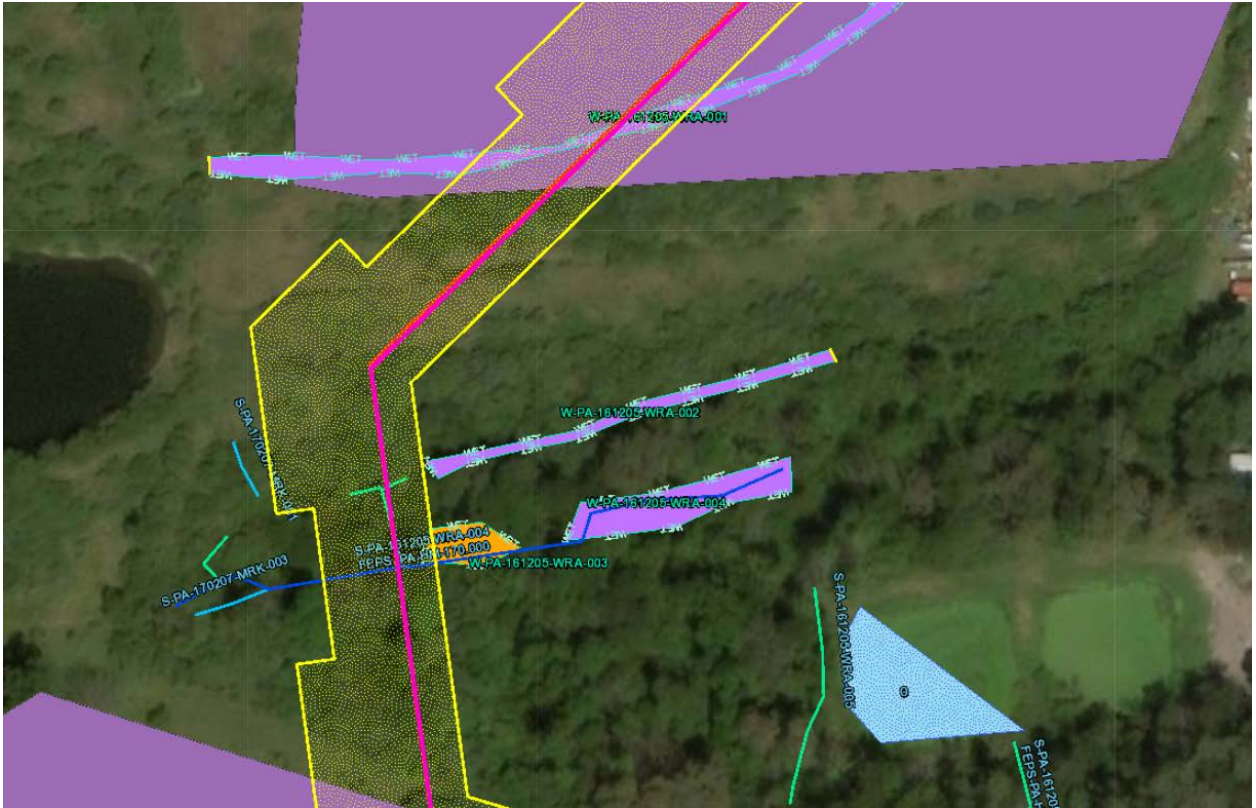
**W-PA-161205-WRA-001** is a PEM wetland located within reclaimed strip mine. It is located in an open area and contains sedges and fescue which is thick vegetation that would be suitable for NOHA nesting. Given that NOHA may nest here—although they are not currently nesting here—this wetland could be considered EV.

In the event that a NOHA would utilize this area for nesting, it would not be disturbed due to the time-of-year construction restriction placed on this area from April 15<sup>th</sup> through August 31<sup>st</sup>.



**W-PA-161205-WRA-002** is a PEM wetland located within reclaimed strip mine habitat and **W-PA-161205-WRA-003** is a PSS wetland located to the south of that. **W-PA-161205-WRA-004** was located greater than 50 feet from the LOD and was not analyzed. As seen in the aerial and first photo below, **W-PA-161205-WRA-002** is located within a dense shrubby area. The upland data sheet stated that black cherry, red maple, honeysuckle, and multiflora rose were the dominant species around the wetland. This is not suitable habitat for the NOHA as they prefer areas with open canopy to nest. Therefore, this wetland should not be considered EV. Similarly, **W-PA-161205-WRA-003** is a PSS wetland. Given that NOHA do not nest in shrubby areas, this wetland would not be suitable nesting habitat and therefore should not be considered EV.





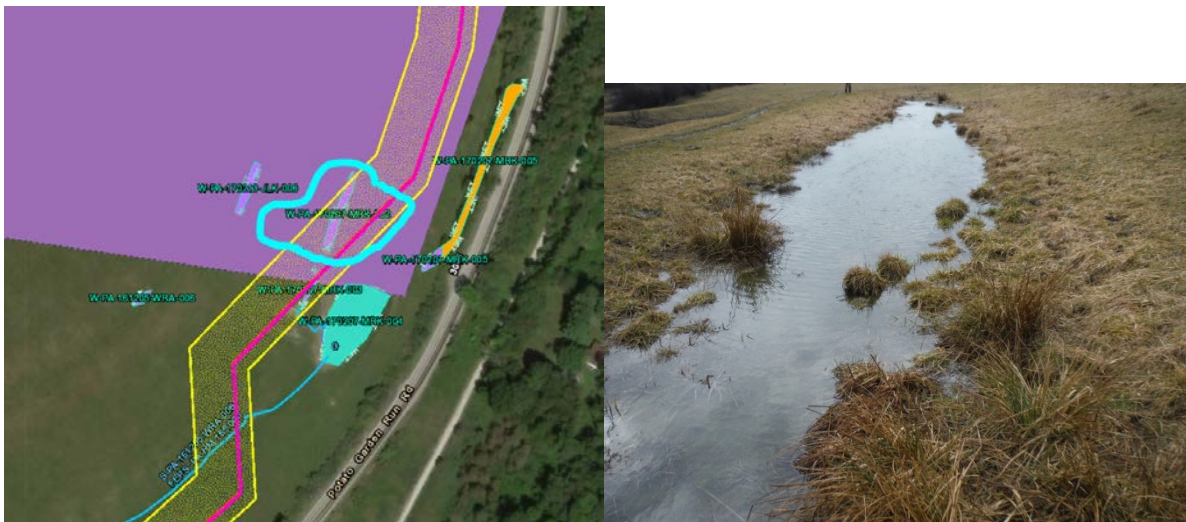
**W-PA-170207-MRK-001** is a PEM wetland located within reclaimed strip mine habitat. The wetland is located within an open area and contains hummocky thick vegetation which would be suitable for NOHA nesting. There was approximately one inch of groundwater present; however, this appears to be a groundwater-fed wetland and it does not receive overflow from adjacent resources; therefore, it would most likely be suitable nesting habitat. As a result, this wetland should be considered EV.

The LOD has been notched out to avoid this wetland. Proper BMPs will be placed so that sediment will not leave the LOD during construction and impact this wetland. If a NOHA would utilize this area for nesting, it would not be disturbed due to the time-of-year construction restriction placed on this area.

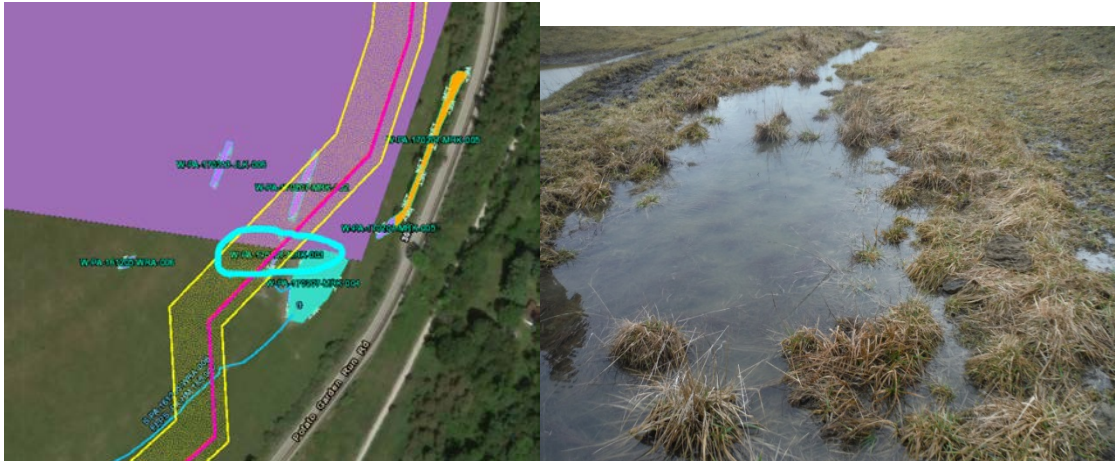




**W-PA-170207-MRK-002** (circled in blue below) is a PEM wetland located within reclaimed strip mine habitat inside a constructed swale/water bar. There was approximately three inches of water present at the time of delineation and only 45 percent vegetation cover; however, this was delineated two to three months prior to the typical nesting period so it is possible that the water could recede, and more vegetation could grow making this wetland more suitable for nesting. The wetland is also located within the area that the PGC determined to be suitable habitat. Given that it is likely that a NOHA could utilize this wetland area as a nesting location, this wetland should be considered to be EV.



**W-PA-170207-MRK-003** (circled in blue below) is a PEM wetland located within reclaimed strip mine habitat. Like W-PA-170207-MRK-002, it was located inside a constructed swale/water bar. There was approximately two inches of water present at the time of delineation and only 45 percent vegetation cover. For the same reasons as stated above for W-PA-170207-MRK-002, it is likely that NOHA could utilize this area for nesting and therefore the wetland should be considered EV.



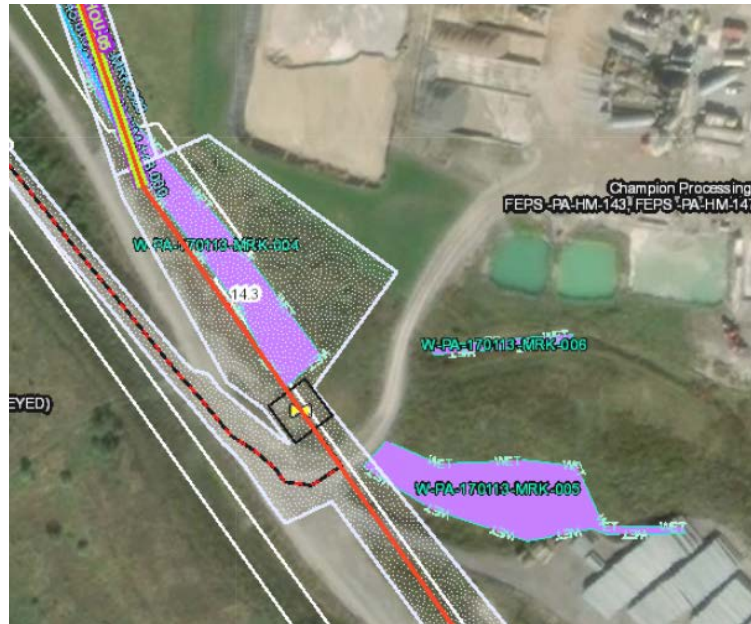
**W-PA-170113-MRK-001** is a PEM wetland located within reclaimed strip mine within an active cow pasture. However, this wetland is located within a large patch of suitable habitat adjacent to Survey Area 2. As a result, this wetland is considered as potential nesting habitat for NOHA and therefore considered to be EV.



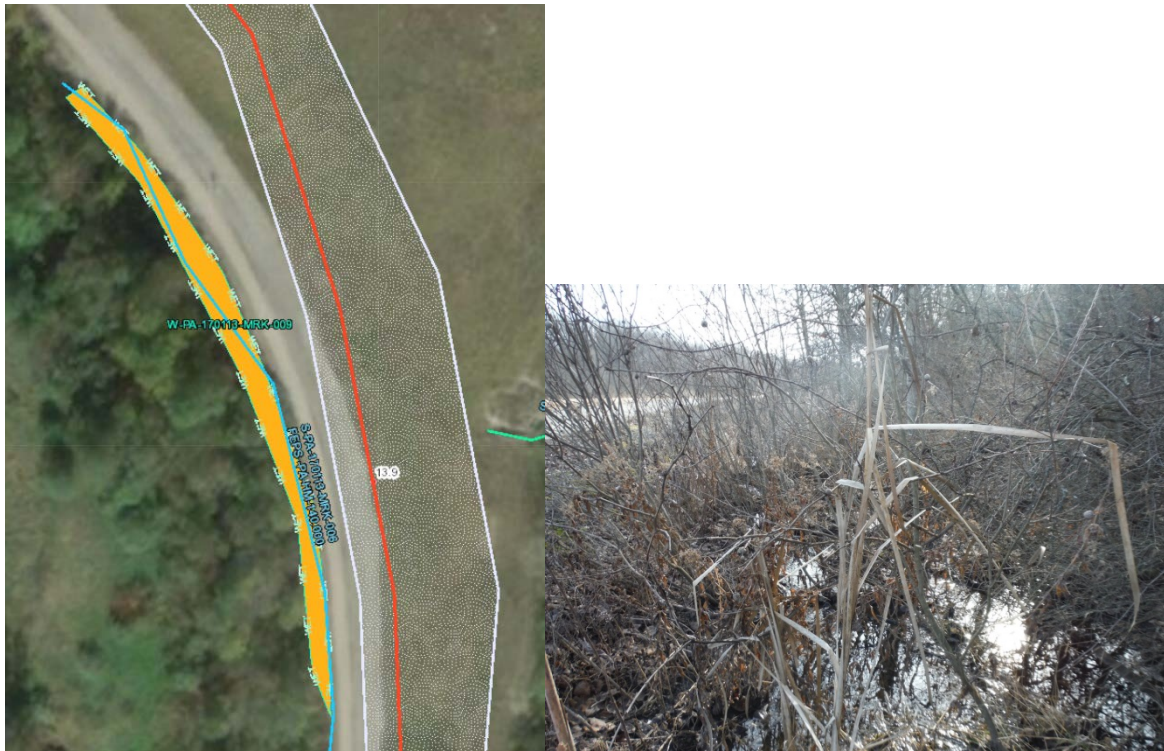
PEM wetlands **W-PA-170113-MRK-004** and **W-PA-170113-MRK-005** are located between the Montour Trail and an active industrial site, as seen in the aerial screenshot below. The constant activity on the trail and truck traffic due to the site would make it unsuitable for NOHA nesting



because they prefer to nest in areas with less activity. Additionally, PennDOT has a construction staging area between this area and the main road. The two wetlands should not be considered EV due to the low probability that NOHA would nest here.

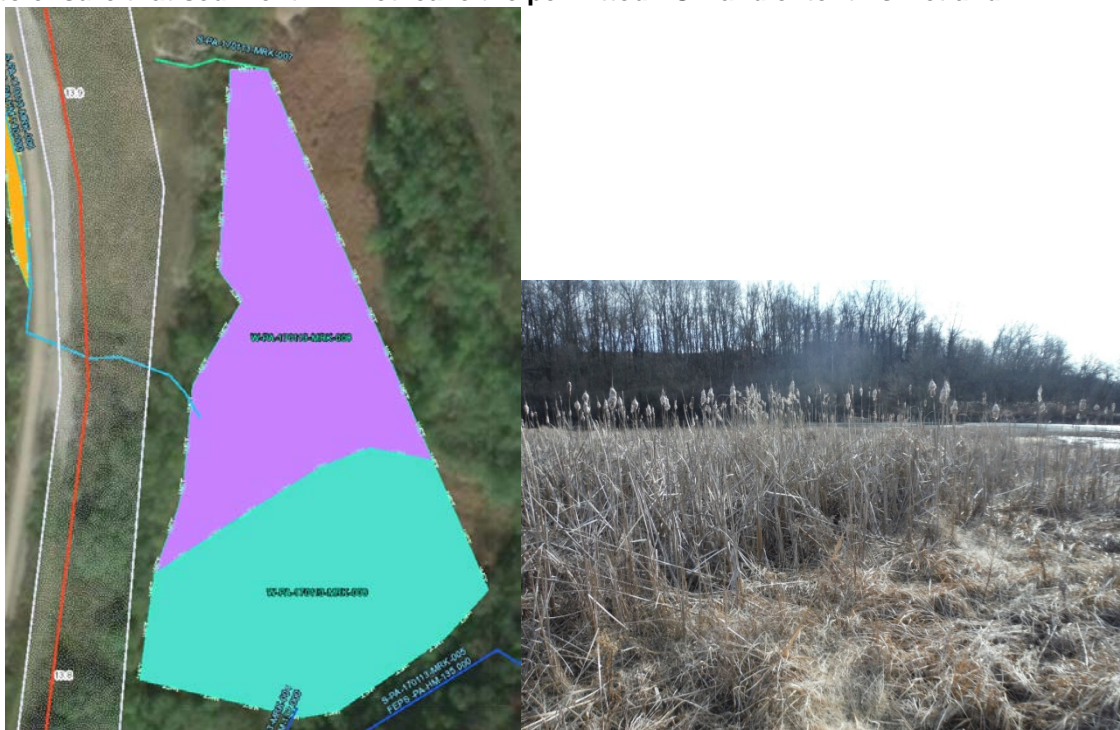


W-PA-170113-MRK-009 is a PSS wetland directly abutting the Montour Trail. As previously stated, both areas that can be disturbed by people and PSS wetlands are not suitable nesting locations for NOHA. As a result, W-PA-170113-MRK-009 should not be considered an EV wetland.



**W-PA-170113-MRK-008** is a PEM/PUB complex located along the Montour Trail. There may be too much disturbance in the portion of the wetland close to the trail. However, the vegetation is very thick, and it might be suitable nesting habitat on the eastern edge of the wetland. As a result, this wetland could be considered EV.

The Project will not impact this wetland. Proper BMPs such as silt sock or fence will be installed to ensure that sediment will not leave the permitted LOD and enter this wetland.





**W-PA-170113-MRK-007** is a PEM wetland also located along the Montour Trail. There is AMD present in this wetland, as evident in the below aerial and photograph. This would be unsuitable nesting habitat. As a result, this wetland should not be considered EV.



#### **Compliance with Section 105.18a(a)**

According to §105.18a(a), there are seven requirements that need to be met in order to receive a permit for an impact to an EV wetland:

- (1) There will not be an adverse impact on the wetland;
- (2) The project is water-dependent;
- (3) There is no practicable alternative;
- (4) The project will not cause or contribute to a violation of an applicable State water quality standard;
- (5) The project will not cause or contribute to pollution of groundwater or surface water or diminution of resources sufficient to interfere with their uses;
- (6) The cumulative effect of this project and other projects will not result in the impairment of the Commonwealth's EV resources; and
- (7) The applicant shall replace affected wetlands.

Wetlands W-PA-161205-WRA-001, W-PA-170207-MRK-001, W-PA-170207-MRK-002, W-PA-170207-MRK-003, W-PA-170113-MRK-001, W-PA-170113-MRK-008 were determined to be EV based on their potential to be NOHA nesting habitat. Of those, W-PA-161205-WRA-001, W-PA-170207-MRK-002, and W-PA-170207-MRK-003 are located within the Project LOD.

**As demonstrated below, the Project will not adversely impact wetlands and SPLC has satisfied all seven criteria set forth in Section 105.18a(a).**

#### **§105.18a(a)(1)**

The Project will not adversely impact wetlands. As stated above and in the permit application, SPLC will adhere to the PGC construction timing-restriction and not construct during the NOHA nesting period. As discussed in Module S3.F of the permit application, when a trench is created

through the wetland, the topsoil is segregated and removed from the wetland surface. The pipeline is then installed at a predetermined depth, backfilled to original contours and completed by replacing the segregated topsoil. Wetland seed mixture is applied to help promote restoration. Given these construction practices, pipeline construction is not expected to result in permanent above ground fills, and as a result, there will not be an adverse impact to wetlands. This satisfies §105.18a(a)(1). Given that the wetlands are restored/replaced to pre-existing conditions following construction, §105.18a(a)(7) is met.

**§105.18a(a)(2)**

As stated in Module S1.B.2, this is a water dependent project. The purpose of the Project is to transport ethane from fractionation facilities in Scio and Cadiz, Ohio and Houston, Pennsylvania to the Plant in Monaca, Pennsylvania. Given the terrain, existing private and commercial developments, and number of streams present in Pennsylvania, it is very difficult, if not impossible, to travel that distance without crossing a single stream. Often, wetlands are associated with stream valleys and floodplains and are often crossed when streams are present. Therefore, this Project is water dependent §105.18a(a)(2).

**§105.18a(a)(3)**

The alignment through Findlay Township where these three wetlands are located, was difficult to route. This was due to the existing Imperial Landfill, existing business, old mining ponds, steep slopes, and existing roads that need to be crossed in specific locations due to sight distances. This route was the best available, practicable alternative. The LOD was reduced when practicable to reduce resource impact. Most importantly, no NOHA eggs or young will be impacted due to the time-of-year construction restrictions in place. Given these efforts, §105.18a(a)(3) is satisfied

**§105.18a(a)(4) and (5)**

During construction, proper BMPs—that have been approved in an erosion and sediment control permit—are placed around the Project Area to ensure that construction-related impacts to resources are avoided, minimized, or mitigated to the least extent practicable. During construction, Environmental Inspectors are present within the LOD making sure that sediment is not leaving the site and that all permit conditions are being followed. These efforts are designed to ensure that all State water quality standards are being followed (§105.18a(a)(4)) and the project will not contribute to groundwater or surface water pollution (§105.18a(a)(5)).

**§105.18a(a)(6)**

The three wetlands located within the Project LOD were most likely formed due to improper grading following past mining activities. There are currently no other pipelines or projects impacting these three wetlands. Given the geographic location and terrain where these wetlands are located, it is unlikely a permanent project would be built in them. To SPLC's knowledge, no other projects have impacted these three wetlands. If another pipeline project were to impact these wetlands, the impact would be temporary and would not have any permanent adverse effect. As a result, the cumulative effect of this project and others would not impair these three wetlands, satisfying §105.18a(a)(6).

**§105.18a(a)(7)**

As stated above, this Project satisfies §105.18a(a)(1). Given that the wetlands are restored/replaced to pre-existing conditions following construction, §105.18a(a)(7) is met.



**In short, all seven §105.18a(a) criteria have been met and as a result, PADEP should permit these three wetland crossings.**

**Additional information may be found in the CEA and the Anti-Degradation Analysis.**

12. *Module S3 of your EA indicates that the proposed pipeline centerline is located within previously mined areas (see pages 31-32). Provide a map overlay drawing of your project with these mining areas, and GIS shape files with this information, pursuant to Section 105.14(b)(6) and 105.24(a) 105.301(10), of the Department's Chapter 105 rules and regulations.*

**Figures depicting previously mined areas are located within the Mining Summary report included with this permit submission. Shapefiles are included on the enclosed CD.**

13. *Related to the preceding item, revise your profile drawings to show the limits of the previously mined areas. In addition, provide the depth of cover over the mine workings that will be crossed by the proposed pipeline, and the distance between the mine workings and the proposed pipeline. Use this information to evaluate and discuss the potential for a subsidence event compromising the utility line, and the potential to create a mine water discharge, pursuant to Section 105.301(10), of the Department's Chapter 105 rules and regulations.*

**The profile drawings for resources located in previously mined areas have been revised and are included in the “HDD Subsurface Investigation Reports” document that is included with this package. Each HDD location is also discussed within this report. Additionally, subsidence is discussed in the Mining Summary Report and the HDD Alternatives Analysis, which is an Appendix to the “Inadvertent Returns from HDD: Assessment, Preparedness, Prevention and Response Plan”.**

14. *To facilitate coordination between DEP's Waterways and Wetlands Program and DEP's Mining Program, identify all areas where the proposed pipeline will cross active mining permit boundaries, pursuant to Sections 105.14(b)(6) and 105.24(a), of the Department's Chapter 105 rules and regulations.*

**There are no active mining permits within the Project Area in Allegheny County. The only active mining permit within the whole Project is in Beaver County, which is discussed in the Mining Summary Report included with this response to comments package.**

15. *The current alternatives analysis provides general information about the route development process; however, revise this narrative to provide a detailed analysis of the alternative locations and routes that were considered to avoid or minimize adverse environmental impacts, pursuant to Section 105.13(e)(I)(viii), of the Department's Chapter 105 rules and regulations.*

**A revised alternatives analysis is provided as Section 9 of the Comprehensive Environmental Assessment, which is a stand-alone document provided as part of this submission.**

16. *Related to the preceding item, Module S3 indicates that approximately 18.5 of the 45 miles (41%) of the proposed pipeline are parallel to or adjacent to existing right-of-ways (ROWs). Evaluate and discuss whether there might be additional opportunities to co-locate the proposed pipeline within existing ROWs, to potentially reduce the proposed adverse environmental impacts, pursuant to Sections 105.13(e)(I)(viii), 105.16(a) and 105.18a, of the Department's Chapter 105 rules and regulations.*

**When the first desktop routing analysis was done, the Project was routed along existing ROWs, both above- and below-ground, to the highest extent practicable to attain the Project goal of**

extending pipe from existing facilities to the proposed Shell Pennsylvania Petrochemical Plant (Plant) in Monaca. Paralleling existing ROWs would reduce tree clearing and habitat fragmentation. The Mariner West line, which Sunoco leases from MarkWest, was originally investigated because it runs generally north from the Houston fractionation facility to a river crossing west of the NOVA Chemical plant. The Mariner West route does deviate slightly to the west at the southern end and then routes back to the east around the Pittsburgh International Airport before tracking in a northerly route towards the Plant. The Mariner West route was determined to vary more westerly than what was ultimately proposed and would net in approximately six more miles of pipeline to reach Monaca from Houston and would be significantly costlier to construct than the selected route by approximately 20 percent. However, as discussed below, SPLC routed the line along Mariner West, whenever feasible.

Once this initial route was proposed, the utilities were contacted to determine if it was feasible to share ROWs and topographic surveys were conducted to determine if it was physically feasible to install an additional pipeline in that location. Additionally, all landowners were contacted to ask permission to locate the Project on their property.

There were several occasions where there was no longer enough room to safely construct another pipeline within the same corridor. Often, pipelines are constructed on ridgelines. Constructing another pipeline within a narrow ridgetop could risk exposing the existing pipeline. Additionally, constructing in these types of areas puts contractors at serious safety risks.

The Project was proposed to follow the Mariner West for as much as practicable. The Project follows Mariner West from approximately Houston MP28.7 to Junction to Monaca MP1.7 at Mowry Road, which is approximately four miles. This includes the crossing at Service Creek, adjacent to the Ambridge Water Authority raw water line. The crossing at Mowry Road was difficult due to site distance and there were sites of cultural significance identified between Mowry Road and Raccoon Creek that needed to be avoided or HDDed. Additionally, following Mariner West closer to the Petrochemical Plant put the Project closer to the known bald eagle nest and would have required a very difficult HDD across Raccoon Creek. As a result, the Project needed to deviate after Mowry Road.

SPLC attempted to route the Project along several FirstEnergy and Duquesne Light overhead electric line ROWs. This was done whenever practicable. However, FirstEnergy stated that the pipeline was too close to their towers and had to be shifted in several locations. Additionally, proper safety measures need to be taken when constructing near overhead electrical lines and certain setback distances must be maintained.

Additional information concerning SPLC's routing analysis can be found in Section 9.1 of the CEA.

17. *Evaluate and discuss whether your project will affect the Montour Trail, pursuant to Section 105.14(b)(5) of the Department's Chapter 105 rules and regulations. Based upon this evaluation, consider alternative locations, routings and designs to avoid or minimize any adverse environmental impacts to the Montour Trail, as needed. If needed, develop a plan to mitigate for any unavoidable impacts to the Montour Trail. You may want to contact the Montour Trail Council, to find out more information about this trail.*

PLC and The Montour Trail Council and the Panhandle Trail (Trails) representatives met several times throughout the Project planning process. Representatives for both told SPLC that the Trails are rails-to-trails conversions for public use such as hiking, running, biking, horseback riding, and other various activities associated to public trail use in the region. As former railroads, they are linear in nature and extend for significant distances. This portion of the Montour trail when completed will be 47.4 miles and the Panhandle Trail is 29 miles long. As such, it is very difficult to route around a lengthy linear development. As a result, it was

determined to meet the Project purpose, routing around either of these trails was not feasible. Therefore, negotiations needed to be made with each entity.

Agreements between the railroads and the Trails indicate that the railroads provide certain control over the land and, in most cases, the railroads have the right to return the trails to railroad activity—though it is unlikely for this to occur. The Trails relied on the negotiating party (agent of the railroads) to develop and coordinate the language and crossing design for the pipeline easements.

SPLC and the Trails agreed that the best crossing method would be to utilize conventional bore or horizontal directional drill (HDD) methods. These trenchless construction methods would minimize direct trail surface impacts and disturbance and would not interfere with normal daily operation and trail use. More information regarding crossing the Trails via HDD is provided in the HDD Feasibility Analysis, which is included as part of the “Inadvertent Returns from HDD: Assessment, Preparedness, Prevention and Response Plan” provided as part of this response to comment package.

SPLC has also informed the Trails that if at any time the Trails need be temporarily closed for any reason during pipeline construction, operation, and/or maintenance, SPLC will notify the Trails and will provide alternate, temporary access to the users of the trails. That way, trail use will not be impeded.

The Comprehensive Environmental Assessment (CEA) that is included as part of this response to comment package discusses the Trails in more detail. Additionally, Section 9 of the CEA discusses route alternatives.

Below is language that is included in the various easement agreements between SPLC and the Trails.

**Panhandle Trail (Washington County)**

Shell asserts and affirms that the construction of the Pipeline on the acquired right of way will be exclusively by horizontal bore. Shell further asserts and affirms that neither the entrance or exit sites for said horizontal bore will be on Owner’s property.

Shell acknowledges that the permanent easement across Owner’s property does grant Shell unlimited ingress and egress over Owners property to (i) conduct typical inspections as required by DOT and/or (ii) to perform repair and/or replacement activities during normal operation and maintenance of the pipeline (iii) in case of any emergency situation which may develop that will require Shell’s presence for repairs and or safety monitoring. Shell asserts and affirms that all other entrance onto Owner’s property by Shell will first be approved by Owner in writing, including but not limited to, the possible use of temporary work space.

**Montour Trail**

The Licensee agrees that it shall not excavate within five (5) feet of any Trail or third-party facilities or systems without prior notification and coordination with the owner of such facilities or systems.

The Licensee may not enter upon the Property until the method of installation and all related matters have been approved by the Trail.

Licensee shall at all times be obligated to promptly maintain, repair and renew the facilities; and shall, upon ten (10) working days’ notice in writing from the Trail and requiring it to do so, or immediately in the event of an emergency, make such repairs and renewals thereto as may be required by the Trail.

The rights granted to the Licensee under this Agreement are non-exclusive and the Trail reserves and excepts unto itself the paramount right to continue to occupy, possess and use the Property and the area of the Facilities for any and all purposes which do not unreasonably interfere with or obstruct the rights granted to the Licensee in this Agreement.

The licensee shall operate and use the facilities in accordance with all rules and regulations of the Trail and all governmental authorities, and in a manner that will not interfere with or endanger any property, facilities, traffic, operation, maintenance, employees, or patrons of the Trail or of others occupying or using the property.

18. *The Allegheny County Natural Heritage Inventory, available from the PA Natural Heritage Program website, identifies the Clinton Wetlands Biologically Diverse Area and Raccoon Creek Landscape Conservation Area in or near your project area. Evaluate and discuss the potential for your project to affect these areas, pursuant to Sections 105.14(b)(4 and 12), of the Department's Chapter 105 rules and regulations.*

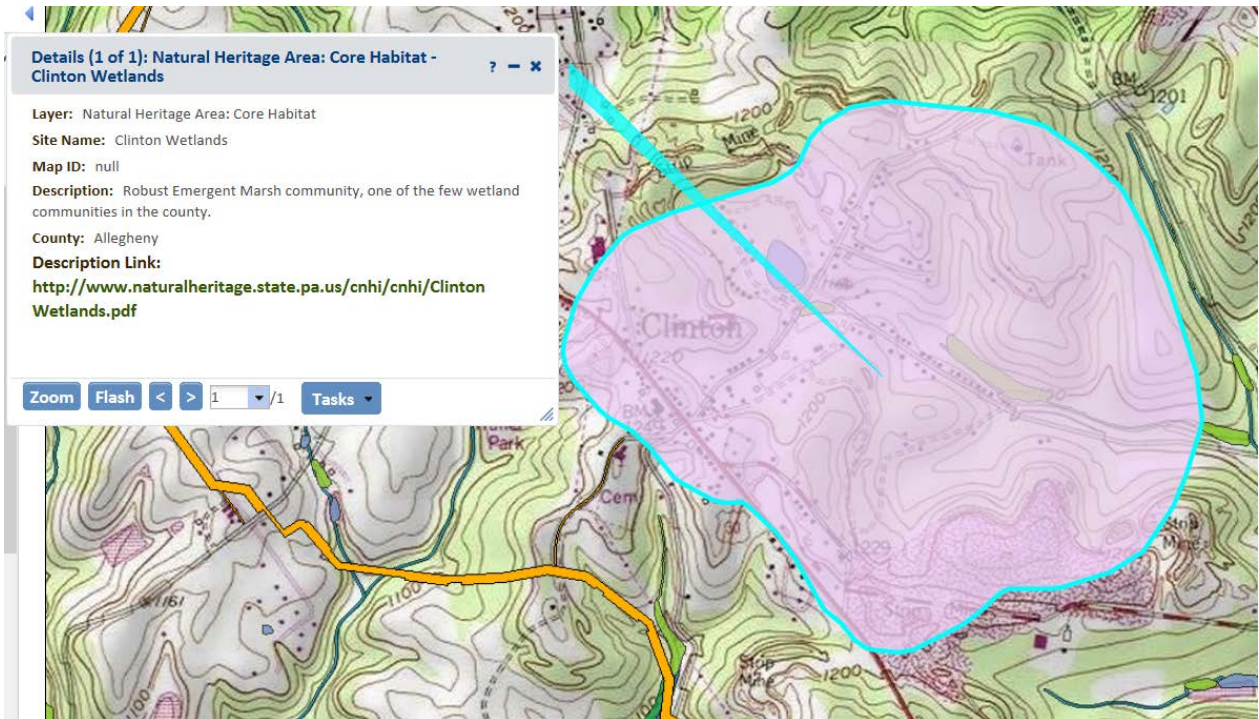
Under §105.14(b)(4) the Department must use the effect of the dam, water obstruction or encroachment on regimen and ecology of the watercourse or other body of water, water quality, stream flow, fish and wildlife, aquatic habitat, instream and downstream use and other significant environmental factors. Under §105.14(b)(12) the Department must review secondary impacts associated with, but not the direct result of, the construction or substantial modification of the dam or reservoir, water obstruction or encroachment in the area of the project and in areas adjacent thereto and future impacts associated with dams, water obstructions or encroachments, the construction of which would result in the need for additional dams, water obstructions or encroachments to fulfill the project purpose.

There will be no dams associated with this Project. All the water obstructions/encroachments will be temporary in nature as each resource will be restored to original contours following construction. No above-ground permanent watercourse or wetland fills are proposed for this Project.

#### **Clinton Wetlands Biologically Diverse Area**

Roads, residential areas, and businesses are located within the delineated Clinton Wetlands Biologically Diverse Area (BDA). The Project is not located within the BDA. An access road is within a few feet of the BDA boundary; however, it is an existing road named Youthtowne Road. The Project is located approximately 4,200 feet downslope from the NWI wetland identified within the BDA. USGS topographic analysis shows that the wetland is located within a stream valley and that natural topography separates the BDA from the Project. Given the natural topography and that the Project is located downslope from the BDA, it is highly unlikely that the Project will impact this BDA.

The BDA is located within proximity to the Pittsburgh Airport and the intersection of I-376 and 576 so it is unlikely that another project would traverse through this area to connect to the Project. However, if this were to occur, if existing disturbed areas and the most up-to-date BMPs were utilized, the project would be unlikely to have a permanent adverse effect on the Clinton Wetlands BDA. The screenshot below shows the Pennsylvania Natural Heritage Program (PHNP) mapper with the Project LOD uploaded (orange), the NHA selected, and the NWI wetland layer turned on.

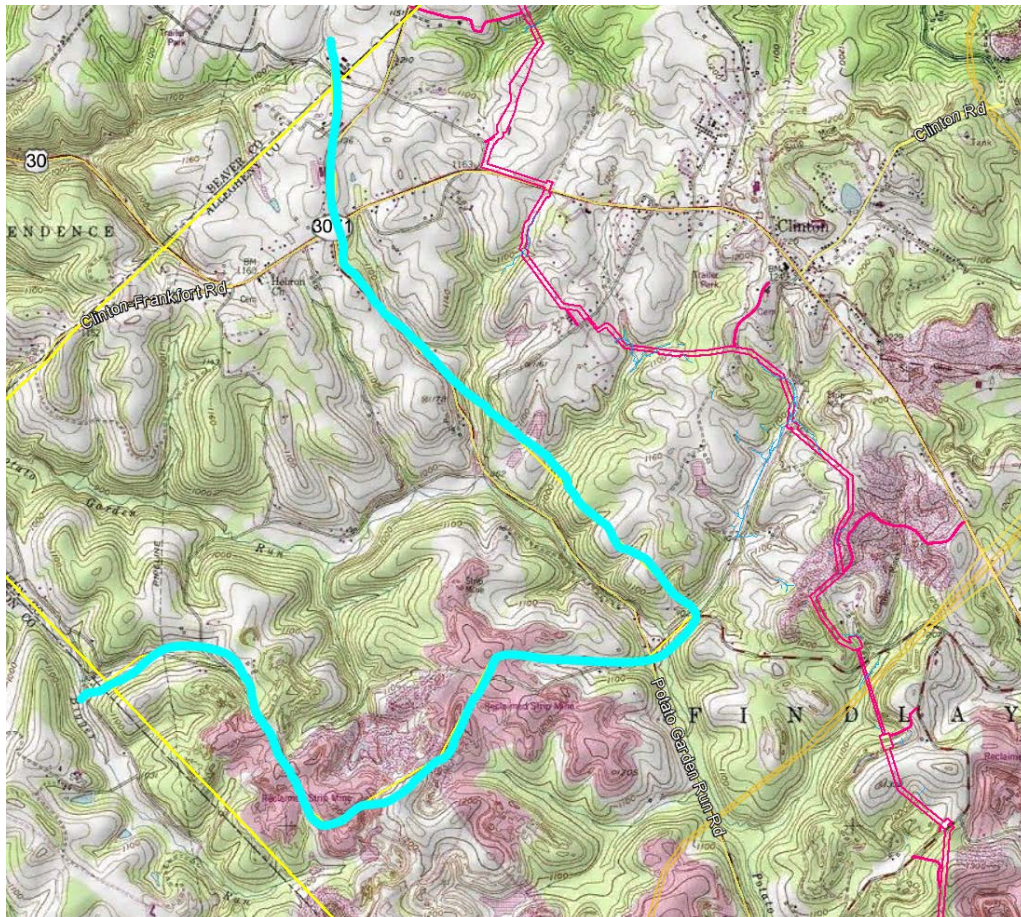
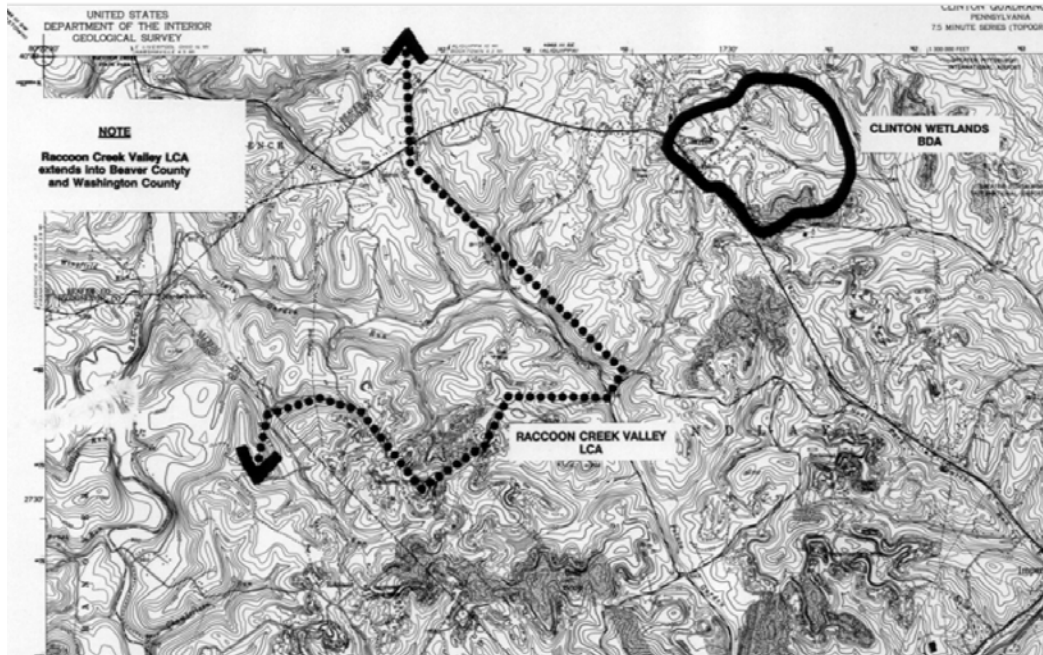


### Raccoon Creek Valley Landscape Conservation Area

The Allegheny County Natural Heritage Inventory lists Raccoon Creek Valley Landscape Conservation Area (LCA) as of “notable significance”. It encompasses the recovering forest located in the Potato Garden Run Watershed. The boundary is not mapped on the PHNP mapper. The Natural Heritage Inventory report is from 1994 and shows the boundary depicted on a USGS topographic map—see first screenshot below, clipped from the report. Using topographic lines to draw the LCA in Google Earth (blue line) with the Project LOD layer turned on (second screen shot below), it can be seen that the Project (pink line) is not located within the LCA. The Project is approximately 0.4 miles from the LCA at its closest location. However, streams located within the Project Area drain into the LCA. The Erosion and Sedimentation Plan from the PA ESCGP-2 permit will be strictly followed during the construction period to ensure that sediment does not escape the site and flow downstream. During construction, Environmental Inspectors will be on site to ensure that all controls are properly installed and functioning properly.

No threatened or engendered species were mentioned within the Natural Heritage Inventory Report LCA discussion. Additionally, no specific species were identified as occurring within that location during consultation with the jurisdictional agencies. Mist net surveys were conducted within this area as part of the overall Project survey. No Indiana bats were captured. Although northern long-eared bats were captured during the project, no roost trees occur within the Project area or within one-quarter mile of the Project vicinity; therefore, USFWS granted clearance for the Project. Given that the Project is not located within the LCA, it will not impact any bat species within the LCA. While mussels are known to occur within Potato Garden Run, AMD heavily contaminates the watercourse where the Project crosses it. Additionally, the watercourse is being crossed by HDD. As a result, there should be no impact to aquatic species within the main stem.





19. The proposed project is located within the Raccoon Creek Valley & State Park Important Bird Area (IBA). Evaluate and discuss the potential for your project to affect this IBA (see the National Audubon Society website for more information about this IBA), pursuant to Sections 105.14(b)(4



and 12), of the Department's Chapter 105 rules and regulations.

**§105.14(b)** states what the Department must consider when reviewing applications and (4) considers the effect of the dam, water obstruction or encroachment on regimen and ecology of the watercourse or other body of water, water quality, stream flow, fish and wildlife, aquatic habitat, instream and downstream uses and other significant environmental factors. (12) is concerned with the secondary impacts associated with but not the direct result of the construction or substantial modification of the dam or reservoir, water obstruction or encroachment in the area of the project and in areas adjacent thereto and future impacts associated with dams, water obstructions or encroachments, the construction of which would result in the need for additional dams, water obstructions or encroachments to fulfill the project purpose.

According to the National Audubon's website the Raccoon Creek Valley and State Park Important Bird Area (IBA) encompasses 108,341 acres within Beaver, Allegheny, and Washington counties. Raccoon Creek State Park is 7,323 acres and is located within this IBA. Approximately 23 miles of the Project is located within the IBA, which is approximately 303 acres of construction workspace, less than 4% of the total IBA acreage which will come down to 140 acres (approximately 2%) upon completion of the Project tied to the permanent ROW.

PADEP advised SPLC and AECOM on June 1, 2018 to call the Audubon Society regarding the IBA. AECOM called the Southwestern Pennsylvania office on June 12, 2018 and left a voicemail message with the person responsible for the IBAs. A return call was not received, and another voicemail message was left on June 18, 2018 and to date a return call has not been received. AECOM conducted an analysis of the IBA utilizing what data is available on the Audubon's website.

Per the IBA data, several waterfowl species have been documented at Raccoon Creek State Park; however, the Project is not traversing this state park. The only waterbody large enough within the Project area to support these types of waterfowl is potentially the open water at the Beaver County Conservation District property; however, an outlet has been installed at the far end of the lake to restore it to more of a wetland and less of a lake, as it was originally designed. Ducks were observed during one of the field visits to the District property; however, they appeared to be domesticated ducks that likely were introduced to the property and are not native waterfowl.

Per the Audubon Society, the Raccoon Creek Valley acts to funnel migratory birds north and south. Migratory birds are protected under the Migratory Bird Treaty Act (MBTA), which as stated in the permit application, was discussed in the Bald Eagle report and the effort SPLC took to co-locate the Project, where practicable. Co-locating allows for reducing tree clearing, which further reduces impacts to birds. The bald eagle is currently protected under the Bald and Golden Eagle Protection Act (Eagle Act or BGEPA) and the MBTA from activities and habitat modifications that constitute "disturbances" under these acts, when and where such disturbances interfere with the ability of eagles to breed, nest, roost, and forage.

Threatened and endangered species consultations were conducted with all applicable agencies during the Falcon permitting period. This includes the USFWS and the PGC, which are tasked with regulating activities that may affect federal and state-listed bird species, respectively. This also includes the DCNR, which besides botanical species and terrestrial insects is responsible for unique habitats. All threatened and endangered species clearances have been obtained, as documented in the permit application. The USFWS clearance includes the Montgomery Dam bald eagle nest that is located within

the IBA, but outside of the Project Area. PGC clearance includes the state-listed northern harrier and short-eared owl; however, their identified habitat is not located within the IBA.

Although there will be tree removal for the Project, less than 2% of the IBA will be permanently disturbed due to pipeline construction and installation. As stated throughout the permit application and this response to comment package, there will be no permanent fill impact to wetlands or waterbodies; however, there will be some conversion impact to PSS and PFO wetlands. All aquatic resources will be returned to pre-construction contours following construction. For the minimal conversion of forested and shrub wetlands to herbaceous within the limits of the permanent ROW, SPLC will complete compensatory mitigation offsite to mitigate for this habitat change. During construction, SPLC will employ BMPs as described in the ESCGP-2 permit. In addition, EIs will be on site during construction to provide assurance that all permit conditions are being followed and all BMPs are properly installed and maintained until restoration of the construction workspace is complete. The four-acre and 101-acre lakes located within the IBA and discussed on the Audubon's website, are not being crossed by the proposed Project and every effort was made to co-locate the Project alongside existing utilities.

Given the temporary nature of construction during pipeline projects, the proper use and implementation of BMPs to keep sediment from leaving the Project site or entering wetlands or watercourses, the effort to co-locate the pipeline where practicable, and the fact that all jurisdictional agencies related to the management of rare, threatened, and endangered species and sensitive habitats have been consulted and have provided clearances, SPLC believes the Project will not negatively impact the IBA.

20. *The Comprehensive Environmental Assessment (CEA) in Module SI of your Environmental Assessment makes references to various, other sections of your environmental assessment. Revise your CEA to pull all of this information together, into a comprehensive assessment that analyzes alternatives, impacts, mitigation and antidegradation for all structures and activities associated with the project, in accordance with 25 Pa. Code Chapters 93, 95, 102 and 105, since the proposed project involves water obstructions or encroachments that are located in multiple counties.*

The items relating to alternatives, impacts, and mitigation from the modules in the Environmental Assessment have been pulled out of their respective modules and sections as required in the EA instructions and combined into a stand-alone Comprehensive Environmental Assessment for all three counties and is included with this response to comment package. Additionally, an anti-degradation analysis has been prepared as an appendix to the CEA.

21. *Related to the preceding item, for projects proposing to impact wetlands, the applicant must assess the cumulative impact of the project and other existing and potential projects, including direct and secondary impacts that are permanent in nature, as required by 25 Pa. Code §§ 105.13(e)(1)(x), 105.18a(a)(6) and 105.18a(b)(6). To address the Chapter 105 cumulative impacts requirements, consider identifying and evaluating other existing and potential projects permanently impacting each wetland resource as follows:*
- a. *Other Existing Permanent Project Impacts - Existing permanent wetland impacts in, along, across or projecting into the wetland resource. A Cumulative Impact Assessment has been prepared for all three counties and is included as an Appendix to the CEA. These impacts are discussed in the document and Tables B-1 and B-2 summarize these impacts.*
  - b. *Other Potential Projects Proposing Permanent Impacts- Future anticipated permanent wetland*

*impacts in, and along, across or projecting into the wetland resource including:*

- (i) Proposed but not yet built permanent wetland impacts proposed by the applicant; or*
- (ii) Other permanent wetland impacts from projects proposed by other entities authorized by valid DEP Chapter 105 Water Obstruction and Encroachment Permits (issued in the last five years, i.e. not expired), but not constructed.*

**These items are also discussed in the stand-alone document. Tables 4.1 and 4.2 summarize potential cumulative impacts from the proposed Project and other projects within the Project Area.**

22. *While your project summary indicates that disturbed areas will be seeded and mulched upon placement of the proposed pipeline, revise your mitigation plan to describe, in detail, how you will restore wetlands and streams that are disturbed during construction, pursuant to Section 105.13(e)(1)(ix), of the Department's rules and regulations. This narrative should include details about seed mixes, shrubs and trees that will be used to restore wetland areas, stream banks and riparian corridors. The selected vegetation should be native species, or provide a justification as to why a non-native species is selected.*

**Appendix F in the Resource Environmental Solutions (RES) “Permittee-Responsible Mitigation Plan for the Falcon Ethane Pipeline Project Neshannock Creek Restoration Site” that was submitted in the original permit application contains the planting plan and wetland enhancement seed mix. Trees and shrubs proposed for planting within the mitigation areas include: black willow, silky dogwood, box elder, common elderberry, buttonbush, winterberry, ninebark, sycamore, swamp white oak, silver maple, and red elm. These are all species that will do well at the restoration site and would be seen in wetlands located in southwestern Pennsylvania. The RES mitigation plan is only for the conversion wetland impacts.**

**Herbaceous wetland and stream restoration is discussed in detail in the Chapter 102 ESCGP-2 documents. Detail DET01 in the E&S package contains tables listing the species to be planted in both uplands and wetlands. They are native mixes. Ernst Seed's Wetland/Stream Crossing Mix (ERNMX#154) will be utilized at wetland and stream crossings and includes PA Ecotype forbs. Seed mixtures are also listed in Table 2 of the ESCGP-2 permit application**

**To facilitate native vegetation restoration, any grading and stump removal conducted within wetlands will be limited to the trench line, except as where required to create a safe and level workspace. Woody stems and trees within the temporary workspace will be cut to no further than ground level and the stumps will be left in place for regrowth.**

**Wetland topsoil will be stripped and segregated to retain the seed stock and hydric soils. As described in the permit application, all stream crossings will be conducted “in the dry.” Substrate will be removed and segregated during construction. Topsoil stockpiles shall be stabilized with temporary seed and mulch as specified in the seed mix tables located within the E&S plan.**

**Following construction, the segregated material will be returned, and the ground will be returned to its original grade. If it is not the growing season, a temporary seed mix and mulch—as specified within the E&S plan—will be applied to the site. If winter stabilization is required, permanent stabilization, with the seed mixes listed in the E&S plan, will commence at the beginning of the next growing period. Permanent stabilization may occur after October 15, provided weather conditions are favorable. Fertilizer and lime will not be used in stream or wetland areas. In wetland areas, erosion control blankets will be installed within 50 feet of the wetland, 100 feet if it is an EV wetland. No erosion control blankets will be installed within the wetland boundary.**

**Following construction, routine vegetation mowing or clearing will be limited to within the**

permanent 50-foot ROW. No routine vegetation maintenance will be conducted over the centerline between HDD entry and exit points.

23. Provide a copy of the Mitigation Bank Credit Availability letter from First Pennsylvania Resource, LLC (FPR), which has been signed by a person who has been designated to sign documents, on behalf of FPR, pursuant to Sections 105.18a(b)(7) and 105.20a, of the Department's Chapter 105 rules and regulations.

The permanent stream and wetland fills have been removed from this project (see the discussion in Responses 32c and 32n in the Beaver County Response to Comments Package; therefore, there is no longer a need for a Mitigation Bank Credit Availability Letter.

24. To facilitate the Department's review of your mitigation plan, provide a table that lists, describes and quantifies all permanent impacts to wetlands and watercourses, other than those that are associated with utility line stream crossings, pursuant to Section 105.13(e)(I)(ix), of the Department's Chapter 105 rules and regulations. Regarding the proposed utility line stream crossings, include in this table all permanent impacts to wetlands that will result in a permanent conversion of the wetland type.

There are no permanent fills associated with this project; there will only be conversion of PSS to PEM. A table listing each of these wetlands is located below. Please note that a 75-square-foot impact is less than 0.00 acres, which is why that value is 0.00 in the table.

Resource	Classification	Impact (ft <sup>2</sup> )	Impact (ac)
W-PA-161205-WRA-003	PSS	75	0.00
W-PA-160401-MRK-005	PSS	4,630	0.11
W-PA-170213-JLK-003	PSS	461	0.01
<b>TOTALS</b>		<b>5,166</b>	<b>0.12</b>

25. Pursuant to Section 105.13(e)(I)(ix), of the Department's Chapter 105 rules and regulations, provide the following information, regarding the proposed Permittee-Responsible Mitigation Plan for the Falcon Ethane Pipeline Project Neshannock Creek Restoration Site:
- Since the Neshannock Creek Restoration Site includes other existing Permittee-Responsible Mitigation (PRM) sites, modify Figure 2 in Appendix A of your mitigation plan, or provide a table or some other means, to identify these other existing PRM sites and any associated Water Obstruction and Encroachment Permits from DEP. **Figure 2 in Appendix A has been revised and is included in the revised Permittee-Responsible Mitigation Plan for the Falcon Ethane Pipeline Project Neshannock Creek Restoration Site (Plan) included as Attachment H.**
  - Related to the preceding item, provide a master restoration plan for the entire Neshannock Creek Restoration Site and describe how your currently proposed PRM site fits into this master plan. **The proposed Falcon site will be situated along a ditched watercourse, an existing PRM site, and a wetland enhancement area; existing wetlands will surround the entire Falcon site.**
  - Demonstrate how your proposed PRM site will replace the functions and values of the wetlands that will be affected by the proposed pipeline project. **The functions and values are discussed on pages 8 and 9 of the Plan included in Attachment H.**

**\*Please note that only pages 8 through 17 and Figures 2, and 10 have been revised and are included in this attachment. Please replace the original submitted documents with these revised documents. \***

26. To facilitate the Department's review of the "Shell Pipeline HDD Procedure" document, dated September 2017, provide the location and resource crossing number for the "List of HDDs," in PA, that are listed on page 1 of this document, or provide some way to cross reference this list with the aquatic resource impacts tables, pursuant to Section 105.14(b)(6) and 105.301(10) of the Departments Chapter 105 rules and regulations.

**Allegheny County has three HDDs, HOU-05 through HOU-07. A table showing Resource Crossing Number, Resource Name, and HDD Number is provided below.**

RC #	Resource Name	HDD Number
3	W-PA-170113-MRK-004	HOU-05
	S-PA-170113-MRK-003	
4	S-PA-170113-MRK-002	
15	S-PA-151117-NLS-003	HOU-06
	W-PA-151117-NLS-001 Crossing #1	
17	S-PA-160405-JLK-001	HOU-07
	W-PA-160405-JLK-001	
	S-PA-161206-WRA-001	
18	S-PA-151202-MRK-003	
	W-PA-151202-MRK-003	

27. Related to the preceding item, revise your "Shell Pipeline HDD Procedure" document to include such items as an HDD site feasibility analysis, inadvertent return risk assessment, water supply protection, agency contact information, etc., pursuant to Sections 105.14(b)(6) and 105.301(10) of the Departments Chapter 105 rules and regulations. The preceding list is not all inclusive, but lists some of the items that should be addressed in your document. The Department is available to meet with you, to discuss the content of your document.

**The "Shell Pipeline HDD Procedure" has been revised to include a feasibility analysis and risk assessment. It also includes a letter of professional opinion, an alternative construction method analysis, water supply monitoring plan, geotechnical investigation reports, notification and drilling resumption protocol, and tactical response plans. It is now titled "Inadvertent Returns from HDD: Assessment, Preparedness, Prevention and Response Plan." It has been included as part of this submission.**

28. Related to the preceding item, a stand-alone attachment should be created to address the pre-boring geologic evaluation of the existence and potential to impact local drinking water supplies or aquifers around the boring location, pursuant to Sections 105.13(e)(1)(x), 105.14(b)(5) and 105.301(10) of the Department's Chapter 105 rules and regulations. The plan needs to include what measures will be employed to verify that no supplies or aquifer are impacted (i.e. pre- and post-water quality quantity analysis). The plan should specify what notifications and remediation measures will be employed if there are impacts.

**A Water Supply Plan is included as an Appendix to the "Inadvertent Returns from HDD: Assessment, Preparedness, Prevention and Response Plan" provide as part of this submission.**

29. Evaluate and discuss the potential for your proposed project to encounter areas underlain by a) carbonate bedrock (i.e. areas susceptible to sinkhole formation) and b) landslide prone areas,

during construction. Evaluate and discuss precautions and construction methods that will be utilized during construction, where these areas will be encountered, pursuant to Section 105.14(b)(1) of the Department's Chapter 105 rules and regulations.

A discussion regarding carbonate rock and landslide prone areas is provided as stand-alone documents for all three counties and are provided with this response to comment package. The "Slope Stability Investigation and Mitigation Plan" and the "Carbonate Rock Analysis" have been prepared as stand-alone documents and are included with this response to comments package.

30. Pursuant to Sections 105.13(e) and 105.13(e)(1)(i, iii, viii & x), of the Department's rules and regulations, provide the requested information or evaluate and discuss the feasibility of:

a. Adjusting route to avoid or minimize impacts to the affected resources at RC-3.

This crossing is located in the extra workspace associated with the HDD HOU-05 exit. This HDD is necessary because the Project is crossing Steubenville Pike, US-22, SR-980, and the Montour Trail in a short distance. This is the only feasible location for the exit point due to the location of the Montour Trail, existing industrial activity on the Champion Processing parcel, the existing access road to the parcel, an existing storm sewer line, and SR-980. Additionally, PennDOT is utilizing a portion of the property as a staging area for the new Southern Beltway Project. Given all these constraints, the route is not able to be adjusted at this location.



b. Adjusting route to avoid or minimize impacts at RC-20 to RC-24.

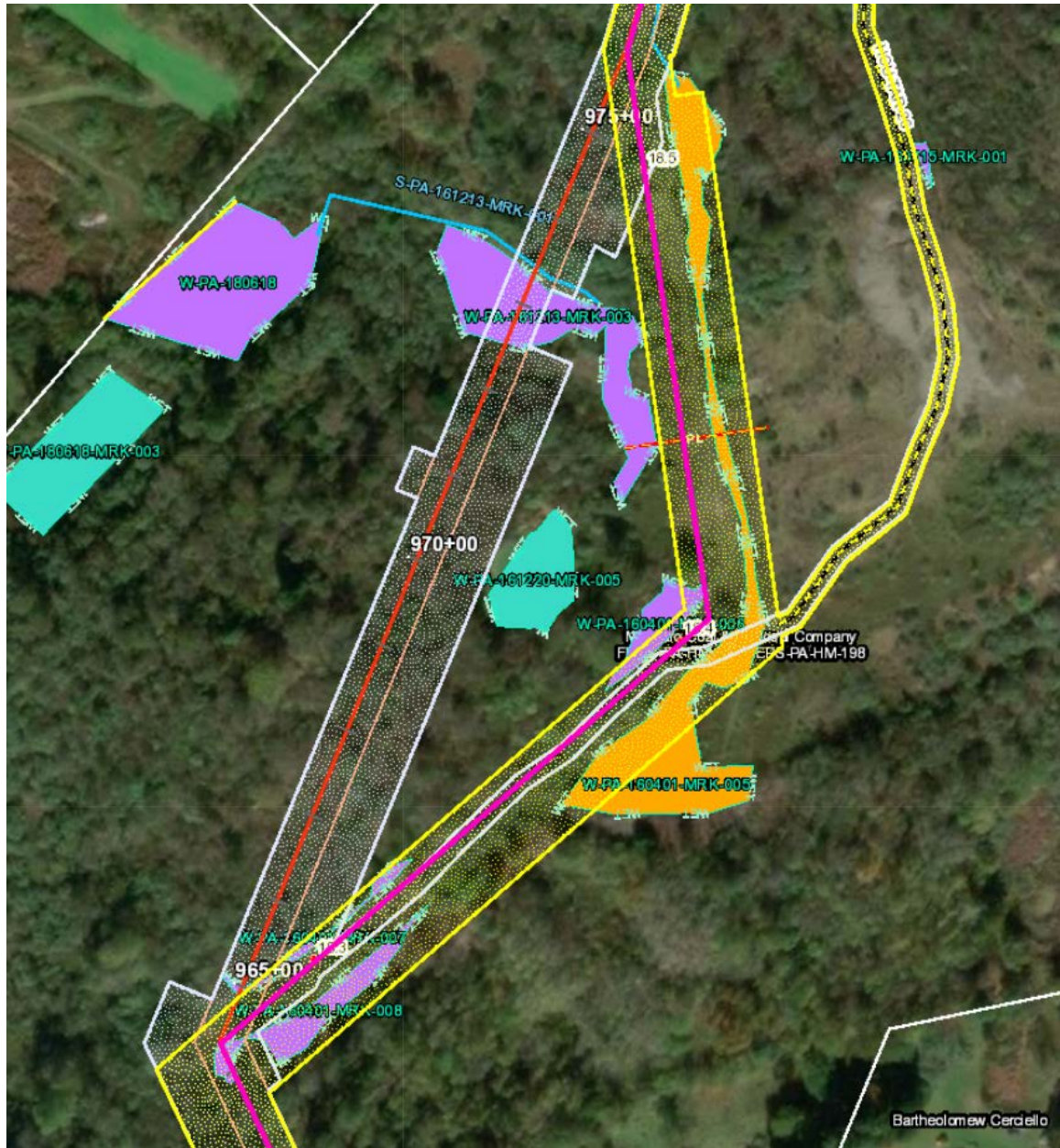
The landowner was contacted, and he was amenable to shifting the route slightly west. This resulted in:

- The PSS wetland W-PA-160401-MRK-005 will still be impacted; however, it will only be impacted by a temporary access road, and it will be impacted 15,086 ft<sup>2</sup> less than what was originally proposed.
- W-PA-160401-MRK-008 will be impacted 5,242 ft<sup>2</sup> less.
- W-PA-160401-MRK-006 will no longer be impacted.



- The new alignment shifted the LOD into an intermittent stream/PEM complex; however, it is heavily impacted with AMD.

SPLC was limited as to where it could route the line due to the topography and the fact that this area is former strip mine and there are old mining ponds and mine spoil “gob” piles throughout the property so it could not completely avoid all resources. The screenshot below shows the original route (yellow and pink) and the new route (red and white).



The revised plan view mapping is provided in Attachment I, the revised impact table is included as Attachment E, and revised site-specific drawings are included as Attachment J. Revised E&S drawings are provided in the updated E&SCP included with this response to comments package.

- Adjusting route to minimize impacts at RC-27.

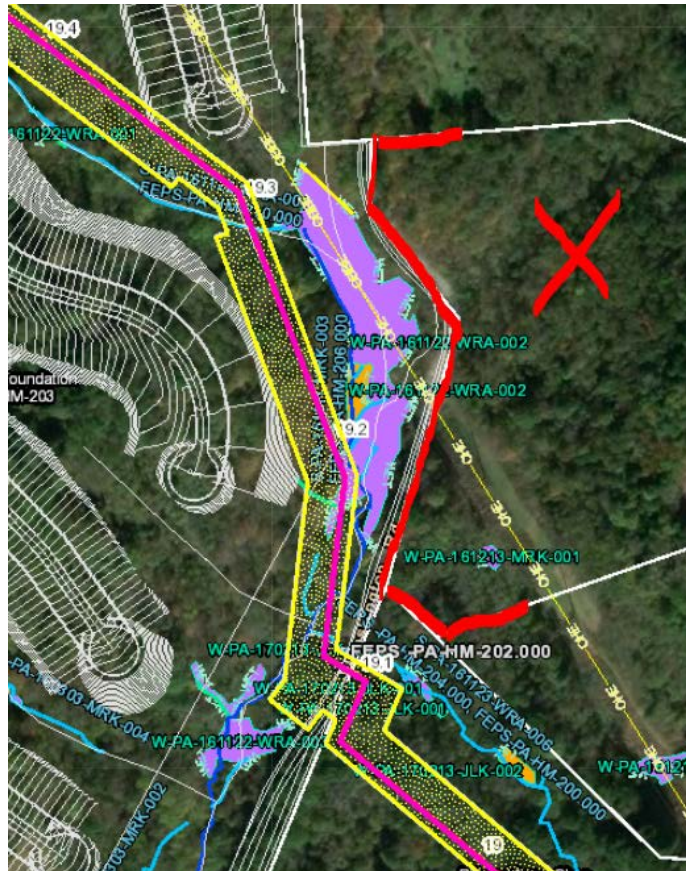
Negotiations with this landowner are currently being conducted to determine if a shift



**can be made. If it can be made, an update will be sent to the PADEP.**

- d. *Adjusting route at RC-28, so that the proposed pipeline crossing is at a right angle, to minimize impacts.*

This is the only location possible for the LOD. The property outlined in red originally was going to allow the pipeline to go through their property; however, they later denied access, which shifted the pipeline west. The white lines in the screenshot below represent the LOD of a proposed housing development. The purple polygon is a large wetland/stream complex. The developer originally wanted the pipeline to travel through the wetland complex; however, SPLC was able to negotiate out of it as much as practicable without interfering with the housing development.



- e. *Adjusting route to reduce length of pipeline along watercourse, near RC-34.*

**SPLC approached the landowner to see if the line could be shifted to reduce the watercourse impact. The landowner is a developer that has plans for this property and wanted the route where it currently is proposed. SPLC has approached him to see if he would be amenable to a reroute; however, this may be unlikely. In the event that he accepts a reroute, SPLC will send an update to the PADEP.**

- f. *Evaluate and discuss the potential for your project to affect any coal refuse piles that may be crossed by the proposed pipeline. Please note that based upon the results of this evaluation, you may be required to obtain additional authorizations from DEP.*

The original permit aerial mapping showed the area between HOU MP17.2 and 17.6 as existing mining or coal refuse piles. However, this aerial mapping was not reflective of

what was on the ground at the time of the survey. The site is part of a federal reclamation site and the site had been already been reclaimed at the time of the delineations. New aerial imagery is finally updated and can be seen in the screenshot below.



The Project does cross a coal refuse pile from approximately MP15.85 to 16.2 via HDD HOU-06. The actual refuse pile will not be disturbed because the HDD will cross below the pile; therefore, no additional permits are required. If a coal refuse pile is discovered during construction, the construction crews evaluate the situation and determine the best course of action. No refuse material will be placed back into the trench to be used as fill.

31. As you are proposing to withdraw water from streams for hydrostatic testing, and then propose to discharge the water after use, please provide a detail or typical drawing of both the intake and the outfall measures, so DEP can determine whether these are temporary or require inclusion as impacts, pursuant to Sections 105.14(b)(6) and 105.24(a), of the Department's Chapter 105 rules and regulations. -Also provide an approximate location of with withdraw and discharge locations. It should be noted that you will be required to obtain authorization from DEP's Clean Water Program for these discharges. Provide documentation that you have initiated this process. You may contact Mike Fifth, Environmental Engineering Manager, Clean Water Program at 412-442-4000 or mfifth@pa.gov.

A detail of the intake and outfall is included as Attachment K. Water will be withdrawn from Raccoon Creek and the Ohio River in West Virginia. It is understood that a PAG-10 permit is required for hydrostatic test water discharge. The PAG-10 was submitted to Mr. Mike Fifth on July 27, 2018. The permit contains information on where the water will be withdrawn and discharged. A copy of the delivery receipt is also provided in Attachment K.

32. In addition to your "Shell Pipeline HDD Procedure" document, provide a copy of your Preparedness, Prevention and Contingency (PPC) Plan for your pipeline project, pursuant to Section 105.14(b)(6) of the Department's Chapter 105 rules and regulations.

The PPC plan is included with this comment/response package. This plan was originally submitted and reviewed with the ESCGP-2 application.

33. Changes or modifications to this application and supporting documentation will need to also be reflected in the narrative and drawings for the Chapter 103 permit application (DEP File No. ESG00007170003), pursuant to Section 105.14(b)(6) of the Department's Chapter 105 rules and regulations.

**The narrative and drawings for the ESCGP-2 package have been updated and are being sent under separate cover. The drawings are included with this response to comment package.**

If you have any questions or need additional information, please do not hesitate to contact me at 412-503-4595 or [natalie.shearer@aecom.com](mailto:natalie.shearer@aecom.com).

Yours sincerely,



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